World Heritage papers 10

Monitoring World Heritage

World Heritage 2002
Shared Legacy, Common Responsibility
Associated Workshops
11-12 November 2002

Vicenza - Italy

ICCROM Banca Intesa IUCN UNESCO

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Hosted by *the City of Vicenza and IntesaBci*

Organized by *ICCROM and the UNESCO World Heritage Centre*

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Preface

To mark the 30th anniversary of the* Convention Concerning the Protection of the World Cultural and Natural Heritage, *UNESCO with the support of the Government of Italy organized, from 14 to 16 November 2002, an International Congress to reflect on some of the main issues, achievements and challenges of the World Heritage mission.

Over 600 experts from around the world gathered at the Giorgio Cini Foundation on the island of San Giorgio in Venice, Italy, to discuss the evolution of the* World Heritage Convention *and consider its role for the future. In addition, some 400 experts gathered immediately prior to the Congress at nine associated workshops in different Italian cities to reflect on the major themes of the Congress. The nine workshops were:

- ***The Legal Tools for World Heritage Conservation,*** *Siena*
- ***Cultural Landscapes: the Challenges of Conservation,*** *Ferrara*
- ***Towards Innovative Partnerships for World Heritage,*** *Venice*
- ***Partnerships for World Heritage Cities,*** *Urbino-Pesaro*
- ***Monitoring World Heritage,*** *Vicenza*
- ***Partnerships to Conserve Nature and Biodiversity,*** *Trieste*
- ***World Heritage University Training,*** *Feltre*
- ***World Heritage Site Management,*** *Padua*
- ***Mobilizing Youth for World Heritage,*** *Treviso*

This publication aims to reflect the discussions and debates around the specific themes as they were discussed over the two days of the workshop. The summary reports of all workshops are available in the Venice Congress proceedings publication.

Francesco Bandarin
Director
UNESCO World Heritage Centre

Acknowledgements

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ICCROM and the UNESCO World Heritage Centre would also like to thank the participants who contributed their time and experience to the meeting.

Herb Stovel, Heritage Settlements Unit Director, ICCROM acted as overall editor of the volume. He was ably assisted by Marc Hockings, Senior Lecturer, School of Natural and Rural Systems Management, University of Queensland, Australia, in relation to papers dealing with natural heritage. Their efforts in production of this publication have been supported by Elena Incerti Medici, project co-ordination consultant, ICCROM, and the World Heritage Centre.

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Introduction

ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) and the UNESCO World Heritage Centre organized the "Monitoring World Heritage" *workshop in the World Heritage City of Vicenza, Italy, on November 11-12, 2002, immediately prior to the 30th Anniversary of the* World Heritage Convention *congress held in Venice from 14 to 16 November 2002.*

For many, monitoring is a kind of technical subject, recognized as a useful scientific activity but best kept off in the margins somewhere - and certainly not seen as one of the field's fundamental subjects. Recently, as conservation professionals have begun to give more attention to strengthening arguments for retention of heritage - arguments that can make sense to political leaders and decision-makers – monitoring techniques and approaches have acquired new respectability. Without the ability to monitor accurately the affects of time, circumstances and human action and inaction on heritage, it has proven difficult to make convincing arguments for the benefits of heritage conservation, to answer the question: "can we prove that looking after this heritage property makes a difference to society as a whole"? Many groups have begun to take up this question much more seriously in the past decade, including the World Bank and the UNESCO World Heritage Committee, and to look for ways to develop monitoring approaches and tools that can objectively and succinctly demonstrate the positive impacts of conservation activity.

In the context of the 30 years' celebration of the World Heritage Convention*, it has been seen as particularly important to measure better how well the Convention has been able to achieve its objectives at national and site levels.*

The Vicenza workshop was designed to provide a state-of-the-art overview of monitoring activity for the benefit of cultural and natural heritage, and to bring together the experiences of all three World Heritage Committee Advisory Bodies.

More specifically, the main goals of the workshop were to:
- *place the Vicenza meeting discussion in the context of other current global meetings and initiatives concerned with monitoring cultural and natural heritage;*
- *describe current World Heritage Committee Advisory Body initiatives for monitoring;*
- *strengthen co-operation in tangible ways among those responsible for monitoring cultural and natural heritage;*
- *explore the effective integration of the new monitoring technologies within site management systems and programmes.*

The twenty-three participants of the meeting selected by ICCROM, ICOMOS and IUCN included experts from eleven countries (Australia, Brazil, Bolivia, Denmark, Ecuador, Jamaica, Japan, New Zealand, United Kingdom, U.S.A. and Uruguay) from both cultural and natural heritage backgrounds. The meeting consisted of presentations by invited experts followed by debate around issues and viewpoints raised. The meeting's conclusions, hammered out in the workshop's concluding moments, were presented at the 30th Anniversary Congress in Venice by Herb Stovel of ICCROM during the session, "The Universe of Technical Skills for Cultural Heritage" *on the afternoon of November 15, 2002 at the Cini Foundation in Venice.*

These conclusions appear in a document prepared by Giovanni Boccardi of the World Heritage Centre and Herb Stovel entitled "Monitoring World Heritage – Conclusions of the International Workshop"*, found in Annex 4 of this publication.*

Nicholas Stanley-Price
Director-General
ICCROM

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Advisory Bodies and World Heritage Committee

Monitoring World Heritage: A View from a World Heritage Committee Delegate

by Bénédicte Selfslagh

Monitoring is all too often associated with extensive programmes to measure hundreds of variables over time with high tech equipment. Not surprisingly, many question the utility of such expensive programmes; others are not sure how monitoring can fit within the activities of the World Heritage Committee. The aim of this paper is threefold:

1. **To present the scope of the World Heritage Committee's work, its trends, priorities and working methods to those in charge of monitoring programmes;**

2. **To identify how monitoring can contribute to achieving the World Heritage Committee's strategic objectives and facilitate its decision making;**

3. **To formulate some suggestions to make the best use of monitoring World Heritage.**

Some of the suggestions are related to the revision of the "*Operational Guidelines* for the implementation of the *World Heritage Convention*", a work in progress.

Monitoring of World Heritage properties should focus first on indicators linked to their outstanding universal value, authenticity and integrity (OUV-AI), as this is the very reason why those properties have been inscribed on the World Heritage List. Consequently, it should cover the condition of the properties and its OUV-AI, the threats and - when appropriate - the impact of corrective measures. Under those conditions - and except for exceptional cases or circumstances - focused monitoring can be simple and easy to carry out at a reasonable cost whilst contributing to the conservation of World Heritage. This is after all "a duty of the international community as a whole"[1].

The World Heritage Committee's work as the general context for monitoring

Trends…

The *World Heritage Convention* defines amongst the responsibilities of the World Heritage Committee the task to establish, keep up to date and to publish a World Heritage List and a List of World Heritage in Danger, and to allocate international assistance for (potential) World Heritage. In comparison to the first years of implementing the Convention, one could say that the focus has shifted:

- from Nominations[2] to the World Heritage List to Nominations and the Conservation of World Heritage properties,
- from respect for the sovereignty of States Parties to the *World Heritage Convention* to respect for the state sovereignty and the will to foster international co-operation and assistance,
- from the demand-led approach to international assistance to a combination of demand-led and pro-active approach to international assistance.

These trends are self-explanatory, knowing that at present there are 177 States Parties to the *World Heritage Convention*, 754 properties on the World Heritage List, 35 properties on the List of World Heritage in Danger[3], and that the World Heritage Committee examines every year more than 100 State of Conservation Reports on World Heritage properties.

Priorities…

Over the past few years, the World Heritage Committee has streamlined its working methods in order to handle this situation and to secure the success of the *World Heritage Convention* for the future. The Committee started this revision process at its 23th session (Marrakech, December 1999) and the work is almost completed. A major step forward was the adoption at the 26th session (Budapest, July 2002) of the "*Budapest Declaration*" outlining new strategic objectives better known as the 4 Cs[4]:

- *Credibility* (and representativity) of the World Heritage List,
- *Conservation* of World Heritage properties,
- *Capacity* building in States Parties,
- *Increasing* responsibility for World Heritage through Communication.

The 4 Cs of the "*Budapest Declaration*" build upon experience gained over the past few years and upon the strategic objectives adopted in 1992.

… and Tools

The World Heritage Committee is determined to make progress; in the "Budapest Declaration" it programmed an evaluation for 2007. Progress will be measured with the 2002 situation as reference. *Analyses* will provide a fair picture of the situation, the needs of the States Parties and opportunities for action. The following analyses are in progress:

- Credibility of the World Heritage List - analyses of *the current World Heritage List* and of *the Tentative Lists of potential World Heritage properties*.
- Conservation of World Heritage properties - statistics on the State of *Conservation Reports received by the World*

Heritage Committee over time and analyses of Section II of the Periodic Reports on the implementation of the World Heritage Convention.
- Capacity building in States Parties - analyses of *Section I of the Periodic Reports.*

The World Heritage Committee also adopted *some new tools* (the Ps) at its 26th session (Budapest, July 2002):

- The World Heritage Centre is invited to develop *Regional Programmes*[5] based upon the analyses of the Periodic Reports. The Regional Programmes will allow for a more proactive approach whilst being complementary to the traditional provision of International Assistance.
- The World Heritage Centre is also invited to submit *Performance indicators* for each of the 4 Cs[6] in order to measure progress achieved in the implementation of the strategic objectives.
- The *Partnership initiative*, proposed by the World Heritage Centre, which aims at enlarging in a more systematic way the circle of those involved in the care of World Heritage, can be launched on an experimental basis[7].
- An extraordinary Committee meeting (Paris, March 2003) will examine the revision of the Procedures: the "*Operational Guidelines*"[8] (revision under way since 1999) and the "Rules of Procedure of the World Heritage Committee"[9].

The World Heritage Committee did not take a formal decision on the World Heritage Centre's proposal to develop *Principles for Conservation of World Heritage* as a complement to existing international conventions, recommendations and charters[10]. This debate will certainly be taken up at a later stage.

Combined in a matrix, the objectives (4 Cs), analyses (As) and tools (Ps) provide the necessary guidance for future action. The Budapest session and Declaration are thus to be considered as a major contribution of the World Heritage Committee, to the 30th anniversary of the *World Heritage Convention* and its future.

What about monitoring?

How does monitoring fit in this general context? Why would the World Heritage Committee need monitoring of World Heritage properties? The answer is very simple. Three permanent agenda items of an ordinary World Heritage Committee session are already *directly related to monitoring*: Nominations, State of Conservation Reports and Regional Periodic Reports. Although this has not (yet) been (formally) stated, monitoring provides basic facts needed for decision-making for each of these 3 agenda items. In other words, if properly carried out, monitoring World Heritage facilitates the World Heritage Committee's decision-making. As discussion and decision making relies upon the quality of the information provided, one can even argue that monitoring World Heritage contributes to improving the quality of the decisions of the World Heritage Committee. This paper will further examine the relation between monitoring and the 3 agenda items.

The first conclusions could thus be that…

Monitoring for the World Heritage Committee is not an end in itself. It is not the promotion of (expensive) technology. Monitoring cannot be reduced to management of properties. *Monitoring should provide answers to basic questions of the World Heritage Committee in order to facilitate its decision-making.*

Monitoring and Nominations

The concerns and the needs of the Word Heritage Committee

In examining the Nominations submitted by the States Parties, the World Heritage Committee seeks to identify properties of outstanding universal value meeting the conditions of authenticity and/or integrity. The World Heritage Committee also examines how the States Parties propose to ensure that the outstanding universal value, authenticity and/or integrity (OUV-AI) are well preserved over time. In doing so, the World Heritage Committee encourages States Parties to take all appropriate measures before or while preparing a Nomination. The Committee thus hopes to avoid any conservation problems in the future.

The World Heritage Committee can include recommendations to a State Party in its decision to inscribe a property on the World Heritage List or make the inscription conditional[11]. Central in the Committee's deliberations are the OUV-AI.

The World Heritage Committee's decisions are based on the scientific and independent evaluation made by its Advisory Bodies. Their evaluations are thus of primary importance. What kind of information are Committee members looking for in these evaluations?

1. A precise evaluation of the OUV-AI compared to other similar properties and summarised in a "statement of OUV-AI".
2. A critical description of the present condition of the property and its OUV-AI using physical attributes that will allow measurement of change over time.
3. An evaluation of the conservation issues for the property and the OUV-AI. What are the potential, internal or external, threats to the property and its OUV-AI?
4. How will the State Party deal with conservation issues and potential threats? Are the measures sufficient to guarantee the safeguarding of the property and the OUV-AI over time?
5. Are there any essential recommendations or conditions to formulate at the time of the inscription? If yes, which ones? Can the State Party implement them?

How can monitoring help the World Heritage Committee's decision-making?

Planning monitoring at the Nomination stage ensures that reference data will be available for measuring evolution of the property and its OUV-AI over time. However, monitoring should be *focused*, which means that the OUV-AI should be put at the core of the exercise. Gathering of data per se should be avoided at any time.

The Nomination process should pay more attention to monitoring, first at the level of the Nomination files, second at the stage of the evaluation by the Advisory Bodies. The decision making of the Committee will be facilitated, not only at the stage of the inscriptions on the World Heritage List but also at the stage of the State of Conservation Reports (see section 4 of this paper).

In their Nominations, States Parties should include:

1. *The identification of physical attributes* linked with the OUV-AI.
2. A description of the condition of the property and its OUV-AI using the physical attributes.
3. A risk analysis for the conservation issues and potential threats to the property and its OUV-AI. The analysis should examine the probability that deterioration will occur and the extent of the possible damage.
4. An outline for *focused monitoring* including the identification of *key indicators* and a *timetable*. K*ey indicators* should relate to both the physical attributes linked with the OUV-AI and the condition of the property, and other internal or external factors possibly affecting the property and its OUV-AI. The timetable (planning) should indicate whether monitoring is continuous, periodic or ad hoc. How to organise monitoring is addressed in other papers in this volume.
5. A description of all measures to ensure adequate conservation of the property and its OUV-AI, in other words a *protection and management system*.

Monitoring is already included in the existing standard form for the Nominations but its objective should be made explicit in the revised "*Operational Guidelines*". The headings of the standard form should also be reorganised in a more logical order: 1. Identification of the property; 2. Description (including history); 3. Justification for inscription (including the physical attributes of the OUV-AI); 4. Conservation issues and possible threats (including a risk analysis); 5. Protection and management system (including monitoring); 6. Documentation; 7. Contact information; 8. Signature on behalf of the State Party.

With regard to the evaluation process by the Advisory Bodies, the following would be immensely helpful:

1. A *two-step evaluation*: first the OUV, then the other considerations.
2. A *draft statement of the OUV-AI* including the identification of physical attributes for both aspects (OUV and AI).
3. *An evaluation of the monitoring process* proposed by the State Party, with recommendations if required.
4. *A clear indication of the provenance of the information*: State Party or Advisory Body.
5. *A clear distinction between facts and their interpretation*. Ideally the evaluation reports should follow the process: from facts to interpretation, to evaluation and finally to recommendations.

To ensure a uniform presentation of all evaluations and their final conclusions, it might be appropriate to introduce the concept of checklists.

Monitoring and State of Conservation Reports

The concerns and the needs of the Word Heritage Committee

The inscription of a property on the World Heritage List is not an end but a beginning. The States Parties, the World Heritage Committee, the World Heritage Centre, the Advisory Bodies and the international community as a whole have the duty to ensure the conservation of the property.

Reactive monitoring - better known under the denomination "State of Conservation" (SOCs) used for the agenda item - provides information to the World Heritage Committee when the state of conservation of a World Heritage property is affected by projects, works, disasters or exceptional circumstances, etc. This information is centralised by the World Heritage Centre, which consults the States Parties concerned and the Advisory Bodies before submitting a State of Conservation Report to the World Heritage Committee.

In examining the State of Conservation Reports, the World Heritage Committee is not opposed to change per se; it seeks to manage change. The real challenge is to preserve the OUV-AI that have justified the inscription of the property on the World Heritage List. If the OUV-AI are threatened, the World Heritage Committee's objective is to engage in a dialogue with the State Party and to propose corrective measures and assistance in order to improve the situation.

The World Heritage Committee's decisions are based on information gathered by the World Heritage Centre and provided by the States Parties, the Advisory Bodies or others. What are the needs of the World Heritage Committee members with regard to the State of Conservation Reports?

1. *More factual information*: What was the condition of the property when inscribed on the World Heritage List? What happened or what is happening? And where exactly: on the property, in the buffer zone? How? How does the protection/management system work in these

circumstances? What are the corrective measures taken by the State Party, if any? How is (can) progress (be) measured?

2. *An evaluation of the situation*: Has (is) the condition of the property worsened (is worsening) or not? Is the property and its OUV-AI threatened or not? Is it serious or not? Is the protection/management system efficient or not? Are there extra measures needed or not? Is the situation improving or not? Of course, in most cases, it will be impossible to summarize answers to those questions in "yes" or "no".
3. *A clear distinction between facts and their interpretation.*
4. A *systematic approach* which introduces the concept of hierarchy. Some properties on the List of World Heritage in Danger have not been reported on to the World Heritage Committee for years; others seem to be "permanent clients" but without being inscribed on the List of World Heritage in Danger[12].
5. *A uniform presentation of the State of Conservation Reports answering the above mentioned questions.*

How can monitoring help the World Heritage Committee's decision-making?

The value of focused monitoring for State of Conservation Reports has already been demonstrated under section 3 of this paper - Monitoring and Nominations. What has been said on monitoring for the Nomination process is valid also for the State of Conservation Reports. Some extra thoughts:

1. Monitoring provides *only part of the factual information*.
2. Monitoring should be used to *measure the evolution of the situation* with regard to the threats and the impact of the corrective measures.
3. Whenever possible and for all recent nominations, the condition of the property at the time of its inscription on the World Heritage List should be included in the data used as reference for the interpretation of monitoring results.
4. Whether reference data from the past are available or not, whether some monitoring has been or will be carried out, it *should focus on the OUV-AI.*

Some comments need to be made *with regard to the State of Conservation Report process in general*. There is a need for[13]:

1. *Clarification of its procedures in the revised "Operational Guidelines"*, shifting the focus from the List of World Heritage in Danger and deletion from the World Heritage List to a general conservation approach;
2. *Clarification of the different but complementary roles* of the World Heritage Centre and the Advisory Bodies;
3. Drawing *terms of reference for each evaluation mission* to a World Heritage property;
4. Defining *time bound action plans with corrective measures* for each World Heritage property facing serious conservation problems; these action plans need to be integrated in the Regional Programmes;
5. Giving *top priority to the properties inscribed on the List of World Heritage in Danger*;
6. *A uniform and coherent presentation of the State of Conservation Reports*, using checklists.

Monitoring and Regional Periodic Reports

The concerns and the needs of the Word Heritage Committee

The concept of periodic reporting on the implementation of the Convention by the States Parties is set out in the *World Heritage Convention*[14]. The reports are submitted on a regional basis according to the following timetable: Arab region (2000), Africa (2001-2), Asia/Pacific (2003), Latin America (2004), Europe/North America (2005-6), evaluation (2007). A new cycle is expected to start in 2008.

The format of the Periodic Report includes a Section I on cultural and natural heritage policy issues and a Section II on the state of conservation of World Heritage properties. The State of Conservation Reports referred to in section 4 of this paper are presented to the World Heritage Committee as a reaction *when something happens to specific World Heritage properties*; Section II of the Periodic Reports aims at presenting the state of conservation in a systematic way for *all World Heritage properties* whether they are threatened or not.

Section II of the Periodic Reports provides the *opportunity to update the information on all World Heritage properties.* Key information, such as boundaries, is sometimes not available, especially for World Heritage properties inscribed on the World Heritage List in the 70s and 80s.

In principle, Section II should *bring all conservation problems to the foreground*. The presumption is that, with 754 World Heritage properties, some problems might have been overlooked or at least overshadowed by others. For a majority of World Heritage properties, a State of Conservation Report has never been prepared since the inscription of the property on the World Heritage List. The Periodic Reports provide, obviously, the opportunity to look at monitoring issues for all properties, to collect information on previous monitoring programmes and to plan future focused monitoring.

The systematic approach of the Periodic Reports enables the World Heritage Committee to offer *tailor-made Regional Programmes*, taking into account needs and priorities of the States Parties and Regions. Any backlog concerning documentation, conservation - and thus monitoring - could be addressed. With the general information provided in Section I of the Periodic Report, it is possible to take into account the particularities, the strengths and the weakness of the States Parties and Regions. The allocation of future International Assistance should therefore, also be more effective.

How can monitoring help?
The link between monitoring and Regional Periodic Reports is established in the Periodic Report format, but again its objective and the focus (OUV-AI) *should be made more explicit in the revised "Operational Guidelines".*

In updating the available information for World Heritage properties, monitoring can provide the *necessary data for future reference and collect such data as will facilitate later decisions* (see also previous sections 3 and 4 of this paper). As the World Heritage Committee is still in the first cycle of the Periodic Reports, the full advantage of the monitoring process for conservation purposes will only be demonstrated in the coming years. This is especially true as *the period of reference*, and thus the reference data, have to be identified with great care and *will almost certainly not coincide* with the cycle of the Periodic Reporting exercise.

The fact that Periodic Reports are presented on a regional basis should lead to *comparative analysis and sharing of (good) practice*, especially for World Heritage properties with similar characteristics or facing similar challenges.

One could expect that after the Vicenza meeting, these issues might be taken up again and result in some capacity building projects?

Conclusions

Monitoring for the World Heritage Committee is not an end in itself but should facilitate the *World Heritage Committee's decision-making*. Therefore *monitoring should be focused on the key indicators for the conservation, over time, of the out-standing universal value, authenticity and/or integrity* (OU-VAI) of World Heritage properties. Consequently, it should cover the *condition of the properties and its OUV-AI, the threats* and - when appropriate - *the impact of corrective measures*. Under those conditions - and except for exceptional cases or circumstances - *focused monitoring* can be simple and easy to carry out at a reasonable cost whilst contributing to the conservation of World Heritage.

Nominations should include an outline for focused monitoring including the identification of key indicators and a timetable. Key indicators should relate to both the physical attributes linked with the OUV-AI and other (internal or external) factors possibly affecting the property and its OUV-AI.

The objectives and ways to organise focused monitoring should be *made more explicit in the "Operational Guidelines", in the Nomination and in the Periodic Reporting format. The Nomination format* (and consequently the format for the Tentative Lists and the Periodic Reports) *should be restructured in a more logical order* - presentation of the property, justification for inscription (OUV-AI), challenges for conservation, and only then the measures proposed by the State Party (= the protection and management system, including monitoring).

Documents presented to the World Heritage Committee (evaluations of Nominations, State of Conservation Reports and Regional Periodic Reports) should make a *clear distinction between facts, interpretation, evaluation and recommendations*.

Bénédicte Selfslagh, *Advisor to the Walloon Region (Belgium) and Rapporteur of the World Heritage Committee at its 26th session (Budapest, July 2002) and 6th extraordinary session (Paris, March 2003), was particularly involved in the reform processes developed by the World Heritage Committee from 1999 on.*
The views expressed in this article are the author's personal views and not necessarily the official position of the World Heritage Committee or the Belgian Delegation.

1. Article 6 of the *World Heritage Convention*
2. A Nomination is a proposal for inscription of a property on the World Heritage List submitted by the State Party on which territory the property is situated.
3. Numbers as per January 2004, date of publication.
4. Decisions 26 COM 9 and 26 COM 17.1.
5. Decisions 26 COM 17.2 and 26 COM 20. Since the Vicenza workshop: decisions 27 COM 20B.1-6.
6. Decision 26 COM 17.1. Since the Vicenza workshop: decisions 27 COM 20B.6.
7. Decision 26 COM 17.3. Since the Vicenza workshop: decisions 27 COM 20C.1.
8. Decision 26 COM 18. Since the Vicenza workshop: decisions 6 EXT. COM 4 and 6 EXT. COM 5.1, decision 27 COM 10.
9. Decision 26 COM 19. Since the Vicenza workshop: decision 6 EXT. COM 3.
10. Report of the 25th session of the World Heritage Committee (Helsinki, 2001), agenda item 5. Since the Vicenza workshop: decision 27 COM 20A.1.
11. A recent example is the Historic Centre of Vienna: the property was inscribed on the World Heritage List at the 25th session of the World Heritage Committee (Helsinki, December 2001) under the assumption that the State Party and the local authorities would review and control urban development projects. The World Heritage Committee's action proved to be effective and resulted already in improving the quality of a major development project (see decisions 26 COM 21(b)35 and 27 COM 7B 57).
12. Information since the Vicenza meeting: a State of Conservation Report for all properties enclosed on the List of World Heritage in Danger has been submitted to the World Heritage Committee at its 27th session (Paris, July 2003).
13. Substantial progress has been made since the Vicenza meeting on all these points at the 6th extraordinary session (Paris, March 2003) and the 27th session (Paris, July 2003). The World Heritage Committee:
    - Created a specific budget line to assist States parties in their efforts to safeguard properties inscribed on the List of World Heritage in Danger (decision 6 EXT.COM 6);
    - Agreed on revisions of the section on the State of Conservation procedures of the "*Operational Guidelines*" (decisions 6 EXT.COM 4 and 5.1) and further streamlined those procedures (decisions 27 COM 7B.106 and site specific decisions 27 COM 7B.xx).
14. Article 29 of the *World Heritage Convention*.

An Advisory Body View of the Development of Monitoring for World Cultural Heritage

by Herb Stovel

The Advisory Bodies for cultural heritage, ICOMOS and ICCROM, have taken a strong role in attempting to assist the World Heritage Committee in developing appropriate monitoring mechanisms for improving the care of World Heritage properties. For the most part, their attention has been focused on several key issues important in the context of site management: what should monitoring efforts measure? what are the necessary conditions for effective monitoring? what tools, mechanisms and methods are most effective for monitoring? what skills and attitudes should those involved bring to the process? ICOMOS and ICCROM have been trying to bring attention to these issues inside the World Heritage forum since the mid 1980s. This paper provides an historical overview of the approaches developed over time by the Advisory Bodies for monitoring cultural heritage in the context of the *World Heritage Convention*, and the different issues confronted over time inside those approaches.

In 1983, the Director of the UNESCO Cultural Heritage Division, (that part of the UNESCO World Heritage Secretariat responsible for cultural heritage), first began to raise explicit concern about the state of conservation of inscribed World Heritage sites. The Advisory Bodies were invited to contribute their ideas and experiences for the development of monitoring systems at the site level. The response on the cultural heritage side was initially somewhat tentative, and it took some time to explore and refine the needed methodologies. By 1986, ICOMOS had proposed a questionnaire to assist site or property managers to systematically evaluate the "state of conservation" of sites; although this questionnaire was not adopted by the Committee, it provoked a number of follow-on initiatives. By the early 90s, ICOMOS was presenting its own monitoring reports annually to the Committee on difficult situations at different sites - what we now call "reactive monitoring".

At this time, the Committee would receive monitoring reports from ICOMOS, from IUCN and from the World Heritage Centre in different formats, developed using different methodologies, and organized to respond to different objectives. ICOMOS would decide itself what sites to look at, and what recommendations to present to the Committee. ICOMOS reports were developed independently, and usually presented without benefit of contact with the State Party. The Committee quite appropriately expressed the desire for a more systematic approach to monitoring both for cultural and natural heritage. As a part of beginning efforts to improve co-ordination and effectiveness, a number of experimental cultural heritage monitoring initiatives were undertaken by the Advisory Bodies. These provided significant insights for Committee operations.

- ICOMOS Norway, in close co-operation with the Riksantikvaren, organized over several years a series of monitoring meetings involving a group of invited external consultants to review the state of conservation of its World Heritage sites, initially Roros and Bergen. Nils Marstein (Rikantikvaren, ICOMOS) and Knut Einar Larsen (University of Trondheim, ICOMOS) managed the process, and chaired the meetings.

- ICOMOS Sri Lanka followed a different formula, putting together teams composed equally of external and internal experts. A 1994 team led by Herb Stovel and composed of three Sri Lankan experts and four international experts from ICOMOS and the Getty Conservation Institute looked at three World Heritage Sites (Anuradhapura, Polonnaruwa, Sigiriya) during a three-week mission.

- ICOMOS UK monitored its World Heritage properties through site inspections carried out by its Secretary Francis Golding, which compared the state of the property to the state described in the nomination documents.

- In Latin America, the UNDP, led by Silvio Mutal, initiated a comparable project in the early 90s, but one extended over the entire region, and which had produced by 1994 a complete overview of the state of conservation of all of the region's inscribed cultural heritage sites.

These exploratory undertakings applied a range of innovative methodologies to monitoring analysis, and began to clarify the issues to be addressed to improve the work carried out. In early November 1993, the newly created UNESCO World Heritage Centre and the Advisory Bodies in co-operation with the WCMC (World Conservation Monitoring Centre) in Cambridge, U.K. organized an experts' meeting to review these issues and compare approaches. The meeting, which involved experts from both cultural and natural heritage fields, resulted in a number of key conclusions which still lie at the heart of efforts to improve monitoring approaches for cultural heritage.

- **Recognition that the central question in any heritage monitoring exercise must be the impact of time and circumstances on the heritage values defined during the inscription process.**
  This may seem obvious today, as States Parties preparing nominations are now expected to provide a statement of significance for nominated properties, but in fact, in the early monitoring questionnaire developed by ICOMOS in 1986, and in the first round of a UNDP Latin America monitoring exercise undertaken in the early 90s (see below), questions about the impact of time on the values of sites were not included in the analysis undertaken.

- **Recognition of the need to organize monitoring reviews relative to reliable base-line data.**
  The Cambridge meeting noted that data collection should "describe the heritage properties, their use and management as well as their characteristics, qualities and significance", including data gathered concerning "physical, social and administrative condition, undertaken with the collaboration of local authorities and institutions".

- **Recognition of the need to distinguish between monitoring (a continuous part of the management cycle of a property) and reporting (a "snapshot" taken at a moment in time in the life of a property).**
  These fundamental differences have been important to resolve in improving monitoring. Clarification of these differences offered the World Heritage Committee a means to develop policies and approaches which clearly distinguished between long-term, on-going efforts to monitor effectiveness of site management, and the need at intervals to report to the World Heritage Committee and others about the conservation status of a property.

- **Recognition of the need to distinguish between "systematic" monitoring (periodic review over the life of the property) and "ad hoc" monitoring (responding to perceived problems or situations demanding urgent attention).**
  This distinction – between "systematic" monitoring aimed at bringing lessons learned together in order to improve effectiveness of action, and "ad hoc" monitoring, aimed at improving the situation on particular sites in relation to particular problems – had been maintained over time in one way or another in the World Heritage Committee's work for a very long period of time. While recognizing the importance of maintaining this distinction, the Advisory Bodies have long sought for ways to draw lessons from "ad hoc" monitoring exercises that could help draw patterns of need in regions, and therefore help identify priorities, region by region.

- **Recognition of the need to develop a common approach to monitoring among States Parties, Advisory Bodies and the World Heritage Centre, for both cultural and natural heritage.**
  The Committee had recognized early that it was counterproductive to allow States Parties, the UNESCO World Heritage Centre and the Advisory Bodies to organize monitoring independently of a common framework that would unify their efforts and provide consistently coherent advice to the World Heritage Committee about priorities for spending and assistance.

- **Recognition that monitoring activity should not be equated with "policing" carried out by agents outside government bodies.**
  All present recognized the need for monitoring systems to be developed as co-operative systems among responsible authorities, property managers and Advisory Bodies or others capable of informed analysis.

These scientific debates were unfortunately interrupted for four years in the middle 90s while the Committee, and indeed the General Assembly of States Parties to the Convention intervened in order to clarify the formal reporting responsibilities of States Parties for monitoring processes carried out on their own properties. The interruption had its origins to some extent in the apparent confusion in the monitoring system in place – the clarifications offered by the Cambridge monitoring meeting helpfully sketched out a framework distinguishing between *reporting, monitoring, systematic and ad hoc monitoring* and so on, were in fact not fully implemented by the Committee before the monitoring discussions were interrupted – and in the continuing suspicion of some States Parties that monitoring offered the initiative to others than the responsible authorities to determine state of conservation. These suspicions were directed in large measure at the Advisory Bodies and the belief that their findings were meant to expose problems in State Party performance, without paying sufficient attention to State Party views.

While these debates clarified important questions concerning responsibilities and roles of all partners in the World Heritage system, they also resulted in a clearer framework for a scientific examination of monitoring results. The issues recognized in the Cambridge meeting were addressed, at least at some level:

- **From 1998, States Parties were invited to include "Statements of Significance" within their nomination documents.**
  This was understood as a means of articulating the significant heritage values of a property, and thus providing a basis for future monitoring, once accepted by the Committee.

- **The nomination process and the periodic reporting process were recognized as two sides of the same coin.**
  The nomination process was understood as simply the first phase of data collection, offering a set of baseline data for future review; the periodic reporting process was seen as providing a second, or third, or later phase review of data collected within the nomination document.

- **The distinctions between monitoring and reporting, and indeed between systematic and reactive (formerly "ad hoc") monitoring were picked up in the new monitoring system adopted by the Committee.**
  This system invited State Party collaboration on a regional basis for preparation of regional "periodic reports" (formerly, systematic monitoring), and occasional reactive (or "ad hoc" as it was called in 1993) monitoring missions, in response to situations of perceived urgent need. In addition, the World Heritage Centre, with inputs from the Advisory Bodies, and on the basis of reactive monitoring missions, began to prepare "state-of-conservation" reports in a common format, using a common methodology.

Discussions over the last several years have taken efforts to address these areas further yet. In 1999, ICCROM, in co-operation with ICOMOS, and with the support of the World Heritage Centre, initiated preparation of a "**Monitoring Reference Manual**". The Manual was designed to include an introductory section of principles important in planning for cultural heritage monitoring, and a set of supplementary sections where these principles are applied to various cultural heritage typologies such as historic cities, archaeological sites and cultural landscapes. Work on the introductory section and the section on monitoring historic cities (following an expert meeting held in Malta in May 2000, and generously supported by the Maltese government) is essentially complete; work on the section on archaeological sites was begun in a meeting organized by ICOMOS in Israel in February of 2002; and ICCROM plans to engage participants in ICCROM's first pilot course on cultural landscape management (set to begin November 18, 2002) in carrying out a similar exercise for cultural landscapes.

The project research and development carried out to date in developing the "**Monitoring Reference Manual**" have exposed a number of key methodological issues or points that remain to be addressed in strengthening the effectiveness of monitoring carried out on World Heritage cultural properties.

- **The "statement of significance", needs to include all elements necessary for efficient use of the statement as an effective monitoring reference.**
  The statement needs to be articulated broadly enough to include the values identified for inscription, the particular attributes carrying the values, and the degree of authenticity/integrity associated with the attributes, in order to provide an adequate reference base. At present, in the World Heritage *Operational Guidelines*, there is no clear definition of what a "statement of significance" is, or what it should include, and States Parties are free to interpret this requirement as they choose. Some submit long essays providing detailed scientific opinion or data, others submit fairly crisp half page summaries of values. And almost all fail to link the values recognized to the nomination criteria identified, and further to supporting attributes, and authenticity or integrity analysis.

- **The process of collection of baseline data must be consciously and explicitly broadened to include data relevant to day-to-day management.**
  The data collection process will need to look beyond the descriptive data found in the World Heritage nomination document.

  The monitoring framework proposed in the "**Monitoring Reference Manual**" requires collection of data in three areas.

  - The state of conservation (that is, condition) of the property and its constituent elements;
  - the state of the social, physical, and economic environment surrounding the heritage element or property;
  - the effectiveness of actions or strategies adopted to improve the condition of the heritage property.

  This is important to stress, because often in the past, the preparation of state of conservation reports resulted only in collection of descriptive data relative to the physical condition of the structure or site itself. The tripartite division proposed here and used in the "**Monitoring Reference Manual**" has proven to offer a valuable and convenient framework for data collection in many parallel contexts. For example, this approach echoes the **pressure-condition-response** model used in many environmental frameworks to organize information and to measure change.

  It is also important to note that use of this tripartite framework will inevitably require that the base line references used vary from category to category of data collected. This is important to emphasize for all those who have reduced monitoring to the collection of appropriate "indicators"; the reality is much more complex. Base line references developed for measuring the effectiveness of conservation actions or strategies – what the *Operational Guidelines* refers to as "Corrective Measures" for example – will be linked to the targets for change identified in an action plan or strategy. Baseline references for state of conservation may be physical records (e.g., photographs, etc.), or they may be qualitative or quantitative "indicators". Base line data for the physical, social and economic environment impinging on a heritage site are likely to be statistical in nature, and may indeed constitute "indicators".

  It is also important to note that the potential for collecting and grouping data in this way already exists in the World Heritage system, within the requirements of the *Operational Guidelines*. However, the data is not all recognized as contributing equally to monitoring assessments, and is not well linked. The Periodic Reporting format in general asks those undertaking assessments to organize their date in relation to state of conservation (meaning condition), to threats (that is, the environment) and to the effectiveness of the measure undertaken to improve conservation, although those requirements are not brought together in one overall analytical framework. A fully effective data collection exercise must also reflect the inter-related complexity of factors in all areas of interest, and focus concern for the World Heritage values within the overall data collection framework established.

  This usually requires those involved to look well beyond the data included in the World Heritage nomination documents, and at present would require changes to the data organised and presented in the nomination format and in the Periodic Reporting format.

- **The effectiveness of the indicators developed for measuring the quality of change on sites depends very much on the care taken in defining the objectives which are desirable for the site, and the**

subject areas for which indicators need to be established.
Because it can never be possible to accurately model or reflect the full complexity of sites, and the links between all relevant factors, emphasis should be given to careful identification of representative subject areas which can be understood to echo a more complex reality, and related surrogate indicators.

- **The Periodic Reporting process has been implemented in several regions, and lessons learned are becoming apparent. There have also been increasing efforts on the part of the World Heritage Centre to systematize collection of data coming from reactive monitoring missions, and to link to Periodic Reporting results.**
  Current efforts to streamline both processes and to link both are also likely to prove fruitful in improving monitoring activity. At present, while reactive monitoring results are of direct benefit to troubled sites these results are not collected or analysed systematically for the insights they might give into systemic problems, nor are they fed into the articulation of broad thematic or regional trends as with Periodic Reporting.

The development of the "new" World Heritage *Operational Guidelines*, a process begun in 1999 and likely to be complete in 2003, is providing an opportunity to systematically address many of these concerns and to ensure integration of new approaches into the appropriate sections of the *Operational Guidelines*. Many challenges of course remain in improving monitoring for cultural heritage properties on the World Heritage List. Some of these include:

- **Developing monitoring systems that respond in an integrated way to agreement about "Outstanding Universal Value" as well as local perceptions of heritage value.**
  Managers cannot afford to develop and implement two monitoring systems, one for World Heritage values and one for local associations and values. Hence the management system in place must find ways to integrate both focuses without loss to the individual focus.

- **Adapting monitoring systems to the increasingly complex evaluation systems for cultural heritage prevalent in many communities.**
  It is now well understood that communities are not homogeneous in values or orientation. Open evaluation systems are emerging in many communities that recognize that not all values can or should be shared – looking rather at systems of co-existing values – and which offer a more open and inclusive approach to defining and including multi-value systems in decision-making. But it is less clear how this open-ended approach can be effectively linked to the monitoring process with its necessary focus on identification of objective base-line references.

- **Bringing together lessons learned from cultural and natural heritage monitoring systems in order to work within one broad World Heritage monitoring framework.**
  While this is a worthwhile objective and corresponds well to the objectives of the framers of the *World Heritage Convention*, as well as the conclusions of a number of recent expert meetings, including the 1998 Amsterdam meeting, it is worth emphasizing that this will be difficult to fully achieve, and is not really desirable. Given differences in understanding of cultural and natural heritage within the respective fields – one (natural heritage) more closely allied to the sciences in the evaluation process, and the other (cultural heritage) more closely allied to the humanities, implicitly accepting that perceptions of value will shift over time and vary within communities – there are limits in integration of approaches in the two fields which should be defined and acknowledged.

Below are four examples of how heritage indicators may be developed. These show how the choice of meaningful indicators in a heritage context involves use of a process which moves in a hierarchical fashion from desired orientation (described here as "statements of principle"), through articulation of a series of key questions (and possible answers) which are linked to the statement of principle. For each "answer" to each "key question", it will be possible to identify possible indicators. In this way, the choice of indicators can be understood to reflect agreed upon choices of direction for managing change. As the examples illustrate, there are many different ways to do this. The main idea here is to develop a hierarchical system of identifying key issues and directions, within which useful indicators can be imbedded. These examples are drawn from the ICCROM-UNESCO-ICOMOS "Monitoring Reference Manual."

Herb Stovel *is the Unit Director of the Heritage Settlements Unit at ICCROM.*

Report of the Expert meeting on "Approaches to the Monitoring of World Heritage Properties: Exploring Ways and Means", Cambridge, UK (1 to 4 November 1993). WHC-93/CONF.002/IN

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Maintaining Heritage Values in Historic Cities

Statements of Principle:

Table 1. **The heritage attributes of a well-managed historic city will authentically reflect its significant heritage values**

Key Questions	Indicators
Is there consensus around the heritage values of the historic city?	Has an explicit "Statement of Significance" been prepared for the historic city?
Are the World Heritage values of the city integrated within the heritage values defined for the historic city?	
Is it understood how the defined heritage values are reflected in characteristic attributes (features, patterns, traditions etc.)?	Does the "Statement of Significance" link heritage values to significant attributes?
Is the authenticity of significant heritage attributes clearly understood in relation to defined heritage values?	Does the "Statement of Significance" make reference to the authenticity of significant heritage attributes?

Table 2. **A well-managed historic city will ensure that development decisions do not compromise significant heritage values**

Key Questions	Indicators
Is impact on heritage values the determining factor in review of development decisions?	Is the "Statement of Significance" used in development decision-making?
	Are key stakeholders aware of and using the "Statement of Significance" in their discussions?
	Does the press refer to the "Statement of Significance" in media treatment of heritage issues?

Table 3. **The heritage values of a well-managed historic city will be understood by the public as critical factors in decision-making**

Key Questions	Indicators
Ils there general understanding and acceptance of defined heritage values within the community?	Are the heritage values of the historic city presented in education programmes for the young ?
	Are the heritage values of the historic city exposed in tours and public information made available to visitors?
	Are the heritage values of the historic city exposed in public information made available to residents?

Table 4. **The heritage attributes of a well-managed historic city will authentically reflect its significant heritage values**

Key Questions	Indicators
What are defined heritage values? *One of best examples of medieval city planning*	
What are key heritage attributes expressing these values? *Medieval street pattern*	
What is the level of authenticity of key heritage attributes? *High material authenticity*	*Material evidence of medieval street pattern*

Monitoring the State of Conservation of World Heritage Properties: Operational Aspects (ICOMOS – Advisory body)

by Regina Durighello

ICOMOS takes part in one of the essential exercises stipulated in the 1972 Convention, the monitoring of the state of conservation of properties included on the World Heritage List. At the time of the nomination of a property to the World Heritage List, a careful study of the management regime is meant to indicate where and how monitoring is carried out. In this context, the recommendations made for the future conservation of the property may prevent the property from encountering major problems. The Advisory Body is involved, as well, in the carrying out of reactive monitoring missions on specific properties which are threatened, in Periodic Reporting by the States Parties to the Convention and in the preparation of management and monitoring manuals in co-operation with ICCROM and UNESCO.

The International Council on Monuments and Sites (ICOMOS) is one of the advisory bodies of the World Heritage Committee, and also a non-governmental organisation bringing together professionals working in the field of heritage conservation in an international context.

ICOMOS takes part in one of the essential exercises stipulated in the 1972 Convention, the monitoring of the state of conservation of properties included on the World Heritage List, a task whose importance has become even clearer over recent years. The ICOMOS Executive Committee meeting of January 2002 advocated that efforts should be particularly focused on this field. The advisory body must commit all its resources to fostering heritage conservation, through its national committees, international scientific committees and individual members.

This activity currently takes various forms:

1. the carrying out of reactive monitoring missions on specific properties which are threatened, at the request of the World Heritage Committee or its secretariat (World Heritage Centre);
2. participation in Periodic Reporting by the States Parties to the Convention;
3. everyday monitoring;
4. the spontaneous drawing up of reports by members of the organisation;
5. the preparation of management and monitoring manuals in co-operation with ICCROM and UNESCO.

This activity deserves particular attention and raises certain questions. The participants at the Vicenza workshop, drawing on their experience, may raise other questions and submit proposals in order to improve the effectiveness of the operational aspect of this activity.

Reactive Monitoring

ICOMOS is increasingly called on by the World Heritage Committee and its secretariat to carry out monitoring missions on threatened sites (7 missions in 1998, 22 in 2000 and 16 in 2001) and most participants at the Vicenza workshop have taken part in missions of this type. It would clearly be useful to hear their views on the organisation and the carrying out of this type of mission, and the concrete impact such missions have on the state of conservation of properties. The answers they provide are very likely to be positive, as examples have shown and continue to show that reactive monitoring is a necessary tool, enabling the World Heritage Committee to ensure that the Convention is being applied. It has been noted that joint reactive monitoring missions composed of a staff member of the UNESCO World Heritage Centre and an ICOMOS expert are mutually enriching.

It could however be argued that World Heritage properties could make better use of ICOMOS expertise in carrying out this reactive monitoring activity. ICOMOS, following a preliminary examination of the information sent in by its members, could draw the attention of the World Heritage Centre and then that of the Bureau and Committee to the state of conservation of specific properties. This procedure would lead to a request for information and reactions from the State Party concerned, and/or to the carrying out of a visit to the site with the agreement of the State Party.

Despite recent developments in methods of monitoring the state of conservation of properties, with the increasing use of Periodic Reporting by the States Parties, reactive monitoring remains an essential tool for the implementation of the *World Heritage Convention* as it involves an independent expert examination, a role which has been taken on by the advisory bodies.

Participation in Periodic Reporting

The advisory bodies have been involved in the process of reflection concerning the scientific and professional aspect of Periodic Reporting, and were thus called on during the preparation of the format for the presentation of Periodic Reports by the States Parties, a format adopted by the 22nd session of the World Heritage Committee (Kyoto, Japan, 30 November – 5 December 1998).

At the same session, the Committee stressed the importance of the role advisory bodies should play in the development of regional strategies and the examination of reports submitted by the States Parties.

After referring to the documentation concerning the process now under way in the Arab region and Africa, the

advisory bodies asked the World Heritage Committee in 1999 to define their role. Three years later, the request for closer liaison with the secretariat is still a topical issue.

The fact remains that the advisory bodies are mentioned in the paragraphs devoted to periodic reporting (paragraphs 73, 74 and 76) in the *Operational Guidelines for the implementation of the World Heritage Convention* (July 2002), as a source of documentation and assistance for the preparation of regional overview reports for the secretariat and a source of advice for States Parties preparing their national reports.

What are the practical consequences of this co-operation for ICOMOS? Use has been made of the UNESCO-ICOMOS Documentation Centre, which has enabled the secretariat to complete its documentation on dossiers relating to the nomination of properties by States Parties and on reports/documents subsequent to inclusion. The documentation was subsequently filed in the archives of the States Parties.

Furthermore, the regional desks of the UNESCO World Heritage secretariat have called on ICOMOS to name a representative who could take part in the various regional information meetings organised prior to the preparation of the regional overview report by the secretariat. For the Latin America and Caribbean region, the same expert attended the two regional meetings organised in 2002 at Montevideo (Uruguay) and Campeche (Mexico). The larger number of meetings (regional, sub-regional and national) in the Asia and Pacific region called for the participation of several representatives (meetings in the Republic of Korea, Indonesia, Australia, India, etc.).

Some States Parties, such as Norway, Sweden, Poland and the United Kingdom, have called on the national committees of ICOMOS to prepare reports on the state of conservation of sites included on the World Heritage List. The viewpoint or evaluation of bodies that are not directly involved in managing the properties (national or regional experts of the advisory body) is a useful complement to the information provided by the property administrators. The States Parties should invite the national committees to participate in the most appropriate way in the drawing up of the national report.

The monitoring of Periodic Reporting: As early as 1998, the report of the World Heritage Committee drew the attention of the Committee, the secretariat and the advisory bodies to the workload that would result from periodic reporting.

The presentation of the periodic reports of two regions, the Arab region (2000) and Africa (2001), has been followed by the approval of recommendations forming part of an action plan aimed at ensuring better heritage conservation (see the report on the state of conservation of the World Heritage in the Arab states, document WHC-2000/CONF.204/7). Clearly these recommendations (revision and harmonisation of tentative lists; updating of application dossiers; exploration and clarification of the concepts of significance; authenticity and integrity; assistance in the preparation of national cultural and natural heritage inventories, etc.) will be implemented in a medium to long-term perspective and will call for both human and material resources. How will the secretariat be able to manage this implementation, and how will the competencies of the consultative bodies be used, in accordance with the wish expressed by the States Parties and the Committee when the action plans were adopted?

Everyday monitoring

Furthermore, ICOMOS is continuing its everyday monitoring work, which involves drawing on the efforts of national committees, international scientific committees and individual members familiar with the properties in question. The aim of everyday monitoring is to check, complete and comment on information provided in most cases by individuals and associations, communicated by the World Heritage Centre (in 2000 for example, ICOMOS dealt with questions concerning 62 sites). The importance of this everyday monitoring effort should not be underestimated, as in most cases it enables the removal, or at least the attenuation, of the threats faced (theme park projects, road building projects, etc.). This type of monitoring could be dealt with in an annual overview report to be placed at the disposal of the World Heritage Committee.

The spontaneous drawing up of reports by ICOMOS members

Some ten years ago, ICOMOS drew up a very simple form: the "World Heritage Site Visit Report". The form is placed at the disposal of members to enable them to provide short informal reports on observations made during their visits. Originally, the reports were intended to form the basis of a database, which has not in fact been established, probably because of the relatively small number of reports received. Despite the limitations of this initiative in terms of the content of the responses/comments obtained and their exploitation, its importance should not be underestimated.

Our support for this spontaneous action by ICOMOS members stems largely from the relevance of some of the reports we have received and continue to receive. This was the case for the reports drawn up by Members on World Heritage sites in India, which have led to the beginning of a process of monitoring the actual state of conservation of the sites, carried out in conjunction with the State Party concerned.

The preparation of management and monitoring manuals in co-operation with ICCROM and UNESCO

This point will be presented by ICCROM's representatives. It is one of the objectives of the workshop.

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The WCPA Management Effectiveness Evaluation Framework – a basis for Developing Monitoring and Evaluation Programs to Assess Management of Protected Areas

by Marc Hockings

Since the first protected areas were established, managers and others involved in the conservation movement have sought to achieve effective management of these areas. However, management effectiveness as a prominent issue in protected area management is a relatively new phenomenon. It was not raised by speakers at the 1972 Second World Conference on National Parks. A decade later, the third World Congress on National Parks (the Bali Congress) contained one paper on monitoring and the Congress workshop on Managing Protected Areas contained two papers addressing the issue of management effectiveness explicitly (Deshler 1982; Thorsell 1988). The development of "tools and guidelines" to "evaluate the ecological and managerial quality of existing protected areas" was identified as one of the actions in the Bali Action Plan that was adopted at the end of the Congress. The outcomes from the workshop session were later compiled into a book, Managing Protected Areas in the Tropics that contained a chapter on Evaluating the Effectiveness of Management (MacKinnon and MacKinnon 1986).

Following the Bali Congress the issue of management effectiveness of protected areas began to appear in international literature and particularly within the work and deliberations of the Commission on National Parks and Protected Areas (CNPPA). While the issue was recognised as important, there was little action between the third and fourth World Parks Congresses. The methodology presented at the Third Congress and subsequent book have not been followed up in the literature or the further work of IUCN. In the fourth (Caracas) Congress, effective management was identified as one of the four major protected area issues of global concern. The Caracas Congress included a call (Recommendation 17) for IUCN to further develop a system for monitoring management effectiveness of protected areas (McNeely 1993).

There was little action on the issue within IUCN until early 1996 when the decision was taken to develop a methodology for the CNPPA that would be widely applicable around the world. This paper outlines the framework for assessing management effectiveness of protected areas that has been developed by IUCN.

What is meant by management effectiveness

There are three main components that should be considered in assessing management effectiveness of protected areas (Hockings et al, 2000):

- **Design/planning issues;** Design/planning considers how design issues such as the size and shape of protected areas, the existence and management of buffer zones and links between protected areas, affect the capacity of sites to achieve their stated function. Planning considers the existence and adequacy of planning undertaken for the protected areas.

- **Adequacy and appropriateness** of management resources, systems and processes; Adequacy/appropriateness looks at how management is resourced and conducted. This component considers both whether there are sufficient management resources and whether management processes and actions are appropriate.

- **Delivery of protected area objectives.** Delivery assesses whether protected areas are achieving their stated objectives. Measures include both biological elements (such as whether key species are surviving, recovering or declining) and social aspects (such as recreational use or the attitudes and behaviour of local human communities towards the protected area).

Why assess management effectiveness?

There are many reasons why people want to assess management effectiveness. Three common uses of such evaluation are (Hockings et al, 2000):

- promoting adaptive management (progressive improvement of management based on reflective learning);
- improving project planning; and
- promoting accountability .

Adaptive management: First and foremost, evaluation should be seen as a normal part of the management process. Adaptive management is based on a circular, rather than a linear, management process, which allows information concerning the past to feed back into and improve the way management is conducted in future. Evaluation helps management to adapt and improve through this learning process.

Improve program planning: Evaluation studies can also be used to improve program/project planning – either at the time of initial design or as a review of previous programs where the lessons learnt will be applied to programs that follow.

Promote accountability: Accountability for performance is being increasingly demanded across all sectors of society and conservation management is no exception. Traditionally, concerns for accountability focused on issues of financial and managerial probity but this has now expanded to include concerns for management effectiveness. Viewed in this light, accountability is not so much about 'checking up' on managers to see where they are failing, as about developing a professional approach to management.

The management cycle and evaluation

A management cycle approach, which relates evaluation to the process of management, is a common approach to the design of public sector evaluation programs. Evaluation methodologies based on this approach have been criticised because of a perceived focus on program inputs, processes and outputs, rather than concern for the real impact (outcome) on the program in terms of its intended objectives. However, there is no inherent reason why a focus on outcomes should not be included in a system based on this approach. One of the major strengths of this approach is the ready match that exists between evaluation information and the planning and management systems used by managers. Information from monitoring and assessment programs can therefore be readily analysed and applied within the planning and management system. This was particularly important in the development of the WCPA framework given that we sought to link the evaluation system closely to the manager's needs and perspectives and to promote an adaptive approach to management.

Management consists of several linked, iterative phases of planning, action and review (Department of Finance 1989). The starting point of this management cycle consists of understanding the environment within which management is operating **(context)** and then establishing objectives and associated management strategies designed to achieve these objectives **(planning)**. Resources of staff and money **(inputs)** are allocated to undertake management activities and actions according to established operational practices and standards **(processes)**. This management activity produces services and products **(outputs)** that are intended to achieve objectives **(outcomes).**

Planning involves setting the direction and objectives of management and deciding on the strategies that are required to achieve the objectives. Planning effective strategies requires an understanding of both the desired endpoint of management (the vision and specific objectives) and the starting point or context within which management has to operate. In the case of protected areas, important aspects of context are the significance and values of the area that led to its declaration as a conservation area and the threats and opportunities that the area faces.

Allocating funds and staff time to management should be linked to and, in large part, directed by planning decisions. Although protected area management plans rarely provide specific commitments of funds and staff, they establish the basis for short-term or annual operational planning in which decisions about allocation of resources for implementation of the plans are made. Managers then use these resources to undertake their jobs by implementing the actions and strategies indicated by planning documents (e.g. management plans, annual operations plans, functional or issue-specific plans) and through reactive or opportunistic management actions. In undertaking these activities, managers are guided by agency policies and practices, the general norms and standards applied to protected area management in their regional area and by their own training and experience.

The results of this management activity can be considered in two ways. Firstly there are the direct outputs produced by the management activity that commonly consist of a set of products or services (some examples for protected areas are area of land sprayed for weeds, kilometres of walking track maintained, numbers of guided walks given for visitors, numbers of anti-poaching patrols undertaken). As well as these outputs from management, results can also be considered in terms of the impact or outcome of management activities, especially in relation to the achievement of objectives established for the area (some examples for protected areas are extent of reduction in weed infestation, visitor satisfaction with walking experiences, change in knowledge and attitudes of visitors who attend guided activities, extent to which poaching is controlled).

The management cycle is completed when the manager reviews progress and uses this review information to adjust or correct their planning and management. This review function is often visualised and presented as only being linked to management outcomes. However, evaluation can look at all aspects of the management cycle, including the context within which management takes place. The results of evaluating each aspect can be fed back into the management cycle.

This same cycle is reflected in a strategic approach to planning and management which has been argued to be a key ingredient in improving organisational effectiveness (Viljoen 1991). Various authors on the concept of strategic management (e.g Viljoen 1991; David 1997) present slight variants of the strategic management model but it is commonly considered to consist of:

- strategy analysis and formulation (consisting of understanding the organisational and operational context and the formulation of strategic or long-term objectives);
- strategy implementation (consisting of acquiring and allocating skills and resources, developing appropriate management systems and standards, implementation of planned actions); and
- strategy evaluation (consisting of measurement and evaluation of performance).

The role of strategic management in an organisation is to promote effectiveness and long-run success through aligning the plans, internal resources and activities of the organisation with its overall goals and the external operating environment (Viljoen 1991). Thus, the linkages between the steps in the management cycle become as important as the steps themselves so that plans are formulated with an understanding of the context of management; so that resources and staff are allocated in line with the plans; so management process and systems are directed towards implementation of the chosen strategies, and so that the results of management are monitored and fed back into the planning cycle.

The WCPA management effectiveness evaluation framework (WCPA Framework) (Hockings et al, 2000) is based around this management cycle (Figure 1). The framework elements and the criteria that are used to assess management effectiveness in relation to each element are explained in Table 1 and the accompanying text.

The management cycle and evaluation

Table 1. **WCPA Framework for assessing management effectiveness of protected areas and protected area systems (from Hockings et al, 2000)**

Elements of evaluation	**Design issues**		**Appropriateness of management systems and processes**		**Delivery of protected area objectives**	
	Context	**Planning**	**Inputs**	**Processes**	**Outputs**	**Outcomes**
Explanation	*Where are we now?* Assessment of importance, threats and policy environment	*Where do we want to be?* Assessment of PA design and planning	*What do we need?* Assessment of resources needed to carry out management	*How do we go about it?* Assessment of the way in which management is conducted	*What were the results?* Assessment of the implementation of management programs and actions; delivery of products and services	*What did we achieve?* Assessment of the outcomes and the extent to which they achieved objectives
Criteria that are used to assess management effectiveness	Significance Threats Vulnerability National context	Protected area legislation and policy Protected area system design Reserve design Management planning	Resourcing of agency Resourcing of site Contributions from Partners	Suitability of management processes	Results of management actions Services and products	Impacts: effects of management in relation to objectives
Focus of evaluation	Status	Appropriateness	Adequacy	Efficiency Appropriateness	Effectiveness	Effectiveness Appropriateness

Design issues - context and planning

Context involves issues that lie outside the direct operations of the protected area manager or management agency. It is the context within which they operate and includes consideration of the conservation and other values of the protected area which underpin the objectives set for management of the site, its current status and the particular threats and opportunities that are affecting it, including the broad policy environment. This is not an analysis of management per se, but provides information that helps put management decisions into context. Where assessment is being used to identify management priorities within a protected area network, or to decide on the time and resources to devote to a particular protected area, this may be the main area of assessment required.

Planning focuses on the determination of intended outcomes for the protected area system or the individual protected area: the vision for which the system or site is being planned and the strategies that have been selected to achieve this vision. Assessment may consider the appropriateness of national protected area legislation and policies, the existence and adequacy of plans and strategies for protected area systems, and the adequacy of design of individual protected areas and plans for their management.

Adequacy and appropriateness of management resources, systems and processes – inputs and processes

The evaluation of inputs assesses the adequacy of resources available to management, focusing primarily on measures of staff numbers and skills, funds, equipment and facilities required at either agency or site level. The adequacy of resourcing needs to be measured in relation to the size of the management task and within the standards of the national and regional area.

Management demands are affected by the management purpose and strategy applying to the area. For example, areas developed for intensive tourism will require more resources for recreation management than isolated sites with few visitors. The level of threat, and consequent requirements for threat abatement, and the attributes and condition of the natural and cultural resources within the area will also affect requirements for funds and staff. Regional protected area management norms will also affect the requirements for management resources. For example, there are regional differences in visitor expectations regarding the provision of visitor interpretation and the quality of visitor infrastructure. These differences impact on the resource requirements for management.

Analysis of *Processes* considers the appropriateness of management processes and systems in relation to the management objectives for a system or a site. Differing regional norms for the way management of protected areas is conducted will affect the assessment of this element of the evaluation framework in much the same way as regional norms affect the assessment of management inputs. Assessment will involve consideration of diverse management processes such as facility maintenance, methods of interaction with local communities, visitor management, procedures for natural and cultural resource management, and financial and office management systems.

Delivery of protected area objectives – outputs and outcomes

Output evaluation considers what has been done by management, and examines the extent to which targets, work programs or plans have been implemented. Targets may be set through management plans or a process of annual work programming. The focus of output monitoring deals not so much with whether these actions have achieved their desired objectives (this is the province of outcome evaluation), but on whether the activities have been carried out as scheduled and progress made in implementing long-term management plans.

Outcome evaluation assesses whether management has been successful with respect to the objectives in a management plan, legislation, national plans and ultimately the aims of the IUCN category of the protected area. Outcome evaluation is most meaningful where concrete objectives for management have been specified either in national legislation, policies, or site-specific management plans. Approaches to outcome evaluation may involve long-term monitoring of the condition of the biological and cultural resources of the system/site, socio-economic aspects of use, and the impacts of the management of the system/site on local communities. **In the final analysis, outcome evaluation is the true test of management effectiveness.**

Evaluating management effectiveness using the framework

Ideally, systems for assessing management effectiveness of protected areas will incorporate components that cover each of the elements of evaluation outlined here. Because each type of evaluation has a different focus, they are complementary rather than alternative approaches to evaluating management effectiveness. Time series data for both inputs and outputs within a protected area or system can be particularly valuable in assessing changes in the efficiency of management and may enable a judgement to be made about the effectiveness of a change in management practice or policy.

Application of the WCPA framework

The Fraser Island World Heritage Area case study was designed as a long-term monitoring program focused strongly on meeting the information needs of site managers.

Fraser Island World Heritage Area

Fraser Island, claimed to be the largest sand island in the world, stretches for over 120 kilometres along the southern Queensland coast. The island was included on the World Heritage list in 1992. Management of the public land (national park, recreation management area and adjacent marine park) is the responsibility of the Queensland Parks and Wildlife Service (QPWS). The development and implementation of the evaluation strategy and associated monitoring programs was carried out in close consultation with QPWS managers of the island.

The work on management effectiveness evaluation for Fraser Island was conducted in two overlapping phases. It began in 1994 with initial development of an evaluation system for Fraser Island, primarily focused on assessing *outputs* and *outcomes* (phase 1). Based on the early stages of this work, I was asked by IUCN to develop a general approach to assessing management effectiveness that could be applied around the world. This led to development of the draft WCPA Framework which was released for comment in 1997. During the process of developing the draft Framework, the potential utility of assessing elements other than *outputs* and *outcomes* became apparent and assessment elements focusing on inputs and *processes* were subsequently added to the monitoring and evaluation program (Phase 2).

In phase 1 of the program, the statements of desired outcomes for each of the major topics in the management plan formed the starting point for the evaluation strategy. It was recognised that it would not be possible to establish outcome-oriented monitoring programs for all 55 topic areas in the management plan because of limitations on staff time and resources. The areas addressed in the initial phase were selected in consultation with managers and represented the issues considered to be most potentially important in terms of maintenance of conservation values, quality of visitor experiences and extent of management effort. For each of these, potential items for performance assessment were identified on the basis that they would reflect achievement of key attributes of the desired outcome. The information required to make these performance assessments was then specified along with ideas on an appropriate methodology for collecting this information and notes on problems or issues to be considered in relation to data collection. The second component of phase 1 of the evaluation strategy monitored the extent of implementation of the policies and actions specified in the management plan. The objective of this component of the strategy was to provide managers and the broader community with data on the general status of plan implementation and specific information on progress of individual components of the plan. A management information system was developed to provide a mechanism for this monitoring.

In phase 2 of the Fraser Island monitoring program, evaluation elements for management *inputs* and *processes* were added to the existing *outputs* and *outcomes* monitoring programs.

The evaluation system for Fraser Island was designed as a long-term assessment program that would provide feedback to managers on an on-going basis. Hence, reporting has been primarily directed at managers and associated management committees which represent key stakeholder groups with interests in the area. This reporting has been conducted primarily on a program-by-program basis. The results of camping, vehicular use of beaches and road monitoring programs were immediately fed back to managers through workshops and reports. Results of the camping and vehicular use of beaches studies were also published in the scientific literature. Annual reports were prepared on the monitoring of management plan implementation. Analysis and reporting of phase 2 elements of the case study (input and process evaluation) and the vegetation, fauna and water quality monitoring programs were included in a major report completed in 2000. Reporting to the Community Advisory Committee, which represents stakeholders involved in the area, has resulted in some dissemination of the results to wider stakeholder group membership, for example through reports on the results of monitoring programs in the newsletter of the Fraser Island Defenders Organisation, a conservation NGO associated with the island.

The ways in which QPWS has used the information from the monitoring programs (Table 2) has been identified against one or more of the three common uses for evaluation; adaptive management (am), improving planning (pl), and accountability (ac). The use of information has been identified as contributing to adaptive management where it has prompted specific action or policy changes. Accountability has been identified as a use where there has been a process of reporting on the results of the monitoring to stakeholders or information from monitoring programs has been incorporated into public reports. Planning has been identified as a use where results have been applied in later planning exercises.

Of the 26 identified instances where information from the monitoring programs has been used, planning was the most common purpose (46%), followed by accountability (35%) and adaptive management (27%). This assessment of use is likely to underestimate use of information for adaptive management purposes because of the difficulty in recognising this use where monitoring information indicates that current management activity is effective and hence no management change has been required. The most active use of assessment information by managers has been in relation to *outputs* and *outcomes* with the information used primarily for planning and adaptive management. *Input* and *process* information has only been used in a minor way for reporting to the joint meetings of the advisory committees. This bias towards the use of *output* and *outcome* measures may be, in part, a reflection of the origins of the evaluation system which initially only looked at these elements of the framework, but it may also reflect a focus by managers on these measures of performance.

Table 2. **Application of results and subsequent monitoring work undertaken by QPWS for each element of evaluation program**

Elements of evaluation		Instances where program information has been used*	Subsequent monitoring work by QPWS
Inputs (budget allocation monitoring)		• Report sent to members of the World Heritage Area Advisory Committees (ac)	• None known – likely to be addressed in budget processes
Process (Management process evaluation)		• Report sent to members of the World Heritage Area Advisory Committees (ac)	• Only followed up when researcher has prompted action in joint meeting of Advisory Committees
Outputs (management plan implementation monitoring)		• Report sent to members of the World Heritage Area Advisory Committees (ac) • Reporting to Minister and use in Ministerial replies (ac) • Revision of the management plan being undertaken by QPWS (ac, pl)	• Status of actions was updated in 2000
Outcomes	**Camping**	• Development of Camping Management Plan (pl) • Beach camping site management (am) • Results presented to Community and Scientific Advisory Committees (ac) • Development of rehabilitation program (am)	• Campsite numbers and minimal impact camping compliance has continued to be monitored at times of heavy use (e.g. Fishing Expo)
	Wader impacts	• Development of Camping Management Plan (pl) • Beach camping site management (am) • Results presented to Community and Scientific Advisory Committees (ac) • Results used to assess and manage impacts associated with the annual Fishing Expo (am).	• Wader counts have continued and results have been analysed for periods of heavy visitor use (e.g. Fishing Expo)
	Vegetation	• Development of draft Fire Management Plan (pl) • Development of Camping Management Plan (pl) • Development of prescribed burning program (am)	• Monitoring was undertaken by QPWS in 1999, next survey is not due until 2003 or 2004
	Fauna	• Development of draft Fire Management Plan (pl) • Development of Camping Management Plan (pl) • Development of Dingo Management Plan (pl) • Management decisions relating to coastal camping and other site management decisions (am) • Development of prescribed burning program (am) • Information used in preparing Ministerial replies (ac) • Monitoring results were a major information source for the review of World Heritage values of Fraser Island (Ingram et al, in press) (ac, pl)	• Monitoring was undertaken by QPWS in 2000 and 2001; program of monitoring half the sites each year is in place
	Roads	• Partial stimulus for and input to the transport management study (pl)	• Road monitoring ceased following severe degradation of the road system and subsequent major reconstruction in 1999; a transport management study is underway and a revised monitoring program will be developed as part of this process
	Water quality	• Results used in preparing the review of World Heritage values of Fraser Island (Ingram et al, in press) (ac, pl) • Input to more detailed research program (pl)	• Revised monitoring program was established in 1999 and is continuing

* ac = accountability; am = adaptive management; pl = planning

Discussion

Management effectiveness has grown to be a prominent issue in relation to protected areas over the past two decades. During this time, a number of evaluation systems have been proposed but these have not been widely adopted by management agencies, although the interest by management agencies is high. The WCPA Framework has been developed as a flexible design tool for preparing evaluation systems that are responsive to the needs, capacities and circumstances that apply to protected areas around the world. The Fraser Island case study involves a detailed and on-going monitoring and assessment of management that has been used to adjust future planning and management of the reserve, as well as to report on management outcomes to stakeholders. The park managers are directly involved in the conduct of the monitoring programs. Other applications of the Framework have involved rapid assessment systems for individual parks or for entire protected area systems.

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2

World Heritage Monitoring and Periodic Reporting Experiences

Monitoring and Reporting in the Context of the *World Heritage Convention* and its Application in Latin America and the Caribbean

by Herman van Hooff

In November 1972, the General Conference of UNESCO adopted the Convention concerning the protection of the world cultural and natural heritage. To date, 175 States Parties have adhered to the Convention and its most important instrument. 730 properties are now included on the World Heritage List.

Since 1992, the Committee has taken a number of measures to strengthen the credibility of the World Heritage List. It reviewed inscription procedures and requirements and it introduced procedures and processes for reactive monitoring and periodic reporting. These measures contributed to establishing a coherent World Heritage framework in which:

- **The Outstanding Universal Value of a site is clearly identified at the time of its inscription on the World Heritage List;**
- **Legal, institutional and management arrangements ensure the long-term preservation of the Outstanding Universal Value; and**
- **Mechanisms are introduced to assess whether this value is being maintained over time.**

However, and this is confirmed by an analysis of World Heritage monitoring and reporting experiences in Latin America and the Caribbean, the World Heritage value of a site is rarely explicitly recognised and incorporated in its day-to-day management and monitoring.

In discussing management arrangements, it should be recognized that there is diversity in management systems and that a management system for a particular World Heritage property is dependent on its specific circumstances. The challenge is now to provide meaningful and practical guidance on management and monitoring that allows for sufficient flexibility to be adapted to particular management practices.

Introduction

The *Convention concerning the protection of the world cultural and natural heritage* was adopted by the General Conference of UNESCO in November 1972. To date, 175 States Parties have adhered to the Convention and its most important instrument; the World Heritage List now includes 730 properties of which 144 are natural, 23 mixed – cultural and natural – and 563 cultural properties. These properties are located in 125 countries. But is the World Heritage List credible? In other words: does listing provide for effective additional protection? Is conservation action taken as required? Are the sites properly managed? Are they preserved and conserved in such a way that their transmission to future generations is secured? Do States Parties fulfil their obligations under the *World Heritage Convention*?

Since 1992 – the year in which the World Heritage Committee adopted strategic goals and objectives and recommendations for the future implementation of the *World Heritage Convention*[1] – the Committee has taken a number of measures to strengthen the credibility of the World Heritage List and to assess whether properties on the List maintain their World Heritage value over time. It reviewed inscription procedures and requirements and it introduced procedures and processes for reactive monitoring and periodic reporting. It has also placed particular emphasis on the need to strengthen the management of World Heritage properties.

Part I of this paper describes these processes and places them in the perspective of the efforts of the World Heritage Committee to strengthen the application of the Convention and to establish a coherent framework that ensures the long-term preservation of the Outstanding Universal Value of World Heritage sites.

Part II describes the application of the monitoring and reporting processes in the region of Latin America and the Caribbean.

Part I: Monitoring and Reporting in the context of the *World Heritage Convention*

I.1. World Heritage inscription, monitoring and reporting procedures

I.1.1. Inscription on the World Heritage List

The first inscriptions on the World Heritage List took place in 1978. Nomination dossiers were prepared on the basis of a form that would remain unchanged until 1996/98. Dossiers counted up to ten pages, the ICOMOS evaluation consisted of a one page technical review form and a letter to the chairperson of the Committee, and the World Heritage Committee decision did not record the criteria for inscription until 1983.

In 1992, the situation had evolved. Dossiers could be thirty pages long plus annexes, the ICOMOS and IUCN evaluations two to five pages, and the Committee decision stated the criteria for inscription. However, information on important issues such as the justification for World Heritage listing and management arrangements for the sites remained limited.

While developing mechanisms for periodic reporting and in order to establish sound baseline information, the Committee thoroughly revised the nomination dossier format. A new format was adopted in 1996 and introduced from 1998 onwards. This new format requires the State Party to provide ample documentation on the values of the site and the legal and institutional arrangements for their preservation and management. It also promotes forward-looking action by asking for an analysis of external factors that may affect the site and the definition of future monitoring arrangements.

As a result, in 2002, nomination dossiers can be several volumes big, the evaluations more than five pages long with detailed description and analysis of the values and management arrangements for the site, and the decision of the Committee includes the criteria and a substantive justification for their application. This body of documentation constitutes indispensable reference material for those who are responsible for the management of the site and for future monitoring and reporting activities.

I.1.2. Monitoring the state of conservation of World Heritage properties [2]

In 1982, only four years after the first inscriptions on the World Heritage List, the Bureau and Committee started to discuss the desirability and the need of updated information on the state of conservation and States Parties' actions for the preservation and management of World Heritage sites. However, the Committee at its session in 1983 preferred not to establish a formal system of reporting by States Parties and rather encouraged IUCN, ICOMOS, and ICCROM to collect information through their experts.

In response, IUCN started to present the first monitoring reports in 1984. ICOMOS started to submit reports in 1988.

In the 1994 *Operational Guidelines*, the Committee defined for the first time what from then on would be called reactive monitoring: *reactive monitoring is the reporting by the World Heritage Centre, other sectors of UNESCO and the advisory bodies to the Bureau and the Committee on the state of conservation of specific World Heritage sites that are under threat.*

During the years 2000-2001, the Committee and its Bureau examined reactive monitoring reports on fifty-two (52) natural properties, six (6) mixed – cultural and natural – properties and sixty-five (65) cultural properties. The total of 123 properties examined represented twenty percent of all World Heritage properties. In practically all cases the reactive monitoring involved an external participation and, in some cases, expert missions to the sites. In response, the Committee or the Bureau formulated specific recommendations to the State Party concerned for the improved preservation and management of the property. Feedback and progress reports were then submitted to following sessions of the Bureau and Committee.

I.1.3. The List of World Heritage in Danger

The reactive monitoring process may, in exceptional cases, include or lead to the consideration of the inscription of the site in the List of World Heritage in Danger. This List is established under Article 11.4 of the Convention for sites for the conservation of which major operations are necessary and for which assistance has been requested under the Convention. The article specifies that for inscription, sites need to be threatened by serious and specific dangers, examples of which are given in the same article. The Committee examines every year the state of conservation of sites in danger and makes recommendations to the State Party concerned. At present there are thirty-three (33) sites inscribed on the List of World Heritage in Danger.

I.1.4. Periodic reporting

In 1987, the Committee introduced a questionnaire system for States Parties with the view to report on a systematic and chronological basis on the state of conservation of sites. The first systematic report was submitted to the Committee in 1990. This system was abandoned in 1991 because it had not yielded the results anticipated. However, the Committee *requested the Secretariat to carry on the monitoring of cultural heritage properties.*

In the meantime, several monitoring and reporting activities had been initiated in which different methodologies and institutional arrangements were applied. In some cases, for example, the preparation of reports was undertaken through United Nations programmes such as the UNESCO UNDP Regional Project for Cultural, Urban and Environmental Heritage for Latin America and the Caribbean (1991-1994)[3] or through UNEP for sites in the Mediterranean. In other cases, the States Parties undertook the preparation of reports by themselves or in collaboration with one or more of the Advisory Bodies (IUCN, ICOMOS, ICCROM).

On the basis of these experiences and in response to one of the strategic goals of 1992 [Goal 4: pursue a more systematic monitoring of World Heritage sites], the Committee, at its session in 1994, invited States Parties to submit to the World Heritage Committee through the World Heritage Centre, every five years, a scientific report on the state of conservation of the World Heritage sites on their territories. To this end, the States Parties may request expert advice from the Secretariat or the advisory bodies. The Secretariat may also commission expert advice with the agreement of the States Parties.

Whereas the Committee considered that these reports were a technical means for the Committee to fulfil its tasks and meet its responsibilities, some States Parties challenged the legal basis for the Committee's request and brought the issue to the General Assembly of States Parties in 1995, the first time ever that a substantive issue was discussed at a General Assembly. It took another three years of heated discussions to arrive at a consensus on the requirement of States Parties to submit, under Article 29 of the Convention, periodic reports on the application of the

World Heritage Convention and the state of conservation of World Heritage sites[4].

In 1998, the Committee adopted the format for the periodic reporting on the application of the *World Heritage Convention*. This format consists of two sections: section I refers to the application of the Convention by the State Party, whereas section II refers to the state of conservation of specific World Heritage sites. The nomination format and Section II of the periodic reports follow the same structure in order to make it possible to compare information and to assess if the state of conservation of a site has improved or not and if the measures taken by the State Party have been effective.

As to the periodic reporting cycle, the Committee decided to examine the regional synthesis reports region by region as follows:

- 2000: Arab States for sites inscribed until the end of 1992
- 2001/2002: Africa for sites inscribed until the end of 1993
- 2003: Asia and the Pacific for sites inscribed until the end of 1994
- 2004: Latin America and the Caribbean for sites inscribed until the end of 1995
- 2005/2006: Europe and North America for sites inscribe until the end of 1996.

The regional reports should lead to the preparation of regional programmes that address the needs of the region with a view to achieving the new strategic objectives established by the World Heritage Committee at its twenty-sixth session in June 2002.

I.2. Linking the World Heritage value to management and monitoring and reporting

All the above decisions contributed to establishing a coherent World Heritage framework in which:

- The Outstanding Universal Value of a site is clearly identified at the time of its inscription on the World Heritage List;
- Legal, institutional and management arrangements ensure the long-term preservation of the Outstanding Universal Value; and
- Mechanisms are introduced to assess whether this value is being maintained over time.

The proposed revision of the *Operational Guidelines* for the Implementation of the *World Heritage Convention*, presently under discussion by the World Heritage Committee[5], makes this framework explicit. In the chapter on the inscription of properties on the World Heritage List it states that:

II.G.3. When deciding to inscribe a property on the World Heritage List, the Committee, advised by the Advisory Bodies (…) will agree on a clearly documented statement of outstanding universal value for the property.

II.G 4. The statement of outstanding universal value should include a summary of its determination that the property possesses outstanding universal value, identifying the criteria under which the property was inscribed, and including the assessment of authenticity or integrity of the property and of the management mechanisms in force.

II.G.5. The statement of outstanding universal value should be the basis for the future management and protection of the property.

II.G.6. The Committee may also make other recommendations concerning the value, management and protection of the property.

And in a new chapter on the protection and conservation of World Heritage properties it defines the purpose of management as follows:

III.A.1. The purpose of effective management of a World Heritage property is to ensure the protection of the outstanding universal value of the heritage for present and future generations.

I.3. The management of World Heritage properties

With the above measures, the Committee confirmed a direct link between the definition of the Outstanding Universal Value of a property and its management[6]. It also established mechanisms of reactive monitoring and periodic reporting that enables the World Heritage Committee to assess whether a property maintains its outstanding universal value over time. What remains to be addressed is the issue of the day-to-day management of the site.

Article 4 of the *World Heritage Convention* states that the duty of ensuring the protection and conservation of the World Heritage belongs primarily to the State Party and that the State Party will do all it can to this end, to the utmost of its own resources and, where appropriate, with international assistance and co-operation. Therefore, the prime responsibility for the management of the sites remains with the States Parties.

The World Heritage Committee has always been extremely respectful of the sovereign rights of the States Parties, the State Party's management responsibility and the particular conditions and characteristics of each State Party and site. It has deliberately refrained from imposing specific management practices and requires, for cultural properties, adequate legal and/or contractual and/or traditional protection and management mechanisms[7]. For natural properties, the Committee is more specific and requires a management plan[8]. The revised *Operational Guidelines* proposes an appropriate management plan or other management system for all sites[9].

These formulations recognise that there is diversity in management systems and that a management system for a particular World Heritage property is dependent on its specific circumstances[10].

It recommends however that common elements of a management approach should include:
- A cycle of planning, implementation, monitoring, evaluation and feedback;
- A thorough understanding of the property;
- The full involvement of partners and stakeholders;
- The allocation of necessary resources;
- Capacity-building; and
- An accountable and transparent system showing how a property is to be managed.

It also states that any management approach should include a mechanism for periodic reporting on a six-year cycle.[11]

At the same time, there is a strong demand for guidance on the management of World Heritage sites and on how the State Party can meet its obligations in this respect. In 1993 ICCROM published management guidelines for world cultural heritage sites[12] and in 1998, guidelines for risk preparedness[13]. Several initiatives have also been taken to explore methodologies of monitoring World Heritage sites[14], initiatives that should lead to the preparation of a monitoring reference manual[15] now under preparation by ICCROM and ICOMOS. Where there is a management system in place, monitoring could focus on measuring the effectiveness of management as is done in the framework of the UN Foundation-IUCN-UNESCO project 'Enhancing our Heritage'.

I.4. Conclusions

In response to the 1992 strategic goals, the World Heritage Committee has undertaken important revisions to established procedures and has succeeded in introducing new mechanisms for monitoring and reporting.

The challenge is now to complete the circle and provide meaningful and practical guidance on managing and monitoring World Heritage values of sites. Guidelines should be compatible and consistent with the World Heritage system, procedures and requirements but, at the same time, should allow for sufficient flexibility to adapt to particular management practices.

Part II: Monitoring and reporting in Latin America and the Caribbean

II.1. Systematic Monitoring Exercise 1991-1994

As referred to above in point I.2.4., the UNDP/UNESCO Regional Project for Cultural, Urban and Environmental Heritage undertook a, what was then called, systematic monitoring exercise for cultural and mixed World Heritage sites in Latin America, the Caribbean and Mozambique. This exercise was implemented from 1991 to 1994 with the support of the World Heritage Committee. The Regional Project submitted a series of thirty site reports to the sessions of the World Heritage Committee in 1991, 1992, 1993 and 1994. A regional synthesis report was submitted to the Committee in 1994[16].

Essential components of this monitoring programme were desk studies and visits of experts to each of the sites. The experts conducted on-site workshops and prepared the report. This methodology ensured both the participation of the State Party and the site-managers, as well as an external view on the state of conservation of the site. Mexico decided to prepare monitoring reports under its own responsibility and submitted reports on ten cultural sites in 1994. These were evaluated by ICOMOS and deemed credible and objective[17].

The site reports were prepared according to a standard format that included the following items:
- Basic Facts on the Site
- State of Conservation
- Factors of Relevance to the State of Conservation (socio-economic and environmental factors, disaster preparedness, tourism impact)
- Legal and Institutional Framework
- Human and Financial Resources
- Management
- Observations and Findings
- Conclusions and Recommendations.

The regional synthesis report summarised the individual site reports and presented general observations and conclusions for the region.

The site reports and the regional synthesis report constitute important and credible reference material on the application of the *World Heritage Convention*. For many years, they were used to assess and verify state of conservation reports and requests for international assistance. In 1995, the World Heritage Centre distributed the individual site reports again to the States Parties concerned and requested information on the follow-up action they had given to the report recommendations. Only few States Parties responded. It is interesting to note that one State Party requested an ICOMOS expert to prepare a follow-up report.

II.2. The 'Indicators for World Heritage Cities' initiative

Conscious of the fact that the management of World Heritage sites implies monitoring its conditions and anticipating the periodic reporting requirement, the World Heritage Centre took the initiative to explore the issue of indicators for monitoring World Heritage sites in Latin America. Considering the high number of Latin American historical cities on the World Heritage List, this initiative concentrated on this type of sites. In co-operation with the heritage institute of Andalucia (Instituto Andaluz del Patrimonio Historico -IAPH), the Centre organised two expert meetings.

The first meeting took place in Colonia del Sacramento, Uruguay, from 12 to14 March 1998. The proceedings of

this meeting were published by IAPH[18]. At this meeting, the experts presented case studies and made a first attempt to identify indicators for measuring the state of conservation of historical cities. The difficulty that the experts encountered was to clearly define and directly link **values** to **attributes** to **indicators**. An issue that was largely discussed was that a historical city is much more than a historical -or World Heritage- site per se. Its values range from the urban-architectural to the environmental, social, cultural and historical and all these values need to be considered in the management of the city. At the second meeting in Ubeda and Baeza, Spain from 27-30 April 1999, the same group of experts thoroughly revisited the document of Colonia del Sacramento. In doing so, it started from the hypothesis that, in the ideal situation, the management arrangements for a city explicitly foresee the preservation of all its values, including the World Heritage values, and its authenticity. If this were the case, it would suffice to assess (1) whether the values of the site are clearly identified and adequately reflected in the management objectives, programmes and actions, and (2) whether the management is effective in achieving its objectives. For assessing the effectiveness of management, the experts developed a new set of forty-one indicators in the fields of legal-institutional framework and planning, environment and landscape, socio-economics, architecture and archaeology, socio-cultural and historical aspects.

But what if this ideal situation does not exist, which is probably the case in the majority of sites? In such cases, reactive monitoring missions, the preparation of periodic reports and international assistance activities should be the occasion to review and confirm the World Heritage values of the sites and to promote their consideration in the management arrangements.

II.3. Reactive monitoring and World Heritage in Danger

II.3.1. Reactive monitoring

During the years 2000-2001, the Committee and its Bureau examined reactive monitoring reports from the region on eight (8) natural properties, one (1) mixed and nine (9) cultural properties. The Bureau at its session in 2001 also examined the general issue of natural disasters and their impact on World Heritage in the Caribbean, Central America and South America. At least nine cases involved reactive monitoring missions by IUCN or ICOMOS experts. These experts were in four cases accompanied by UNESCO staff. Two well-published stories were:

Whale Sanctuary of El Vizcaino, Mexico

In 1999, the World Heritage Committee fielded an UNESCO-IUCN mission to the site to assess the potential impact of a proposed salt facility. Although the mission concluded that existing salt extraction had not affected the integrity of the site nor the whale population, it recommended the Mexican Government to take fully into account the World Heritage values of the site when evaluating the proposed salt facility, which would include not only the population of grey whales and other wildlife but also the integrity of the landscape and the ecosystems. Following the mission report and its endorsement by the Committee, the President of Mexico issued a statement, in March 2000, that the salt works would not proceed. Subsequently, the UN Foundation approved a project entitled "Linking conservation of bio-diversity and sustainable tourism" to provide alternative social and economic development to the local population.

Historic Sanctuary of Machu Picchu, Peru

In 1996, the World Heritage Committee expressed concern about the deficient management and conservation arrangements for the site. It also expressed concern about a proposed project to construct a cable car as a means of access to the Inca ruins of Machu Picchu. The Committee fielded an IUCN-ICOMOS expert mission in 1997 and two joint UNESCO-IUCN-ICOMOS missions in 1999 and 2002. As a result of these missions the Government of Peru adopted a Master Plan and created a joint inter-institutional management unit. In 2001, it cancelled the concession contract for the study and eventual construction of the cable car. Much remains to be done, however, particularly in the preparation of a comprehensive public use plan that should address, among other things, the issue of the access to the ruins in the context of carrying capacities and the overall management of tourism. The World Heritage Committee continues to monitor the situation closely.

For the reports of these, and other missions in Latin America and Europe, we used a standard format that includes:

- Background to the mission:
  - Analysis of the inscription history of the site (criteria for inscription; observations made by IUCN/ICOMOS and/or the Committee)
  - Examination of the state of conservation
  - Justification for the mission
- National and local policies for the preservation and management of the property:
  - Legal framework
  - Institutional framework
- Assessment of specific issues (particular for each site)
- Conclusions and recommendations.

This format helps to understand and makes explicit the World Heritage value of the site and it forces the mission members to focus the examination of the state of conservation on this value. It is my personal experience that a thorough understanding of the World Heritage value of a site is decisive in the identification of the real conservation and management problem and, consequently, the formulation of the adequate response and recommendations.

I personally believe that, in general, UNESCO staff should not undertake reactive monitoring missions on its own and that the undertaking of monitoring missions should be delegated to experts designated by the Advisory Bodies. In certain cases it may be necessary to give major weight to a mission. In such cases, joint missions of a representative of UNESCO/World Heritage Centre and experts from IUCN and/or ICOMOS have proven to be the most effective.

II.3.2. World Heritage in Danger

From Latin America there are only four sites that have ever been inscribed on the List in Danger:

Iguazu, Brazil (1999-2001)

The illegal opening - by local people - of a road cutting the Park in two, Brazilian helicopter flights and non-delivery of a new management plan for the Park, aimed at addressing the threats to the site, were the main causes of concern. Following the closure of the road in 2001 and the introduction of a new management plan for the site allowed the Committee to delete the site from the List in Danger in 2001.

Sangay National Park, Ecuador (1992 -)

The Park was inscribed on the List of the World Heritage in Danger because of heavy poaching of wildlife, illegal livestock grazing, encroachment along the Park's perimeter, and unplanned road construction.

International co-operation is provided through the United Nations Foundation to improve the monitoring and management programme of the Park, which is linked to its eventual deletion from the List in Danger.

Rio Platano Biosphere Reserve, Honduras (1996 -)

The advancing agricultural frontier at the west side of the reserve, pushed by small farmers and cattle ranchers, has already reduced the reserve's forest area. The southern and western zones of the Reserve are subject to massive extraction of precious wood such as Caoba (Swietenia macrophylla). Uncontrolled commercial hunting of wild animals is also practised. The introduction of exotic species is threatening to undermine the complex ecosystem of the Reserve.

In response to the recommendations of an IUCN mission in 2000, the Government is taking action to improve the protection and management of the site with the support of international co-operation through the World Heritage Fund and the UN Foundation.

Archaeological Zone of Chan Chan, Peru (1986 -)

The vast and fragile site of Chan Chan was inscribed on the List of World Heritage in Danger in 1986, the same year it was inscribed on the World Heritage List. Its adobe, or earthen, structures are quickly damaged by natural erosion as they become exposed to air and rain and they require continuous conservation efforts and substantial ancillary measures. The situation is aggravated by the recurrent El Nino phenomenon that causes rain and inundation to occur in the dry dessert area along the coast of Peru. In 1998 the impact of El Niño was unusually strong, leading to torrential rain and flooding. Emergency measures had to be taken, with assistance from the World Heritage Fund, to protect Chan Chan.

Over the past years a comprehensive master plan addressing conservation and management issues, as well as the interpretation of the site for visitors, has been completed. Two Pan-American Courses on the Conservation and Management of Earthen Architectural and Archaeological Heritage have taken place in Chan Chan, with direct benefits to the preservation and management planning for the site (Government of Peru, ICCROM, CRATerre EAG and the Getty Conservation Institute with financial assistance from the World Heritage Fund).

There is a general agreement that there are many more sites that would deserve and benefit from the additional attention and assistance that the inscription on the List in Danger would be able to generate, as it has done for the sites mentioned above. There is, however, in many countries a great resistance to inscription on the List in Danger, as it is perceived, by many, as a 'red list' that projects a negative image on the site and the country.

II.4. Periodic reporting

The World Heritage Committee will examine the *Report on the State of the World Heritage in Latin America and the Caribbean* at its session in 2004. The process of the preparation of this report started in 2000 at UNESCO Headquarters with a consultation meeting with the permanent delegates of the region. At that meeting it was agreed that the periodic reporting process would be organised along three sub-regions: South America, Central America/Mexico and the Caribbean. Subsequently, UNESCO requested all States Parties to identify two focal points (one for cultural and one for natural heritage). These focal points would participate throughout the periodic reporting process, serve as liaison between the State Party and UNESCO and be responsible for the co-ordination of the report preparation at the national level.

Sub-regional information meetings were organised for South America (Montevideo, 13 to 16 March 2002) and Central America/Mexico in which Cuba and the Dominican Republic also participated (Campeche, 8 to 10 May 2002). The information meetings were attended by the focal points, some site managers, representatives of the three Advisory Bodies and individual regional experts. The Caribbean, the third sub-region, has as the particular characteristic that no sites in the English and Dutch speaking islands are included in the present reporting cycle. In the Caribbean, therefore, attention will focus on the institutional and legal frameworks for the protection and management of the cultural and natural heritage. A sub-regional meeting will be held in the first half of 2003.

The representatives of the Advisory Bodies and regional experts now form a Regional Group of Experts that advises States Parties and UNESCO and that will be responsible for the preparation of the regional report.

Focal points and States Parties are continuously kept informed on the progress in the periodic reporting process through letters from the Director of the World Heritage Centre, special web sites at the World Heritage Centre and the Montevideo Office and electronic discussion groups.

Advisory missions to some States Parties have been scheduled to provide specific assistance in the report preparation.

The year 2003 will be mainly dedicated to the analysis of the national periodic reports and final consultations and discussions with the States Parties.

Although it is too early in the process to draw conclusions, some general observations can be made already on the process:

- It is difficult to achieve continuity. Directors of national institutes for cultural and natural heritage change frequently, as do the designated focal points for the World Heritage periodic reporting process. UNESCO is often not informed if focal points cease their functions.
- Although all invited States Parties attended the sub-regional information meetings and made constructive contributions to them, there is a limited feedback from the States Parties to UNESCO on follow-up activities at the national level. There are very few requests for additional information or assistance and the electronic discussion groups are mainly used for one-way communications from UNESCO to the focal points.
- States Parties, and even more so site managers, have very limited knowledge of the World Heritage value of the sites. Copies of nomination dossiers are hardly available let alone the evaluation of the Advisory Body or the decision of the Committee.
- An extremely pro-active approach from UNESCO is required. The experience has shown that the above can be remedied with a strong UNESCO/World Heritage Centre presence in the country, either through a UNESCO Office or a number of World Heritage activities, or good personal relations with officials in the country. But the most sustainable solution is a pro-active attitude of the States Parties themselves, for example through the creation of international co-operation departments in the ministries concerned and/or the establishment of an inter-ministerial-inter-institutional National World Heritage Committee.
- Finally, through the Regional Group of Experts, we have established a mechanism for the involvement of all three Advisory Bodies and high-level regional experts in the preparation of the reports and the writing of the regional periodic report.

II.5. Conclusions

What was concluded on the global level in Part I above, is confirmed by the experience in Latin America and the Caribbean: the essential missing link in the World Heritage process is the clear definition of the World Heritage value of a site, its explicit recognition in its management and its incorporation in, or translation into management objectives, programmes and actions.

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1 UNESCO, *World Heritage Committee Sixteenth Session (Santa Fe, United States of America, 7-14 December 1992)*, Annex II.
2 In 1995, ICOMOS Canada dedicated its entire bulletin to monitoring. The bulletin includes articles on monitoring in the context of the *World Heritage Convention* and a number of practical monitoring experiences and methodologies: 'Momemtum 1995, Vital Signs: Monitoring Policies, Programmes and Sites', *ICOMOS Canada Bulletin,* Vol. 4, No 3, 1995.
3 UNDP/UNESCO Regional Project for Cultural, Urban and Environmental Heritage, *Systematic Monitoring Exercise, World Heritage sites Latin America, the Caribbean and Mozambique, Report 1991-1994,* 1994. See also Part II.1. below.
4 Article 29 of the *World Heritage Convention*:
1. The States Parties to this Convention shall, in the report which they submit to the General Conference of the United Nations Educational, Scientific and Cultural Organisation on dates and in a manner to be determined by it, give information on the legislative and administrative provisions which they have adopted and other action which they have taken for the application of this Convention, together with details of the experience acquired in this field.
2. These reports shall be brought to the attention of the World Heritage Committee.
3. The Committee shall submit a report on its activities at each of the ordinary sessions of the General Conference of the United Nations Educational, Scientific and Cultural Organization.
5 The *3rd Draft Annotated Revised Operational Guidelines* was submitted to the twenty-sixth session of the World Heritage Committee (Budapest, 24-29 June 2002) and will be further examined at the Committee's sessions in 2003. References to and quotations from this revision of the *Operational Guidelines* are only indicative and it should be emphasized that nothing in this draft shall be construed to nullify or otherwise negatively affect the current *Operational Guidelines* or any past action of the World Heritage Committee or its Bureau. Furthermore, it should be recalled that any proposed changes to the *Operational Guidelines* identified in the draft will not become operational until approved by the World Heritage Committee.
6 As already highlighted in: Bernard M. Fielden and Jukka Jokilehto, 1993. *Management Guidelines for World Cultural Heritage Sites,* ICCROM.
7 Paragraph 24.(b)(ii) of the 1999 *Operational Guidelines*.
8 Ibid. Paragraph 44(b)(v).
9 *3rd Draft Annotated Revised Operational Guidelines,* paragraph II.C.23.
10 Ibid, paragraph III.A.5.
11 Ibid. paragraph III.A.6.
12 Bernard M. Fielden and Jukka Jokilehto, 1993. *Management Guidelines for World Cultural Heritage Sites,* ICCROM.
13 Herb Stovel, 1998. Risk Preparedness: a *Management Manual for World Cultural Heritage,* ICCROM.
14 Two Latin American expert meetings discussed possible indicators for monitoring the state of conservation of World Heritage cities: Colonia del Sacramento, Uruguay, 12-14 March 1998 (proceeding published in *Cuadernos del Instituto Andaluz del Patrimonio Historico,* 1999) and Ubeda and Baeza, Spain, 27-30 April 1999. See point II.2. below.
15 Discussed at various expert meetings and at the ICCROM *Monitoring for World Heritage Cities* meeting in Malta, 21-24 May 2000.
16 See endnote 4 and UNESCO, *World Heritage Committee Eighteenth Session (Phuket, Thailand, 12-17 December 1994)*, paragraph IX.13 – IX.16.
17 Ibid, paragraph IX.17.
18 See endnote 14.

Improving Monitoring for World Heritage Conservation

by Giovanni Boccardi

This paper deals with the way monitoring is conceived and applied in the framework of the *World Heritage Convention*, especially through the "Periodic Reporting" process. In this respect, the paper highlights the need to differentiate between monitoring in the context of site management (to be carried out by local staff on a continuous basis), and monitoring as part of the Periodic Reporting (focusing, every six years, on the implementation of the Convention), and to clarify this distinction in the *Operational Guidelines.*

With specific reference to the Arab Region, the questionnaires used for the Periodic Reporting have been shown to be too complex and sometimes confusing. On the other hand, the lack of a "culture" of site management and monitoring is apparent from most of the replies. The idea of checking systematically a number of indicators to get feedback on a decision-making process, for the planning and reviewing of conservation policies, is not yet accepted.

The concept of an Action Plan for the Arab Region is described, as a response to the needs identified through the Periodic Reporting. Such an Action Plan will address the need to strengthen capacity in monitoring of World Heritage sites. It is then suggested to "institutionalize", within the Convention's procedures, such Action Plans and link them with the Periodic Reporting process.

In conclusion, the Periodic Reporting in the Arab Region has provided much useful information on the situation "on the ground". States Parties, for the first time, were led to recognize the gravity of the problems in the management and conservation of their sites, and especially the almost total absence of a proper monitoring system. This, it is hoped, will lead to corrective measures and enhance regional co-operation.

A brief history of monitoring within the *World Heritage Convention*

Some twenty years ago, when the List of the World Heritage counted a mere 130 sites, the most alert Committee members became aware of the dangerous lack of information about the state of conservation of all these properties.

Nomination Files at that time, composed of a few pages and illustrations, were only meant to convince the Committee that the site in question was indeed of "outstanding universal value". Almost no details were given on state of conservation, management, or even perimeter of the listed site and its buffer zone. No base-line surveys or clear conservation plans were indicated. Sites of the complexity and importance of Rome, for instance, were inscribed on the List with a dossier of five pages.

The World Heritage Committee realized quickly that some form of regular and systematic reporting had to be established, not only to maintain a credible World Heritage List, but also to make an appropriate use of the limited resources available in the face of the diverse threats affecting the state of conservation of an ever-increasing number of listed sites.

In this respect, the idea was to move from a reactive to a proactive approach. Instead of taking action on occasional reported "dangers", the Committee decided to streamline and rationalize the use of the World Heritage Fund based on a comprehensive assessment of the needs linked to a long-term vision for the conservation of World Heritage properties.

Discussions on the most appropriate means to establish up-to-date information on World Heritage properties have continued since then at the sessions of the World Heritage Committee, the General Assembly of States Parties to the Convention and the General Conference of UNESCO. Numerous States Parties and experts, as well as the advisory bodies, have been involved in this process. The work undertaken by the Working Group of States Parties on Monitoring and Reporting in 1987 and in the Strategic Planning Meetings held in 1992 constitute the main stages. As a result of the above process and practical experiences, the World Heritage Committee reconfirmed at its eighteenth session in December 1994 the responsibility of the States Parties to monitor on a day-to-day basis the conditions of the properties and invited all States Parties to present periodic state of conservation reports to the World Heritage Committee.

The Tenth General Assembly (1995) and the World Heritage Committee, at its nineteenth and twentieth sessions (1995 and 1996), studied the reporting procedures foreseen under the *World Heritage Convention* and defined the main principles of monitoring and reporting. These principles stated that:

i) monitoring the state of conservation of World Heritage properties is the responsibility of the State Party concerned and is part of site management;

ii) the commitment of the States Parties to provide regular reports on the state of conservation of World Heritage properties is consistent with the principles of the *World Heritage Convention* and should be part of a continuous process of collaboration between the States Parties and the World Heritage Committee;

iii) regular reports may be submitted in accordance with Article 29 of the Convention. The General Conference of UNESCO should be asked to activate Article 29 of the Convention and to entrust the World Heritage Committee with the responsibility to respond to these reports;

iv) the World Heritage Committee should define the form, nature and extent of such regular reporting in respect of the principles of State sovereignty.

It is interesting to note, from the emphasis put by the Committee on the sovereignty of States Parties and their stated exclusive control on management and monitoring processes, how sensitive the issue becomes when the preservation of the values and eventually the legitimacy of a site to feature on the World Heritage List is questioned by state of conservation reports.

The Committee, thus, decided in 1997 to define the periodicity, form, nature and extent of the periodic reporting on the application of the *World Heritage Convention* and on the state of conservation of World Heritage properties and to examine and respond to these reports while respecting the principle of State sovereignty.

From this decision stemmed, in 1998, the format of the Periodic Reporting exercise, the first systematic attempt to monitor the implementation of the Convention both at the site and State policy level. This consists of two questionnaires, one at the country policy level, the other focused on the various sites, with hundreds of questions to be answered by the competent national authorities. Periodic Reporting was eventually implemented for the first time in the year 2000, for the Arab Region. The Africa region followed in 2001 and 2002, while Asia and Latin America are currently engaged in the process.

Today we are considering the first results of this exercise in the Arab and Africa Regions, and assessing the extent to which they respond to the objectives set by the Committee, and indeed provide the basis on which to ground well-thought conservation policies. As Chief of the Arab States Unit, for example, I have the responsibility to draw from the Periodic Reporting of my Region the information on which to build a comprehensive strategy to help improve the conservation and management of World Heritage in the Arab countries.

The following are some (personal) considerations on the meaning and results of this process in the Region under my responsibility, followed by some proposals for discussion on possible future orientations of Monitoring within the *World Heritage Convention*.

Lessons learnt from the periodic reporting in the Arab States

Monitoring what?

The first conclusion drawn from the Periodic Reporting in the Arab States, is that the process employed does not, as it is conceived now, conform to the idea that "experts" have of monitoring.

According to professional theory and practice, monitoring should look at changes on a site over a given period of time, based on specific indicators that tell us to which extent the property has preserved its original heritage values. Monitoring should be carried out using a standardized methodology and measurements that can be repeated over time to permit comparison, depending on the type of process to be observed, to reduce as much as possible subjectivity. It should be in the form of photos, videos, measured drawings, interviews, and written reports etc. All these observations should be compared with a defined state of conservation ascertained in the past (base-line), and possibly at the time of the inscription of the site on the World Heritage List.

Clearly, this is not the case for the Periodic Reporting questionnaires, which mainly require Yes-or-No answers, or discuss whether the State Party considers that the site has maintained its original values and integrity, what statement of significance would be more appropriate, which projects are on going or are foreseen, what are the needs of the site in terms of funding and human resources, etc. No justification or material evidence collected on the ground is requested to confirm these statements, especially as base-line surveys are rarely available.

It is important to understand, therefore, that the subject of the Periodic Reporting is not so much the actual state of conservation of the sites, but rather the way States Parties are taking care of them. This latter information, however, is of the utmost importance as it provides the Committee with a general overview of the degree of implementation of the Convention in a certain country or World Heritage site, which enables the definition of a strategy of action and a more effective use of resources.

In this more limited sense, we may say that Periodic Reporting has achieved its goal. States Parties, for the first time, were led to recognize the gravity of the problems in the management and conservation of their sites, and especially the almost total absence of a proper monitoring system, which would have made impossible the collection of data on the sites themselves. The Final Report on the Periodic Reporting in the Arab Region, presented at the Committee Meeting of Cairns (2000), brought this situation to the attention of all States Parties.

We should not underestimate, in this respect, the positive effect that these reports have had on the conservation policy of some World Heritage sites. It was precisely the concerns expressed by States Parties in their Periodic Reporting, for example, which led to the inclusion in the World Heritage List in Danger and the submission of requests of emergency assistance for two particular sites, the Old City of Zabid (Yemen) and the Archaeological Site of Tipasa (Algeria), and to the subsequent launching of long-term actions for their safeguarding.

Quality and reliability

The second issue raised by the outcome of the first Periodic Reporting is its quality and reliability. Monitoring should constitute the evidence on which those responsible for site management justify their conservation policy, needs and decisions. In this respect, it is an essential tool for central administrations to assess the effectiveness of current site practices, and for site managers to base requests for additional resources, funding etc. In real life, the participation of a neutral and qualified professional heritage consultant is often recommended to serve as an external control on the methodology, and for advice as required.

Concerns related to national prestige and sovereignty, however, sometimes find their way into Periodic Reporting. This is especially apparent in contradictions observed in certain Reports, such as declared good management and state of conservation of a site, on one hand, and the request for urgent substantial funding and technical assistance for the safeguarding of the same site, on the other. The very centralized structure of the Administration in most Arab States, moreover, has contributed to weakening the relevance of the Periodic Reporting process, as many of these questionnaires were filled in, in the national administration headquarters.

But the main reason for questioning the quality and reliability of the exercise is related to the lack of capacity of many States Parties to accomplish such a major endeavour. Despite the organization of a Regional Information Workshop in the year 1999, the level and quantity of responses to the questionnaires of the Periodic Reporting clearly show the need to strengthen the "culture" of monitoring in the Arab Region.

The idea of checking systematically a number of indicators to give feedback to a decision-making process for the planning and reviewing of conservation policies is something relatively new in this area of the world. Departments of Antiquities, as far as the cultural heritage is concerned, were mostly created in the first half of the twentieth century, as Archaeological Institutes responsible for excavations and museums. Site conservation or management were not within their mandate, and even today staffing and institutional framework reflect this attitude.

The responsible authorities, on the other hand, do not have the financial and technical capacity to ensure an adequate monitoring of heritage sites which, as it is often the case around the Mediterranean and in the Middle East, are counted in tens of thousands within each country. As a result, monitoring is simply not implemented, or only to a very little extent. The Periodic Reporting process shows this, and in this lies its great informative value.

Follow up

From a more immediate point of view, thanks to the data collected through Periodic Reporting and other sources of information, the Arab States Unit of the World Heritage Centre is currently developing an Action Plan. This Action Plan aims to develop a series of "answers" to the priority needs identified by the Periodic Reporting, both as Technical Assistance packages and as long-term projects, with a view to streamlining the Centre's work and responding in a practical manner to the call for pro-activeness expressed by the Committee. The idea would be to have a certain number of off-the-shelf Technical Assistance projects, ready for implementation and involving regional and international partners, which States Parties could apply for under the World Heritage Fund. Larger and long-term programmes could be also developed, as complementary "institutional building" elements of the strategy, to be funded through extra-budgetary support. Among the first of these T.A. packages, of course, should be an activity to assist States Parties in developing their capacity in conducting monitoring, and preparing base-line surveys.

If we are to make a suggestion here, indeed it would be to render the development of such Regional Action Plans a regular feature of the Convention, related to the Periodic Reporting process; in other words, the Committee would institutionalise the concept of Action Plans, based on Periodic Reports and developed by the Centre in consultation with States Parties and Advisory Bodies to the Convention. If this was decided, a percentage of the World Heritage Fund could be earmarked for supporting Action Plans (e.g. 60% of the International Assistance budget), while the rest could be left for emergency activity. Such Action Plans, and their results, should be reviewed every six years, after each Periodic Reporting cycle.

Conclusions

Despite some limitations, described above, this first round of the Periodic Reporting has no doubt provided much useful information on the situation "on the ground". The testing of the process, allowing general conclusions on the (very worrying) status of the implementation of the *World Heritage Convention* in the Arab and Africa regions, is in itself a major push towards the establishment of a regular monitoring mechanism within national Agencies, with interesting effects also on the institutional framework of States Parties.

Another very important aspect is the favouring of regular co-operation and exchange of information between national Authorities and the Secretariat of the Convention, the World Heritage Centre, until now rather occasional. The establishment of a regular cycle linking monitoring to planning (Periodic Reporting with Regional Action Plans) could further strengthen this co-operation. In particular, with respect to the observed general lack of capacity in the

area of monitoring, there is agreement that World Heritage and Periodic Reporting could be the vehicles through which innovative concepts and practices can be introduced at site level and, at a later stage, in national policies. Action Plans resulting from Periodic Reporting should first address this aspect.

A last comment, perhaps, can be made on the need to avoid promoting standards of monitoring which will never be possible to implement in 90% of the countries which ratified the *World Heritage Convention*. In the same way as we have learnt to be cautious in disseminating in the developing countries conservation techniques and materials adopted in Europe or North America, we should be also wary of introducing too much GIS mapping, satellite imaging, laser scanning, etc. into the monitoring processes of certain sites within less affluent areas of the world. Monitoring should be conceived and planned taking into consideration local conditions, and limited to the essential observations, which will enable us to determine if heritage values are affected by changes occurring at the site. The Committee should be aware of this aspect, and promote methods of monitoring compatible with local contexts, without prejudice, of course, for the quality of the results.

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Lessons learned from the Periodic Reporting Process in Africa

by Elizabeth Wangari

The first periodic reporting exercise on African sites inscribed in the World Heritage List prior to 1994 and on the state of the implementation of the Convention has enabled the experience gained from 25 years of implementation of the 1972 *World Heritage Convention* in Africa to be better defined. The importance of a participatory strategy between World Heritage Centre staff and conservation stakeholders has been underlined, as has the need to foster an interactive relationship between these two parties. The main problems to be solved in Africa have to do with the representativeness of the African World Heritage, as well as the difficulty of finding the means to ensure the conservation of this heritage and to incorporate it into the States Parties' sustainable development strategies.

Introduction

The first periodic reporting exercise on the African World Heritage sites was carried out at the very end of the 20th century, after the *World Heritage Convention* concerning the protection of the World Cultural and Natural Heritage, herein referred to as World Heritage Centre, had been in operation for over 25 years. The Periodic Reporting has been undertaken in conformity with Article 29 of the *World Heritage Convention*. Adopted by the General Conference of UNESCO in 1972 it mentions that "*the States Parties of this Convention shall, in the reports which they submit to the general Conference of the United Nations Educational, Scientific and Cultural Organization on dates and in a manner to be determined by it, give information on the legislative and administrative provisions which they have adopted and other action which they have taken for the application of this Convention, together with details of the experience acquired in this field"* (World Heritage Centre Article 29). The World Heritage Committee, at its twenty-second session held in 1998, invited States Parties to submit Periodic Reports every six years. It also decided to examine the States Parties' Periodic Reports region by region and decided on a timetable for this purpose (Committee, 1998).

The African Periodic Reporting exercise was the occasion not only for general stocktaking on the implementation of the World Heritage Centre in Africa and on the state of conservation of the sites, but also on our capacity to organize and undertake a relevant, effective and productive monitoring exercise. After one year, it is possible to draw the main lessons learned from this particular exercise

in order to lay the foundations for the exercises to come. This brief paper attempts to examine the strategic framework, which advisably should be improved, without, however, neglecting the distinctive cultural characteristics of the African region, where the perception of what heritage means cannot be dissociated from the work being undertaken to ensure conservation.

Methodology

The paper has its source in the experience acquired during the first Periodic Reporting exercise. The facts, examples and methods, are quoted and set out in the Periodic Report itself. Due to the very short time that was actually devoted to this analysis, the scope of the discussion is necessarily limited.

Presentation of certain findings

Brief overview of the lessons learned from the exercise

At the close of the first Periodic Reporting exercise, the Africa region revealed a number of distinctive features in relation to the implementation of the *World Heritage Convention*. Given the geographical, historical, human and cultural importance of Africa, the number (53 sites) and area (less than 300,000 km2) of sites inscribed is strikingly lower than in the other regions. Unlike the other regions, Africa has inscribed more natural than cultural sites, which reflects a lack of knowledge of the specific cultural and spiritual characteristics of the region. Following the actions undertaken in the framework of the Global Strategy, the situation is, however, changing.

Africa is also the region with the greatest number of sites on the list of World Heritage in Danger, highlighting the numerous problems that exist in this region. As far as the implementation of the Convention is concerned, the report enabled certain needed adjustments to be underlined, such as improvements to the management and management conditions, the need to create substantial means for initial and on-going training of the management staff, and the need to develop autonomous and participatory management methods. Finally, in order that heritage conservation may become an agent for social and economic development, substantial funding is demonstrably required so as to upgrade the conditions for conserving and developing this resource.

Methodological assessment

The first Periodic Reporting exercise for Africa provided much new information on the implementation of the *World Heritage Convention* at the level of the States Parties and the sites inscribed on the World Heritage List. Without going into the content of the exercise, which will be dealt with under the next heading, a number of purely methodological conclusions may be drawn, namely in relation to facilities, skills and the general methodology of the survey.

a) One of the great difficulties of the Periodic Reporting exercise was moving from the theoretical and juridical framework of the exercise, as defined by the Committee, to that of concrete implementation in the field by the States Parties' officials and site managers. This corresponds to a standard communication situation in which consultants and Secretariat staff are required to become constant interpreters of information, whether they are providing information to those participating in the reporting exercise, or submitting it to the Committee for its verdict. This process inevitably leads to distortion at one or other end of the system. It is therefore necessary to adapt the general reporting strategy to the specific cultural characteristics of the region in which it is being put into practice.

This point also applies to the improvement needed in the reporting forms so as to enhance their relevance. The form is the silent interface with which the national or local official has to interact in order both to perceive (understand) the expectations of the Centre and to express his or her own knowledge (data). This is the crucial point in the success of the exercise. It is therefore very important that the African completing the form should not be tempted to skip over a particular question for whatever reason (failure to understand, ignorance, boredom). For this reason, it is necessary to convey both the importance of the question and the significance of its content. For the first exercise, calculating a relevance index enabled us to quantify and understand this tendency to skip over certain questions. In order for improvements to be made, it is strongly recommended that a participatory method be adopted, involving both Centre officials and national or local representatives. For example, a 'think tank' could be set up, including Centre officials and African conservation experts (national officials, site managers) to establish the wording (semantic aspects) and the way in which the information is presented (syntactic aspects) in such a way that the pragmatic component is improved quality of response in terms of retrospective understanding. This 'think tank' could operate electronically via computer network in order to limit the number of meetings and reduce operating costs.

b) The first periodic reporting exercise for the Africa region included a number of positive points, closely involving the different participants in the conservation of the World Heritage in Africa at the level of the States and the sites.

The exercise did not confine itself purely to an inventory, but also acted as a training structure for all the participants. This line of strategy can accordingly be regarded as one that ought to be continued for Africa at least, or indeed extended to other regions.

The participatory method used, in which managers and officials were closely involved in the monitoring process,

enabled ownership of the conclusions of the exercise to pass to the participants themselves, rather than to the narrow coordination/synthesis group alone. The first finding, at the level of both sub-regional meetings (Dakar, Nakuru) and national meetings (Ethiopia) was the keen interest shown by participants (national officials or site managers) in implementing relevant site management and conservation methods or in improving the implementation of the Convention at the level of the States Parties.

The above interest was generally tempered, or severely limited, by the scarcity, dearth or obsolescence of the means available for this purpose. This evidence of methodological shortcomings concerns both material means and the human resources assigned to these posts. In order to understand this, it is necessary to refer to the availability (wide or limited, recurrent or on a one-off basis) of funding that can be mobilized directly (government funding, own funds) or indirectly (bilateral or multilateral co-operation). As a very general rule, it can be noted that sites which benefit from management autonomy can mobilize funds and have sizeable means at their disposal, which improves the quality of their management as well as their performance in the field of conservation. On the other hand, sites which come under the strict control of government departments (whether they be concerned with Nature or Culture), have neither the facilities nor the 'dynamics' needed to generate and manage their own financial resources autonomously. In particular, they cannot easily reinvest the resources generated by their management in the improvement of protection or conservation conditions. All the States that participated in the reporting exercise had, in general, a very low GDP/capita or very weak HDI rating, and suffered from lack of resources or very limited resources. This reflects the classic vicious circle of poverty which is accentuated as time goes by. From a pragmatic viewpoint, we could usefully take the best-performing African sites in the field of conservation and management and, by popularising their experience, use them as models for the region.

In conclusion, the Periodic Reporting exercise should not be confined purely to a checking/stocktaking/inventory exercise, but should also be considered an element in the on-going training of national and local staff responsible for conserving/promoting the World Heritage.

Some suggestions for follow-up

The importance of feedback

After the reporting exercise, which energized numerous participants at different levels, it would be desirable for these participants to receive more than just a publication or a CD-ROM in return. The human aspects of the feedback phase should not be neglected: there should be a renewed focus on the participants, who produced the information. Collective reflection on the strong points and shortcomings of the exercise is needed, not only to prepare the next exercise, but also in order that the site managers and State Party officials adopt the conclusions drawn and recommendations and decisions made in this first periodic reporting exercise, and feel a sense of ownership in them. To put it plainly, the conclusions of the report and the Committee's recommendations will be adopted more easily and productively if one or more debriefing meetings can be organized, either in Africa with the participants concerned, or at UNESCO, with the representatives of the relevant States Parties. This process has begun with the meeting held in Dakar, Senegal from 23 February - 2 March 2002, attended by 20 participants from 15 African countries. In Pretoria, South Africa, the Africa Periodic Report formed the main report of the regional workshop on "World Heritage in Africa and Sustainable Development" held from 23 - 26 August 2002 and attended by 30 countries from the Africa region. The workshop was a parallel event to the World Summit on Environment and Development (Johannesburg 2002). Similarly, future restitution meetings are planned in Paris with the African Permanent Delegates to UNESCO, and with cultural and natural ministerial authorities in Africa, among others.

Among the other proposals which we found extremely positive and which similarly foster interactivity, mention should be made of the wish expressed by the African participants to take stock halfway through the reporting period, in order to be able to redirect their efforts or reorganize actions according to the objectives to be reached. During the second exercise, particularly if the mid-term evaluation is endorsed, it should be possible to reduce the length of the exercise and limit it to one year, rather than the two years devoted to it on this occasion. After this exercise, we are firmly convinced that the reporting form would benefit from being simplified, with all the redundancy removed, and that the questions should be presented more clearly and in more detail. Particular care should be taken to obtain responses to all the questions on the form.

Some indicators for the next periodic reporting exercise

Three points concerning the implementation of the *World Heritage Convention*, particularly of its spirit, seemed to us to highlight certain weaknesses, and it is these points which, needless to say, will be developed here: 1) representativeness of the categories which make up the World Heritage; 2) extending the scope of Periodic Reporting to the States Parties; and 3) organization of site management.

a) Representativeness of heritage categories

As has been noted above, properties already inscribed on the World Heritage List in Africa reflect a very conventional vision of the African heritage, with a great majority (23/40) being natural sites. This plays a part in giving Africa the image of a continent where the human contribution is minimized or devalued. The cradle of humanity, Africa's vast open spaces (becoming fewer and fewer) continue

even now to determine its heritage image. Unlike the situation in the rest of the world (where natural sites are very much in the minority), this state of affairs is not a true portrayal of Africa's significant cultural heritage, with its diversity and distinctive characteristics. However, thanks to the contributions of the Global Strategy, the tentative lists show that the face of the African cultural heritage is changing, taking into account nature-culture interactions in the framework of the concepts of cultural landscape, exchange routes, etc. It would be possible to re-assess the statements of value of sites already inscribed, and to examine closely the role played by certain places, such as the Forts and Castles in Ghana or the Royal Palaces of Abomey, or the Slave Routes in Africa. It would be possible to examine and include the cultural elements of populations living in (or driven away from them by the colonizer) certain natural sites under the guise of conservation. Some sites, such as Aïr-Ténéré in Niger, or Mount Nimba in Guinea, have already begun this process of recognizing the cultural heritage linked to natural areas of exceptional quality. The same process could be undertaken for many other African sites, such as the Okapi Reserve in the Democratic Republic of Congo, the statement of value for which does not include the pygmy populations living there or their culture, or the Dja Reserve in Cameroon, where no connection is made, culturally speaking, between the local populations and the area and biodiversity of the site.

In Africa, perhaps more than anywhere else, it is prejudicial to separate natural heritage from the related cultures. It is all the more regrettable that this often amounts to justifying and perpetuating the despoilment carried out by the colonizers, accepted and then perpetuated by means of international treaties, particularly with regard to primary conservation of biodiversity. The conservation of world heritage cannot be based on lists of prohibitions. It must combine the trust of the populations with the recovery of the cultural, spiritual and user rights that were linked to the protected areas. All of this must be rethought, with the World Heritage being given not only a conservation dimension, but also one linked to actions in which heritage forms one of the cornerstones of equitable and sustainable human development. In this light and with this concern in mind, we have recommended that the States Parties update their nomination files dating back to before 1990. This could be done, for example, when a request is received for an extension to the surface area of a site, or when the List of World Heritage in Danger is brought out. In particular, States Parties are recommended whenever possible to take advantage of the value statement updating or site nomination revisions to include the new categories of property resulting from the Global Strategy. In some ways, this proposal reflects a recommendation made by the participants at the 1999 cultural landscapes seminar in Tiwi (Kenya) in 1999.

In order to pay closer attention to the concepts of authenticity and integrity, which in Africa are perceived differently than in the industrialized countries of the North, the World Heritage Committee was recommended to adopt proposals on integrity and authenticity made by African experts at the Harare meeting (2000). This step should enable the dual concept to be clarified and should facilitate the implementation of conservation policies that rest on foundations and objectives common to the *World Heritage Convention*, States Parties and local populations.

In conclusion, there is an urgent need to rectify the distortions that exist between the categories of heritage defined (authorized) in the framework of the *World Heritage Convention* and the populations' perception of what their heritage is, in the knowledge that the truth lies with the population, rather than with the Convention. In this respect, it must be acknowledged that the Global Strategy has had highly positive effects in Africa. It is important, now, to build on this by moving/catalysing nomination files in this direction, as Africa still lacks the necessary expertise both to complete a nomination file rapidly, and to give a precise specification of the sites of world interest on its territory. It is also important that the African States not be deprived, yet again, of the chance to inscribe their heritage because their reaction times (i.e. their priorities in terms of economic survival) are slower than those of the industrialized countries which are now flocking to the new categories of property, after having saturated the market (had their fill of) cathedrals, palaces and historic cities.

b) Who is the reporting exercise aimed at?

The implementation of the 1972 Convention affects all the States Parties to the Convention, not only those who have sites inscribed. All the countries that have ratified the *World Heritage Convention* have rights and obligations with respect to this Convention. It is therefore reasonable to expect information to be available on the way in which they are implementing the Convention. It would, accordingly, be desirable for them to be involved in the Periodic Reporting activities for Section I of the form so that the day they decide to inscribe sites, they will already have an appropriate infrastructure.

c) Management problems

The periodic reporting exercise enabled us to note that only half of the African sites currently have a functional management plan. Those with sites inscribed between 1978 and 1991 do not generally have one. Major awareness raising and training efforts need, therefore, to be made in this area. The absence of a management plan does not only reflect a lack of knowledge of this management tool, but is often the outcome of sites not having the regular resources needed to enable medium- or long-term planning to be carried out.

Partnership with other Conventions

The Africa periodic reporting exercise was being undertaken while some other Conventions such as the Convention on Biological Diversity and Ramsar were also requesting national reporting, particularly on protected

areas. It was noted that the information required for each of these agreements and programmes is essentially the same. It is estimated by UNEP that there are over 30 active wildlife related conventions and agreements, and indeed for African countries national reporting of all these conventions can become an excessive burden, stretching resources and funneling funds away from vital conservation. In addition to harmonizing the reporting process, ways should be identified to harness new technologies, to make national reporting more efficient as well as allowing countries to streamline their reporting and avoid duplication of preparing separate reports for each one. In the future, efforts should be made to promote partnerships in order to get other convention agreements, protocols and agreements working more effectively together.

Conclusions

At the close of this rapid overview of the lessons learned from the first periodic reporting exercise in Africa, we might set out five statements which seem to us to be of particular concern:

1) African conservation needs are immense and very diverse. Their assessment goes well beyond the funding possibilities of the World Heritage Fund and, in order for a rapid response to be made, requires the setting up of a specific Fund aimed at collecting and implementing the necessary means, under the supervision of the World Heritage Centre, which could continue to play the dual role of guardian of the heritage, and knowledge-based expert.
2) Knowledge and expertise in relation to the African heritage are still largely unrecognised/unappreciated, and are in the process of dying out. It is therefore important to preserve them by enhancing their standing and by safeguarding the conditions for them to be passed on to the local population and throughout the world.
3) The promotion of the world heritage in Africa has yet to be organized in such a way as to direct a flow of funds to this region from cultural tourism and eco-tourism, still largely neglected by tour operators (when not totally disregarded). The World Heritage sites must become one of the cornerstones of African countries' sustainable development strategies, as well as being a model and driving force for the conservation of other (non-world) African heritage.
4) Bringing together the Conventions in partnership for Periodic Reporting would enhance efficiency, be less burdening for countries and could result to substantial savings.
5) In the light of the progress made over the last 10 years, it is important to continue with and diversify the activities of the Global Strategy in Africa. Now is probably the time to take stock of how it should develop in the future.

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3

Monitoring Frameworks/ Design of Monitoring Systems

The Importance of Clear Objectives for Monitoring World Heritage Area Sites

by Dr. Bruce Mapstone

Monitoring of natural systems, and human impacts on them, most often involves comparative assessments of the status of selected features of the systems rather than monitoring against objectives of the absolute status we expect for the system. Monitoring management effectiveness, in terms of administrative performance, the success of the management process and the outcomes from management action, typically is considered in a similar way. World Heritage Area (World Heritage Area) sites, however, by definition often are unique. They are chosen because of special features that are considered to be of unparalleled cultural or natural value and worthy of preservation. Their uniqueness means that monitoring World Heritage Area sites is about assessing the absolute status of values, not their relative status. Monitoring the effectiveness of World Heritage Area management practices and monitoring the status of World Heritage Area values are not synonymous, or even necessarily mutually informative activities. Clarity of specific objectives, derived from logically constructed objective hierarchies, is essential to the appropriate design of systems to monitor either management effectiveness or World Heritage Area values. Clear, quantitative objectives are central also to striking a balance between the desire for comprehensive, sensitive monitoring and the logistic and financial feasibility of doing the monitoring. Resolving these issues for natural World Heritage Areas, and probably also cultural World Heritage Areas, is particularly difficult and will require close collaboration between World Heritage Area managers and researchers to articulate the desirable objectives and measure performance against it with the feasible monitoring logistics.

Introduction

Monitoring of natural systems, and human impacts on them, most often involves comparative assessments of the status of selected features of the systems. For example, in assessing the effectiveness of protected area management strategies, we normally would seek to compare the status of the protected areas with the status of un-protected areas both before and after the management scheme was introduced. Moreover, we would expect to have multiple instances (replicates) of the protected and/or unprotected areas from which to construct our comparisons. This approach parallels the well-developed approaches to environmental impact assessment and monitoring. Only with these features can a monitoring program unambiguously separate the effectiveness of management from other, possibly natural, processes and measure whether management is precipitating the desired response in the protected areas (or protecting them from undesirable impacts). Hence, the assessment of management effectiveness is intrinsically comparative: protected vs. unprotected areas, before vs after management action.

World Heritage sites are often, by definition, unique. They are chosen because of special features that are considered to be of unparalleled cultural or natural value and worthy of preservation. Their uniqueness presents some particular difficulties for monitoring to assess whether their special features are being preserved or are changing in unacceptable ways. Because there usually is only one instance of the site (e.g. only one Venice, one Great Barrier Reef), we have nothing with which to compare the World Heritage Area to assess its relative status. This leaves us with the prospect of assessing World Heritage Area status via assessments of change (or stasis) of the World Heritage Area alone through time, and making a judgement, based on monitoring data, about whether the features for which it was listed are being preserved satisfactorily. To make such an assessment requires that the values, our expectations of their future status and what we consider to be 'unacceptable' change in them are all clearly, and specifically, defined absolutely rather than relatively.

In this discussion paper I will address two issues central to the success of monitoring World Heritage Area (WHA) sites: monitoring to assess the status of the World Heritage Area site against the values for its listing as a World Heritage Area (assessing World Heritage Area values); and monitoring to assess whether management of the World Heritage Area site is effective (assessing management effectiveness). Clearly, there can be significant overlap and there should be complementarity between these two broad activities, but they are neither interchangeable nor automatically mutually informative. Moreover, they will have different monitoring design criteria and inferential constraints. I will discuss these activities using the Great Barrier Reef (GBR) World Heritage Area as an illustrative example but will extend the general points to other situations.

The Great Barrier Reef World Heritage Area

The Great Barrier Reef is the world's largest archipelago of coral reefs. It extends over 16 degrees of latitude down the tropical east coast of Australia from the southern coast of Papua New Guinea (9°S) to just north of Frazer Island (25°S) (Fig. 1). Over 3,000 emergent reefs and shoals have been mapped but inclusion of completely submerged reefs would likely take the count to well over 4,000 reefs. In 1975 the majority of the GBR (from 10°42′ S – 24°30′ S) was declared a Marine National Park (the GBRMP) and in 1981 this and some additional adjacent areas were declared a World Heritage Area (the GBRWHA). The GBR is a relatively undisturbed natural system of tremendous

biodiversity, comprising over 800 species of corals and 1,500 species of fish alone.

The primary management strategy for the GBRMP and GBR World Heritage Area is a system of spatial zoning within which different areas of the GBR World Heritage Area are set aside for different suites of allowable human use. Zones effectively currently represent a nested hierarchy of areas that allow: most sorts of fishing, including prawn trawling; line and spear fishing and collecting; 'look but don't touch' activities; 'no-go'. The activities allowed in each zone are also allowed in all the zones above it in the hierarchy.

Monitoring in the GBR World Heritage Area presents some major operational, financial and administrative issues, especially because adequate monitoring of such a large system means doing field operations over enormous areas and a great diversity of physical situations. Many monitoring programs have been commenced or are running currently in the GBR World Heritage Area, mostly focused on monitoring water quality and nutrient status, water temperature, abundances and diversity of benthic plants and animals (especially hard corals), demersal fish, crown of thorns starfish, dugongs, and fishing and tourism activities. These monitoring programs were each designed for particular purposes, related primarily to ecological research agendas. None were designed specifically to assess the status of the values for which the GBR was listed as a World Heritage Area, though some provide serendipitously invaluable information towards such an assessment. Only one, the Long-Term Monitoring Program targeted at benthic biota and demersal fish and run by the Australian Institute of Marine Science, goes close to covering the geographical extent of the GBR, but even that program monitors only a very restricted set of habitats. Moreover, very few were designed to assess management effectiveness in the GBR World Heritage Area and GBRMP, and those that were generally focused only on a subset of the management objectives.

Monitoring for management effectiveness

Consider what might be desirable for monitoring to assess management effectiveness in the GBR World Heritage Area. The zones are intended to conserve the fundamental ecological integrity of the entire GBR by protecting various bits of it from various potentially damaging human activities (threats). An implicit assumption in this philosophy is that if local human impacts are kept to a relatively benign level, the ecological processes will proceed 'naturally' and the ecosystem will be OK. Management effectiveness might be assessed against three main types of objective: administrative objectives; management process objectives; and management outcome objectives. Effectiveness of management could be inferred from monitoring in each area.

Administrative performance might be assessed by monitoring the progress of developing and implementing plans of management. The successful design, consultation and declaration of management plans would be the measures of performance. Process performance might be assessed by monitoring whether the declared zones restricting use had in fact changed patterns or intensity of use and the degree of compliance with implemented regulations. Documenting patterns of use, tourist vessel destinations and fishing activities, together with logging surveillance and infringements might be measures of performance here. Outcome performance might be assessed by monitoring whether the implemented plans had, via changing patterns of use, precipitated changes in the status of ecological entities, such as fish populations. Outcome monitoring in the GBR World Heritage Area basically amounts to monitoring to assess the impacts of 'threatening' activities allowed in each zone by comparison with the next most protected zone – effectively monitoring focused on specific bits of the GBR. For example, if differences are found between zones where fishing is allowed and others where it is not, it is inferred that fishing the protected zone has been effective in its purpose.

Parallel monitoring systems can be considered for other World Heritage Area sites. For example, managing an architectural World Heritage Area site might entail devising and implementing plans of management for preservation, restoration and tourism with the objective of regulating access and ameliorating the impacts of lots of people trampling around an historic site. Monitoring to assess administrative performance and management processes would directly parallel the examples above for the GBR World Heritage Area. Outcome monitoring might involve measuring the degree to which apparent impacts of human access had been ameliorated.

Such a series of inferences about the different management zones might result in a very good report about management effectiveness. But are any or all of these monitoring schemes sufficient to tell us whether the World Heritage Area values of the GBR are being adequately preserved?

Monitoring World Heritage Area values

The GBR World Heritage Area is special not simply because it contains lots of coral reefs, but because it is the world's greatest tropical reef system and is in very good condition. Thus, the values for which the GBR World Heritage Area was listed inherently involve the well-being of the entire GBR, not just bits of it. Accordingly, monitoring that will allow us to assess whether the World Heritage Area values are being preserved must inform us about the status of the whole system, not just some parts of it. This means that monitoring must encompass a very large geographical expanse, account for a diversity of features within the GBR, and measure variables that we believe are important components of the values for which it was listed. Some or even all of these requirements might be met by monitoring management effectiveness, though arguably none of the monitoring programs currently in place for the GBR

World Heritage Area do so. What will not necessarily be met, however, is the need to assess overall status of the system because all or most of the management assessment monitoring is either not related specifically to the system's intrinsic values or is comparative. Knowing that we have a management plan in place, that it is effectively regulating human activities and there is good compliance with it does not tell us anything about the status of the values for which the GBR World Heritage Area was declared. Further, if the fish stocks over the entire system are declining but they are declining more in the areas open to fishing than in the areas protected from fishing, we might well end up concluding that the management strategy was effective (because areas closed to fishing had more and bigger fish than areas open to fishing) but fail to recognise that the fish populations on the GBR were going down hill generally. We would miss an important signal that the World Heritage Area values might be degrading.

Conversely, we might focus our attention primarily or only on monitoring a variety of things about the GBR World Heritage Area that would reassure us that the ecological system was doing OK and we might infer, therefore, that the World Heritage Area values were being preserved. For example, current monitoring might reassure us that the water quality, species diversity, coral cover (abundance), and structural integrity of the GBR were all relatively static (within some boundaries of natural variation). Unless we were specifically monitoring those potential impacts that the protected area management strategy was designed to ameliorate, however, the monitoring program almost certainly would not inform us about whether our management was being effective. For example, some species of fish might be overexploited but our general monitoring program would not be informative about that unless those species were on the list of things to count.

Again, parallels can be drawn for other situations. For example, being reassured that wear and tear on the paths and floors of an historic site had been minimised or eliminated by judicious management would not necessarily mean that the World Heritage Area values of the buildings were in good shape. How do we avoid these errors?

Operational objectives are critical

The resolution of the above issues hinges on satisfactory specification of the specific, operational objectives for our monitoring program(s). High level, broad objectives are almost always specified for management processes and for World Heritage Area listed sites. Sometimes, these broad objectives are refined to have more precise meanings, but rarely are they refined to qualitatively or quantitatively detailed objectives that allow specific performance measures to be identified from which to assess how well they are being met. For example, the over-arching management objective for the GBR Marine Park (comprising most of the GBR World Heritage Area) is "*To provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity through the care and development of the Great Barrier Reef Marine Park*". During 25 year strategic planning, this objective was considered to spin-off dozens of more specific objectives about the conservation and human use of the marine park that should be used to guide the development of specific objective and performance measures. One such objective looked like this: *'To ensure that fisheries on the Great Barrier Reef were ecologically sustainable'*. A further specified objective might be: *'To ensure that populations of key harvested reef fish remain reproductively viable'*. None of these objectives, however, were operationalised – refined to the point where they provided reference points against which the performance of management could be specifically evaluated.

Operational objectives might have looked like: *'To maintain the abundance of mature coral trout* (a harvested reef fish) *in areas closed to fishing above 80% of the unfished level'*. A couple of important properties of this last objective include: 1) the specific objective is a direct descendent of the higher-level objective, such that if the specific objective is not met then the one above it also will be threatened; 2) the specific objective is quantitative and therefore provides direct guidance about what indicators would inform us whether it was being met; and c) the implied performance indicator has a basis in variables that we could measure in a monitoring program. Thus, if we monitor fish abundance and sex over time we will have the information needed to calculate the performance indicator, which in turn will allow us to infer whether the specific objective is being met, which in tern will inform us directly about whether the objective at the next level up the objective hierarchy is likely to be satisfied, and so on. Note that this example relates primarily to the management of the GBR rather than to its World Heritage Area values.

Without such specific, operational objectives, constructed systematically and logically from statements about our desires and expectations for the future status of the World Heritage Area, we will be unable to optimise the design of monitoring programs to assess whether the world heritage values are being maintained in good order. In essence, we run the risk of monitoring inefficiently, ineffectively or in ways that give us no information or misleading information about the true status of the World Heritage Area values or management effectiveness. An analogous situation would be setting out on a journey with great purpose and enthusiasm without any idea of where we wanted to go. It will be difficult or impossible to define the best means of travel and most efficient route to follow for reaching a destination if we don't first know what destination we seek! Thus, the careful specification of the objective hierarchy that results in specific, operational objectives and associated performance indicators is critical to monitoring both management effectiveness and the status of critical values in World Heritage Areas.

Monitoring design issues

It is logistically and financially impossible to measure everything everywhere in the GBR, and probably in any other World Heritage Area sites. The design of the monitoring programs (by which I mean the choice of where and how often to make observation or collect samples for analysis) and the choice of variables to monitor thus inevitably involve compromises that may prove critical to the feasibility, affordability and effectiveness of any monitoring. Poor monitoring design or choice of variables that are not indicative of the status of the values for which the World Heritage Area was listed will mean that we risk complacently monitoring the gradual degradation of the system because the places and things we monitor are not signalling that degradation. To a large degree the choice of appropriate variables to measure should be precipitated transparently from the adequate specification of operational objectives. There will, of course, be a need to verify that the variables can be measured with current technology and are economical enough to measure, to be measured sufficiently often to be informative. The latter issue links directly with the design of monitoring programs. Striking this balance between what is desirable and what is technically feasible will require close collaboration between bureaucrats and technocrats (or managers and researchers). Indeed, I argue that the satisfactory resolution of generic objectives to specific, operationalised objectives also hinges on structured processes that involve (at least) both technical and administrative expertise.

A great deal has been written about the design of rigorous monitoring programs to provide sound inferences about environmental impacts or management effectiveness. These are the Before vs. After, Control vs. Impact comparative designs referred to in the introduction. I will not reiterate that literature here, but note that an important step in devising such designs is the stipulation of how many sites need to be sampled with what frequency over what period to provide robust inferences about the presence or absence of changes arising from human impacts or management actions. This literature provides considerable discussion of the choice of control sites with which to compare the impact or managed site and the number of such sites (replicates) needed. Assessment of these issues for some variables being monitored on the GBR show that, in general, very many samples need to be taken to provide good sensitivity to detect such effects.

Much less attention has been given to the design requirements for monitoring of single-site situations, such as is usually the case with World Heritage Area sites. The intrinsic characteristics of World Heritage Area sites present some difficult problems for designing such monitoring. First, there are no 'controls' – World Heritage Areas are unique, so with what do we compare their status for assessment of 'relative performance'? Second, we usually have no 'before' data, so we are never quite certain what was the 'pristine' state of the World Heritage Area to which we would like it to be maintained. Third, there usually is no replication, there being only one of a particular World Heritage Area. Any "replication" within a World Heritage Area is really sub-sampling and not a surrogate for true replication of the system (of values) for which the World Heritage Area was listed. It is important to note, however, that for World Heritage Area sites that are very large relative to the scale at which monitoring measurements are made (e.g., the GBR World Heritage Area), such sub-sampling at a wide range of places will be essential to adequately characterise the system at any point in time.

In these, the majority, of instances, inferring the status of the World Heritage Area values inevitably becomes a problem of assessing change or stasis through time. Thus, the most important feature of a monitoring design will be the frequency of monitoring and the period over which it is expected to continue, rather than the number of places in which it happens or the number of measurements needed in comparable areas. Inferences about whether measured variables are changing in undesirable (or desirable) ways will be possible only with relatively long-run data sets, especially in natural systems where there is considerable variability at annual or shorter time scales. Thus, the assessment of whether World Heritage Area values are being preserved will inevitably be a medium (years) to long (decades) term process, except in the event of very acute or catastrophic changes. In this regard, monitoring World Heritage Area sites is more similar to monitoring many fisheries than to monitoring management effectiveness because many fisheries also are unique and we are faced with making assessments of changes in the status of the single stock being harvested over time.

Making inferences

It has been pointed out before that the nature of inferences drawn from monitoring data is also not straightforward. In normal science, great caution is applied to incorrectly or inappropriately turning over existing theories or paradigms. Thus, when data are collected to test whether a particular situation is consistent with an existing theory, emphasis is placed on minimising the risk that we will erroneously conclude that our observations are not consistent with the established paradigm. In monitoring studies, however, we are less concerned with an existing or well-established theory – we really want to know whether something is changing or not.

Whether we conclude that World Heritage Area values are in stasis or are being eroded, significant decisions will follow. If we conclude from our monitoring that the World Heritage Area values are in stasis, we will reassure ourselves that we are doing the right thing and, probably, continue to do it. If we conclude that World Heritage Area values are declining, then we will want to take some action to avert the loss of value and possibly restore the World Heritage Area site. An error in either conclusion will have significant consequences. In the first case, an error would mean inferring that all was OK when in fact it

wasn't, meaning that we would take no action and the World Heritage Area values might continue to decline. Such an error would be of considerable concern, since by the time our error eventually was recognised, restorative action would be both more urgent and more costly than had we recognised the problem at an early stage. Alternatively, if we made an error in inferring that the values were in decline, we might take expensive compensatory actions unnecessarily.

We need to be cognisant of the risks and consequences of both types of errors explicitly in order to decide how much monitoring is required for confidence about our inferences from the monitoring data. Inferentially, these two types of errors are not independent and we will have to decide how important each is relative to the other. In general, it will be more expensive to achieve a low risk of erroneously failing to detect a real change than it will to avoid falsely inferring that changes have occurred. Deciding how much certainty is desired about each type of inference brings to the fore the trade off between our desire for certainty in advice versus the cost of obtaining that certainty. Again, the articulation of our expectations for the future status of the World Heritage Area values and then refinement of appropriate specific objective is crucial to this process. Only when we have specific objectives about where we want to end up can we decide what will be a significant deviation from our course and how much monitoring we will need to recognise such a deviation if it occurs.

Concluding remarks

I have argued that monitoring to assess management effectiveness and monitoring to assess the status of World Heritage Area values are not synonymous, and sometimes not even mutually informative. Clarity of specific objectives is essential to the appropriate design of monitoring systems and to striking a balance between desires for comprehensive, sensitive monitoring and logistic and financial feasibility. Resolving these issues for natural World Heritage Areas, and probably also cultural World Heritage Areas, is particularly difficult and will require close collaboration between World Heritage Area managers and researchers to articulate the desirable (objectives) and measure performance against it with the feasible (monitoring logistics).

There are also a number of issues directly related to monitoring World Heritage Area status. For example, it is important to note also that monitoring often will only signal that change has or has not occurred. Understanding the processes that caused the change (cause-effect) is the realm of research more than monitoring. In some cases, the most likely cause and effect processes can be inferred from understanding of the system being monitored, but in others specific research may be required. This raises the conundrum of whether we should wait until monitoring has signalled that a problem exists before researching potential causes or run (prospective) research into the most likely threats to World Heritage Area values alongside monitoring? Delaying research will involve short-medium term cost savings but increased risk that we will be uncertain about how to respond best to an emerging problem. Underwriting prospective research now, at considerable cost, runs the risk that we spend considerable time and money researching a problem that never arises.

Another related issue is that we need to be clear about what responses might be taken in relation to the results of the monitoring programs. Clearly, if monitoring signals that local management actions are not working well or that World Heritage Area values are degrading because of local events, then local responses are appropriate. On the other hand, even when we are fairly certain about the cause of a problem signalled by monitoring, what should we do if the solution to the problem is beyond the jurisdiction of the convening/governing authority. For example, if global warming and associated sea-level rise are believed to be causing significant degradation of World Heritage Area values, is it reasonable to hold the managers responsible for particular World Heritage Area sites accountable for the declining values?

In summary, I foresee seven key challenges for World Heritage Area monitoring and associated issues:

1. We need to clarify specifically what are the *values* for which a World Heritage Area was listed, and what is the relative importance of different values in that World Heritage Area.
2. We need to develop clear *objective hierarchies* including specific, quantifiable objectives about what is sought for the conservation/preservation/future of those values to guide monitoring design and performance appraisal. This process will need the active involvement of both technical and administrative expertise.
3. We must clearly articulate what will be the signals that things *aren't right* and at what point will these signals trigger management action. In general, monitoring to detect when things go wrong will be easier than monitoring to verify that things are OK.
4. We must identify carefully chosen *indicators* of what's not right and find variables that can be measured easily to construct those indicators.
5. We should define *feed-back mechanisms* that indicate clear actions that will be taken to ameliorate any apparent decline in World Heritage Area values signalled by World Heritage Area monitoring programs.
6. We should recognise that a lot of monitoring of World Heritage Area values will be effective only in the *medium-long-term.*
7. We should instigate critical review of monitoring periodically to update our knowledge and take advantage of best available methods for future monitoring.

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Monitoring Processes of Change in Historic Centres: A Case Study of Fes, Morocco

by Mona Serageldin

Historic centres encompass monumental buildings and landmarks embedded within a rich urban fabric of utilitarian buildings. Property owners and residents are constantly altering these buildings to adapt them to new needs and lifestyles. Their interventions trigger interlinked processes of transformation that lead either to preservation or to deterioration.

Rehabilitation strategies must reconcile the plurality of views, interests, mandates and missions which add layers of complexity to the already challenging task of coping with the impact of disinvestments, misuse, abuse and neglect eroding the quality of life in historic centres.

The strategy developed for the first phase of the rehabilitation of the Medina of Fez required a thorough understanding of the dynamics at work in the Medina and of the institutional and financial blockages that prevented reinvestment and fostered the continued deterioration of residential buildings. This assessment was based on a spatial analysis of the key physical, social and economic indicators for the area, including property transactions and building permits for new construction and improvements.

The institutionalisation and periodic updating of a monitoring system recording the key indicators used in the preparation of the project and linking these databases to the ADER-FEZ GIS has been recommended, but not yet implemented. With a good monitoring system in place and closer collaboration between the Tax Department and the Municipality, the tax yield from the Medina would be enhanced and the interest of the authorities in the historic core as a viable economic entity rekindled.

Monitoring urban centres: challenges and benefits

Preservation Strategies and Processes of Change in Historic Centres

Historic centres encompass monumental buildings and landmarks embedded within a rich urban fabric of utilitarian buildings. Property owners and residents are constantly altering these buildings to adapt them to new needs and lifestyles. Their interventions trigger interlinked processes of transformation that lead either to preservation or to deterioration. The outcome depends to a large extent on their sensitivity to the architectural and urbanistic qualities of the historic fabric, the cultural significance attached to it as heritage, and whether the value placed on heritage is confined to specific buildings and features or extends to a space beyond identified as "a place." It also reflects the ability and willingness of custodians to enforce regulations protecting heritage sites, as well as the effectiveness of these regulations.

In the developing world preserving the integrity of historic centres is a daunting task, and the urban fabric is being lost at an alarming rate even in sites on the World Heritage List. Economic and social change, increasing labour mobility and the rapid pace of technological innovations have altered lifestyles, eroded the social cohesiveness of traditional communities, and affected the perceptions and aspirations of younger generations.

Decentralization has multiplied the number of institutional actors involved in the management of historic centres while on-going democratisation of local governance and the growing role of civil society has broadened the range of stakeholders with different perspectives on the value and use of historic urban fabric. Reconciling the plurality of views, interests, mandates and missions adds layers of complexity to the already challenging task of coping with the impact of disinvestments, misuse, abuse and neglect eroding the quality of life in historic centres.

Ismail Serageldin has compared the complexity of these interrelated frameworks to a Rubik's cube where change in one cell on any face of the cube produces changes in cells on other sides. Understanding the underlying logic of the system is key to solving the puzzle.

At the Centre for Urban Development Studies, we have developed an approach to revitalization and rehabilitation that recognizes the plurality of stakeholders in historic centres. We accept the evaluation of cultural significance given to different components of the historic urban fabric by specialized agencies. Our role is to assist local government in devising strategies ensuring coherence, inclusion and impact. Our approach to action plans focuses on valorisation of the urban fabric based on the dynamics of change in the site as a living component of a larger urban agglomeration.

Development aid organizations have put tourism development and poverty alleviation at the centre of the cultural heritage projects they sponsor. The former does generate needed foreign exchange for national governments, but has done little for the historic urban fabric beyond the routes tourist use and the sites they visit. We believe that the primary objective of public investment in historic centre is to reverse the cycle of deterioration and loss of cultural heritage and we address poverty as one component of a broader social inclusion strategy.

Each historic centre is unique. However, six guiding principles inform the different strategic approaches to preservation:

1. Developing frameworks for partnerships and social inclusion.
2. Creating a critical mass of mutually reinforcing activities capable of reversing the cycle of deterioration by fostering private investment in revitalization and rehabilitation.
3. Institutionalising mechanisms to promote and guide private investment.
4. Institutionalising a framework for the management of change over time and building the capacity needed to monitor the dynamics of development and assess their impact on the historic urban fabric.
5. Reaching out to residents, and in particular to youth, to raise awareness of the importance of cultural heritage as an economic and social asset.
6. Making heritage a part of the present rather than the past.

Monitoring historic urban centres

Monitoring of historic urban centres is sorely inadequate or totally lacking. This deficiency has been attributed to lack of managerial and financial resources or lack of technical capabilities or both. Yet advances in information technology have produced an array of tools increasingly accessible to local governments. Limited budgets and remoteness have become less of a constraint, and many international organizations and NGOs offer technical support to custodians of heritage.

Four key challenges need to be addressed to improve monitoring of historic centres:

First: To recognize the legitimacy of different perspectives on cultural heritage and to arrive at a consensus among stakeholders regarding the tangible and intangible heritage to be preserved for future generations. Unless we can define what is to be preserved, we cannot define what is to be monitored: the integrity of the physical setting, the sense of place, the activities that attract people to the site, or the way of life of traditional communities.

Second: To devise a framework for cooperation among institutional actors exercising control over the site and regulating the activities that take place in it. This task is complicated by overlapping competences and jurisdictions. Each institution jealously guards its prerogatives and the information it monopolizes. Negotiated agreements are politically sensitive and time consuming. Institutions in charge of heritage protection often seek to impose their views as "the experts", and demand access to data and information held by other agencies as a matter of "right." Predictably this approach has proven counterproductive. Divergent attitudes towards heritage and disagreement regarding roles and responsibilities in the historic centres have impeded implementation of preservation plans and hampered monitoring efforts. Information is either withheld or released at a trickle through cumbersome bureaucratic procedures rendering it practically useless. It is important for conservation agencies and NGOs to understand the key role of local governments in the stewardship of cultural heritage. They have the authority to enforce regulatory controls and can act to safeguard health and safety and remove nuisances and blight. Their political backing and executive powers are needed to put in place a monitoring system.

Third: To identify the relevant variables/indicators and the methods by which they can be monitored. This task requires a thorough grasp of the complex web of socio-cultural and economic factors affecting change, and an understanding of their interplay and of the processes of transformation they trigger in the built environment. However, finding and accessing existing data is often an ordeal. Agencies in charge of compiling, processing and storing information guard their records and deny access to others. Persuasion, inducements or formally negotiated agreements may be needed to permit use of their records.

Fourth: To interpret data and reformat it so that it be used effectively for planning, management and monitoring. Adapting data to the required spatial, functional and time-frames can be a difficult and time consuming task, but well worth the effort. Paper records have to be encoded, maps digitised, attributes mapped and different databases and GIS systems interlinked. Today's web-based technology has greatly facilitated a task that only 10 years ago would have seemed too complex and onerous to consider.

The case of Fez Medina

To illustrate the points with a concrete case, I will refer to the Medina of Fez, a World Heritage site listed in 1980.

The historic centre of Fez, the Medina, is the best preserved of the medieval historic centres in the Middle East North Africa region. Its dense urban fabric consists of 13,500 parcels with 10,000 businesses and 34,500 dwelling units stretching along some of the narrowest pathways in the world. The current population is estimated at 181,000. Key monuments and major markets serving the region are embedded within this fabric.

Thriving commercial street.

Public space with an entrance to a darb.

Access to narrow residential street.

The progressive transformation of Fez's crafts to semi-mechanized industrial production using chemicals has polluted the river and groundwater resources. The sharp contrast between the vibrancy of commercial streets and the dilapidation and the residential quarters is striking. Close to 20% of the buildings are dilapidated, and 10% are in ruins.

Institutional framework

There are several institutional actors operating or affecting the Medina. The regional government, the Wilaya, oversees the administration of one of the two components of the historic centre, the Municipality of Fez Mechouar covering the Fez J'did area (pop. 35,000). The city prefecture holds the police powers over Fez Medina (pop. 146,000) and the Fez Medina Council the balance of the municipal responsibilities. Regional branches of central ministries control matters relating to land and property tenure, transactions and taxation. ADER FES focuses on the rehabilitation of cultural heritage and NGOs and local civic groups pursue their own missions and agendas. It is clear that no single entity has the competencies needed to assume responsibility for the preservation of Fez. A framework for partnerships and collaboration had to be devised to operationalize strategies and implement action plans.

Preservation strategy

Preservation efforts have been launched to prevent the loss of this cultural heritage. ADER FES, the conservation agency, is rehabilitating monuments and well-preserved buildings with foreign and domestic grants. The Municipality of Fez Medina funds an emergency program for the consolidation of structures on the verge of collapse. The prefecture is relocating the most heavily polluting industries outside the historic centre and ADER FES is regrouping larger non-polluting industries near the vehicular access roads.

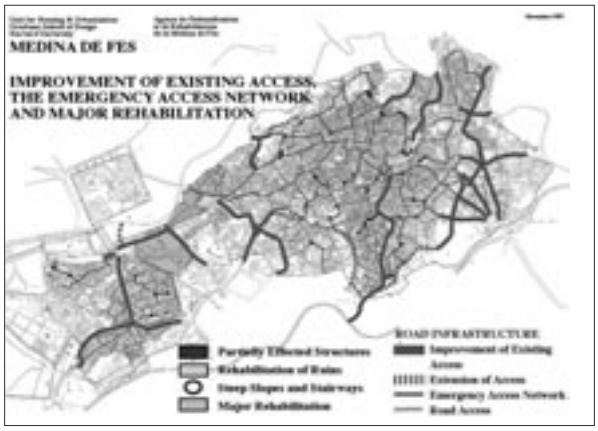
The Centre for Urban Development Studies worked jointly with ADER FES and the World Bank staff, in close collaboration with the local authorities and in consultation with the central ministries concerned, to formulate a revitalisation and rehabilitation strategy, and an action plan for a first phase project funded by the World Bank that is currently being implemented.

The First Phase of the project consists of seven major components:

1. Improvements to the existing circulation network including the construction of an emergency street network of 14 km allowing the passage of small vehicles. Infrastructure along the alignment will be repaired and stairs removed. To penetrate the dense fabric the width along the narrowest parts is reduced to 1.7 m in order to minimize displacement of people and disruption of the fabric. Only minor adjustments to the facades and cuts in the corners of 33 buildings are required (three are judged to be of "significant" cultural value and nine of "medium" cultural value). No area will be more than 100 m away from the network giving people access to police, fire protection and first aid, which they lacked.
2. Ensuring a sustainable source of funding to support the emergency repair program and the clearance of blighting ruins. The target is to triple the current output of 15 consolidated buildings per year.
3. Setting up a renovation fund to stimulate rehabilitation and minimize displacement by offering front-end subsidies to property owners covering 20 to 25% of the rehabilitation costs.
4. Supporting on-going environmental improvement activities.
5. Building the capacities of the Municipality and of ADER FES.
6. Creating thematic tourist circulation routes.
7. Alleviating poverty through the generation of employment opportunities.

ADER FES had set up a GIS system and undertaken an exhaustive survey of building conditions, tenure and occupancy. A socio-economic survey of several hundred households is kept in a separate database. The GIS and the databases were used to develop plans for interventions but were not structured to provide a tool for monitoring.

Improvement of existing access, the emergency access network and major rehabilitation



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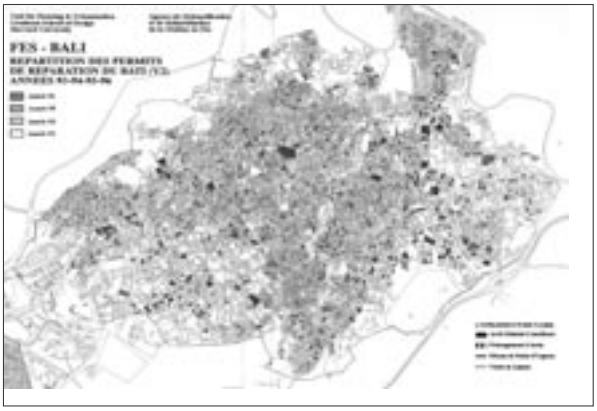
Accessing and analysing monitoring information

Monitoring would require a dynamic interface between the Municipality and ADER FES with links to other agencies involved. Our work demonstrated the need for such a monitoring system as well as the urgency of this task. With only a static picture of Fez in 1992 and lacking monitoring information, we nevertheless rejected the assumption made in previous studies that there was little building activity in the Medina and that the built environment was deteriorating simply for lack of investment. We focused on identifying, documenting and analysing the intricate interplay of factors that condition the transformation of the living environment.

Allocation of permits



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Information extracted from an analysis of the building permits

The Municipality issues construction and rehabilitation permits and has kept records since 1993 when Fez Medina was carved out as a separate jurisdiction. The increase in permits over the years confirmed our conviction that despite appearances to the contrary, people were investing in properties. Mapping the records on the GIS enabled the study team to undertake strategic in depth surveys which showed that construction permits were only requested for rebuilding collapsed structures while renovation work was done with rehabilitation permits and rehabilitation was done without any permit. The volume of building activity was therefore far greater than could have been inferred from the 6 to 8 building permits issued every year. Building activity can lead either to renovation and rehabilitation or deterioration and eventual loss from over densification and misuse.

As expected, people were installing toilets, showers and kitchen sinks but some property owners were also subdividing buildings which had previously housed an extended family and turning them into tenements. Humidity from leaking pipes, and the weight of partitions anchored to load-bearing walls would eventually lead to structural failure and collapse. Furthermore the social impact of transforming houses into tenements is to accelerate the exodus of middle class families from the area. Yet, despite the fact that the Medina has lost middle class residents it still compares favourably with other historic centres in the developing world. Retaining the social diversity of the Medina is a cornerstone of the revitalization strategy. Valuable cultural heritage cannot be allowed to serve as the city's low cost housing stock and left to become pockets of poverty and deterioration.

Information extracted from accessing and analysing property transactions

Ascertaining property values proved a most difficult undertaking. Very few titles are registered in the Medina. Fragmented ownerships, complex tenure patterns with overlays of primary and secondary rights impede registration. Furthermore, traditional religious endowments (the Awqaf) hold outright over 25% of the properties and are part owners in another 20 to 25% thereby immobilizing close to 40% of properties in the Medina.

Transactions of property rights are civil contracts drafted by notaries who deposit the hand-written documents at the registry of deeds where they are stored. Sorting out, processing and mapping these transactions between 1990 and 1996 showed that property values in Fez are much higher than anticipated. Despite functional obsolescence and deterioration, values are rising at about 6% annually in sectors adjoining vehicular roads and 3% in the less accessible sectors. Given the small size of living units and shops, the overall price is not that high. Tenant protection regulations and restrictions imposed on remodelling and renovation have turned historic buildings into a devaluing factor-making a well-located vacant lot more valuable than an occupied building. This situation is not unique to Fez and is a factor inducing demolition by neglect.

Property transactions 1990-1996

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Monitoring on-going development processes

From the standpoint of monitoring, the correlation between property transactions and renovation permits is informative. People invest in property when a transaction occurs either because they are buying, and upgrading it, or because they are subdividing and selling or renting units. Horizontal apartments are in great demand and command high prices, close to 1.5 times the average of $150 – 200/m^2 in the Medina Commercial property, usually available only as a usufruct. Space in the Qaysariyya is the most expensive in the region and can reach $3,000/m^2.

High property values encourage intensity of use and densification, but it also creates development potential, which can be marshalled to drive the revitalization and rehabilitation process. This opportunity is often obscured by the distorting effects of rent regulation and tenant protection laws. Not only is the extent of poverty in the Medina overestimated as households under-report income to stay within the eligibility criteria, but ownership and occupancy rights are transacted separately with key money capitaliz-

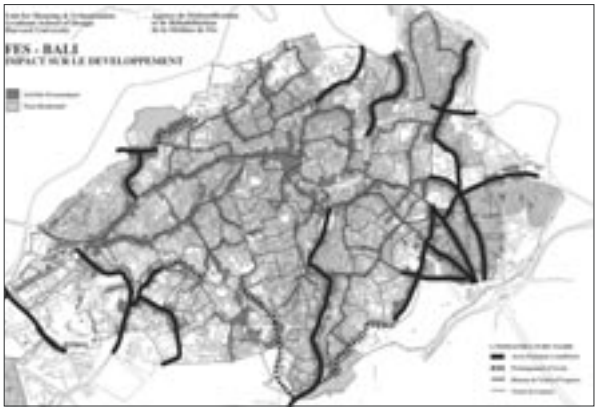
ing the value not reflected in the controlled rent. This situation complicates the monitoring of real estate prices and affordability as the data needed to correct these distortions can only be obtained from the 53 real estate brokers operating in the Medina. The survey undertaken by the study team allowed us to estimate that about half of the Medina's households below the 80% income percentile are tenants, of whom 25% can afford a partially renovated two room unit while another 20% are unable to afford the cost of major repairs.

Assessing the impacts of interventions; future development scenarios

Close to 30% of the properties in the city will eventually front on improved streets either along the emergency network, including the tourist circulation routes, or on the pedestrian links to the network. Understanding on-going processes is key to assessing the impacts of the proposed interventions. Over a 15-year time frame, the working of real estate markets will lead to the rebuilding of ruins in private ownership and add close to 200,000 m^2 in new and renovated floor area. Some 10,000 jobs will be created mostly in the building trades and the retail and services sectors. Realistically the project did not assume direct cost recovery of public investments in the Medina. Nevertheless, the economic assessment showed a rate of return of 13% discounted at 10% over 15 years and a leverage ratio of 3.

The ability to display the analytical information visually, and to show the interaction among key variables through overlays allowed stakeholders, particularly decision-makers to grasp the extent of problems and visualize anticipated impacts with a clear understanding of the underlying rationale, thereby facilitating consensus building.

Impact on development



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The impact of lack of monitoring on the municipal finances

Fez Medina Municipality is running a perennial operating deficit covered by its share of the value added tax, while other central transfers account for 60% of the budget. Capital investments are therefore financed through grants and loans. Public and private investment in renovation and revitalization should generate considerable revenue for the Municipality. However under the current performance of the tax collection system, the Municipality would only receive 17.7% of the potential commercial taxes and 6.6% of the potential yield of property taxes.

Lack of an efficient method to trace on-going property development in the Medina leads the regional branch of the Ministry of Finance Tax Department to update tax rolls by applying an annual growth factor of 2% to the entire tax base, resulting in a widening gap between real and appraised property values. Compounded by rent regulations, this gap can reach a factor of 10 to 15. Furthermore the appraisal commission manages to reappraise no more than 25% of the properties undergoing major renovations with a permit. An ever-increasing proportion of development is therefore not covered and collection rates are dismal because of unclear titles and obsolete records. The only significant local revenues generated by the historic centre are the market taxes.

This situation accounts for the Municipal council's focus on markets and extra muros land that can be profitably developed to the detriment of the living environment in the historic core. Short of a national reform of real estate taxation, an efficient monitoring system would go a long way towards improving the tax yield. Mapping periodically the location of the property transactions and renovation activity, and recording the categories of works undertaken, would provide the Tax Department with core indicators upon which to base the update of valuations. Processing periodically land transaction records would help update the tax rolls and improve the dismal collection records. With a good monitoring system in place, and closer collaboration between the Tax Department and the Municipality, the tax yield from the Medina would be enhanced and interest in the historic core rekindled.

Concluding remarks

Planning, management and monitoring are on-going interactive and collaborative activities. The purpose is to reach stakeholders, raise awareness of issues, enhance appreciation of the heritage and bear on decisions affecting the historic urban fabric. To achieve these objectives monitoring records must be current, accessible to key stakeholders and linked to related data bases of other institutional actors.

We recommended collaboration among the Municipality and ADER FES in computerizing building permit records, setting up a monitoring system linking the databases and the GIS and periodically updating information, including land transactions, using the templates created for the purposes of the strategy analysis and the assessment of the action plan for phase 1 of the revitalization and rehabilitation project.

To date the monitoring system has not been set up. This situation is not unique to Fez. It is the case in most historic centres in developing countries. Each institution concerned monopolizes information on one or another of the critical factors affecting the built environment and derives political capital from information production. Fear of losing this monopoly impedes collaboration. Until this reticence is overcome, inaccurate views of the situation of historic urban centres in developing countries will continue to prevail.

No single institutional actor can take on the task of monitoring in the absence of willingness by other stakeholders to cooperate. Frameworks for partnership must be institutionalised with clear roles and responsibilities assigned to all the participants in the monitoring process, irrespective of which one of them is selected as lead partner or anchor for this task. Effective monitoring is crucial to help prevent historic centres from sliding into the cycle of deterioration and loss, or being overwhelmed by gentrification and tourism, irreversibly damaging their unique sense of place.

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Assessing Management Effectiveness of Natural World Heritage Sites

by Sue Stolton and Nigel Dudley

Monitoring and evaluation are increasingly viewed as critical components of protected area management. The assessment of management effectiveness has three major applications: adaptive management – to improve performance within protected areas; accountability – to assist reporting by site and system managers; and improved project planning – to review approaches and apply lessons learned.

This paper describes the Enhancing our Heritage (EoH) project, which aims to develop a framework for assessing the management effectiveness of natural World Heritage (World Heritage) sites in pilot sites across three continents. It describes the project and the relationship between the project's objectives and the monitoring requirements contained within the *World Heritage Convention*, discusses lessons learned to date and finally asks some questions regarding the application of management effectiveness systems in both natural and cultural World Heritage sites.

Introduction

Monitoring and evaluation are increasingly viewed as critical components of protected area management. As a result, a range of systems and methodologies have been developed to improve approaches to monitoring conservation effectiveness. To date, however, these efforts have tended to focus on assessing biodiversity interactions, i.e. ecological monitoring, rather than assessing the effectiveness of natural resource management interventions, i.e. performance monitoring.

More recently, ecological monitoring and performance monitoring have been used to increase the overall effectiveness of protected area planning and management. The assessment of management effectiveness has three major applications:

- Adaptive management – to improve performance within protected areas.
- Accountability – to assist reporting by site and system managers.
- Improved project planning – to review approaches and apply lessons learned.

EoH project aims

The *"Enhancing our Heritage: monitoring and managing for success in Natural World Heritage sites"* is a four-year project of UNESCO and IUCN – the World Conservation Union, funded by the United Nations Foundation and carried out in co-operation with the University of Queensland, The Nature Conservancy, World Wide Fund for Nature and other organisations[1]. The project started in 2001, and is working in ten World Heritage sites in southern Asia, Latin America and southern and eastern Africa[2].

The EoH Project aims to improve the management of World Heritage sites through the development of better monitoring and reporting systems and through using the application of the results of these assessments to enhance site management. Based on the results, IUCN will provide recommendations to the World Heritage Committee on a consistent approach to monitoring and reporting on the state of conservation and management effectiveness of all natural World Heritage sites, and on improving the effectiveness of management of World Heritage sites. The project should also result in improved management of the ten pilot World Heritage sites, by providing:

- an established assessment, monitoring and reporting programme for evaluating management effectiveness and the state of conservation of World Heritage values;
- site managers and others will be trained in the application of assessment and monitoring techniques;
- established or improved communication and co-operation between site managers, local communities and NGOs, regional training institutions and other key experts and stakeholders to ensure continuation of assessment and monitoring beyond the life of the project;
- improved management in areas of identified deficiency resulting from training programmes and small-scale support provided through the project;
- integration of assessment and monitoring practices into management; and
- project proposals prepared and funding sought for large-scale projects required to address any identified deficiencies.

The EoH project design

The EoH project is using the six elements outlined in IUCN's World Commission on Protected Areas (WCPA) Framework for Assessing Management Effectiveness[3] (context, planning, inputs, processes, outputs and outcomes) to build assessment systems suitable for World Heritage sites, and testing these in the pilot sites.

The WCPA Framework

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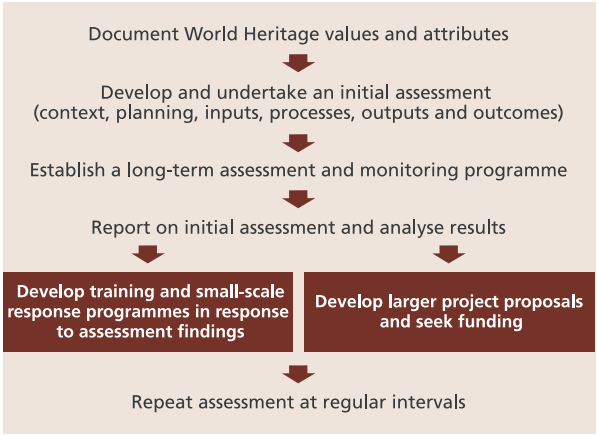
To do this, the project is providing technical expertise and financial assistance to complete an initial and second assessment, towards the end of the project, of the management effectiveness of the site. The initial assessment provides baseline data on the site, to identify both gaps to be filled in the monitoring systems and also steps to address any possible management deficiencies that are identified.

Setting up management effectiveness systems - the EoH project steps



Three steps (not necessarily consecutive) will likely be involved in developing this assessment process.

1. *Data collection:* including from site records, any other relevant literature sources and interviews with key stakeholders.
2. *Managers' workshops:* combining the data collected with the knowledge and experience of managers and key staff members/stakeholders to complete a draft assessment framework for the site.
3. *Site workshops:* including representatives of a wide range of stakeholders, where the draft assessment framework will be discussed and finalised.

The project has just completed its first year – some of the lessons learned will be discussed below. The completion of the initial assessment provides the basis for the continuation of the project. Year two will concentrate on acting on the results of the assessment by working with managers and staff on **adaptive management** and on filling remaining gaps in knowledge of the site's function through the development of **monitoring** systems. The information gathered in the initial assessment should also be useful for sites to fulfil any reporting requirements, i.e. to funders, stakeholders, governments etc.

It is expected that changes to management (adaptive management) may produce recommendations for: straightforward changes in management practices; small-scale projects that could enhance capacity; and/or the need for larger-scale projects. There is limited funding in the EoH project to assist in developing small-scale projects, e.g. training, equipment purchase etc., and the project can also help plan, write and facilitate larger-scale project proposals to address challenges identified in the assessment.

The initial assessment will also provide the information needed to develop any long-term monitoring systems required to fill existing gaps in information; and to set up regular assessments of management effectiveness. In year two therefore, monitoring programmes will be established in cooperation with site managers, regional training institution staff, local and regional experts and local communities, as appropriate. Requirements for generic training for site staff will be identified and undertaken as necessary.

Developing systems to assess management effectiveness

The WCPA Framework for assessing management effectiveness of protected areas identifies different levels of monitoring and evaluation – depending on resources and needs. The EoH project aims to introduce to World Heritage sites the most comprehensive level of assessment, as it places greatest emphasis on monitoring the extent of achievement of management objectives through focusing on outputs (the products of management) and outcomes (the impacts of management) while still measuring the other elements of management defined by WCPA (context, planning, inputs and processes).

Clearly, it is impossible to monitor and assess everything that happens within a World Heritage site. For each element of the WCPA Framework, therefore, key indicators are suggested which should together help build an overall picture of management effectiveness. Because World Heritage sites vary in their management and objectives, capacity for assessment and monitoring, and resources, the EoH project is providing a variety of different approaches –

in effect an assessment toolkit – to help evaluate these indicators. Assessments can be carried out in two ways: through the collection of descriptive information and by the application of specific methodologies. In many cases World Heritage sites will already have a range of systems in place to monitor management actions. The toolkit thus provides suggestions to fill gaps in monitoring and assessment, and does not suggest bringing in new systems to replace established practice: assessment systems will be tailored to the needs and resources of individual sites.

"The Enhancing our Heritage Toolkit for Assessing Management Effectiveness of World Heritage Sites" consists of a *Manual* (Book 1) and *Workbook* (Book 2) and a CD containing both publications along with explanatory PowerPoint presentations. The *Manual* provides an introduction to the project, a guide to project implementation and a brief explanation of the WCPA Framework for assessing management effectiveness of protected areas. Each of the six elements of assessment identified by WCPA is then explained in more detail, explaining why each element is important, suggesting indicators for each element and a list of assessment methods. The *Workbook* summarises a variety of different assessment systems, with examples of their use, which can either supplement existing approaches to ensure all the elements of the WCPA Framework are assessed or can be used to build a management effectiveness system. The *Workbook,* and to some extent the *Manual,* will be 'living documents' throughout the project, to be amended and updated in response to experience gained by the test sites and by those developing and refining assessment systems.

Linking monitoring and assessing management with *World Heritage Convention* requirements

All States Parties to the *World Heritage Convention* are required to protect and conserve the values for which a site has been granted World Heritage status. In 1998, the World Heritage Committee adopted guidelines defining two types of monitoring regimes: 1) reactive monitoring and 2) periodic reporting.

Reactive monitoring consists of reports prepared by the World Heritage Centre or Advisory Bodies on World Heritage properties that are under threat. States Parties are requested to support reactive monitoring by submitting reports and impact studies whenever significant impacts on the state of conservation of a site are detected. Reactive reporting is envisaged as part of the process that may lead to a site being included on the *List of World Heritage in Danger,* which creates political pressure on member states to address the threats, or in an extreme case could lead to the deletion of a site from the World Heritage List. Most reactive reports on natural sites to date have been prepared by IUCN working with the UNESCO World Heritage Centre.

Periodic reporting is intended to serve four main purposes:
- to assess the application of the *World Heritage Convention* by the State Party;
- to assess whether the World Heritage values of the sites inscribed on the World Heritage List are being maintained over time;
- to provide up-dated information about the World Heritage sites, including records of changing circumstances and state of conservation; and
- to foster regional co-operation and exchange of information and experiences between States Parties concerning the implementation of the Convention and World Heritage conservation.

Reporting by States Parties has in the past been intermittent and lacking in consistent form and content. Discussion within the World Heritage Committee on the nature of periodic reporting began in 1982 but it was not until 1997 that a consensus was reached on its format, content and timeframe. Guidelines were adopted by the World Heritage Committee at its twenty-second session in December 1998. Periodic reporting is intended to improve site management, advanced planning and reduce emergency and ad-hoc interventions. The guidelines require the State Party to put appropriate monitoring arrangements in place, in co-operation with site managers. This process reflects a desire to shift the emphasis from reactive to periodic reporting. The latter makes it easier for emerging threats and problems to be identified and rectified before a serious degradation of World Heritage values occurs. However, the process has been constrained by lack of:
- human and financial resources;
- a participatory approach that involves all relevant stakeholders; and
- consistent methodologies and approaches.

The EoH project aims to demonstrate a more consistent and reliable mechanism for meeting *World Heritage Convention* reporting requirements. IUCN will use the results of the project to demonstrate how these assessment and monitoring mechanisms can be used to establish priorities for international assistance and other management interventions.

The EoH project should also help to develop more consistent, transparent and objective decision making processes for the listing and de-listing of sites on the World Heritage *List in Danger.* At present, the links between threats to specific World Heritage values and the decisions of the Committee to place them in the List of World Heritage in Danger are not always explicit and it is hoped that the development of regular monitoring systems can address this problem.

Some lessons learnt

Although the EoH project is only just entering into its second year of four, it is already possible to identify some lessons arising from the implementation of the project. As the results of the initial assessments are reviewed and monitoring and assessment activities implemented, further more detailed lessons will clearly become apparent.

Building a team is vital

The underlying premise of the EoH Project is that World Heritage sites undertake the assessment of their own management effectiveness. For the self-assessment process to be rigorous, it is essential that site managers develop a team of stakeholder representatives to work with them to develop, or further develop, and agree the monitoring and assessment process.

Although all sites were already engaged in some form of stakeholder dialogue, in most cases this tended to be a one way conversation used to provide or elicit information, rather than working with stakeholders to ensure effective site management. The requirement of the project to develop site implementation teams to undertake the project, who then work with a wider group of stakeholders to develop and ratify the initial assessment, has reinforced this need to build strong and coherent local teams to work together to assess management. Two examples from Latin America highlight this clearly.

In Canaima National Park, Venezuela, the project has been perceived as an opportunity to combine the separate efforts of civil society, government, local governments and indigenous groups. The local team has demonstrated capacity and commitment to implement the project and quickly identified themselves as a team, ensuring all stakeholders involved in the project are actively engaged in project implementation.

However, at the Río Plátano Biosphere Reserve in Honduras, it became clear during the introductory and planning workshop that those involved in the reserve had little experience of working together as a team. It is also evident that unsolved issues between the various organisations involved have affected the implementation of the initial assessment. In particular, the participation of stakeholders and the integration of existing information have been limited. Despite these problems there has been a positive reaction to the project from all the stakeholders involved with reserve management. In year two it will be important to overcome these organisational difficulties and build a strong team.

Identifying management objectives

The first step in assessment is the definition of site values and associated management objectives. These values are the key attributes that underlie nomination as a World Heritage site. For sites important to biodiversity and nominated for their global biological assets, these values should ideally reflect not only unique or threatened/endangered species or ecosystems, but all the biological diversity (including terrestrial, freshwater and marine diversity) to ensure sustained ecological function. Site values should also reflect other natural values such as geologic or representative ecological processes, as well as any cultural or social values that are locally, nationally or globally important to stakeholders.

In several of the test sites the agreement of management objectives has proved a challenge, particularly for the areas that did not have agreed management plans. The description of the process in South Africa provides an example of the difficulties that can arise when stakeholders involved in the management of a World Heritage site disagree on first principles – the values for which the site should be managed.

The EoH project is being implemented in Greater St Lucia Wetland Park (GSLWP) in South Africa, during the set-up period of the Park. The declaration of World Heritage status in 1999 has led to major management changes. The Greater St Lucia Wetland Park Authority (GSLWPA) has been set up as the overall management authority with a mandate to enter into co-operative agreements with other institutions to fulfil its core functions. KZN Wildlife, which has been involved in the management of areas within the World Heritage site for many years, will continue to carry out the day-to-day conservation management of the area, but now GSLWPA is responsible for overall policy and regulation, leading to tensions between conservation, tourism and development. Within the EoH project this has been particularly apparent in the process of agreeing the management objectives, with debate arising over the relative importance of the conservation values detailed in the World Heritage nomination, and the wider conservation, development and ecotourism objectives contained in the national legislation setting up the park. One major area of concern for KZN Wildlife is that tourism and sustainable development interests could compromise the natural values of the site. The implementation process of the EoH project has thus been dominated by the need to address, define and harmonise the differing management objectives of the GSLWPA and KZN Wildlife. Although at times this has been difficult, all the parties involved in management feel that the process will lead to increased transparency between the two managing partners and in turn to better management in the future.

Conclusions... or rather questions

Given that the EoH project is still in its infancy and that many of the issues relating to the successful monitoring and assessment of management effectiveness will take longer to resolve than the life of a four year project, it seems a little early to be drawing conclusions from project implementation to date. Instead it is probably more useful to conclude this paper with a number of questions that can help further the debate and discussion on the monitoring and assessment of management effectiveness of World Heritage sites and, more specifically, that can be addressed by the EoH project over the next three years.

How to determine base-line data?

For the sites taking part in the EoH project the first stage has been to undertake the initial assessment, which aims to identify the gaps in monitoring, highlight adaptive management requirements and provide sites with the information needed to fulfil a variety of reporting require-

ments. Initial assessments are only just being completed so it is too early to say whether these aims have been achieved. It is, however, clear that the initial assessment has proved time consuming and has, in some cases, only had minimal stakeholder involvement.
This raises two questions:

- Is more time needed to train people in undertaking and develop initial assessment?
- Should the initial assessment be simplified?

How do you ensure that sites adapt methodologies to specific conditions?

It is the strong belief of the EoH project team, and a clear recommendation from the WCPA Framework, that a one-system-fits-all approach could not adequately reflect the management effectiveness of World Heritage sites, or any other protected sites. There is too much diversity in habitat and management needs, resources and style. On the other hand, the project does propose assessing all the elements of the management cycle and associated key indicators as defined by the WCPA Framework. The EoH team has therefore produced a toolkit that contains suggestions of how these elements can be assessed. It has stressed that, in the first place, these tools should be used to fill gaps in information not covered by existing monitoring and assessment regimes and, secondly, that the tools should always be adapted to reflect local realities. Despite the team's best efforts it seems that some sites did not attempt to make these adaptations. For instance, the initial assessment from Aldabra Atoll in the Seychelles notes that "there were initial difficulties with the fact that Aldabra is not a 'typical' World Heritage Site with an indigenous human population who depend on the site.[thus].. many of the data tables didn't seem to fit".

This raises the questions:

- How do you ensure that sites use the monitoring systems already in place as a foundation for developing the comprehensive monitoring and assessment system advocated by the EoH project?
- How do we ensure people see the systems in the workbook as a template and adapt them to fit their own site's realities?

How can we ensure that the EoH system not only becomes institutionalised in the ten test sites, but also in other World Heritage sites (natural and cultural) and other protected areas?

Management effectiveness of protected areas has grown to be a prominent issue over the past decade, and there has been considerable interest in developing methodologies. The initial workshop to introduce the EoH project in Ecuador, for example, created such interest that it resulted in the development of (and subsequent seed funding for) a larger project to assess all Latin American World Heritage sites.

Much of this work however is not yet reflected on the ground – with most protected areas taking part in management effectiveness projects being involved in an outsider driven process rather than the need for monitoring and assessment systems being identified by managers and/or stakeholders. However, we should also recognise that policy almost invariably takes time to develop into practice, and at least in this case the policy developments are firmly based in field experience.

Could the experience in natural World Heritage sites be applicable to cultural or historical sites?

The six elements identified in the WCPA protected area assessment framework (context, planning, inputs, processes, outputs and outcomes) could in theory also be used to assess the effectiveness of management of cultural sites, although the indicators and assessment toolbox would differ. The match might be quite precise for those cultural sites managed as a single entity (for example, Angkor Watt in Cambodia) but would inevitably be more complex when cultural World Heritage status is given to a city centre or larger area of land with multiple management authorities. Questions of what to assess in cultural sites are also perhaps more complicated: for example, should assessment be purely of the built environment or include human and cultural values? And if the latter then how would we agree baselines and trends? One way to build on the experience and resources of the EoH project would be to adapt and apply the methodology to other World Heritage sites, perhaps starting with those nominated for both natural and cultural values and progressing to some purely cultural sites, to test out how the approaches 'travel' from natural to cultural sites.

Acknowledgments

This paper has drawn from material prepared for the EoH project by the project manager Marc Hockings and project team members, in particular Jose Courrau and Jeff Parrish.

Equilibrium *is an environmental research and policy consultancy established in 1991. Our work has encompassed over fifty countries, working with non-governmental organisations, academic Institutions and international bodies. Equilibrium has been working with the University of Queensland, Australia to implement the Enhancing our Heritage project.*

1. Further information, project documents, workshop reports and the project manual and workbook, are available for downloading from www.enhancingheritage.net/docs_public.asp
2. The sites are: Aldabra Atoll: Seychelles; Bwindi Impenetrable National Park: Uganda; Greater St Lucia Wetland Park: South Africa; Serengeti National Park: Tanzania; Keoladeo National Park: India; Kaziranga National Park: India; Royal Chitwan National Park: Nepal; Río Plátano Biosphere Reserve: Honduras; Sangay National Park: Ecuador; and Canaima National Park: Venezuela.
3. Hockings, Marc with Sue Stolton and Nigel Dudley 2000. Assessing Effectiveness – A Framework for Assessing Management Effectiveness of Protected Areas; University of Cardiff and IUCN, Switzerland. For more details on the Framework see Marc Hockings this volume.

Monitoring World Heritage Sites

by Christopher Pound

This paper draws from experience of different approaches to reviewing and monitoring World Heritage sites and from missions to evaluate sites nominated to be included on the World Heritage List. The paper reflects on the relationship of values and criteria agreed when the site is inscribed on the World Heritage List. These are values of selection and identification. The selection criteria and values may not necessarily relate to the long-term care of the site but will continue to be the basis for review and monitoring. Conservation and management work may rely on other values and these may be associated with sustainability, viability, management of traffic or visitors and control of change through design. The Periodic Reporting process provides an opportunity to reassess and if necessary extend the values of selection to embrace additional values and indicators associated with long-term care of the site.

Monitoring is a continuous process and must rely on indicators measuring different concepts. These should be directed to address selection values and post selection values. The review is an occasional event, which can assess the effectiveness of the monitoring process and its indicators. Monitoring can only contribute effectively to the reviews if they are undertaken continuously and the findings systematically rolled forward. The monitoring of World Heritage sites can be ensured if an annual statement is sought from each site manager so that a cumulative account can be considered as part of a quinquennial review.

This paper suggests 14 different propositions intended to improve the effectiveness of monitoring for the benefit of World Heritage sites.

Periodic reporting

The worldwide Periodic Reporting review of World Heritage sites is underway. The review is to ensure efficient implementation of the Convention, and to secure access to knowledge on the application of the Convention and on the state of conservation of sites.[1] The first part of the exercise looks back at the original values cited when the property was designated and seeks to assess any change since then. It also seeks to secure information on the present condition of the property. Two groups of values relate to obligations of the State Party. Values of selection include authenticity and universal significance and post selection values are those of care and management.

The Periodic Report of sites in some regions is complete or in progress. At the same time, individual countries have carried out internal reviews and these include sites in Poland and Australia. Norway undertakes an internal quinquennial review of their World Heritage sites and recent reviews of two of these sites show there to be common themes. The petroglyph site at Alta in north Norway was reviewed in 1997.[2] The report made recommendations, inter alia, on boundaries, environmental issues and the need for base line data. The Bryggen at Bergen was reviewed by ICOMOS Norge 1999.[3] The State of Conservation report for the Bryggen addressed, inter alia, issues of authenticity, integrity, the need for guidelines for continual use, significance, reassessment of the nomination boundaries, introduction of a buffer zone and undertaking a comparative analysis.

These two reviews brought forward common recommendations that address post-selection values.[4] These recommendations concern monitoring, the need for a management plan and a site committee for each property and the need for adequate records and resources.

ICOMOS-UK reviewed the English World Heritage Sites in 1994/5. This exercise revealed also themes common to all these sites. These were concerns on boundaries and buffer zones, availability of resources, standards for conservation work, management of traffic and management of visitors. The first theme concerns identification and selection of the site. The other four themes concern post-selection values.

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PROPOSITION No 1:
Values identified when the site is selected must be supported by other values relevant to care and management.

Selection values: identification and significance

The promoters of a cultural property for inclusion on the World Heritage List must demonstrate that the site is of outstanding universal value. This is measured against a number of criteria[5] that relate to the significance of the property. The Convention sets out these criteria and divides heritage sites into cultural properties and natural sites. There are four criteria for natural sites and six for cultural sites.

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The criteria provide a framework for assessing the significance of a site and the values associated with it.[6] However, the relationship of historic cities to selection criteria or values shows how the choice of criteria can vary between States Parties, and over time. Buildings, towns and cities are frequently inscribed under criterion (iv) which relates to buildings. Some have also been inscribed under criterion (ii) which addresses the importance of the inter-change of human values. The Bryggen is an exception and is inscribed only under criterion (iii), which addresses testimony of the cultural tradition of the Hanseatic Kontor. In contrast, the City of Lübeck and the Old Town of Quedlinburg are inscribed only under criterion (iv) but Visby and Brugge are inscribed under several. There is little consistency between sites and States Parties on the choice of criteria.

PROPOSITION No 2:
The criteria against which sites have been selected vary considerably and should be regularly contested. Monitoring indicators should be devised to assess the continued relevance of these criteria.

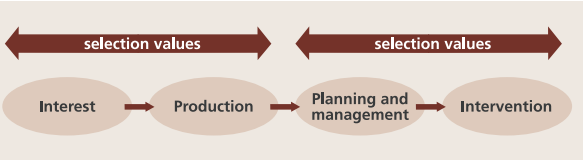
One of the criteria under which the Historic Centre of Brugge has been included on the list is criterion (vi). This addresses intangible matters[7] and for Brugge, this concerns Flemish Primitive Painting. The selection of indicators for intangible values is demanding. The perception of values will vary enormously depending on the cultural traditions of the observer.

Recent sites are being recognised for a more complex suite of values. The values of a property can relate to the history and circumstances of each individual site and interpretation of these will change as new information on the site emerges or a more informed overview develops.[8] A comparative analysis has been recommended to assess the significance of the Bryggen in Bergen in the light of other Hanseatic ports. It is helpful to ask the reason for describing a site against particular criteria and why the site is significant. When reviewing a site against several criteria, should one of them be removed or a new criterion considered?

PROPOSITION No 3:
Selection values will change over time and must be contested in reviews. Monitoring indicators should be robust and reflect this.

The conservation process

A great deal of emphasis is placed on identifying the values of the site when it is nominated and ensuring the site is of universal significance. Agreeing values is fundamental and essential for the preparation of a management plan for the site. "Values inform subsequent decisions", say Erica Avrami and her GCI colleagues who ask why values are not embraced fully in conservation practice.[9] The objective is to ensure that the values associated with in the property are protected, conserved, and presented, and that the values are transmitted to future generations.[10] However, the conservation process moves from one state to another. Any indicators suitable for one state might be less helpful in monitoring a subsequent state.



Conservation is a continuous process where policy and practice follow a sequence of steps starting with interest in and around the object. Protection follows the designation of the historic place as the significance of the object is evaluated. Management of the object and intervention follows with a programme of intervention and treatment.

PROPOSITION No 4:
Selection values may not be rolled forward into subsequent management regimes or interventions. Therefore, indicators should reflect the continuity of the conservation process.

PROPOSITION No 5:
After selection, the conservation process must address values associated with care and management. Appropriate indicators should reflect continuing care.

Selection values: authenticity
Promoters of a cultural property for inclusion on the World Heritage List must demonstrate authenticity and integrity of the site. Evaluating authenticity is important but this becomes more difficult to assess for urban sites.

Archeaological monuments, palaces and cathedrals tend to be in a single ownership and may have been protected for a long time, but the protection and conservation of heritage towns and cities is more recent.[11] Here, properties are in different ownerships and responsibilities. The World Heritage Committee has accepted on the List historic towns which are still inhabited and which, by their very nature, have developed and will continue to develop under the influence of socio-economic and cultural change. This of course makes assessment of authenticity problematic.[12,13] In the light of this, 'continuity' is likely to be more relevant than 'authenticity' in an urban context. Nevertheless, the authenticity of each component introduced over time will be relevant.

Regular replacement of short-lived materials affects our understanding of authenticity of fabric but it also makes a statement about continuity. Continuity of a building tradition is through replacement of the fabric. This suggests authenticity should embrace continuity of the cultural climate, identity and building tradition.

PROPOSITION No 6:
Assessments and reviews of authenticity of urban sites should put considerable weight on continuity of building lines, plots and building tradition.

PROPOSITION No 7:
Urban sites and buildings made from short-life materials should be assessed against continuity of building tradition instead of authenticity.

Selection Values: Boundaries
A prerequisite of an evaluation exercise is a clear understanding of the reason for the existence of the site and in particular its history and its origins. These reveal the components that brought the site into being and contribute to its significance. Reviews show that the presentation of the origins of sites is generally not done well.

For example, understanding the origin of the City of Bergen lies in the fjord, the Vågen. The significance of the site depends on geography, geology, prevailing winds, the Bergenhus castle ensemble, trade routes and the adjacent town of Vågsbunnen.[14,15] However, only the warehouses of the Hanseatic Kontor have been identified as the World Heritage Site. The review of the Bryggen recommended a re-evaluation of the early medieval remains to assess the role of Bergenhus and Vågsbunnen. A good understanding of a site and its environs is essential if appropriate and sensitive boundaries can be agreed and measures to protect the site more carefully assessed.

PROPOSITION No 8:
Selection values should address and reflect the role of geography, climate, trade routes, power regimes and adjacent towns and communities. Indicators should reflect the role of these features in shaping the heritage site.

Norwegian heritage legislation provides some protection around each property but this is restricted to a few metres. Management of the surrounding area requires an assessment of a wide range of threats from environmental degradation, ground water, and heavy metals in snow and rain. Accordingly, the managed area will have to be substantially greater than the zone protected by heritage legislation.

PROPOSITION No 9:
Protection and management of a site may rely on different boundaries. Indicators should reconcile statutory protection measures with control of a more extensive managed area.

Promulgators of nominated heritage sites are asked to identify a buffer zone and supply a management plan for the site. The care of the context of the site may rely on environmental legislation. As understanding of the context of a heritage site is improved, then changes to primary legislation may be required to protect the context of the site. Consideration of boundaries and their relationship to and limits of legislation are an essential task for the review. All of these will relate to management regimes. An effective management regime with monitoring and action systems in place may prove to be more enduring than a 'management plan'.

PROPOSITION No 10:
The context of a heritage site is more relevant than an artificial 'buffer zone'. A surrounding zone is irrelevant if it is not managed and supported by protective legislation.

There can be tension between the choice of relevant boundaries the most suitable legislation, and resolving this may determine the orientation of the site manager selected from within the state and the local community.

PROPOSITION No 11:
Boundaries of some sites may have been determined by the convenience of existing legislation and not the significance of the context. The context must be protected and managed.

Post-selection values should reflect a range of control mechanisms including environmental protection, visitor management, urban design and design control. In the United Kingdom, the pursuit of good design in development proposals close to a heritage site may be held to be a material consideration when considering applications for development, and these can offset policies to protect the site.

PROPOSITION No 12:
The values of selection should be extended to embrace the control of development and guidance for interventions in the surroundings and context of the site.

Values and environmental issues

Recent floods in central Europe show how vulnerable many sites are to climate change. Special weight is given now to environmental impact issues and sustainability. An environmental impact analysis for a development proposal should address heritage issues. Policy guidance in the United Kingdom seeks to secure Environmental Impact Assessments for development affecting sensitive sites and these could include World Heritage Sites[16]

Management Plans for World Heritage Sites must address environmental protection issues and consequences of climate change. All sites associated with water, both riparian and coastal sites, will be at risk from threats associated with climate change. As management regimes address environmental and pollution issues these will generate a new suite of values associated with environment and management issues.

PROPOSITION No 13:
Indicators should address a suite of values associated with environment and management issues and these may lead to a reassessment of values of selection.

Monitoring and indicators

Monitoring is an essential part of a management regime. Monitoring is a continuous process somewhat like riding a bicycle, which is a regular progress, but with small adjustments to the course and balance. A review is different. The rider dismounts to check the brakes and wheels and consult the map or seek direction. Progress can be assessed and a new route considered.

Monitoring must be a continuous process. However, there is no requirement for this to be undertaken other than through existing management regimes. Monitoring is essential for managers but will be useful for the World Heritage Centre only if lessons from this are passed forward on a regular basis. An essential requirement that should flow from the Periodic Reporting exercise is to improve on monitoring.

In the United Kingdom there is regular feedback to Government on progress on each of the World Heritage Sites. This approach can be taken further, with States Parties submitting a concise annual statement on each site in their care to the World Heritage Centre. These statements will provide a good foundation of base data for the regular reviews that should follow on a six-year timetable. This will ensure the regular Periodic Report has up-to-date information and the process is not limited or handicapped by lack of information.

PROPOSITION No 14:
Indicators should be prepared to relate to the management of each site in such a way that this leads to the preparation of succinct annual monitoring statements for each site.

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1. UNESCO World Heritage Centre Guidance Note referring to Article 29.1 of the Convention Concerning the Protection of World Cultural and Natural Heritage.
2. Alta is one of the most remote settlements in Europe and the most northern of the World Heritage Sites. Here there are three groups of Petroglyphs on rocks around Altafjord and small paintings on a cliff-face outside the town.
3. The Bryggen in Bergen is the eighteenth century warehouse ensemble of the former Hanseatic Kontor. The present structures are built over the remains of early medieval buildings and these have determined the shape of the present buildings. The timber structures undergo continuous maintenance and regular conservation.
4. Christopher Pound, 2001. Periodic Review, United Kingdom Local Authority World Heritage Sites Forum World Heritage Notes No. 1.
5. These are set out in Article 24 of the Convention.
6. **Value** is defined as the regard that something is held to deserve; the importance or preciousness of something. … a person's principles or standards of behaviour.
   Criterion is defined as a principle or standard by which something may be judged or decided.
7. Christopher Pound, 2002. Intangible in Heritage Cities in Porto; A Dimensão Intangível Na Cidade Historica, CRUARB, Porto. pp. 253-266.
8. See P.H.C. Lucas, T. Webb, P. S. Valentine and M. March, 1996. The Outstanding Value of the Great Barrier Reef - World Heritage Area, Great Barrier Reef Marine Park Authority, Townsville, Qd, Australia. p.22 and pp. 50-53.
9. Erica Avrami, Randall Mason and Marta de la Torre, 2000. Values and Heritage Conservation, Getty Conservation Institute, LA, p.9.
10. Australian House of Representatives Standing Committee on Environment, Recreation and the Arts, 1996. Managing Australia's World Heritage.
11. By June 2002, some 730 sites have been inscribed on the World Heritage List and of these, 562 are cultural sites. Some 200 sites are urban and half of these are historic cities. For a large number of the world's significant heritage sites, there are issues of urban management.
12. World Heritage Committee meeting minutes, 1984.
13. Operation Guidelines para. 27 (ii).
14. Siri Myrvoll (ed.), 1993. The World Heritage City, Bergen, Bergen.
15. Siri Myrvoll, 1997. The Vågsbunnen Companion, Bergen.
16. DETR. 2000, Environmental Impact Assessment: - A guide to procedures, DETR, London p.10.
    Barbara Carroll and Trevor Turpin, 2002. Environmental Assessment Impact Handbook: A Practical Guide for Planners, Developers and Communities, Thomas Telford, pp.12, and 98.

4

Practical Experiences in Monitoring

Cultural Context, Monitoring and Management Effectiveness (Role of Monitoring and its Application at National Levels)

by Gamini Wijesuriya, Elaine Wright and Philip Ross

The global concept of World Heritage has had an immense impact on heritage management programmes over the last 30 years. As these concepts developed, a number of related issues emerged (or have been re-emphasised), such as heritage values, the need for management plans, site manager, authenticity and the role of monitoring in management. In South Asian countries conventional heritage management practices have been relatively rigorously developed over the last 150 years and have been supported by strong legislation. As a result, alternative Management regimes and monitoring have been difficult to implement or promote. Efforts made by the international community to introduce (or reintroduce) ideas such as monitoring have either been disregarded or failed to take stock of existing management practices, organisational structures and the motives behind them.

A discussion of two distinct management and monitoring styles is made in this paper. A management regime from Sri Lanka relies on monitoring as an indirect, less formalised system of information collection. This is contrasted with a management regime applied in New Zealand where monitoring is seen as a scientific or technological process. The role of monitoring in directing management actions is similar, despite quite different social and technological contexts. However, the effectiveness of the monitoring-management system is tied to the context in which it is based. It appears likely that management styles that are not sensitive to the social and cultural context in which they occur may fail to achieve their objectives. It is by comparing achievement of outcomes and suitability to context that management effectiveness is best evaluated. This has implications for implementation of international programmes promoted by agencies such as the World Heritage Centre. Both systems have common reporting requirements under the *World Heritage Convention*. It is important to consider that international programmes should use existing mechanisms and organisational structures rather than impose "solutions" transported from foreign cultures.

Introduction

In Sri Lanka, when a monument or a site is listed as a heritage resource or identified for protection, it is 'inspected' (a formal type of monitoring) closely by authorities directly and 'observed' (an informal type of monitoring) by the public at large indirectly. This is also true for unidentified monuments and sites as well. The results of these 'observations' or 'inspections' may initiate different management actions directly. Thus, the informal observation systems may play a very real role in achieving management outcomes and are an effective and important part of monitoring to support management of cultural heritage.

Monitoring in western cultures tends to be more explicit and reliant upon technological approaches or structured and formalised systems, particularly in the area of natural heritage management. The principles and procedures related to the management of World Heritage are being developed mostly by the experts from 'developed' countries. It is natural to expect that they will be influenced by prevailing ideas and innovative processes from the cultures from which these ideas arise. These may not always be appropriate for application to other cultures.

There are difficulties with introducing ideas without insight into the management regimes to which these systems are being applied. New ideas should come along, with acceptable managerial changes leading to institutional and even legislative changes. The only other alternative is to implement programmes when institutions are developing, so that ideas can be popularised effectively.

In working with ICOMOS and the UNESCO World Heritage Centre, one of the authors (Wijesuriya) has had the opportunity to review some work and to conduct reactive monitoring activities. He believes it is important to analyse the issues in relation to the social context and understand the current management practices and institutional structure of each country. Attempts made to introduce novel management ideas have often disregarded the management practices and institutional structures of the community. It would have been more fruitful if attempts were made to introduce novel heritage management ideas through existing systems, than to attempt to implement systems that do not fit the cultural context.

The lack of effort in accommodating existing social or cultural systems frequently accounts for resistance to the implementation of externally imposed programmes in achieving the desired outcomes of the World Heritage Committee. Conversely, it is also important for the national organisations of participating nations to recognise their new legal obligations under the *World Heritage Convention* and to take appropriate actions to face the new challenges to their organisations.

The focus of this paper is to discuss and contrast two forms of monitoring that are applied to aspects of heritage management. It is argued that the role of monitoring and its

effectiveness in heritage management is heavily dependent upon the nature of the management regimes (which are dictated by socio-cultural and economic factors of a particular country). Contributing parties, particularly the international community, need to be conscious of how they impose ideas to achieve the objectives of the Convention, and to consider if they in fact fit with the management regimes of the receiving culture. It is here that the understanding of the systems currently in use will be of most value.

The discussion will be based on experience with two distinct jurisdictions, one relying on informal, qualitative monitoring systems and the other more reliant on more technological quantitative systems. This will assist understanding the role of monitoring and its effectiveness in two different heritage management systems and reveal the similarities and differences of these systems.

Monitoring cultural heritage in Sri Lanka

Cultural heritage conservation deals with resources that are non-renewable, sensitive to various impacts, and important in defining the social identity of the community. The Sri Lankan Department of Archaeology was established in 1890. Under its mandate, the department is responsible for the protection of the country's archaeological heritage. Key resources managed by the department include monuments and historic sites and six World Heritage Sites.

Monitoring

Monitoring is a process of collecting observations for a specific management purpose. Monitoring may be highly formalised and involve standardised methods to create data with specific attributes or it may involve a more informal process of observation and assessment. Monitoring can therefore measure specific parameters or involve the qualitative assessment of less tangible characteristics, such as the surroundings of a monument or historic site. In either case the outcome of monitoring may lead to specific management actions. Sri Lanka follows the latter in the form of 'inspection' of monuments and sites.

In Sri Lanka, the national authorities or the public do not single out specific parameters attached to these properties, and instead consider the entire monument or the site as part of the national heritage. This is in contrast to western style of management where monitoring aims at specific conditions or values. The Sri Lankan style of inspections of heritage sites have been regularly carried out, have been reactive in nature and have been carried out for two major reasons: a) preventive conservation actions; and b) to support conservation management decisions; and only partially for reporting.

Why monitor?

• *To take preventive conservation actions*

The Department of Archaeology has the legal mandate to protect monuments against 'wilful destruction, injuring, defacing or tampering' and, in the case of sites, to protect from 'clearing or breaking, cultivation, erection of buildings or structures or destroying any tree standing or encroaching the sites'. It also has the legal mandate to control any action within 400 yards of a monument or site which will create pressure on the physical condition or aesthetics of the monument. Inspections are carried out to fulfil these obligations.

The law also provides for the protection of intangible values of the monuments which are 'sacred or in veneration by any class of persons' and to see if 'any act which wounds or offends or is likely to wound or offend the religious susceptibilities'. For this purpose, inspections of selected monuments are carried out. This necessitates an assessment of the degree of compliance with this requirement. Achievement of good heritage management requires systematic qualitative monitoring.

• *To make conservation decisions*

The Department of Archaeology has the legal mandate to protect its archaeological heritage and take appropriate management actions to protect monuments and sites utilising a limited budget allocated by the government. Monuments and sites are regularly inspected by the authorities decay or destruction by the forces of nature or humans. All levels of the staff of the department are engaged in this process. The levels of engagement vary with the significance of the monument and site. Regular and emergency management actions and utilisation of national funds are based on the results of these inspections. Such inspection reports are also used to request extra budgetary funds from Government or donor agencies.

Reactive inspections are also carried out in response to information received from the public or other informants. Different management actions may be triggered by these reports. Reactive inspections, that is, inspections in response to a perceived threat, are carried out by the authorities and other sections of the public. The level of consciousness among all sectors of the society makes these reactive inspections very powerful.

• *For reporting*

Inspection also helps to report to the public through media and Parliament about the status of conservation of monuments and sites in question and possible needed actions.

For whom?

The mandate to protect the nation's heritage lies with the department. Inspection or monitoring helps the

department to fulfil this obligation by providing information required by management to enact preventive actions and to evaluate priorities for spending public money on conservation actions. Reporting may also occur to the public through media or Parliament.

What are we monitoring?

The departmental monitoring is largely a qualitative evaluation aided by limited specific quantitative criteria. The assessment of pressures and the condition of monuments and their materials, sites and the environment around them can be effectively ascertained if there are any changes caused by nature or human actions. Potential threats to the monuments and sites as well as their intangible values are also evaluated. The observations are reported and supported by photographs or sketches. No formal format is available and the data is not quantitative (except for special detailed inspections carried out for the preparation of a condition report).

By whom?

Inspections are carried out by a number of staff. This includes:

- Inspector of Monuments: the Inspector of Monuments visits monuments on a regular basis or in response to complaints. His written reports are submitted through his superior officer to the relevant section of the department for conservation actions. Since some of these inspections are done on a regular basis, it is also possible to evaluate the performance of the inspection process. This is a form of quality control.

- Village officer: the public servant based in villages is called the *gramasevaka* (village servant) and he is also assigned the task of inspecting monuments in his area. His task is to inspect the monuments on a monthly basis and report to the department on any damages to the roofs, building fabric or the paintings and sculptures.

- Guards: some monuments have 24-hour surveillance against vandalism. They are expected to keep surveillance against any sort of actions by visitors, any natural causes of decay or other threat. The behaviour of visitors in religious places is also monitored. Even relatively minor things like removal of shoes and hats in religious places, which may be culturally sensitive to some people, are monitored by these guards. Local guards have prevented many threats to monuments and sites. When the Electricity Board of the Government of Sri Lanka was about to commence the erection of a pylon system for electrical transmission in the middle of the 5th century Pleasure Garden of the World Heritage Site of Srigiriya, it was the guards who first interfered and stopped the work.

- All the other members of the Staff: circuits' are the regular or reactive visits to monuments or sites by officers from Director-General down to other field staff based in the head office or in the regional offices. They always submit an inspection report. The reports are sent to relevant sections for action. These have become powerful means for management actions.

- Students: heritage monitoring in Sri Lanka is quite inclusive of the community. The most recent addition to the monitoring hierarchy is the public schools to which various archaeological sites have been assigned. Students and teachers of the school visit the site on a regular basis. They attend to general maintenance and prepare reports on any of the changes to the materials or the monuments.

- Owners: some protected monuments are on the lands of private owners but declared as national monuments under the law. The owners are not permitted to intervene without the concurrence of the department. The landowners conduct regular inspections and they report to the department. On some occasions, members of the community also monitor religious monuments. These monitoring reports are important for the department and form an important resource for supporting management actions.

- General Public: the public at large are also inspectors of monuments and sites. In Sri Lanka it is common for the public to comment on the state of repair of a historic building. The popular press also plays a consistent role in reporting on issues related to protection of archaeological heritage.

How?

Essentially all inspection reports are in written form, together with photographs and occasionally sketches. No quantitative analysis is possible. However, management systems are attentive to and respond to these types of information. This has a profound effect on management style and subsequent management actions. The involvement of a wide variety of community levels concerned with and reporting to the public ensures reflection of prevailing standards and values in monitoring.

Monitoring natural heritage in New Zealand

The Department of Conservation (DOC) of New Zealand is the principal agency for protecting natural and historic heritage of the country. A relatively young organisation, DOC has advanced many aspects of heritage conservation. DOC is responsible for the management of 1/3 of the landmass of the country's heritage. Monitoring is used as an important component for evaluating the success or failure of its conservation policies and conservation management projects.

The organisation was established in 1987 by the Conservation Act (1987), and reflects New Zealand's western cultural style. The department is administered along a business model, setting formal plans, performance evaluations and targeting specific outcomes. The department is also the implementing agency for the *World Heritage Convention* and several other conventions, requiring regular reporting. Monitoring data is expected to be used for these reporting purposes.

In the management of natural heritage, the Department of Conservation accepts responsibility for the key goals of the New Zealand Biodiversity Strategy and aims to halt the decline in New Zealand's indigenous biodiversity. According to the Statement of Intent 2002-2005 which outlines the longer term directions for DOC and management actions for the current year, the department will meet their responsibility by achieving three outcomes: 1) maintaining or restoring the condition of a full range of natural environments, 2) avoiding extinctions, and 3) protecting a comprehensive range of natural environments.

Internationally, a renewed focus on biodiversity assessment and management is emerging that focuses on using quantitative tools to measure biodiversity and biodiversity protection at a range of scales as countries seek to implement the reporting requirements of the Convention on Biological Diversity.

Monitoring

Conservation is carried out to *'maintain or improve the condition of characteristics of interest of conservation assets'*. Conservation assets can be historic or natural resources. The department usually attempts to measure conservation actions and achievements. It is intended that these measures will affect management actions and enhance efficient resource use.

DOC defines monitoring as *measurement of the change that occurred as a result of an action. In other words, monitoring is the act of measuring change in the state, number or characteristics of something'* (Measuring Conservation Management Projects: Definitions, Principles and Guidelines, Department of Conservation).

DOC undertakes three types of monitoring (Measuring Conservation Management Projects: Definitions, Principles and Guidelines, Department of Conservation):

> **Result monitoring:** *provides information about whether the desired changes in the disturbances or pressures acting on a characteristic of interest of a conservation asset have been achieved.*

> **Outcome monitoring:** *provides information about whether the desired changes in characteristics of interest of conservation assets have been achieved.*

> **Surveillance monitoring:** *is monitoring carried out in the absence of deliberate actions – it provides information on the condition of conservation assets, in order to review and set priorities for actions or to improve baseline knowledge (commonly part of a research project).*

More recently the emphasis has moved from result to outcome monitoring. With the exception of activities within the invasive weed program little effort has been placed on surveillance monitoring.

Why monitor?

The Conservation of Biodiversity and Historic Heritage is the mandate given to the department by law. Resources required to fulfil this mandate are allocated annually by the central government. DOC is required to ensure that it delivers the expected outcomes and to use resources efficiently. The department needs to monitor biodiversity to:

- Guide policy on national conservation priorities;
- Provide regular, updated inventory to meet local, national and international reporting requirements;
- Fulfil accountability requirements, through documenting effectiveness and value of past management action;
- Provide timely information on biodiversity change to guide local management actions;
- Provide a basis for research to improve understanding of biodiversity, assess best forms of management intervention and to improve the effectiveness of monitoring.

For whom?

DOC reports annually on the state of New Zealand's natural heritage via the Annual Report, which reviews progress made during the past year, and the Statement of Intent, which outlines plans for the coming year within the broader context of DOCs long-term (5 years) strategic planning. In addition, DOC must also help the Minister fulfil reporting requirements of several international treaties, such as the Convention on Biological Diversity and *World Heritage Convention*. Reporting is considered as an essential part of ensuring accountability. Currently, DOC is attempting to expand the support for and involvement with indigenous people ("iwi"), landowners, communities, special interest groups and other government agencies, for which purpose reporting is required.

What are we monitoring?

Currently biodiversity monitoring largely occurs in conjunction with specific management programmes to anticipate management that will be required and determine whether it has been successful. Specific examples include: seed rain to monitor the beech mast cycle, pest monitoring to provide an index of stoat, rat and mice abundance, bird counts to determine the success of stoat trapping in protecting endangered species (e.g. mohua), permanent plots in forests to determine the impacts of deer abundance on vegetation condition, and monitoring of foliage

condition on indicator tree species to determine the success of possum control operations.

The Department of Conservation largely considers monitoring in association with management activities as a quantitative exercise. More recent initiatives have included the application of standardised methods and formal systems. Qualitative surveillance is also carried out to see if conservation actions are necessary. However, the network of qualitative observation and assessment is less pervasive through the community.

By whom?

DOC is organized into five management levels. Each level has responsibility for different aspects of DOCs business, which are summarized briefly below.

At the local level rangers and programme managers design, plan, and implement conservation projects and monitor their results to determine the success of their actions. Area managers are responsible for delivering outputs across several localities. The information gathered through monitoring assists in prioritising activities and enables reporting how much threat reduction and condition improvement is achieved at each place in relation to desired outcomes. Conservators optimise the allocation of effort across threats, places and environments. Information obtained through monitoring provides the means to report on the difference made to the state of indigenous biodiversity in each environment. Specific staff are appointed for monitoring roles in Areas and Conservancies. These people tend to be technically trained and have a range of skills pertinent to the relevant aspects of conservation. The Regional General Manager needs to be able to report on the difference made by conservation projects across all environments and the Director General needs to be able to report on progress towards halting the decline of New Zealand's biodiversity. Without the systems and skilled staff to obtain the required information, aggregation of data for reporting regionally and nationally is not possible.

How?

DOC uses standard field protocols and structured reporting formats for most result monitoring activities. Data collected in the field can be fed into the computer directly and operational reports produced. This is less so for outcome and surveillance monitoring. Recently DOC committed itself to reporting on the pressure on natural heritage and its condition at a range of scales relevant to management. To meet this commitment the department needs to be able to describe the current state of natural heritage (i.e., ecosystems, indigenous taxa, and natural features), plan and prioritise options for management and report objectively on achievement of natural heritage outcomes. A nationally driven inventory and monitoring programme is seen as a key tool for meeting its commitment.

Development of a formal system is underway that will incorporate technological change and method improvement. A multi-scale, multi-purpose quantitative and qualitative approach is envisaged which would use a mix of community-shared programmes, staff generalist and specialist skills and modern technology. The department possesses an advanced IT management system to suit these requirements and the necessary training will be provided to permanent dedicated staff on a continuous basis to meet data quality and assurance standards.

However, the achievement of conservation outcomes is not necessarily more effective when supported by technologically advanced systems. The social context always needs to provide the organisation with a network of support staff throughout the community, the lack of which could lead to opposition in some communities to conservation actions. There are local councils and organisations that promote specific conservation interests, some of which have formal mandates and even have some legal authority (e.g. the Fish and Game Council, Royal Forest and Bird). The broad involvement of the community in achieving conservation outcomes is developed along different lines than in Sri Lanka, where the existing social structures are used to deliver heritage management.

Conclusion

Natural heritage conservation has inherent differences from that for cultural heritage. Biological systems are dynamic and respond to numerous external stimuli. In contrast, cultural sites can be limited to specific domains or protected sites. Monitoring of natural heritage is more complex due to the dynamic nature of living systems, the huge variety of species, the complexity of their interactions and the vast range of complexities of habitats and ecosystems. Nevertheless, the two systems above show that monitoring has a consistent and essential role in management systems, for both natural and cultural resources.

In both styles of management, there is a requirement for an appropriate information management system to which the organisation must be responsive. This system should not require complex infrastructure, but rather one that is appropriate to the context.

Monitoring is an essential feature of conservation management today. It is a way to generate data required for efficient management of the heritage. Management systems are in place that may be both appropriate to their own programmes and effective at achieving outcomes.

A simple comparison of two distinct management and monitoring styles reflected the similar role of monitoring in directing management action despite quite different social and technological contexts. However, the system and effectiveness of the monitoring-management is tied to the context in which it is based. It appears likely that management styles that are not sensitive to the social context in

which they occur and have little regard for existing systems may fail to achieve support through the community. It is here that the two systems show how close and how far apart they are. This has implications for implementation of international programmes promoted by agencies such as the *World Heritage Convention*. Both systems have common reporting requirements under the *World Heritage Convention*. But it is important to consider that international programmes can use existing mechanisms and organisational structures. As has been correctly identified, the goal of the international community in developing monitoring systems should not be to "impose or prescribe a single monitoring method for sites or States Parties, but rather bring to the attention of States Parties a range of possible means by which monitoring goals may be achieved" (Stovel, 1995). This will mean giving the required level of emphasis to cultural context in prescribing approaches to monitoring to determine management effectiveness.

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Monitoring and Reporting in Natural World Heritage Areas A World Heritage Manager's Perspective

by Jon C. Day

Many natural World Heritage Areas (World Heritage Areas), both terrestrial and marine, have some types of monitoring. Most of these monitoring programs, however, have been directed towards specific biophysical or social aspects, and have generally been undertaken as 'stand-alone' monitoring or research tasks. Few programs provide an integrated assessment of the overall state of their respective World Heritage Areas or specifically monitor World Heritage values.

There are increasing calls for more systematic assessment or monitoring of World Heritage Areas, particularly to determine whether the outstanding universal value(s) for which an area was declared World Heritage are being maintained or degraded. There is also increasing recognition that effective management of World Heritage Areas cannot occur without appropriate monitoring, evaluation and adaptive management.

While there are some key principles for monitoring natural areas, many of these have been derived from programs unrelated to World Heritage which may have very different objectives. There is also a mistaken belief that "one size fits all" in terms of monitoring, Periodic reporting and listing World Heritage Areas, i.e. the approach for monitoring, reporting or listing a small or single criteria World Heritage Area may differ markedly from a multi-criteria or mixed category World Heritage Area or one encompassing many ecosystem components. Similarly the monitoring approaches for natural sites are likely to differ from those used for cultural sites, and there are difficulties applying techniques developed for terrestrial areas to marine areas.

If World Heritage Area managers, decision-makers and evaluators are to demonstrate effective World Heritage Area management, then more effective monitoring and reporting aligned directly to World Heritage values and key management issues are required. This paper outlines some of the challenges of, and suggestions for, more effective World Heritage Area monitoring and reporting.

"How can we presume to manage, monitor and report on natural resources when we have such a poor inventory of the constituents and a virtually useless blueprint of how all the components interact?" (my additions underlined, with apologies to David Suzuki, 2002).

Introduction

Many natural World Heritage Areas (WHAs) have some type of monitoring (for example, 1 outlines examples of monitoring projects in Australian World Heritage Areas). Such monitoring is often undertaken for one or more management purposes including:

- assessing the ecological state of one or more component(s) of ecosystems;
- detecting and assessing the impacts of human-generated disturbance(s);
- assessing whether specified performance criteria have been met;
- assessing responses to restoration efforts (after Downes et al, 2002).

Most monitoring programs, however, have been directed towards biological, biophysical or social aspects, and have generally been undertaken as 'stand-alone' monitoring or research tasks. While some of these programs assess the effectiveness of specific management actions, few provide an integrated assessment of the overall state of their respective World Heritage Areas or specifically monitor the World Heritage values. For example, a recent evaluation of the status of monitoring in the Great Barrier Reef World Heritage Area, listed some 56 separate monitoring projects currently underway across a broad range of physical, biological and socio-economic areas (Harriott et al, 2002). There is a huge amount of data being generated by these monitoring programs, and by previous programs, but the number of these programs which are able to directly assist management responses to the critical issues currently facing the GBR World Heritage Area are disappointingly few.

There are increasing calls for more systematic assessment or monitoring of World Heritage Areas, particularly to determine whether the outstanding universal value(s) for which an area was declared as World Heritage are being maintained or degraded. Periodic Reporting has been specifically requested with the aim of providing a region-by-region report every six years which will enable a review of the state of World Heritage Areas and the effectiveness of the management efforts.

Worldwide there is also increasing recognition that effective natural resource management, and the management of World Heritage Areas, cannot occur without appropriate monitoring, evaluation and adaptive management. If this is done systematically and effectively, there are numerous potential benefits including 'true' adaptive management, improved planning, better accountability and more appropriate resource allocation (Day et al, in press).

The unfortunate reality, however, is that management-related monitoring programs, while supported in principle, often get displaced by more 'urgent' (though often less important) management activities in most World Heritage Areas. Common experience is for integrated monitoring programs or reporting to be viewed as an 'optional extra'; good in theory but difficult in practice. However without integrated monitoring and evaluation against clear objectives derived from the key management issues, World Heritage managers are 'flying blind', lacking the necessary evidence-based feedback to learn from, and improve upon, past management actions (Jones, 2000).

What should monitoring in a World Heritage Area involve?

There is a key difference between the requirements of monitoring World Heritage Areas compared with the more 'normal' monitoring programs conducted in other natural protected areas. The main inherent difference involves the fact that World Heritage sites are, by definition, special and unique (Mapstone, in prep, this workshop), hence there are no 'controls' for comparison and it is difficult to apply the more standard monitoring approaches.

There is also a mistaken belief that "one size can fit all" in terms of monitoring, periodic reporting and listing World Heritage Areas. The approach for monitoring, reporting or listing a small World Heritage Area or one declared against a single World Heritage criteria, however, is likely to differ markedly from a multi-criteria or mixed category World Heritage Area or one encompassing many ecosystem components. Similarly the monitoring and reporting approaches for natural sites are likely to differ for cultural sites and there are difficulties applying techniques developed for terrestrial areas to marine protected areas (see 'Commonalities and differences' below).

There are also the complexities of timing – many World Heritage Area monitoring programs can only provide meaningful results which are directly useful for managers in the medium to long-term; yet managers need to make informed decisions in the immediate to short-term (and political masters often expect urgent answers or justifications for a particular management response).

In most cases it is not practical to monitor or measure indicators for every World Heritage value – particularly for complex World Heritage Areas with a multitude of World Heritage values and a variety of management objectives. Instead a 'key' set of indicators relating to the primary World Heritage values and which reflect significant or strategic aspects of the overall World Heritage Area and its broad objectives need to be determined.

How should a manager determine what might be these 'key' indicators? One feasible way is to develop a matrix which shows clearly the linkages between:

- the relevant World Heritage values which led to the World Heritage Area's declaration;
- the factors affecting the World Heritage values or the integrity of the World Heritage Areas;
- the existing management actions to address those factors;

- the types of monitoring occurring to assess the effectiveness of the management actions; and
- the priority and scale of the issue.

Consideration of all the above factors allows managers and researchers to jointly determine key performance indicator(s) which can be used to determine changes in World Heritage values or the success of management actions.

An example of such a 'linked' matrix is given at Table 1.

The Relationship between monitoring and the World Heritage Periodic and reactive reporting processes

The current format for Periodic Reports has specific requirements for monitoring and management actions, but presented in a descriptive and sequential style, which makes it hard to assess the linkages described above. An alternative approach (i.e. a 'matrix' incorporating the key aspects of the existing Periodic Reporting framework developed along the lines of Table 1) has the potential to:

- more effectively show the linkages between the relevant aspects currently required in the Periodic Report;
- highlight significant 'gaps' (e.g. if monitoring is lacking against an important factor affecting a World Heritage Area);
- involve a more concise form of Periodic Reporting initially; and
- assist in making more effective comparisons over successive Periodic Reports.

A similar format has already had a level of acceptance by IUCN and the World Heritage Committee in that the 'Framework for Management' developed for the Great Barrier Reef World Heritage Area (GBRMPA, 1999) was in response to calls for a reactive monitoring report. The matrix format has been as an effective way of concisely providing relevant information and enabling successive progress reports to be easily compared.

Commonalities and differences in monitoring marine areas and terrestrial areas

In an attempt to achieve a more representative World Heritage list, greater protection of marine and coastal ecosystems within World Heritage Areas is being advocated (Hillary et al, 2003). Despite the fact that oceans comprise over 70% of the earth's surface, marine protected areas (MPAs) currently cover less than 1% of the earth's surface (and marine World Heritage Areas even less), compared with the protection of terrestrial protected areas which currently cover some 9% of the earth.

Worldwide MPAs continue to be declared and more marine World Heritage Areas are proposed. It is important to recognise there are major differences between terrestrial and marine systems, and some of these pose inherent challenges for management and monitoring marine World Heritage Areas as compared to terrestrial World Heritage Areas. These include (from Day et al, in press):

- the three-dimensional nature of marine systems *(also the sea's habitable volume is hundreds of times greater than the land);*
- the extent of 'interconnectedness' in the marine environment (in all three dimensions);
- difficulties of sampling marine systems *(much marine monitoring/management is 'transient' after which researchers/managers must return to land)*; therefore hard to see/measure etc. Various technological improvements are assisting with this issue (see examples in Table 1);
- mobility of species *(many marine species are widely dispersed and individuals can be far ranging)*; even marine species that can be considered static as mature forms (e.g. many molluscs and seaweeds) usually have highly mobile larval or dispersive reproductive phases and their populations may be controlled by mobile predators;
- dynamic systems with natural changes in which the time frames for changes/scales are very different from those used for terrestrial systems *(e.g. marine communities respond relatively quickly to changes but within a slow reacting and insulating ocean; whereas terrestrial communities generally respond more slowly to changes but are buffeted by a fast changing climatic factors.);*
- the extreme lack of knowledge of what is out there in marine systems or even the most rudimentary understanding of how it works (refer to Suzuki quote on page 1).

Some key lessons for World Heritage monitoring

1. Problems of 'shifting baselines' – this is an important issue for monitoring which is best explained in the following example by Pauly in Sobel (1996):

   "Each generation accepts the species composition and stock sizes that they first observe as a natural baseline from which to evaluate changes. This … ignores the fact that this baseline may already represent a disturbed state. The resource then continues to decline, but the next generation resets their baseline to this newly depressed state. The result is a gradual accommodation of the creeping disappearance of resource species, and inappropriate reference points …or for identifying targets…"

2. Problems with targets – much recent scientific discussion in marine protected areas (MPAs) has centred on trying to identify such minimum targets to ensure that MPAs meet their objectives in spatially quantifiable ways. However as Agardy et al, (2003) explain, the adherence to strict minimum area targets can create a false sense of security that conservation issues are being dealt with adequately provided the targets are met:
   "Though it is alluring to think that a single spatial target will truly describe the minimum level of protection needed to maintain productivity and biodiversity of any given ecosystem, it is probably disingenuous to make

the claim. … we may be left with a situation in which the 20% target has indeed been reached, and yet 80% of the ecosystem remains as threatened (or even worse off) than before the management measure was instituted, and real and persistent problems still exist in the remaining areas which can have major implications for the so-called 'protected core' area".

3. No evaluation system or indicator will be perfect when first developed (the right information is not always immediately available). Most, if not all, management approaches need to be periodically reviewed and updated and no successful management regime can be inflexible to new information or new technologies.

4. Some monitoring programs, by their very methodologies, require destructive sampling or killing of individual species, often at a questionable level of appropriateness in a World Heritage Area. This may necessitate new monitoring approaches e.g. non-destructive sampling practices such as Baited Remote Underwater Videos (BRUVs) developed by the Australian Institute for Marine Science as video-fishing techniques to monitor MPAs.

5. Obviously natural changes are also occurring in our World Heritage Areas – we need to understand the rates and magnitude of changes that might not be considered as 'natural' …too much or too little, too rapid or too slow, or in the wrong place or time, all of which may lead to dramatic changes or loss of ecological integrity. The challenge therefore is to maintain processes within limits or ranges of variation that are considered 'natural', 'historic', 'acceptable' or 'desirable'.

6. The need to conduct more social/economic evaluations/monitoring and the importance of this information for sound decision-making (the "triple-bottom line" approach to monitoring and reporting).

7. There is an important need to put outputs/outcomes into a simple format which can be understood by the community, decision-makers and our political masters.

8. The fact that decision-making cannot necessarily wait for all the answers (in fact recognizing how little we know about the natural environment and how it works) – and that therefore we need to apply the precautionary principle.

9. The need to 'think outside the square' (i.e. in the wider context) – so much of the integrity of our World Heritage Areas depends on what goes on beyond their boundaries; hence should some of our monitoring focus outside the World Heritage Areas?

More useful Listings of World Heritage Areas

In terms of World Heritage Area listings, the current 'UN List of Protected Areas' (WCMC/IUCN, 1997) provides only the name of the World Heritage Area, its area, location (by latitude/longitude or the centroid) and the year of inscription.

With a revision of the UN List proposed for 2003, it is recommended that the new World Heritage Area list be available electronically and also consider including:

- The relevant World Heritage criteria for each World Heritage Area;
- All IUCN categories that occur within the World Heritage Area and the area within each IUCN category (only if relevant – i.e. primarily natural sites) (Day and Kelleher, 2001);
- A website address for the World Heritage Area (if available) or at UNSCO where further information can be obtained, including the latest Periodic Report for each World Heritage Areas.

Conclusions

There is now widespread recognition that monitoring, evaluation and adaptive management are all fundamental components for effective resource management. While more effective monitoring and reporting of World Heritage Areas seems both logical and reasonable, the integration of such programs with existing management systems provides some significant challenges, not the least being recognition that "one size does not fit all", and the need for consequent agreement on more cost-effective approaches for monitoring and periodic reporting.

Effective monitoring usually can't be 'tacked on' to the end of a management program; in fact, given the decreasing resources facing World Heritage managers today, it is essential that any monitoring be prioritised to address the items that most need management responses. This means that monitoring must be focused on the most important issues affecting or potentially affecting the World Heritage Area, rather than individual research or monitoring tasks deemed 'scientifically interesting' or important by researchers. World Heritage managers can assist in this regard by determining research and monitoring priorities (for example, Green et al, 2001).

World Heritage managers must also ensure that monitoring and evaluation are a part of their annual management/planning cycle.

If managers, decision-makers and evaluators are serious about demonstrating effective management of our World Heritage areas, then more effective monitoring and reporting aligned directly to World Heritage values and key management issues needs to occur. The real test of success will be the extent to which the findings and recommendations feed back into and bring about changes that improve ongoing management for our World Heritage Areas.

Note: The views expressed in this manuscript are those of the author and may not necessarily reflect the official views or policies of the GBRMPA or the Australian Government.

Table 1. **Example of proposed matrix format to more effectively link World Heritage monitoring to relevant World Heritage values, management actions etc.**

Criteria for World Heritage listing	World Heritage Value	Factors affecting the World Heritage Area/World Heritage values	Management actions	Monitoring	Priority and scale	Lead agency (and others involved)	Due date and comments
N (i) examples of significant on-going geomorphic processes	World's largest and most diverse coral reef system	Changes to inshore reefs resulting from coral bleaching	Aerial surveys and underwater surveys of bleaching, and satellite mapping of 'hotspots'	Satellite monitoring of sea-surface temperatures and public reporting of bleaching events	**High priority** Potentially large scale (but in 2002 only a few inshore reefs suffered heavily)	AIMS (GBRMPA, NOAA, CRC Reef)	On-going monitoring (most severe recent bleaching events occurred 1998 and 2002)
N (ii) examples of significant biological processes and man's interaction with his natural environment	Critical seagrass, mangrove and inshore reef communities	Adverse water quality from majority of the 34 catchments abutting the GBR	Development of GBR-wide 'Reef Water Quality Protection Plan' that sets WQ objectives and targets	Monitoring against the targets outlined in the Reef WQ Protection Plan	**Very high priority** Large scale (25 catchments considered med-high risk)	Jointly EA/GBRMPA/ Qld Premiers (EPA, CRC, AFFA, Industry)	Reef Prot Plan out Feb 2003. Estimated 10 years to meet all targets
N (ii) examples of significant biological processes and man's interaction with his natural environment	1500 species of fish with high levels of connectivity	Overfishing; excess capacity (latent effort); increasing effort (technology creep); impacts on non-target spp. and benthic communities	Assess fisheries resources in the GBR and develop sustainable fisheries management plans	Auditing of Trawl Fishery in achieving objectives of East Coast Trawl Fishery Manag't Plan 1999. Effects of line fishing experiment	**Very high priority** Large scale as trawling is possible in ~50% of GBR. Line fishing occurs in large proportion of the GBR	QFS (GBRMPA, CRC, EA)	Trawl audit report completed mid 2002. Next EoLF report due Dec 2002
N (iii) contains exceptional natural beauty	World- renown aggregations of marine life	Impacts on aesthetics arising from aggregations of marine life incl. large fish (e.g. Gropers at Yongala wreck)	Advise tour operators of concerns; ban on fish-feeding	Industry monitoring large fish-diver interactions according to agreed pro forma	**Low priority** Approx. 5000 divers visit this very localised dive site each year	Dive industry (EPA, CRC, GBRMPA)	Monitoring occurred Jan-Feb 02. No adverse dive reports since monitoring commenced
N (iv) contains significant natural habitats for in-situ conservation of bio-diversity, incl. threatened species	Some 3000 reefs comprising world's largest coral system	Factors affecting coral reefs such as COTS and coral bleaching	Annual surveys (video transects, visual surveys and manta tows) of over 100 reefs to monitor status and assess changes	Monitored by AIMS Long-Term Monitoring Program (Sweatman et al, 2000)	**Med priority** 100 reefs surveyed annually since 1993 (out of total of 3000 reefs)	AIMS (CRC, GBRMPA)	On-going. Interesting trends at regional scales (e.g. COTS decreased in some sectors but increased in others)
N (iv) contains significant natural habitats for in-situ conservation of bio-diversity, incl. threatened species	Globally vulnerable to extinction, GBR has important dugong population	Threats include land-based pollution, coastal developments, boat traffic, entanglement in fishing nets and poaching	16 Dugong Protection Areas declared with restrictions on mesh-netting; removal of shark-meshing nets; boat speed restrictions, etc.	Dugong aerial surveys at 5 yearly intervals since 1985. Determining boat traffic patterns and boat strikes	**Med - High priority** Standardised aerial surveys for dugong distribution across entire GBR	CRC (GBRMPA, QDPI, AFMA)	Last surveys completed 2000-01. Interesting temporal trends in dugong distribution

Table 2. **Examples of monitoring projects in australian world heritage areas**

World Heritage Area	Monitoring programs/ projects	Monitoring Type	Use of 'new' technology or new approaches?	Website for more information
Australian Fossil Mammal Sites	Temp/humidity monitoring	Physical		
	Photographic monitoring of sites	Physical		
	Bat population monitoring	Biological	Infra-red remote cameras	
	Visitor access to sites	Social		
Central Eastern Rainforest Reserves	Weed monitoring	Biological		
	Fire monitoring	Biophysical		
	Visitation numbers	Social		
Fraser Island	*Information not yet available*			
Great Barrier Reef	Water temperature monitoring	Physical	Real-time remote stations; satellite imagery	http://www.gbrmpa.gov.au/corp_site/info_services/science/seatemp/
	Current monitoring	Physical		
	Flood plume monitoring	Physical		
	Water quality monitoring	Biophysical		
	AIMS Long-term reef monitoring	Biophysical	Web-based reporting	http://www.aims.gov.au/pages/research/reef-monitoring/reef-monitoring-index.html
	Nelly Bay Impact monitoring	Biophysical		
	Long-term chlorophyll monitoring	Biological		
	Fine scale COTS surveys	Biological		http://www.reef.crc.org.au/publications/techreport/TechRep30.html
	Dugong aerial surveys	Biological		http://www.gbrmpa.gov.au/corp_site/info_services/publications/research_publications/rp70/index.html
	Turtle breeding surveys	Biological		
	Sea Turtle monitoring	Biological	Satellite tagging	
	Seabird monitoring	Biological		http://www.reef.crc.org.au/publications/techreport/TechRep12.html
	Seagrass monitoring	Biological	Video sleds	http://www.dpi.qld.gov.au/far/9266.html
	Mangrove monitoring	Biological		
	Fisheries long-term monitoring	Biological	Vessel Monitoring System	http://www.dpi.qld.gov.au/fishweb/9014.html
	Fish video monitoring	Biological	Baited Remote Videos (BRUVs)	
	Effects of Line fishing	Biological		http://www.reef.crc.org.au/resprogram/taskoutline/mapstone.html
	Surveys of recreational fishers	Social		
	Tourism visitation monitoring	Social	Environ Mgt Charge dataset	
	Reef Visitor perception surveys	Social		http://www.reef.crc.org.au/publications/techreport/TechRep21.html
	Community perceptions	Social	Phone surveys Australia wide	
	Aerial surveillance	Social	High resolution photos	
Kakadu	Terrestrial fauna surveys, incl. survey of specific species re impact of cane toads (on frogs, quolls, etc.)	Biological		
	Visitor survey	Social		
	Aquatic fauna survey	Biological		
	Fire monitoring (including indigenous involvement)	Biological/ cultural		
	Weeds monitoring	Biological		
	Saltwater intrusion monitoring	Biophysical		
	Landscape and habitat monitoring	Biophysical	Aerial photography to examine long-term landscape level changes	
	Art site monitoring	Cultural		

World Heritage Area	Monitoring programs/ projects	Monitoring Type	Use of 'new' technology or new approaches?	Website for more info
Lord Howe Island	Weed monitoring	Biological		
	Revegetation priority areas	Biological		
	Visitor surveys	Social		
	Website monitoring	Social		
Shark Bay	Shell accumulation/removal	Physical		
	Baseline marine water quality	Biophysical		
	Lagoon flushing/water quality	Biophysical		
	Benthic monitoring	Biophysical		
	Fire history surveys	Biophysical	Satellite imagery	
	Marine introduced pests	Biological		
	Loggerhead turtle surveys	Biological		
	Dugong monitoring	Biological		
	Dolphin research/monitoring	Biological		
	Bycatch levels in prawn and scallop fisheries	Biological		
	Endangered species surveys	Biological		
	Feral cat surveys	Biological		
	Small vertebrate fauna surveys	Biological		
	Commercial fishing vessels	Social	Vessel Monitoring System	
	Marine debris monitoring	Social		
	Recreational fishing catch	Social		
	Resort wastewater monitoring	Social		
	Visitor sites monitoring	Social		
	Visitor surveys	Social		
Tasmania Wilderness	*Information not yet available*			
Uluṟu-Kata Tjuṯa	Fauna monitoring and survey, with focus on "listed" species	Biological		
	Flora survey	Biological	Use of GIS to develop holistic flora map for park	
	Fire monitoring	Biological/		
	(including indigenous involvement)	Cultural		
	Geo monitoring (rock movements)	Physical		
	Aquifer study Art site monitoring	Biophysical Cultural		
Wet Tropics	Vegetation clearing patterns	Biological	Satellite imagery	
	Rainforest dieback	Biological		
	Threatened species	Biological		
	Pest species	Biological		
	Community attitudes	Social		
	Visitation numbers	Social		
	Visitor satisfaction rates	Social		
Willandra Lakes	*Information not yet available*			

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Monitoring of Andean Cultural Heritage Sites

by Arq. Mireya Muñoz

"Monitoring of Andean Cultural Heritage Sites" is a conceptual report based on my monitoring experience in the Andean Region. Monitoring reports cannot go beyond the critical evaluation they represent, since the system of UNESCO cannot act against the sovereignty of a State Party. Nevertheless, ideally, monitoring should induce States Parties to satisfactorily preserve their cultural sites, especially those which are World Heritage.

Through my experience in the Andean Region, it is my view that we are not doing what we need to do. Most Andean countries consume most of their fiscal income on poverty reduction efforts and can barely preserve their cultural heritage. Monitoring reports are needed frequently and should take the form of "technical-administrative audits". Reports should also pinpoint the positive aspects found in the conservation of the sites.

The main objective of monitoring is to ensure the greatest efforts on the part of the States Parties in the conservation of World Heritage sites. Local technicians should expand their knowledge of the contractual commitments accepted when signing the Convention and when requesting the inscription of a site in the World Heritage List. In the Andean Area, there is a lack of institutional memory due to frequent changes of authorities and technicians responsible for preservation. In those countries the role of the ICOMOS Committees can be quite useful. ICOMOS nationals should, however, not monitor sites in their own countries to avoid undue pressures and loss of objectivity.

In summary, this report provides recommendations to be taken into account in use of the World Heritage *Operational Guidelines* for monitoring.

What do we understand from reactive monitoring?

In the specific case of World Heritage, we understand that reactive monitoring (or post inscription supervision) is the reporting by the World Heritage Centre, UNESCO or its consultative bodies (from now on, "UNESCO System"), on the state of conservation of specific World Heritage properties that are under threat. These reports are addressed to the World Heritage Committee or the Bureau. To this end, the States Parties are required to submit to the Committee through World Heritage Centre, specific reports or impact studies, each time exceptional circumstances occur or are anticipated. Reactive monitoring is foreseen in the procedures for the eventual deletion of properties from the World Heritage List or in reference to properties inscribed or to be inscribed in the List of World Heritage in Danger.

In the Webster's Dictionary "monitoring" is to control or verify but without implying necessarily a reactive action. On the other hand, the concept of "supervision" implies definitively a "critical evaluation" and recommendation of "corrective actions". From my point of view, we should talk about "supervision" rather than "monitoring". Nevertheless, it is clear that monitoring reports cannot go beyond critical evaluation, since UNESCO´s system is a normative institutional structure that cannot act against the sovereign decisions of States Parties. It is clear, nonetheless, that the purpose of monitoring is to avoid major deteriorations to World Heritage properties, within the legal framework established by articles 4 and 5 (d) of the Convention, which imply that the State Party has formally committed itself to use "its best efforts to ensure the conservation of the site".

In the following paragraphs I will attempt to provide examples, from my experience in monitoring Andean Cultural Heritage, that show that we are not doing everything that we should be doing for improving and using monitoring effectively.

Benefits of monitoring Andean cultural sites

Andean countries –mainly Bolivia, Ecuador and Peru– are among the poorest in the South American continent. Their authorities have to consider many budget priorities above the preservation of cultural sites. Social requirements and poverty reduction efforts consume the majority of the fiscal income. Actually, these countries are running high fiscal deficits, above International Monetary Fund (IMF) requirements. While cultural heritage is an important element that affects the image and self-esteem of a country –within its borders as well as outside– the lack of necessary funds prevents most Andean countries to take care of their most important World Heritage properties.

On the other hand, there seems to be a lack of real control on the part of UNESCO´s system to determine whether the States Parties are fully complying with their formal commitments undertaken when subscribing to the Convention. Reactive monitoring reports are prepared by a State Party, only when UNESCO´s advisory bodies or others provide information which suggests they are needed. Monitoring reports are more useful when required on a periodic basis, and should focus on identifying and recommending necessary corrective action so as to preserve adequately the World Heritage properties. The work involved should take the form of a Technical and Administrative Audit. Actually the word "audit" seems more appropriate then monitoring or supervision, as this might help States Parties take more seriously the preservation of the World

Heritage sites. An audit report —in a more natural way— will tend to identify problems found and recommend corrective action. Nevertheless, audit reports should make an effort also to pinpoint positive results found and adequate actions taken by governments in the preservation of sites.

Clearly, the supervisor or auditors are not supposed to take corrective actions. This is the responsibility of governments. Auditors are required to recommend actions to be taken and, the next time around, supervise that recommended corrective actions have been taken. For its part, UNESCO —upon the recommendations of the reports prepared by the consultative bodies— should ratify, when necessary, the requirement that States Parties carry out the actions recommended in the audit reports. In some cases, a State Party may decide not to carry out recommended actions, considering them unreasonable or against its interests. In other cases, the State Party may consider that it cannot carry out the recommendations for financial reasons. In those cases, UNESCO and Government officials should meet together so as to reach agreement on how to solve the situation.

As well, UNESCO should review periodically, possibly every two years, whether audit recommendations have been carried out. If they have not been acted upon, reviews should be more frequent, and it will be necessary to find out whether technical or financial support is needed by a country to act adequately upon the recommendations.

Should some serious deterioration occur to a site due to negligence or lack of adequate preservation or conservation by the State Party, UNESCO clearly shares responsibility in the case where it had not required full compliance to the Convention on the part of the State Party. Thus, it seems necessary and urgent to substantially strengthen the monitoring and auditing functions, so as to ensure that States Parties carry out their best efforts in the preservation and conservation of World Heritage sites.

The Convention and its subscription by the States Parties

It is my experience that in our countries the community of experts generally share a lack of knowledge of the country's commitments as a result of the Convention, including the consequences of inscription of a site on the World Heritage List. This is a result of inadequate circulation of information on the part of the government. The services provided through the Internet in Spanish will help from now on to minimize this important deficiency. In our countries there has been a frequent change of authorities and, generally, a lack of institutional memory. It is necessary to continue to disseminate the knowledge of what the Convention implies, as well as the meaning of the inscription of a site on the World Heritage List (*Operational Guidelines* para. 6. inc. v).

By signing the Convention, our countries have committed themselves to prepare laws and regulations necessary to ensure an adequate preservation and conservation of World Heritage sites. These laws need to consider not only legal aspects, but also technical and financial ones. Since the majority of such laws have not been approved and, where passed, lack financial support, there have not been adequate funds to cover the needs of the cultural sector and World Heritage site conservation requirements. Inadequate budgets result in personnel without adequate preparation to manage, preserve and conserve even the most important and vulnerable sites. But the lack of well-prepared and knowledgeable professionals is not the source of the problem. There are many outstanding professionals in the preservation and conservation of cultural sites who have obtained advanced degrees in the area, including those that have taken conservation courses organized by UNESCO in different Latin American countries. The problem is that these professionals cannot be hired due to the low salaries.

A second problem is that one should not ask a country to carry out a critical evaluation on the work it has carried out for the preservation and conservation of a site. On the one hand, the persons in charge of the sites have to face social pressures that do not allow them to be critical all the time. On the other hand, their reports cannot be expected to identify all the deficiencies in their own work. That is why it is internationally recognized that audit work should be carried out by external and independent auditors. Government reports normally tend to highlight the good aspects of the conservation work carried out, investing little efforts in analysing issues outstanding that require corrective action.

Main issues in the Andean region

1) ***Lack of adequate budgets.*** The main issue that we find in my country is the lack of adequate budgets for the preservation and conservation of World Heritage sites. The lack of funds more often affects sites in the hinterland and has a detrimental impact on them. Most of the time, local authorities complain about the poor budgets, notwithstanding that in most secluded sites the income collected by visitors´ entrance tickets may be sufficient to cover most conservation and preservation needs. The problem is that most of these funds are normally sent to the headquarters of the national organizations, without respecting the needs of the local site. This bad practice implies insufficient salaries to engage well-prepared professionals for site management. It should be required that funds collected in the individual sites from visitors´ tickets should be reinvested in the preservation and conservation of the site. Only when income is insufficient, should the support of international co-operation be sought.

2) ***Lack of institutional memory.*** Information is to be provided in the government Periodic Reports on a site, as required by the formats in use. However, in many cases this information is not available since there is no institutional memory that collects data included in the World Heritage Centre dossier. In Bolivia, in my experi-

ence, I have not been able to find a single site manager that has all the site information included in the nomination dossier. Even in the headquarter offices of the Vice-ministry of Culture, one cannot find copies of the required files. This lack of institutional memory makes it quite difficult to carry out any type of monitoring or auditing work. Since all the inclusions of Bolivian sites in the World Heritage List are recent (less than 15 years), it is still possible to gather information from living persons that were involved in the process. Also, it is suggested that the World Heritage Centre agree with the government on a project for developing protected files on the World Heritage sites.

3) ***Lack of management plans and need to enhance monitoring efficiency.*** In most cases there is a lack of adequate management plans, although this is a prerequisite for the inclusion of a site on the World Heritage List. Naturally, this is a serious deficiency that should be corrected as soon as possible, since without a plan, it is impossible to have efficient management and efficient monitoring. Also, there is a practical management problem that arises from the fact that natural site management depends on a different ministry than cultural sites. The Ministry of Sustainable Development and the Vice-ministry of Culture (Ministry of Education) have minimal relations and invest little in coordination efforts.

4) ***People in charge of the sites.*** There are few exceptions, but persons in charge of site management are not well informed on methodological aspects, as well as on techniques of conservation, restoration and preservation. This issue is most relevant if the authenticity of the sites are to be preserved. The worst damages to a site can occur from the use of bad or inadequate techniques in the conservation process. The contrast is quite apparent with sites that are well managed by people in charge who have high qualifications. In Bolivia there are a few sites that are well managed due to the funds provided by international co-operation.

5) ***Participation of local communities.*** Local communities participate in different degrees in the preservation of different sites. Sometimes, they participate enthusiastically and allow well-prepared Bolivian professionals to take charge of site management. In others, local communities are opposed to allowing professionals from other regions to manage the sites. In Potosi, local communities were opposed to the preparation of a Management Plan before the inclusion of the city in the World Heritage List. With time however, they have become convinced of the benefits of well-developed plans and are currently enthusiastic about conservation and preservation efforts. Local house owners do imitate preservation and conservation works carried out by the authorities as part of the management plan. In other places, when there is no adequate information and consciousness about the value of the site and needed preservation efforts, they tend to improvise, with great danger to the authenticity of the site.

Role of ICOMOS and of its National and Scientific Committees

In the Andean Region, the participation of ICOMOS National Committees to carry out monitoring (audit) work has been proposed several times. The unresolved issue has been whether a professional should work in his/her country or, on the contrary, he/she should only work in other countries of the region. Clearly, the professionals should have deep knowledge of the Andean Culture to adequately carry out monitoring work, but it would be preferable that he/she should not be a national so as to avoid any inhibitions in carrying out a really critical evaluation of needs. Therefore, it is recommended that ICOMOS National Committees participate in the monitoring/audit work of World Heritage sites that are outside their own countries.

On the other hand, ICOMOS International has developed forms to be filled out by any ICOMOS members who visit the World Heritage sites, with a view to develop a data base that will be helpful for monitoring/audit purposes. In spite of the fact that the form has been published in ICOMOS News for some time now, many of us do not fill out the forms. It is recommended that a campaign is carried out to encourage ICOMOS members to fill out the forms, since their insights can provide a full range of observations and recommendations that can be very useful for enhancing the management of the World Heritage sites.

My personal experience

In my experience, I have had the opportunity of carrying out reactive monitoring work in Bolivia and other countries in the Andean Region. Most of my conclusions have been included above, but a summary of them is presented below:

A) Conclusions

- There is inadequate knowledge on the part of government authorities with regards to Convention Commitments and the implications for their work.

- There is a serious lack of institutional memory in government offices in charge of managing cultural and natural sites. This lack has become a formidable obstacle to efficient and continuous management and effective monitoring.

- Poor and inadequate budgets do not allow hiring of well-prepared professionals available in the countries, who could develop well-designed management plans and carry out efficient preservation and conservation work.

- Periodic Reporting by government offices does not provide generally objective and critical analysis on the quality of site management and does not guarantee that an

adequate monitoring/audit work has been carried out so as to identify properly corrective action for site management and preservation.

B) Proposed solutions

- Now that local authorities in Bolivia are involved in restructuring the work of the Vice-ministry of Culture, they should consider the establishment of an office responsible for managing all the World Heritage sites in the country. This office should replace the "Focal Points" selected in previous years so as to provide continuity to monitoring/audit work for World Heritage sites.

- This World Heritage sites Office should gather all information about the sites, especially the information incorporated in the World Heritage Centre dossiers. It should also train site managers in reporting activities about their management of the sites and should underline the need of managers to identify corrective actions that they consider necessary. The office should have a clear responsibility to negotiate an annual budget for the management of the World Heritage sites and should be in direct contact with the international co-operation bodies so as to identify options for foreign aid.

- The Office should establish a Training and Information Centre to offer courses and seminars to experts and to the local public on World Heritage site management and audit. The publishing of a journal would be strongly recommended. This centre should be able to strongly contribute to enhance the awareness of the general public with regards to World Heritage sites and the need for their preservation and conservation.

- The Office should provide leadership in identifying other national sites that could be included in the Tentative List, providing information, analysis and suggesting preliminary management plans. The office should provide necessary support for sites on the Tentative List so as to promote them as viable candidates for inclusion on the World Heritage List.

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Management Effectiveness, Monitoring and Reporting in Sangay National Park (Ecuador)

by Jorge Rivas

Despite the importance given to protected areas within the sustainable development framework, and despite efforts in creating new protected areas, several of these areas have not evolved from their legal creation into managed areas. However, for some protected areas, management has improved, and thus their managers have increasingly faced the need of developing innovative planning and managing strategies. Several of these new strategies are directly linked to the way in which natural resources are used by a variety of stakeholders, especially within the buffer zones, making protected area management increasingly complex. Protected area management complexity was analyzed during the World Congress of National Parks and Other Protected Areas, Caracas 1992. The need to develop methodologies and carry out studies to accurately assess and monitor protected area management, as well as to measure the accomplishment of conservation goals was identified as a high priority. Recognizing the circumstances of different local and regional contexts, several countries have developed and implemented diverse methodologies and mechanisms for assessing and monitoring protected area management.

This document briefly analyses the Ecuadorian experience in assessing and monitoring the management effectiveness of one particular area, the Sangay National Park, in which Fundación Natura has been working since 1997. Since 2002, in co-operation with other organizations, a more systematic approach for assessing the effectiveness of the Sangay National Park management through the Enhancing our Heritage Project has been carried out, with the aim of assessing the area's management, particularly in relation to its status as a World Heritage Site.

Ecuadorian experiences in assessing effectiveness

The Ecuadorian experience in monitoring and assessing effectiveness of protected area management is recent. One of the first assessments was carried out for the Galapagos National Park (Cayot y Cruz, 1998) using the methodology developed by De Faria (1993). This assessment included an analysis of the following elements: bio-geography, legal framework, political context, information, administration, planning, management, threats analysis, and legal and illegal use of resources.

In 1999, the Environment Ministry of Ecuador, with the support of the GEF Project, assessed the National Protected Areas System (SNAP) management and established a baseline for future reference (Valarezo, Gómez and Célleri 1999). For this assessment a modification of the De Faria (1993) methodology was used. Organizational, institutional and legal problems were detected as diminishing the SNAP efficiency.

The assessment showed the following rates for the SNAP management efficiency: available resources 45%; achieved outcomes 45%; conservation goals accomplishment 56%; and average efficiency 50% (Valarezo, Gómez and Célleri 1999).

In 1997 Fundación Natura became involved in the Galapagos management through the implementation of the Eco-Regional Planning Project funded by the World Wildlife Fund (WWF). This project led to the implementation of a monitoring project, and finally to the Galapagos Socio-Environmental Monitoring Project, carried out by Fundación Natura and the WWF, and funded by the GEF.

Fundación Natura's main objective for working in the Galapagos has been to contribute to the establishment of a monitoring system, and, in particular, to generate information for reaching and influencing decision-makers, alerting the world regarding the Galapagos issues, and raising international support for renewing management policies for the Galapagos.

The project has contributed to strengthening the fisheries monitoring program, carried out by the Galapagos National Park Authority, the Charles Darwin Scientific Station, and the fishing co-operatives, by providing a grant and technical assistance for improving the database and defining socio-economic indicators for fisheries.

One of the outcomes of the project was a database for controlling tourism activities, which is managed by the Tourism Unit from the Galapagos National Park. The project also provided funding and technical assistance for monitoring the impacts of tourism in land sites, which is implemented by the Galapagos National Park Authority.

The Sangay National Park

Sangay National Park is located in the eastern-central region of Ecuador. It comprises a large range of ecosystems, from tropical forests located at the 900 m, to cloud forests, paramos, and perpetual volcano snows at 5000 m. The Sangay National Park occupies 517,725 hectares within the Tungurahua, Chimborazo, Cañar and Morona Santiago provinces.

Because of its high biodiversity level, Sangay National Park was declared a World Natural Heritage Site in 1983. Sangay National Park is also identified as a top priority conservation unit in the Tropical Andes. It is part of the North Andes Eco region Complex, which is included in the WWF 200 eco regions of global importance.

Sangay is one of the most important areas for the protection of native fauna and flora in Ecuador. Endangered species such as the Spectacled Bear *(Tremarctos ornatus)* and Mountain Tapir *(Tapirus pinchaque)* are found in this area. The park is one of the three areas in Ecuador hosting large populations of Spectacled Bears, which emphasizes its conservation value (Suárez, 1999).

The park itself contains three zoogeographic levels: Subtropical (1,100 – 2,300 m), Temperate (2,300 – 3,300 m) and High Andean, which extends from 3,300 m to the upper limit, where the permanent snow line starts, at 4,800 m (INEFAN, 1998) (Fig.1).

The cultural and ethnic diversity within the park is another important characteristic. The following Indigenous groups live within the park and its buffer zone: Quichuas-Puruháes (Northwest and Central), Quichuas-Cañaris (south and southwest), Shuar (south and southeast). This ethnic diversity is reflected in the range of traditional knowledge (stories, legends, myths and traditional practices) associated with the park's natural resources, including mountains, lakes, plants and wildlife.

While little is known regarding the park's archeological resources, the management plan (INEFAN 1998) mentions that some remains of the Cañari and Puruhá cultures have been found. The document reports that 17 archeological sites and potential monuments have been located, which add scientific and tourism potential to the area. At the same time, it is important to highlight the need for more detailed archeological fieldwork in the park and its influence zone.

The park also possesses high quality landscapes. These include 327 lakes, many of which (such as Osogoche, Atillo and Culebrillas Lakes) are visited by sports fisherman. The park also contains three volcanoes: Tungurahua (5,016 m), Altar (5,319 m) and Sangay (5,230 m). These volcanoes are the most visited sites by both mountain climbers and other tourists. Both Sangay and Tungurahua volcanoes are active, which make them objects of special scientific interest and a tourism attraction.

The buffer zone of the Sangay National Park is inhabited mainly by Kichwas and Shuars indigenous people and Mestizo peasants, who use their land for subsistence cattle and agricultural activities, and for taking some products to the market. Frequently, they must work on other properties or migrate seasonally to the cities or other farming zones to obtain sufficient income.

The production conditions have deteriorated gradually due to agricultural practices that do not incorporate ancestral knowledge and are now leading to soil erosion and genetic erosion of the crops. This has caused a reduction in produce available for family consumption, resulting in

undernourishment of the farmer's family (as evidenced by the country's high index of chronic undernourishment in children under five years old).

Sangay as a World Heritage site

Sangay was declared a World Heritage site in 1983, based on criteria II, III and IV of the *Operational Guidelines*. Sangay is not only one of the largest parks in the country, but also includes an altitudinal range from 900 m up to the permanent snow zone above 5,000 m. When it was nominated as a World Heritage site, only minimal human intervention had occurred, and no significant threats were known.

In the 80s, the administration received support from WWF and Fundación Natura to prepare the park's first management plan and for staff training. This support was multiplied through the Fundación Natura Conservation Program, with funding from Ecuador's Debt for Nature Swap. This allowed direct support for the area's management, including infrastructure development, purchase of equipment and training materials, boundary marking, hiring of park guards, and lobbying policy support for park management. These activities were organized through joint planning efforts by the park administration and Fundación Natura, following the general guidelines from the first management plan (Ministerio de Agricultura y Ganaderia, 1982).

Sangay's listing as an endangered World Heritage site: reporting

In 1992, the Ministry of Public Works signed a contract for the construction of the Guamote-Macas road without having prepared environmental impact studies or mitigation plans. At that time, Ecuadorian law did not require these studies. Early assessment suggested that Sangay would be threatened by construction of the road, hunting, illegal grazing and deforestation near the road. Reports indicated that the road crossed 8 km of the park and could cause significant direct (tree felling, earth movement, use of dynamite, water pollution) and indirect (establishment of settlements, hunting, grazing, etc.) environmental damage. As a compensatory mechanism, the Ecuadorian State expanded the southern boundaries, increasing the park area to 517,725 ha.

The construction of the Guamote Macas road had been a long-term aspiration of the populations in the Sierra Central and Amazon regions. The main objective of the road was to integrate these areas with the northern part of the country and promote their economic development.

Given the emergent status of environmental concern and protection within the government and in the society at large, the construction of the road was a threat to the park. National legislation lacked regulations for the prevention or mitigation of environmental impacts caused by road construction and other infrastructure development. In this context, discussions about the construction of the road brought to light the apparent contradiction between development and conservation, as well as the confrontation between two government entities: the Ministry of Public Works (MOP) and INEFAN (now reorganized as the Ministry of Environment).

The possibilities of mitigating the negative impacts of the road construction were very slim, given the absence of environmental legislation and political opposition at the time. This situation was made even worse by lack of funding. The listing of Sangay as a World Heritage Site in Danger was an interesting option, both for international fund raising and for developing political support for negotiations with the MOP and other stakeholders interested in the construction of the road.

During the XVI Session of the UNESCO's World Heritage Commission, (December 1992, Santa Fe, USA), the World Conservation Union (IUCN) reported that while the park administration had delayed the Guamote-Macas road construction, and expanded the park boundaries to the south, the site was still threatened by hunting of endangered species, illegal grazing, and the eventual renewal of construction activities. Based on this report, the World Heritage Committee decided to list Sangay as a World Heritage Site in Danger, as per Article 11 of the Convention.

While the declaration of Sangay as a World Heritage Site in Danger was a warning for the country, it was happily received by environmental organizations and INEFAN as further political support for their efforts. The declaration had a limited impact on other government agencies, and, in fact, road construction continued. Nevertheless, the listing as an endangered site has had some interesting effects.

- The Presidential Advisory Committee on Environmental Issues became a forum for dialogue between the park administration, environmental NGOs, the Ministry of Public Works, and the company building the Guamote-Macas road. As part of this process, joint inspections to the construction site were organized and recommendations were made to reduce direct impacts. Unfortunately, the implementation of these measures was limited by insufficient government budgets.
- INEFAN (now Ministry of Environment) obtained $30,000 from UNESCO to equip park outposts in the area near the road. Unfortunately, the structural adjustment policies implemented in 1993 reduced park staff. This situation was partially corrected when the Engineers Army Corps were hired to finish road construction. The Corps not only received training in environmental topics, but also assumed the role of controlling the area, especially regarding timber extraction and transport.
- In 1997, the project "Biodiversity Conservation and Participatory Management of Sangay National Park

(Sangay Project)", was initiated by by Fundación Natura in the park, and funding and technical support were provided by the Netherlands Government and the World Wide Fund for Nature (WWF). The area along the road was defined as a priority area for the project intervention.
- The same year, the Ministry of Environment updated the park management plan with funding from the GEF Project. The construction of the Guamote-Macas road was identified as a critical problem that required an agile and effective response.

Other problems that were cited as a basis for listing Sangay as a World Heritage Site in Danger (hunting and illegal cattle grazing) are also being addressed as a priority in the Sangay Project, under the coordination of the park administration and Fundación Natura.

The progress in addressing the problems of this World Heritage Site was analyzed by IUCN evaluation teams in 1998 and 1999. Achievements and Ecuador's efforts through the Ministry of Environment and civil society organizations have been recognized during UNESCO's World Heritage Commission meetings. Joint activities that have targeted the main problems of the park include:

- In fulfillment of the World Heritage Committee's recommendations concerning the Guamote-Macas road, the Ministry of Environment, along with Fundación Natura's Sangay Project, carried out a census of the properties in the road area. The report provides current information on land tenure and natural resources status. The information will be used by the Ministry of Environment and the National Institute for Agricultural Development (INDA) as a basis for land tenure conflict resolution and preventing further immigration to the area.
- Park administration and settlers have jointly established management criteria and zoning for land-use activities in the area adjacent to the road. Currently, the Sangay Project is working with local communities to implement alternative sustainable practices for natural resource usage. The object is to reduce poverty in the area, which itself can trigger deforestation and other non-sustainable activities.
- A research project on the Spectacled Bear *(Tremarctos ornatus)* habitat was carried out, identifying critical conservation areas near the road (Sánchez, et al, 2000). This information has allowed conservation efforts to focus on the most critical sites for maintaining a level of connectivity between fragmented habitat, and at the same time provided baseline information for monitoring this species in the Sangay area.

In spite of what has been mentioned, it is difficult to know whether the financial support received from various institutions is due to the area's status as a World Heritage Site in Danger, or because of the intrinsic values of the park. It is clear however, that the listing has been useful as a means for justifying the actions carried out to conserve the area.

Management effectiveness monitoring

Since 1999, Fundación Natura in coordination with the Ministry of Environment, and as a part of the Sangay Project, has been developing a Socio-environment Monitoring Program for the Sangay National Park, which includes the generation of baseline information for a series of ecological, socio-economic, and management indicators.

Aimed at assessing the current management effectiveness of the park, an evaluation exercise was carried out. Its main results are shown in the document "Evaluación de Eficiencia de Manejo del Parque Nacional Sangay" (Fundación Natura, 2002). This assessment was carried out using a methodology from WWF-CATIE (Cifuentes, et. al. 2000) including additional criteria and following recommendations from studies carried out in Costa Rica and Ecuador. These criteria were reviewed and tailored to the Sangay National Park context.

Results showed that the Sangay National Park management effectiveness is about 51.6%, with a 53.17% for the Andean zone and a 50.15% for the Amazonian zone. This percentage is within the lower limit for the medium satisfactory management category, meaning that the area possesses all the minimum elements of management, but shows deficiencies that limit the establishment of a solid base for management to be effective.

However, assessing the Sangay National Park as a World Heritage Site requires a methodological process that will allow a comparison with other sites and, at the same time, improve monitoring and evaluation of the site.

In Ecuador, the Sangay National Park Site was also selected as a pilot site for the World Heritage Project ***Enhancing Our Heritage.*** In implementing this project, UNESCO and IUCN-SUR agreed with the Ministry of Environment, Fundación Natura and EcoCiencia to work together on the management assessment process, fostering a process of information exchange and using all the information available for improving park management.

The process for assessing the Sangay National Park as a World Heritage Site follows the framework developed by IUCN (Hockings, et al, 2000). The project methodology was adapted to suit local circumstances during three workshops where the methodology was reviewed and applied. This framework is divided in six sections, each of them assessing different elements of the area's management. Additionally, for every element, additional information needs were identified. These needs will guide future monitoring activities of the project.

The first report on the ***Enhancing Our Heritage Project - Sangay*** will be updated during the next year (Year 2), as the monitoring and assessment system for the park is improved and new information on the conservation status of this World Heritage Site is built up. A brief review of the main recommendations from the project to the Ministry of

Environment on how to improve the quality of the information regarding park management is detailed below. This information will allow us to improve the monitoring system for the Sangay National Park as a World Heritage Site.

Recommendations are grouped according to the Assessment Framework elements:

Context

Strengths
- Socio-economic data are very complete;
- There are sufficient data on threats available to guide management responses;
- National policy context is clear;

Weakness
- Biological inventories are still not completed;
- Management focal objectives for the park have not been identified;
- There are just a few studies on the environmental services the Park provides;
- There is no systematized information on the financial support provided by the Government, and national and international NGOs;
- There is no systematized information on the park's archaeological and cultural resources;
- Information on stakeholders and their relationship to the park is general and requires further investigation.

Planning

Strengths
- An initial analysis of the effectiveness of planning has been completed;
- Protected area legislation is clear;
- Landscape analysis was used to design an ecological corridor between Sangay National Park and Llanganates National Park.

Weakness
- The Management Plan does not identify prioritized activities;
- There is no direct link between the Management Plan, the Annual Operational Plans, and the Monthly Plans at the Ministry of Environment;
- There is no information available on the criteria used for zoning;
- A strategy for resolution of land-tenure conflicts does not exist.

Inputs

Strengths
- There is systematized information on staff, equipment, and infrastructure;
- The operating budget for the park has been secured by the National Environmental Fund.

Weakness
- An updated document detailing the required inputs for adequate park management does not exist;
- A detailed budget for the park management does not exist. Financial information is dispersed and is not available for the park administrators.

Process

Strengths
- The previous analysis of management using the WWF/CATIE methodology has identified the main areas where improvement of management processes is required.

Weakness
- Mechanisms for implementing recommendations from the WWF/CATIE assessment need to be defined;
- A strategy for establishing alliances with strategic partners has to be designed.

Outputs

Strengths
- Measures of physical outputs (boundary delimited, patrols undertaken) are available.

Weakness
- The Management Plan does not include mechanisms (such as indicators, milestones, etc.) that allow monitoring of implementation;
- Information on the accomplishment of activities planned in Annual Operational Plan is not systematized. Additionally, a record on the activities accomplished on the previous years does not exist which prevents comparative performance analysis.

Outcome

Strengths
- There is a great deal of information gathered by the Socio-economic Monitoring Program for the Sangay National Park (ecological and socio-economic).

Weakness
- Management focal objectives as well as monitoring and assessing mechanisms for their conservation status have not been identified.
- Programs for monitoring key elements and indicators for assessing the park management have not been identified.

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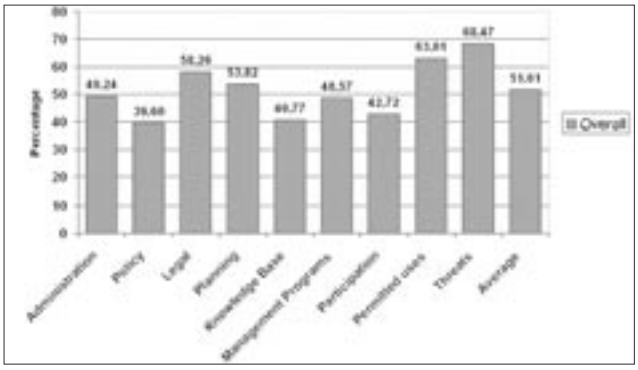
Vegetation Cover Map, Sangay N.P.

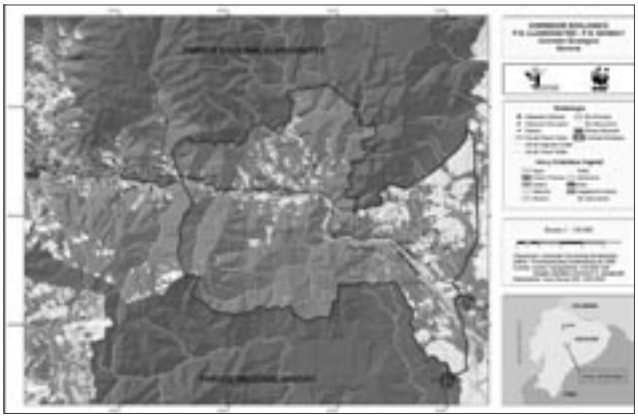
Source: Land-Use and Vegetation Cover Map (Fundación Natura, 2001).

Legend: 1. Study Area, 2. Sangay NP, 3. Provincial Capital, 4. Primary Road.
Vegetation Cover and Use: 1. Cloud Forest, 2. High Forest, 3. Dwarf Forest, 4. Forest Regeneration, 5. Paramo, 6. Rocky outcrops and sand, 7 Crops, 8. Pasture, 9. Bare soil or Cloud Shadow, 10. Snow, 11. Clouds, 12. Water.

Management Efficiency Analysis



Ecological corridor between Sangay NP and Llanganates National Park



5

Monitoring Technologies and Tools

Computerised Heritage Information Systems and Monitoring the Complexity of Change

by Paulius Kulikauskas

The understanding of what the human heritage comprises has been changing radically in the past twenty years. This change is characterised by at least three major concepts: integrated heritage management, transferring heritage from a linear, sectoral subject into a transdisciplinary aspect of human development, complexity of the unity of heritage comprising natural, man-made, tangible and intangible heritage, and the notion of public participation in heritage management. Such a change in understanding requires different ways of tackling the complexity, resulting in the need of less streamlined planning and management, based on introducing principles and key values to enable management of indeterminacy in addition to traditional plans. In this context, the scope and modalities of monitoring heritage have to respond to the changing conceptual framework. On the one hand, much larger amounts of information must be accessible instantly, and this can be provided by establishment and use of computerised information systems. On the other hand, such systems provide opportunities for giving access to heritage information to a large variety of different groups of users, and through the interactivity of computerised systems offer users participation in the monitoring process. Last but not least, the computerised systems, while being useful tools, are not themselves enough to monitor the complexity, as legal, social and economic frameworks, and societal attitudes become an integrated object of monitoring in the context of the change. Such monitoring of changing complexity addresses not just the features of reality, but also relationships between such features and values reflected in perceptions of reality all measured against a set of notions in a large cultural and historical context.

Experiences with developing SAVE

Survey of Architectural Values in the Environment was developed by the Danish Forest and Nature Agency in late eighties and early nineties. It was based on several previously conceived methodologies of managing historic urban environment. My colleague Hans-Christian Vejby, who developed one of the urban assessment systems prior to SAVE in the eighties, has in 1995 developed a database for post-war use in Bosnia-Herzegovina and Kosovo reconstruction efforts, based on the SAVE methodology. Our company, Byfornyelse Danmark, is now working on enhancing the system in projects taking place in Denmark, Estonia, Latvia, Lithuania, Russia, and Thailand and in a project that is about to start in Malta.

Let me briefly outline the features of the current system that we work with.

Functionality

The system is based on a territorial assessment of features of the urban elements. It may be connected through public Internet to any existing data depositories, like e.g. address, building and land registers and it can be connected to GIS maps (provided they exist of sufficient quality). The data administration can be carried out from remote workplaces with unique authorization of management of any portion of data. Any portion of the data can be published on the Internet for public viewing: with or without restrictions on use.

Contents

The system consists of three parts:

A. A report on an analytical survey of the territory, resulting in maps, analytical drawings, photographic images and descriptions; this report can be published as a hard copy edition (book), on the digital media (CD and/or web site), or both. It can be also based on and connected to GIS maps, if available.

B. A database of all buildings (and, if necessary, other elements of the environment), containing any agreed combination of several types of data: (i) identification codes referring to other datasets in existing registries; (ii) quantitative parameters in agreed code lists (e.g. built area, floor space, number of floors, presence and numbers of different types of construction and building details, as windows, doors, balconies, etc.); (iii) qualitative conventional parameters (as architectural style features); (iv) historic data (as building period, name of architect and builder, dates of major reconstructions);

Data entry form on a PC; example of Kosova war damage database.

(v) data of technical depreciation (i.e. how deteriorated the selected building elements, such as, roof, walls, windows, etc. are); (vi) assessment marks according to agreed criteria relating to the territorial analysis and average costs to repair to required state; (vii) photographic pictures; (viii) any administrative information on imposed planning restrictions or pending decisions. In case any of the types of information are already digitised, they can be connected to the unique interface from existing databases;

C. Instructions for maintenance of most common types of building elements.

In case other types of data are needed, they can be accommodated as well.

Establishment of the system

The system is established through a three-step process:

I. Preliminary investigation of client's needs and available information, and simultaneously, preliminary investigation of topographic, historic, planning history and architectural information; in this stage, the training of local staff is undertaken; code lists for the database are developed and database software is tailored accordingly;

II. Field work, mapping developed structures and assessing individual building significance in terms of architectural, historical and cultural, contextual and authenticity qualities;

III. Analysis and reporting on territorial analysis and completion of the database; establishing references with other databases, installing remote workplaces and modifying generic Internet interface for public use.

Technology

The current enhanced database system runs on Microsoft SQL server (earlier versions ran on MS Access and are still available, but with very limited functionality, mainly for single computer use), with proprietary interfaces for remote data entry and publishing on the Internet. We are using digital cameras for taking pictures, and handheld devices (PocketPC) for assessors to put the data on-site (they synchronise with the server over the Internet), eliminating cumbersome transfers from paper notes to the database.

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Using handheld computer for data entry in field assessment of buildings; example of Bornholm.

Recently, we started looking for a simple and more affordable technological basis for smaller projects, based on free software and capable of being hosted on any public provider of web hosting that supports MySQL and php technologies. This way, any interested user could implement the system with virtually no costs for software and hardware, and the system could be accessible and manageable from any computer connected to the Internet.

Uses of the system

The system – depending on the implemented functionality – can be used for a very wide range of purposes. Its main benefits are that it helps architects and planners to see the urban features of the territory with different eyes, and it organises the information for operational use. These benefits help to improve decision-making in planning and management of urban regeneration. Even the very basic set of quantitative parameters and historic data and pictures that can be called immediately on the computer screen is a great advantage for decision-makers – from civil servants to executive politicians.

Adding functionality based on visual assessment of depreciation combined with average re-establishment costs allows for quick assessing of levels of regeneration costs for any parts of the territory or any groups (functional or otherwise) of buildings.

Instruction for maintenance of typical structures enables owners and users of buildings to save major investment as they learn to prevent deterioration by correct maintenance and timely repair.

Another advantage is the remote administration of data. It allows the civil servants, who may be working in different agencies and offices with different responsibilities, to administer (input, update and revise) their parts of data on a single server from different offices.

The distributed database technology allows for usage of the data from other data repositories, e.g. public registries, in a single interface without ever needing to duplicate data.

Directions of development

On almost all heritage sites there exists a huge variety of collected information, which is seldom organised for operational use. Yet quick access and retrieval of information is what efficient site management needs. Yet it is not

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Internet search interface returns simple lists with pictures and selected basic data; example of Vilnius.

enough to efficiently manage the sites, as consisting only of a huge variety of elements – buildings, streets and squares, elements of landscape; we also need various kinds of statistical analyses allowing for grouping by similarity of various features. In administration of heritage cities, managers frequently need lists of objects grouping them by several features. For example, if one is planning an emergency programme for prevention of deterioration, one needs a list of buildings with a) highest heritage quality, and b) worst condition of roofs. Therefore, to enable such computerised filtering of datasets in a database according to various combinations of features, the information has to be qualified in relation to various parameters.

Establishing a computerised registry of buildings for heritage management purposes, containing different data supplementing building registries, is generally welcomed by all authorities. Yet discussing how to organise various kinds of information on heritage, we often face resistance to the idea of typifying the assessment of features – many specialists believe that architectural and spatial features are too complex and unique, and end up writing descriptive texts instead of codified parameters. While putting free text information on buildings in a database allows for accessing such information quickly, there is no benefit from such capability for statistical analysis.

Integration of the two-tiers of the system

We are now looking at how to integrate in computer interfaces the presentation of territorial analysis and database data, so that the users could see not only the single elements or their sets but also their spatial and perceptive relationships. These are much more difficult to typify. That is why one needs a two-tier system: a "parameterised" tier in searchable databases for single elements of the environment, and "descriptive and visual" tiers with analytical maps and perspective drawings, revealing spatial relationships between these elements. The work we are starting now looks at how to integrate methodologically these two tiers into flexible, user-customised interfaces.

Having many users on the Internet allows for the possibility to establish discussion forums for exchange of experiences. Such forums, properly organised into a content management system, can become a very useful knowledge base aggregating experience of different users.

Finally, to become useful for monitoring purposes, the system must be enhanced with a capability for managing and analysing the history of changes in various records.

Participation of users

Working with development of the SAVE based information system, we often review the objectives of development of the system, asking ourselves a simple question: how can the system be made more useful for safeguarding our heritage? A computerised information system with a history of changes in records, can be a very useful monitoring tool. While it is very important to further develop the methodology and system for collection and handling of data in the computerised systems, as implementation of such systems speeds up preparations of information for making various administrative decisions, the database and analytical map system alone does not guarantee that decisions taken are respecting the complex safeguarding concerns. Furthermore, decisions affecting heritage are not just taken by the authorities, they are taken by individuals. It is imperative to provide access to such sets of information for the public, so that their decisions can become more informed. Ultimately, when both authorities and the public use the same information for decision-making, this increases the transparency of decision-making in public governance.

Integrated approaches to heritage management have significantly extended the number of different kinds of users who may be interested in various type of information, and their needs may significantly differ. Therefore, user interfaces of access to different data should be customised. Another way to interest more users in using the system is by providing them with an opportunity for defining the kinds of data that they would like to contain the public datasets. Thus, by submitting their own data, they enhance the system, and become in part system managers, deciding on the accessibility to this data by others.

Methodological clarity

Growing complexity of the system requires methodological clarity of the assessment.

Therefore, I suggest referring to "heritage qualities" as a subject of safeguarding and monitoring instead of "heritage values". This is done to distinguish conventionally defined "quality" as gestalt (a configuration or pattern of elements so unified as a whole that it cannot be described merely as a sum of its parts) relationships between features, existing in reality, from "value", born in measuring that quality against a set of notions in a large cultural and

historic context. Values are highly individual and personal, and therefore difficult to qualify.

The whole of a human settlement is a very complex system, involving not just tangible, but also intangible qualities and their relationships, and the whole setting of human activities. The same applies to archaeological sites and even natural sites. The best term I can find for this is "ambience". This ambience is what ultimately defines the emotional side of the perceived quality of life in a given territory, and various aspects of this ambience are tightly interconnected. Monitoring and safeguarding just the material artefacts of this ambience often brings the conservation effort to failure, creating environments that have no cohesion between the material setting and the life in them.

As many of the features of this ambience are much more dynamic than the material features of the intangible heritage, the process of safeguarding must therefore look both at the whole of such ambience, as well as at various features and qualities.

Consequently, monitoring for management purposes should not be limited to observation of the changes of the physical substance. It must also include observation of changes in legal, social and economic frameworks, and attitudes, and actions of the actors based on their attitudes. To address the transdisciplinary unity of the heritage property understood both as subject and object of inquiry, monitoring must include a broad analysis of changes, not just simply determining WHAT has been changing and how, but understanding and revealing WHY it has changed, and HOW the perception of the object has changed.

Hence to ensure continuity in analysis of this ambience, it is not enough to create a perfect information system, based on specialist analysis; it is also important to provide easy access to the results of this analysis to the administrative authorities and the general public. Very often, damaging decisions are made because of the lack of information. Yet decisions are not made just on the basis of available information – they are made by measuring this information against the interests and values of the decision-maker. Therefore, safeguarding and monitoring must address both the state of tangible and intangible qualities and their relationships AND attitudes, influencing decisions. The results of monitoring must convey to the different decision-makers a message about what makes the whole ambience of territorial heritage sites and single elements, such as buildings, valuable, and how developing and introducing new elements into the historic environment can ensure the continuity of the qualities that makes the particular environment valuable to the individuals and the society. Retaining the features and qualities – the most spectacular, most unique, the oldest – alone does not assure continuity.

Continuity of qualities through tackling of complexity and indeterminacy

Integrated approaches to heritage management are based on holistic comprehension of the complexity of the object of safeguarding and participation of different actors in planning, management, and decision-making. Therefore the traditional, "streamlined" methods of management become insufficient for tackling such complexity. The planning and management of heritage sites, and indeed any environment, requires enhancing planning and management from controlled modality: determining objectives, designing frameworks for action, implementing action, including modalities which address and tackle indeterminacy. This can be achieved by establishing sets of principles and key values to be widely shared, and monitoring changes by measuring the processes and their outcomes against these sets of principles and key values.

The new approaches to tackling the complexity of heritage sites do not eliminate the need to closely monitor changes of their physical substance. Computerised information systems can significantly speed up collecting information needed for decision-making and taking action. However, decision-making based on integrated approaches to heritage management includes much wider and more complex considerations, and the ways the information systems are arranged should reflect and accommodate such complexity by integrating more efficient handling of traditional information, while facilitating the new qualities of participative monitoring and the management of heritage.

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Use of Satellite Imagery and Geographical Information Systems to Monitor World Heritage Sites

by Mario Hernandez

This paper describes the objectives of a new activity inside UNESCO and in particular the UNESCO/World Heritage Centre with respect to monitoring World Heritage sites using satellite images. Since satellite images are strongly linked to Geographical Information Systems, their use is also explained.

The concept of monitoring and the overall use of satellite images (remote sensing) is approached in particular as applied to developing countries.

This paper is part of a series of papers presented at the Monitoring workshop in Vicenza. Therefore the reader is advised to consult the other papers of this workshop in order to have a comprehensive idea about all aspects related with the monitoring of World Heritage sites.

All States Parties that have ratified the *World Heritage Convention* should implement all the activities stated by this important Convention. The associated implementation of the Convention is constantly strengthened by the decisions and recommendations of the World Heritage Committee which instructs the Secretariat to put in place a series of activities to enforce and improve the implementation of the Convention.

Among the various activities currently under discussion is one related the task of monitoring World Heritage sites. According to the *World Heritage Convention*, it is the main responsibility of each State Party to monitor the World Heritage sites on its territory. The Convention also indicates the responsibility of all other States Parties to assist those States Parties that do not have the necessary knowledge in the area of monitoring in acquiring such a monitoring capacity.

This is the basis for the UNESCO/World Heritage Centre's new activity: to establish a network of partnerships to make use of the know-how and expertise of these partners in order to assist developing States Parties of the *World Heritage Convention* in their respective monitoring duties using satellite images.

Monitoring

One of the most complex tasks both in developed countries and in particular in developing countries, is the establishment of an appropriate monitoring process for both natural and/or cultural heritage sites. Associated with the task of monitoring, is always the issue of collecting, storing and managing data and information to better understand the evolutionary process occurring at the site. The most important issue, in the end, is how to digest this large amount of data so that an associated interpretation can determine if the site is under threat or not. Once the eventual threat has been understood, proper precautionary procedures can be implemented.

Although the previous statement appears logical, unfortunately it is frequently ignored.

An initial step towards the conservation and protection of World Heritage sites is to establish such a monitoring process. When there are not enough human and financial resources, as is often the case, then the monitoring process should be a simple on-going methodology that is based on the local resources and makes use of the associated local know-how.

This should be a well-established routine process where observations are registered. All observations are then compared to previous observations. Any significant difference between observations can be an indicator of a potential threat. The monitoring process should then be strengthened in order to follow closely the evolution between observations.

Periodic reporting: monitoring the monitoring

Discussions on the most appropriate means to establish a mechanism for States Parties to report on the status of implementation of the Convention, as well as on the state of conservation of their World Heritage sites, were initiated in 1982 and have continued since then at the sessions of the World Heritage Committee, the General Assembly of States Parties to the Convention and the General Conference of UNESCO. A consensus was reached in 1997 that States Parties would provide, in accordance with Article 29[1] of the Convention, Periodic Reports on the application of the Convention and the state of conservation of World Heritage properties. The World Heritage Committee, at its twenty-second session held in December 1998, adopted a number of decisions with regard to the submission of Periodic Reports. The Committee agreed on the periodicity of the reporting, the contents of the reports and the manner in which it will handle States Parties reports. The Committee adopted at the same time the format for the Periodic Reporting, as well as substantive explanatory notes.

This exercise is known as Periodic Reporting for the *World Heritage Convention*. Basically it sets up a series of formats and schedules for the States Parties to use and to report back on to the World Heritage Committee.

This is a useful mechanism for the World Heritage Committee to be able to **monitor** the implementation of the Convention at national level and to find out common issues at regional level. During the Vicenza workshop, Periodic Reporting was considered as monitoring the way the States Parties are implementing the Convention at national level and how are they monitoring their World Heritage sites. Therefore it was referred to by some as **monitoring the monitoring.**

It is not the purpose of this paper to describe in detail the process of Periodic Reporting. This is well described at the World Heritage Centre url address at:
whc.unesco.org/nwhc/pages/doc/dc_f16.htm

Evaluating the monitoring effort: It is important to emphasize that one of the steps of Periodic Reporting is to evaluate the national reports that the Secretariat receives. In this aspect the site monitoring process plays an important role: States Parties that dedicate significant efforts to monitoring obtain a significant amount of findings, while States Parties that do little monitoring, obtain almost no findings. This may become confusing when the Secretariat receives the Periodic Reports. The confusion comes from the fact that the more monitoring done, the more findings reported, while the less monitoring done, the fewer the findings reported. This could lead to the conclusion that States Parties who have a poor monitoring process will report no threats to their sites and the associated conservation might appear as perfect, while States Parties that have excellent monitoring process in place report a series of threats, and therefore, the associated conservation might appear as having many problems.

It is therefore strongly recommended to include in any evaluation method the efforts involved in the monitoring process. The following formula suggests briefly how to account for the inclusion of monitoring efforts in the evaluation process:

$$\text{Monitoring compensation factor} = \frac{\text{Monitoring information collected}}{\text{Monitoring efforts}}$$

Taking into account a 'compensation factor' will enable a fair comparison between different States Parties so that those States Parties investing significant efforts in monitoring, and therefore having a large amount of findings, are not penalized against those States Parties that have a poor monitoring process.

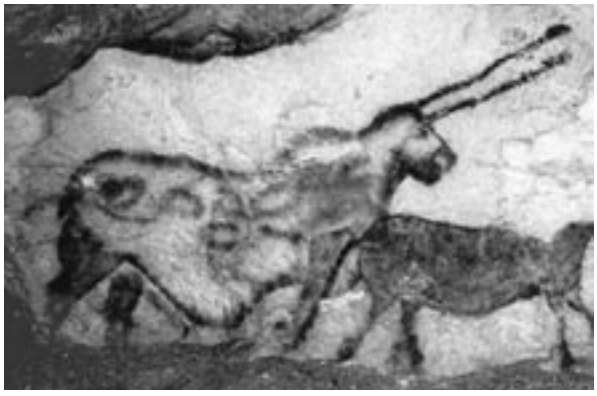
Monitoring: information management tools

As explained in this paper the process of monitoring includes an important data collection step. Tools to store all the data collected are therefore recommended, however care must be taken about the associated IT tools. We mentioned already the need to establish a proper monitoring process. Only when the process is established, can the associated IT tools be identified and acquired. Nowadays there is such a large variety of IT tools available that frequently it is common to acquire IT tools for monitoring without having an operational and structured monitoring process in place. When this is done, the result is a series of frustrations, a waste of human and financial resources, and a certain opposition of the main users to further use of IT.

One of the most common IT tools is a database where data can be stored and retrieved. We will not describe here all the possibilities for designing, developing and implementing a database. In general a 'relational database' is the perfect solution since all variables can be interrelated and the system can grow according to the needs of the user.

A special database is one that enables additionally the possibility for the user to know the location of each point where the data was collected. This type of database, including a geo-reference (positioning) attribute included, is known as a Geographical Information System.

Decorated Grottoes of the Vézère Valley, World Heritage Site



Geographical Information Systems (GIS): Geographical Information Systems (GIS) are one of the tools available to handle data. In the strictest sense, a GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, i.e. data identified according to their locations. A GIS makes it possible to link, or integrate, information that is difficult to associate through any other means. Thus, a GIS can use combinations of mapped variables to build and analyse new variables. A critical component of a GIS is its ability to produce graphics on the screen or on paper that convey the results of analysis to the people who make decisions about resources. Wall maps and other graphics can be generated, allowing the viewer to visualize and thereby

understand the results of analyses or simulations of potential events. On the walls of caves near Lascaux, France[2], Cro-Magnon hunters drew pictures of the animals they hunted 35,000 years ago.

Associated with the animal drawings are track lines and tallies thought to depict migration routes. These early records followed the two-element structure of modern geographic information systems: a graphic file linked to an attribute database. GIS is a tool for making maps. Using a computer to combine layers of detailed information on a single map so you can see what's in a site is indeed powerful. But the true power of GIS lies in analysis. GIS analysis shows you patterns, relationships, and trends in your geographic data that help you understand how the site works, make the best choice from among options, or plan for the future of the site.

GIS is such an extraordinary and useful tool that sometimes it is used when all the required data and/or expertise is not available. In other words, the tool is used not as a tool but as a replacement for the process of monitoring. The final result may be a total failure. It is therefore necessary to go through a certain preparatory process before entering into the use of GIS. A GIS system can be used from the very beginning provided that it is understood as no more than a tool. In such a case, the GIS system will enable the user to store and retrieve the site monitoring data. The use of a GIS system will assist and even force the user to set up standards for all data collection; this brings an additional benefit to the monitoring process since all data becomes available and compatible.

Monitoring: use of satellite images

Satellite images are an excellent tool to monitor changes in large natural and/or cultural sites. Recent high resolution images available on civil satellites (1m) indicates that satellite images may also be helpful to monitor medium size cultural sites. Although satellite images are a good contribution to the monitoring process, their direct use might require complex equipment and specialized expertise, not always available. In order to fulfil this gap, UNESCO launched an initiative in partnership with the International Space Agencies.

The UNESCO Open Initiative

This is an activity in support of the *World Heritage Convention*. The partnership was launched by the European Space Agency (ESA) and UNESCO, in October 2001. Known as **the Open Initiative** it is an activity to work in partnership with all international space agencies to assist developing countries in the monitoring of their World Heritage sites using space technologies. The whole programme is oriented to the provision of technical assistance to developing countries. Capacity building is the main component of this important initiative.

Today, the Open Initiative is a reality. Various organizations and institutions have joined the initiative and governments are starting to provide financial support for the implementation of the associated activities.

The European Space Agency is completely involved and committed. UNESCO is in final negotiations for developing a partnership agreement with NASA. The Comision Nacional Argentina del Espacio (CONAE) has officially asked to join the initiative, and preliminary negotiations with the Canadian Space Agency, the Indian Space Agency and the Japanese Space Agency (NASDA) are being undertaken. The Government of Belgium is sponsoring some of the activities through the Universities of Ghent and Louvain la Neuve. The International Space University (ISU) is in discussions concerning an agreement and EURISY (European International Space Year association) is working in partnership with the UNESCO/World Heritage Centre in organizing various capacity-building workshops and symposiums.

An initial project, ESA and UNESCO, carried out jointly with the Governments of Rwanda, Uganda and the Democratic Republic of Congo, is dedicated to the monitoring and assessment of the gorilla habitat in Eastern and Central Africa. This study covers the changes occurring during the last 10 years.

An initial result has now been obtained and the whole project is entering a second phase. The World Heritage sites selected for this study cover the national parks of **Parc National des Virunga** (site classified as 'in danger' located in the Democratic Republic of Congo) and **The Bwindi Impenetrable National Park** (Uganda). In order to cover the full areas of gorilla habitat in this region, the study includes additional World Heritage candidate sites: the **Parc National des Volcans** (Rwanda), and the **Mgahinga Gorilla National Park** (Uganda).

Due to the mountainous nature of the terrain, inaccessibility, and the unstable atmospheric conditions over the area which prevent the existence of good optical images, combined efforts between different space agencies and organisations working on the field are essential. The Democratic Republic of Congo offers an enormous variety of topography. Altitudes at the national park of Virunga range from sea level up to more than 5,000 m above sea level. In order to be able to produce accurate cartography, digital terrain models are being created from satellite images.

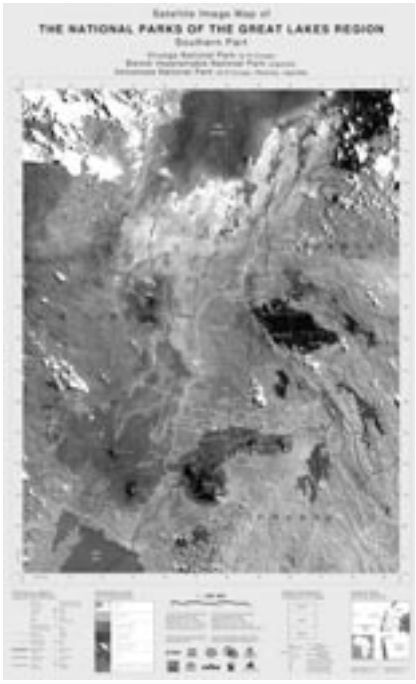
In parallel to the above-mentioned activities, and in partnership with the Government of Belgium, the UNESCO/World Heritage Centre has initiated the production of maps derived from satellite images for all World Heritage sites in the Democratic Republic of Congo.

In addition to the parks mentioned previously, the World Heritage sites of Kahuzi-Biega, Okapi and Salonga are being mapped. For the first time, the Institute Congolais de la Nature (ICCN) will have accurate maps to strengthen their conservation activities.

We are currently in negotiation with various space agencies and States Parties in order to cover additional World Heritage sites. Using the concept of 'thematic World Heritage sites' we are elaborating a project proposal to deal with all the 'tropical forest' World Heritage sites in order to monitor changes since their inscription with the objective of setting up priorities for conservation. Some States Parties and institutions/organizations have offered to work jointly with UNESCO in the monitoring of some cultural sites.

There is plenty of work to do and thanks to the strong interest in these types of partnerships, the Open Initiative is delivering its main goals of capacity building and reinforcement of World Heritage sites monitoring in developing countries.

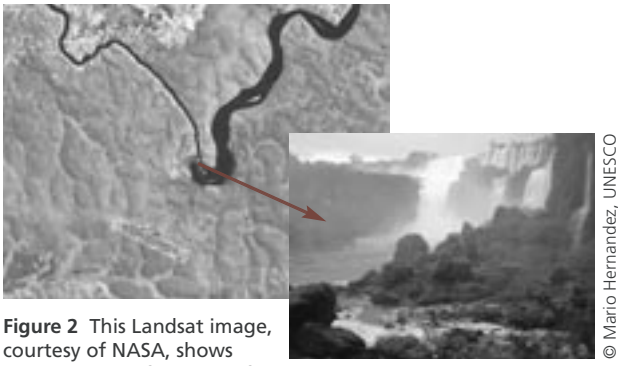
Through the Open Initiative, UNESCO is assisting developing countries in understanding the advantages and limitations of using satellite images for the monitoring of World Heritage sites. UNESCO is conscious that all monitoring work resides mainly under the responsibility of the States Parties. Therefore the Open Initiative is only an additional tool to strengthen the capacity of developing countries in monitoring World Heritage sites. Remote sensing provides 'additional layers' of information extracted from satellite images. All this information shall then be integrated into the national monitoring process.



© University of Ghent, Belgium

Figure 1 illustrates a preliminary result of a map scale 1:250,000 derived from satellite images. This work has been done in cooperation with various NGOs, the European Space Agency and the University of Ghent. **World Heritage: *Virunga National Park*** (covering an area of 790,000 ha) comprises an outstanding diversity of habitats, ranging from swamps and steppes to the snowfields of Rwenzori at an altitude of over 5,000 m, and from lava plains to the savannahs on the slopes of volcanoes. Mountain gorillas are found in the park, some 20,000 hippopotamuses live in the rivers, and birds from Siberia spend the winter there.

World Heritage site, *Iguazu:* The semicircular waterfall at the heart of this site is some 80 m high and 2,700 m in diameter and is situated on a basaltic line spanning the border between Argentina and Brazil. Made up of many cascades producing vast sprays of water, it is one of the most spectacular waterfalls in the world. The surrounding subtropical rainforest has over 2,000 species of vascular plants and is home to the typical wildlife of the region: tapirs, giant anteaters, howler monkeys, ocelots, jaguars and caymans.



© NASA, Landsat Thematic Mapper

© Mario Hernandez, UNESCO

Figure 2 This Landsat image, courtesy of NASA, shows that the beautiful Iguazu falls. Satellite images enable us to see a site in its whole context. An adequate management plan and associated monitoring has to take into consideration the necessary infrastructure to host tourists coming to the World Heritage site. The airport has been increased; new roads from the airport to the falls have been created; and the growing of the cities towards the falls can also be seen form space.

Monitoring: use of satellite images and remote sensing

This section has been elaborated based on information from the BEO (Belgian Earth Observation), a partner of the World Heritage Centre within the Open Initiative.

Remote sensing systems, when used to observe the earth's surface from satellites and aircraft, make it possible to collect and analyse information about resources and land use over areas on the earth. Geographic information systems (GIS) allow resource managers to process large volumes of geographically referenced data coming from multiple sources. All this data can then be integrated to produce maps, monitor changes in resources, or to model the impacts of site management decisions.

Remote sensing and GIS are technologies that with respect to World Heritage sites are starting to show enormous potential. A good example has been developed by English Heritage's Central Archaeological Service (CAS) who began a project to investigate the use of the concepts and technology of Geographical Information Systems and their application to managing the archaeological resources within World Heritage sites. Previous involvement with the Stonehenge Conservation and Management Project (SCMP) had highlighted the need for an effective method of data handling and manipulation for both management and research. As an output of the GIS system developed and with the use of satellite images, new archaeological areas were identified and the boundaries of the site were redefined. The GIS system is now being used as a complex tool for the conservation and management of Stonehenge.

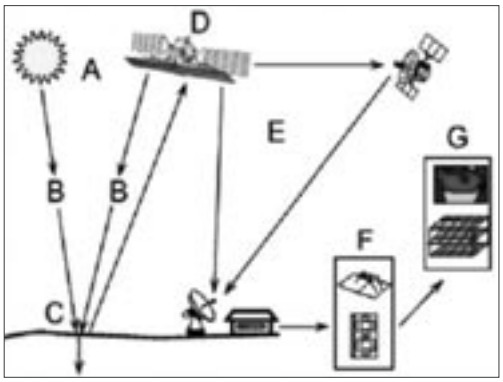
Remote sensing and GIS are complementary technologies. GIS can be used to interpret remote sensing data more accurately by integrating this data with data derived from other sources. GIS can analyse large volumes of geographically referenced data that would be overwhelming to process manually. On the other hand satellite images can help to update efficiently certain data layers in the GIS.

Remote sensing

Remote sensing is the technology that allows us to obtain information on an object, area or phenomenon by means of data coming from an apparatus which is not in physical contact with this object, area or phenomenon. In practice, this means that sensors mounted on an airplane or a satellite obtain information on the earth's surface. Most remote sensing satellites are in polar orbit, about 900 km from the earth, those providing a higher resolution are about 600 km from earth, while communication and some weather satellites are in geo-stationary orbit, about 36,000 km away from the earth.

Remote sensors record electromagnetic radiation emitted or reflected from the earth's surface (the earth acts as mirror reflecting the light of the sun received by the earth).

Figure 3 Stages of Remote Sensing



Source: Natural Resources Canada

Energy Source or Illumination (A)
Radiation and the Atmosphere (B)
Interaction with the Target (C)
Recording of Energy by the Sensor (D)
Transmission, Reception, and Processing (E)
Interpretation and Analysis (F)
Application (G)

Different types of vegetation, soils and other features emit and reflect energy differently. This characteristic, and the fact that each point of the image has a numeric value (digital images), make it possible to automatically identify different cover types on the surface. Using multi-temporal images it is possible to monitor the changes. Finally, since the images are digital they can then be re-formatted to constitute an accurate geometrical representation of the earth. In other words the creation of accurate maps is possible using satellite images.
Planet earth is actually surrounded by about 40 earth observation satellites. A large amount of satellite remote sensing data is currently available from a number of agencies.

With remote sensors it is possible to update data more frequently than with ground-based survey techniques and, in theory, to monitor changes occurring in features in near-real or "real enough" time. With frequently updated information, resource managers can monitor dynamic processes. In some places, they are enabled to make decisions about isolated and sometimes inaccessible areas (see example on the World Heritage sites in the Republic Democratic of Congo described in this paper).

In such cases, the analysis of remote sensing data is the only way to acquire the most accurate, inexpensive and timely information needed to identify and assess the status of the site.

Different types of spatial and spectral resolutions are available. Very high ground resolution is the new generation of sensors with 4 m in multispectral mode and 1 m in panchromatic mode for Ikonos and 2.8 m in multispectral mode and 0.7 m in panchromatic mode for QuickBird. These systems enable users to discriminate among a greater number of features more quickly, they enhance decision making in fields such as natural resource exploration, city planning, vegetation monitoring, detection of pollution, disaster and crisis mitigation and economic analysis. Simultaneously, research continues into new ways in which remote sensing technologies can be used to facilitate strategic planning for natural/environment and development issues.

Remote sensing offers useful data for the investigation of archaeological sites. Some were even discovered by means of remote sensing (e.g. the Lost City of Ubar revealed in 1992 on the Arabian Peninsula). Satellite images allow finding unexcavated vestiges by exploring large areas in a very short time. Only then will selected zones be further examined.

Remote sensing is clearly a useful tool for the monitoring of both cultural and natural sites. Obvious limitations appear for cultural sites where remote sensing becomes an extremely useful tool to survey and monitor the whole area surrounding the cultural site.

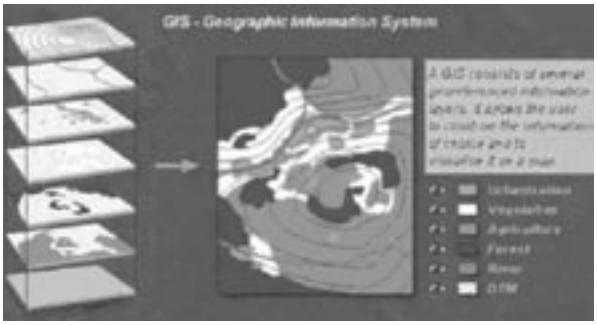
We do not pretend that satellite images can replace the monitoring process, a process that may need to detect particular threats (humidity, cracks, etc.) on the individual components of the buildings of cultural sites.

Monitoring: using remote sensing combined with GIS

A Geographical Information System (GIS) is a database that has as its main characteristic that all objects of the database have a geographical reference. Therefore all data coming from this particular database can then be displayed in the form of maps. A geographic information system (GIS) is a combination of hardware, software and procedures for storing, managing, processing and repro-

ducing spatial data with data coupled to them. The data can be obtained from ground surveys, GPS measurements and from remote sensing data.

Figure 4



© Belgian Science Policy (Belspo)

A computerised GIS allows managers to perform complex analyses by overlaying and displaying large volumes of spatial and non-spatial data. Spatial data pinpoints the location of features on the earth's surface like a river, a well, or a political district. Non-spatial data describe features such as the pH and temperature of the river at a monitoring station, the date the well was dug, or the name of the political district.

A range of GIS computer systems hardware and software is now available and the choice can be made according to:

- the type of data being analysed (which determines the sophistication of the equipment needed to enter the data);
- the amount of data to be stored (which determines the amount of storage space required);
- the type of analyses to be performed (which determine the analytical software needed);
- the kinds of maps, tables and charts that need to be created (which determine the hardware and software needed to display or print them).

Use in resource management

GIS can help managers to perform many routine and complex tasks. For example, GIS can be used to:

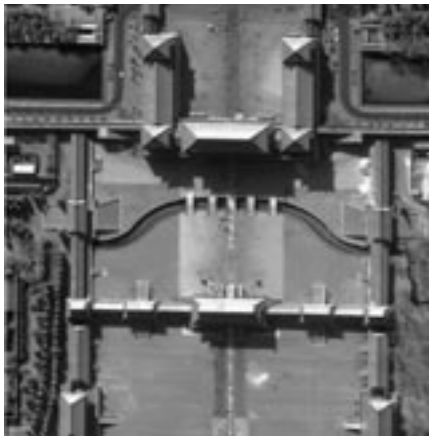
- Analyse spatial relationships: e.g. estimate the number of people living around a site floodplain;
- Identify regions that meet multiple criteria: e.g. identify areas that would be suitable for parking/shopping facilities, access routes, etc.;
- Model the impacts of policy options: e.g. illustrate the effects of a potential construction, the amount of erosion that would be likely to occur if an area were to be deforested, etc.;
- Measure and monitor dynamic processes, when used with remote sensing data: e.g. measure the growth of a city close to a site (example Cairo and the Giza pyramids) and the expansion or changes due to human settlements in sites corresponding to coastal areas, etc.;

GIS analyses are usually more cost-effective, accurate and faster than manual analyses in situations involving large amounts of diverse data, such as thematic maps, remote sensing data, statistics and texts.

The advantages of GIS and remote sensing for World Heritage Conservation are various:

- They offer a valuable tool to assist conservation activities;
- All information is exactly localised and gathered in one tool;
- Information can be continuously updated;
- Better decision making by spatial analysis;
- Possibility of direct extraction of topographic and thematic maps for terrain use.

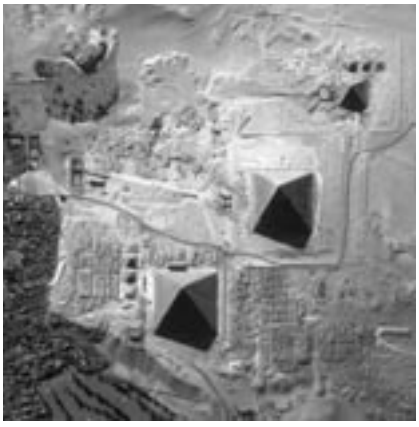
Figure 5 The 'Forbidden City' (entrance on the square on top) as seen from Quickbird.
Description: This panchromatic image of the Forbidden City in Beijing, China, was collected by QuickBird on February 11, 2002. The high level resolution of 61 cm enables the use of these types of satellite images for Cultural World Heritage sites.



© Digital Globe

World Heritage, Imperial Palace of the Ming and Qing Dynasties: Seat of supreme power for over five centuries, the Forbidden City, with its landscaped gardens and many buildings (whose nearly 10,000 rooms contain furniture and works of art), constitutes a priceless testimony to Chinese civilization during the Ming and Qing dynasties.

Figure 6 One of the pyramids of Gyza as seen from 600 km of altitude by Ikonos. Ikonos is a satellite from the new generation of satellites that provides an excellent resolution for the monitoring of cultural sites.



© Space Image

World Heritage, Memphis and its Necropolis - the Pyramid Fields from Giza to Dahshur. The capital of the Old Kingdom of Egypt has some extraordinary funerary monuments, including rock tombs, ornate mastabas, temples and pyramids. In ancient times, the site was considered one of the Seven Wonders of the World.

Figure 7 This image shows the World Heritage site of Venice as seen by the satellite Ikonos at 600 km of altitude with a resolution of 1m.

Data from Synthetic Aperture Radar (SAR) instruments (not shown in the picture) like those flown aboard the ERS spacecraft and Envisat are the basis for a technique called SAR interferometry, or InSAR for short. InSAR involves combining two or more radar images of the same ground location in such a way that very precise measurements - down to a scale of a few millimetres - can be made of any ground motion taking place between image acquisitions.

Conclusions

Satellite images are an extremely useful tool for the monitoring process, but, again, we would like to emphasize that satellite images cannot replace the monitoring process. States Parties must establish an on-going monitoring process. If such a methodology becomes operational, then satellite images can significantly facilitate and strengthen the monitoring activities.

The use of multi-temporal satellite images, that is images taken at different years and/or at different seasons, is an additional tool to better understand the changes that have occurred in the past at the site level and its surroundings. Such an understanding may enable decision makers to take precautionary measurements to stop such changes.

Satellite images have been available in the public domain since 1972. We can then consider that we have an archive of images for all World Heritage sites for the last 30 years. This time frame of 30 years is exactly the same time frame of the existence of the *World Heritage Convention*, initiated in 1972. The use of such an archive should enable us to understand the major threats that some World Heritage sites have suffered since their inscription and to encourage States Parties to strengthen their legislation and conservation policies to avoid such threats.

As described in this paper, monitoring is an activity that through a process of data collection and data analysis aims to identify potential changes occurring at certain World Heritage sites. Such a change pattern could be described as an 'indicator'. However the precise definition of indicators and their associated threats is still an area of research. This is particularly true for cultural sites. In the area of natural sites the situation is slightly better. Various environmental research studies have been able to identify and define associated environmental indicators. Figure 5 illustrates where GIS and Remote Sensing participate in the process of monitoring.

The outputs obtained from remote sensing are usually included as additional data layers in the site-conservation GIS. Therefore the two techniques are in a certain sense complementary.

To conclude we would like to emphasize what we have been saying throughout this paper, that it is most important to establish a process of monitoring; the tools to be used are a secondary aspect of the process. By no means can the tools replace the process of monitoring. Such tools can only assist in making the process more efficient and more systematic.

Experience shows also that human expertise is essential. The author has had the opportunity to survey national parks in company of the local rangers. It is amazing the extensive amount of experience and know-how that they have available. No tool can replace this enormous knowledge. Unfortunately, in many cases in developing countries, those in charge of the site have a precise knowledge of the main threats to the site. Sometimes, what is missing is not the knowledge but the means to combat such threats and/or the lack of the authorities to listen to these experienced conservation voices.

The workshop discussed the Periodic Reporting exercise of the *World Heritage Convention*. One of the recommendations to the World Heritage Committee was to set up a working group in order to take into consideration the experience of the current Periodic reports with the objective to improving the methodology and data requested for the start of the next cycle. Periodic Reporting should be an on-going process of innovation.

The UNESCO Open initiative of partnership with the International Space Agencies and universities is an activity to strengthen the monitoring of World Heritage sites in developing countries. The success of this initiative depends largely on the involvement of the States Parties wishing to benefit from this initiative. The process of selecting the satellite images and doing the associated analysis to obtain derived results is at the same time a capacity building exercise for the States Parties involved. At the end, the selected country will benefit from additional layers of information and from a good knowledge of the advantages and limitations of using satellite images. The national experts receive also a good exposure to Geographical Information Systems and their associated use for conservation.

To conclude we would like to remind the reader of some extracts of the *World Heritage Convention*:

"Noting that the cultural heritage and the natural heritage are increasingly threatened with destruction not only by the traditional causes of decay, but also by changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage or destruction,

Considering that deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world,

Considering that protection of this heritage at the national level often remains incomplete because of the scale of the resources which it requires and of the insufficient economic, scientific, and technological resources of the country where the property to be protected is situated …"

The conservation of this heritage concerns us all!

Mr. Mario Hernandez *works at the UNESCO World Heritage Centre as chief of the Information Management and Remote Sensing Unit.*

1. *World Heritage Convention* Article 29: The States Parties to this Convention shall, in the reports which they submit to the General Conference of the United Nations Educational, Scientific and Cultural Organization on dates and in a manner to be determined by it, give information on the legislative and administrative provisions which they have adopted and other action which they have taken for the application of this Convention, together with details of the experience acquired in this field.

2. The World Heritage site of the **"Decorated Grottoes of the Vézère Valley".** The Vézère valley contains 147 prehistoric sites dating from the Palaeolithic and 25 decorated caves. It is particularly interesting from an ethnological and anthropological, as well as an aesthetic point of view because of its cave paintings, especially those of the Lascaux Cave, whose discovery in 1940 was of great importance for the history of prehistoric art. The hunting scenes show some 100 animal figures, which are remarkable for their detail, rich colours and lifelike quality.

Monitoring Heritage Properties. Monitoring Heritage Values in the Environment

by Flemming Aalund, architect MAA, Ph.D.

After 30 years of operation the *World Heritage Convention* has become an important instrument for international co-operation. With the number of signatories now totalling 175, the *World Heritage Convention* is the most successful intergovernmental UNESCO agreement ever. Most importantly, the agreement has suggested that the cultural heritage belongs to all people and that all nations have a responsibility to protect and care for the natural and cultural heritage on their territory.

The World Heritage List has become an important instrument of the *World Heritage Convention*, and much effort has been invested to ensure protection of these outstanding monuments and sites as testimonies of major cultural achievements in the history of mankind. Less consideration is being paid to the stipulation that each State Party has the duty to ensure that effective and active measures are taken for the protection, conservation and presentation of heritage properties within its own territory (art. 5). Special problems relate to the preservation of cultural heritage in countries where the economic resources are limited and the basic needs of the population are a first priority, and it is worth emphasising the duty of the international community as a whole to co-operate.

The rapid change of the physical environment under the influence of globalisation is both a challenge and a threat. In this situation of unprecedented rate of change, the *World Heritage Convention* serves as an instrument to raise public awareness about heritage values as qualities in the environment and to support the national endeavours for preserving this heritage. Heritage preservation has to be integrated within physical planning objectives with special attention to preservation of the cultural and natural environment; and there is a special need of constant monitoring to avoid irreplaceable damage.

Introduction

In preparation for the workshop 'Monitoring World Heritage' I have read through the Convention concerning the Protection of the World Cultural and Natural Heritage, as well as the *Operational Guidelines* for the Implementation of the *World Heritage Convention*.

In particular, I have noted the dual obligations of each State Party to the Convention at a national and an international level. At the national level, each State Party has a duty to adopt a general policy that will ensure appropriate documentation and preservation of the cultural and natural heritage situated on its territory, as well as setting up appropriate training and encouraging research in this field (as specified under section II, article 4-6 of the Convention). International co-operation relates especially to the nomination of sites on to the World Heritage List and to the actions of the World Heritage Committee to ensure the preservation of these outstanding monuments and sites (as stipulated under section III, article 11-13).

The language generally is direct and easily comprehensible, but I have some difficulties in understanding where the Convention text refers to the heritage at large, and where it refers exclusively to cultural heritage included in the World Heritage List. For example, Article 6, para.1 and 3 refer to national duty towards cultural heritage as defined in article. 1 and 2, providing a general definition of cultural heritage, whereas paragraph 2 of this article refers especially to heritage qualified for inclusion in the World Heritage List. Furthermore, article 7 stipulates that it is the duty of the international community as a whole to co-operate, but the text appears unclear whether this duty is restricted to what is considered 'World Heritage', or whether it also includes cultural heritage properties in a broader national context.

Art.12, caught my attention: *'The fact that a property belonging to the cultural or natural heritage has not been included in either of the two lists mentioned in paragraphs 2 and 4, or Article 11 shall in no way be construed to mean that it does not have an outstanding universal value for purposes other than those resulting from inclusion in these lists'.*

In a more simple language, I believe the meaning of art. 12 is that a natural or cultural property may be of outstanding universal value, even if it is not included on the World Heritage List.

By signing the *World Heritage Convention*, a country also pledges to protect the whole of its national heritage, whether or not it is recognised as World Heritage. However, the identification of the national heritage often concentrates on the listing of monumental structures, drawing attention towards the exceptional at the expense of the ordinary. Often people are not aware of the heritage that forms part of their immediate environment. This broader view would be fostered if the perception that the *World Heritage Convention*, which appears to promote an elitist approach associated with some of the outstanding monuments included in the World Heritage List, and turned more focus on the preservation of heritage assets at large. Monitoring in this broader perspective would then include reporting on how national policies fulfil their obligations towards the preservation of heritage values in the environment, and how the national policy addresses heritage problems generally, including the protection of architectural heritage as an essential town and country planning objective.

It should be noted that the Provisional Revision of the *Operational Guidelines* for the Implementation of the *World Heritage Convention* (July 2002) does include a special Format for Periodic Reporting on the application of the *World Heritage Convention*, and the Explanatory Notes do emphasis national duties, including the need to establish national inventories and to report on the adoption of policies that aim to give the cultural and natural heritage a function in the life of the community (section 1.3). Also, Mr. Bouchenaki, in the World Heritage Bureau Report of the 26th session, para I.7, is referring to the changes decided at Cairns in the year 2000 by stating that "the laws and management regimes applied for World Heritage sites are intended to serve as models of good practice to enhance the protection of cultural and natural heritage of national and of local importance, and the current reform of the Convention enables the Committee to focus more on strategic issues to guide and reinforce implementation".

The general trend in heritage conservation during the last 30 years (simultaneously with the lifetime of the World Heritage Committee) has been characterised by a shift of focus from the conservation of the monumental heritage towards community-based local conservation. The role of the local people with their indigenous skills to save, maintain and revitalise their cultural properties is now acknowledged as a vital element of sustainable development, especially in developing countries where the feeling of cultural identity helps strengthen self-esteem in the confusion of globalisation. This gradual value change (change of paradigm) has reached an ultimate conclusion in the formulation of the UNESCO Universal Declaration on Cultural Diversity[1]. The reform of the *World Heritage Convention* should reflect these points of view and encourage greater congruence between the related Conventions and Declarations.

Assessment of heritage values in the environment

Monitoring requires a common reference, which to some extent is provided by the *Operational Guidelines* emphasising the 'test of authenticity' - with intrinsic reference to the Venice Charter concerning reconstruction - only acceptable if carried out on the basis of complete and detailed documentation on the original and to no extent on conjecture. This formulation originates from the fourth session of the World Heritage Committee meeting in Paris 1980, and does not necessarily reflect the distinct cultural differences to be found in different parts of the world. By the early 1990s, the World Heritage Centre initiated a re-examination of the changing concepts of authenticity and integrity, which concluded in the Nara Conference in 1994 and the formulation of the Nara Document on Authenticity.[2]

The present workshop on Monitoring World Heritage can be considered as a continuation of this debate, with the focus being the need to establish a common reference for monitoring of cultural assets. We have now reached a general appreciation of cultural diversity, emphasising sustainability, including a desire to avoid turning World Heritage sites into major tourist attractions exploited beyond their bearing capacity[3]. I feel that we have reached a general understanding of the concept of authenticity that bridges the perception in different cultures. With the point of departure being the Venice Charter, the treatment of historic monuments and individual buildings have a common reference. But dealing with more anonymous settlements and urban areas involves dealing with highly varying concepts of what heritage values really mean, and what constitutes the real character and feeling of a cultural environment – not to mention the impossible task of preserving the authentic values that constitute immaterial culture.

Appreciation and knowledge of the heritage assets in the environment is therefore a prerequisite to any preservation effort. Surveys and critical environmental assessments of cultural and architectural significance therefore need to define the site-specific features as they have evolved over time. The intrinsic qualities of the heritage resource include the quality of the materials, the workmanship, the design and the relation to the setting. With respect to the *World Heritage Convention*, authenticity of the heritage resource requires special attention in a society undergoing rapid change. Modern development often ignores the values of the existing ecological and traditional cultural context. Individuals may realise only a small fraction of this complexity and tend to focus on the parts rather than the whole. Local people, of course, have an intimate knowledge of their native place, where they live and work, but a professional approach is needed in order to fully comprehend and prescribe the topographical, historic and architectural features, which make up the whole character of the place. And this evaluation can best be made in dialogue, and through a multidisciplinary approach.

The delicate concept of authenticity

Ethics in restoration and preservation of built heritage will continue to be a matter of discussion. There will always be room for different interpretations of individual sites and monuments. The Venice Charter still maintains its overall authority concerning the principles of restoration, although it has been generally acknowledged that the recommendations were drafted on the basis of European traditions. Subsequent efforts, especially the Nara Conference in 1994, provided a more varied view of these principles, giving room for a different interpretation with more emphasis on the tradition of craftsmanship and the need to maintain skills and knowledge related to the old building techniques and materials. Subsequent discussions have been focusing on intangible cultural heritage values, which need to be included as a heritage resource in line with the monumental architecture previously in focus. However, the concept of authenticity is one of the major prerequisites for inclusion of monuments and sites on the World Heritage List.

From my own experience of evaluating monuments and sites, especially in the Arab World, I have found quite different views on the concept of authenticity. For several reasons the feeling of age and inherent qualities of patina in the weathered and worn original materials are not generally appreciated in the same way, as the feeling for the romantic which has grown in Europe exemplified in Ruskin's *'Stones of Venice'.*

Personally, the urge to make a watercolour sketch is a test of authenticity at a specific place. Modernised and brought to perfection, a site may be impressive in its bright new appearance, but it cannot evoke the intimate atmosphere of beauty, which can only be transmitted from an environment that has kept its authentic values in craftsmanship and materials, thereby maintaining the special feeling of the place.

© William Robinson (1870), The Wild Garden, London, reprint 1895, 1983.

The true authentic feeling, with all the added charm created by age, is illustrated in the sensitive drawings by Alfred Parson of the 'climbers' in the wild grown garden.

Degradation of the physical environment

Social degradation and erosion of city life has become a serious problem for so many modern cities, only to be increased with globalisation and by growing urbanisation throughout the world. Rapid development has led to rapid physical expansion, mainly uncontrolled; this physical development is spoiling unique cultural and visual environments. Different scenarios are followed depending on the local situation. In the large South East Asian metropolises, alignments of new highways, some of which are elevated, disregard and bisect traditional local communities and induce more roads and more development. As a result, the general environment is deteriorating, making it less attractive to live in the former agreeable surroundings, and the individual can do very little about it. Along with the disappearance of the traditional economy and way of life, the former local communities dissolve, leaving the

historic environments even more prone to physical degradation, and starting a vicious circle that will eventually destroy them.

This is not a new phenomenon, but the physical degradation has accelerated and all sorts of social problems increase. Neglect and misuse of the original fabric in combination with speculation in land and real estate values too often transform and destroy unique historic urban areas. Pollution and vehicular traffic are other factors badly affecting historic city areas. Whatever the reason, irreplaceable cultural assets are disappearing before people even become aware of what they are about to lose. And it is important to recognize that not all of these cultural heritage values are known in advance or appreciated as environmental assets that enhance the quality of life.

Jane Jacob's famous book, *"The Death and Life of Great American Cities"*[5], has produced a marked change in the debate over urban renewal and the future of cities. In the new foreword to the 1993 reprint she makes a reference to the city as an ecosystem composed of physical-economic-ethical processes. The two sorts of ecosystems – one created by nature, the other by human beings – have fundamental principles in common, both requiring much diversity to sustain themselves. This comparison is also interesting in view of the *World Heritage Convention*, which combines the aspects of natural and cultural preservation with the quest for maintaining diversity.

This holistic approach was actually understood as a virtue by one of the pioneers of physical planning, the venerated Patrick Geddes (1854-1932), who introduced the idea and use of regional survey – the stocktaking of an area before preparation of change. It is notable and thought provoking that he had completed a career as professor in botany and zoology before turning to physical planning and becoming involved in the formulation of the first British physical planning legislation in 1909. With a professional background in natural science, he perfectly understood the intimate inter-relationship between those ecological factors which sustain life[6]. He later became responsible for the formulation of a number of town plans in Scotland and overseas in which he realised his humanistic ideals. Considering the city as a living organism, his planning strategies were based on a 'diagnostic survey' and a 'conservative surgery'. Geddes invented the term 'conurbation' to highlight the process of urbanisation in industrial areas, which swallowed up the individual identity of former settlements. The common practise of 'blanket destruction' was condemned and he expressed severe criticism towards the modern town planning movement altogether, stating that, *'cities are fundamentally to be preserved and lived in; and not freely destroyed, to be driven through, and speculated upon'*[7]. Seeing the city as a whole, however, was not straightforward. Observations made in a systematic manner, combined with an artistic understanding based on cultural criteria, together made a new subject, which Geddes called 'Civic Reconstruction'. What he wanted was the preservation of the best historical traditions of the past, the involvement of the people in their own betterment, and the rediscovery of past traditions of city building which deliberately expressed the aesthetic ideals of the community.

His passionate concern for peace was closely in tune with his propaganda for civic regeneration, presented in his international Cities and Town-Planning Exhibitions. Geddes had formed the idea of a World Congress of Cities and had a vision of world development through direct contact between cities on an international basis. His idea of a Centre for the World's Cultural-Resources lead to the mounting of a World Congress of International Associations in 1910.

This contemporary international movement, which unfortunately was interrupted by the outbreak of the First World War, can be considered in many aspects a forerunner of the work now being accomplished through the implementation of the *World Heritage Convention*. The Outlook Tower' in Edinburgh was one of the means to disseminate his visions and passionate socio-biological beliefs, while helping to realise his ideas about diagnostic survey and civic regeneration. The roots of one's culture, including the heritage of the built environment, were in his opinion the vital means of achieving the potential for individual growth, and eventually to creating respect for basic human rights (cf. League of Nations 1919, The Hague Convention 1954, The Geneva Conventions and the protocols that were added to these in 1977, the *World Heritage Convention* 1972 and later, the Universal Declaration on Cultural Diversity).

Appreciation of cultural heritage in the environment: european initiatives

In a European context, the campaign for preservation of cultural heritage, initiated in 1975 by the Council of Europe, generated considerable influence on the change of policies in the States Parties. The subsequent adoption of the Amsterdam Declaration by the member states of the Council of Europe was a giant stride forward in accepting the concept of integrated area preservation of the environment. The development towards a more comprehensive view of the preservation of architectural heritage has been further promoted through the adoption of the Convention for the Protection of the Architectural Heritage of Europe (Granada 1985). The member states are committed to make proper provisions for the protection of monuments, groups of buildings and sites as stipulated in the Convention. The extensive programme of duties and obligations also includes the protection of architectural heritage as a fundamental component of local and regional planning objectives. Subsequently, the programme co-operation evolved through a number of workshops and conferences more fully addressed the social aspects of conservation and integrated them with housing and employment policies. Also, more emphasis has been put on raising awareness about heritage values

and to initiating training and educational programmes, which promote greater appreciation of heritage assets in the environment.

The Granada Convention advocates a co-ordinated approach (article 17), and the Council of Europe's technical co-operation and consultancy programme for the integrated conservation of cultural heritage has supported new member states through assistance and exchange of good practice, as well as co-ordination of legislation for new member states[8].

Survey of the architectural values in the environment

As a direct consequence of the stipulations put forward in the Granada Convention, the Danish Building Preservation Act was amended in 1979 to include more emphasis on the duties of information, documentation and guidance in preservation planning. This duty has materialised in the development of a systematic Survey of Architectural Values in the Environment (called SAVE) and the subsequent production of a large number of so-called Municipal Atlases in Denmark, which are being prepared in close co-operation with local museums and municipal authorities. They provide a description of topological, historic and architectural features following a well-established pattern of survey, evaluation and policy. In principle the methodology is rooted in Patrick Geddes ideas of 'Survey before Plan', as well as being inspired by Camillo Sitte, and more recent survey principles described by planners like Kevin Lynch and Gordon Cullen[9]. Additional to a general survey of the characteristic physical features in the environment, each individual building structure constructed before 1940 is being evaluated on the basis of a number of different criteria. The conclusive grading of the architectural, cultural and environmental values of the building is incorporated into the General Building Register, which is established as a means to administer and regulate private property in planning. The atlases also provide an overview of the characteristic features of the built and natural environment as a basis for the preparation of Local Plans and the review of the Municipal Plan every four years.

Cultural environment in planning

In order to regulate urban growth and control new infrastructure development without destroying important cultural environments, it has further been decided to include a survey of significant cultural environments in regional plans in Denmark. These surveys are carried out by staff of the Landscape Department in each county in close co-operation with local experts in each municipality. In this way, the local museums have gained a new role in contemporary society by sustaining a public debate about what heritage to preserve, and how best to maintain existing cultural elements in the environment. The new museum is not only a custodian of the past, but becoming an important stakeholder in the decision-making process. So far, each county has been free to decide on methods and priorities; the plan needs a political endorsement every four years on the basis of a public debate including public hearings. Many cultural environments have not yet been identified and systematically registered, and, consequently, this process is subject to considerable political controversy as a result of the many individual interests pertaining to land use and possible restrictions on infrastructure development. Without appreciation of the cultural environment, there is little public support or political will for legal measures or investment in conservation. Transparency and active participatory involvement have therefore become key elements of a democratic process in spatial planning.

Monitoring is then a continuous and never ending process of recording change and providing documentation and interpretation of the authentic heritage assets in the environment. In line with the physical appearance, the intangible spiritual values and belief associated with the particular site also need to be presented and respected during a period of change. This view is of special relevance due to the ethnic and religious conflicts in many parts of the world. The monitoring process also implies a democratic approach in which all stakeholders are consulted to ensure that different views are being considered and taken into account in the management of the cultural heritage.

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Monitoring the Conservation of Historical Heritage through a Participatory Process

by Sueli Ramos Schiffer

The monitoring process of natural and historical heritage is discussed in this paper as part of an integrated urban plan devised with participation of the local population. The more the locals interacting with the community know about their own history, symbolic for each particular heritage site, and broadened through a participatory monitoring program, the more the area can be effectively conserved and citizenship consciousness stimulated.

Based on the literature concerning approaches and activities related to monitoring, this paper discusses some of the main hindrances to successful implementation of a participatory process. The challenges to selecting qualified indicators that can be applied to participatory monitoring to allow an adequate assessment of projects on cultural heritage conservation are addressed, emphasizing the importance of qualitative information.

The role of training in participatory monitoring is highlighted as a key element to promoting the integration of participants and to defining common goals, an information system, means and procedures, as well as expectations concerning periodic evaluation.

Lastly, some exploratory suggestions are presented concerning participatory monitoring actions, aiming to provide key issues for a discussion of the role played by monitoring activities in improving cultural heritage conservation.

Introduction

The importance of a participatory monitoring process for the conservation of cultural and natural heritage is essential for achieving better returns from project investments for preserving historical sites. Political will and financial credit may not be enough to guarantee the success of cultural heritage conservation projects. Commitment by residents, and other members of the society, is also needed. Damage to the built-up historical environment can be prevented by instilling a sense of citizenship and by empowering the entire population through an educational and participatory process designed to foster societal awareness of the value of cultural heritage. The valuation of the society's history is also fundamental to achieving greater social cohesion and personal pride in belonging to a certain place.

Although the above argument is accepted in many reports by academic and international conservation institutions, and by the major multilateral development banks, the challenge of measuring the outcomes still remains. The long-term results from participatory policies, and the difficulty of distinguishing their geographical boundaries, represent hindrances to establishing measurable indicators to allow short-term project evaluation. Attempts to overcome these hindrances have been made by developing methodological approaches aimed at establishing criteria to design effective participatory monitoring in association with qualitative and/or quantitative indicators, as will be shown below.

Training courses are envisaged to embrace the target of improving participatory monitoring procedures by focusing on aiding the governance process concerning the conservation of the historical sites. Almost all phases of monitoring activities require training, particularly in view of the need for several different members of the civil society and public managers to agree on monitoring goals, procedures, information and data systems, and the expected evaluation results.

Attempts to indicate some possible actions to settle and/or improve participatory monitoring are suggested in this paper, in order to promote a discussion of the key issues of monitoring cultural heritage conservation activities.

Monitoring cultural heritage: a participatory approach

Cultural heritage has long been understood as the built-up environment representing a specific stage of development of a society. This environment includes not just the archaeological or old historical sites, but all those that bear the symbolism of a period. As a consequence of this approach, the monitoring of a cultural heritage assumes a broader meaning since it implies both preventing its future deterioration and promoting long-term conservation at a lower cost.

The monitoring process also has to address the changes brought about over time, adapting the cultural heritage to new demands while preserving its historical characteristics and importance. Achievement of these goals requires avid commitment and consciousness of the society regarding its historical heritage. This can be attained only through a participatory process.

The meaning of the verb "monitor" in the Oxford American Dictionary (1980: 576) is "to keep watch over, to record or test or control the working of." To Gosling and Edwards (1995), as cited in Abbot and Guijt (1998:12), monitoring is "the systematic and continuous collecting and analyzing of information about the progress of a piece of work over time, to identify strengths and weaknesses and to provide the people responsible for the work with sufficient information to make the right decisions at the right time in order to improve its quality."

According to The World Bank Report "A Framework for Empowerment," although each society ascribes a particular meaning to the word "empowerment," in its broadest sense, it "means increasing one's authority and control over the resources and decisions that affect one's life" (The World Bank, 2002a:1). Among the four elements associated with empowerment[1] , inclusion and participation are more applicable to participatory monitoring of cultural heritage conservation. One reason may be that "an empowering approach to participation treats people as co-producers, with authority and control over decisions and resources devolved to the lowest appropriate level." The report considers the inclusion of excluded groups in establishing priorities and in the decision-making process as "critical to ensure that limited public resources build on local knowledge and [...] to build commitment to change" (The World Bank, 2002a:1).

If monitoring cultural heritage is assigned exclusively to public offices, the entire civil society becomes an 'excluded group.' Accordingly, participatory monitoring could be the answer to empowering not only the directly affected population, but also all other members of the society, such as industry representatives, NGOs, heritage experts, and universities, among others. This would build a stronger and more extensive commitment to the preservation of their historical sites, and also broaden the participant's knowledge of his own past history[2].

Addressing cultural heritage, Zancheti and Jokilehto (1996: 4) claim that the activity of monitoring cannot be dissociated from that of controlling. In relation to historical sites, both activities implemented together "are designed to deal with the daily process of maintenance and change of the urban structure" and should be "founded on the intense participation of the people, as an instrument to raise the awareness level of the citizens."

Distinguishing between conventional and participatory monitoring, Valhaus and Kuby (2001: 24) understand the former as carried out by "experts at a certain point in time, measuring and assessing the progress of a project on the basis of predetermined indicators." The latter is seen as a process whereby the stakeholders play an active role in providing the information and in "preparing recommendations for changes in planning and implementation," whereas the role of the external experts is "rather, to participate in the process and to support continuing learning of the stakeholders" Valhaus and Kuby (2001: 33).

Abbot and Guijt (1998) stress that although several definitions of monitoring can be found in literature, most agree that monitoring activities aim at potential change. They emphasize that since "monitoring requires the regular assessment of a particular characteristic in order to detect change, it has to be clear what aspect of change is being assessed" (Abbot and Guijt, 1998:11).

The Institute of Development Studies (IDS, 1998: 1) goes further, arguing that, "by broadening involvement and identifying and analyzing change, a clearer picture can be gained of what is really happening on the ground. It allows people to celebrate success, and learn from failures. For those involved, it can also be a very empowering process, since it puts them in charge, helps develop skills, and shows that their views count."

A recent report from The World Bank (2002: 16), aiming at assessing monitoring and evaluation methods, also stresses that "participatory methods provide active involvement in decision-making for those with a stake in a project, program, or strategy, and generate a sense of ownership in the M and E [monitoring and evaluation] results and recommendations." Among the main advantages of using this method are the possibility of "designing more responsive and sustainable interventions," "identifying problems and trouble-shooting problems during implementation," and "providing knowledge and skills to empower poor people."

Taking cultural heritage as the object of the monitoring process, it can be argued as to what changes need to be followed up on. In addition to the regular tasks of identifying the damage that has been done to the historical heritage or natural site due to structural distress or inadequate use, another important issue to be followed up by monitoring and control activities is how to anticipate further hindrances to preserving the cultural site.

The historical town of Ouro Preto in Brazil, nominated as a UNESCO World Heritage City in 1980 for its unique legacy of Portuguese architecture during the gold extraction period up to the early 1700s, is facing neglect and degradation. The harmonious ensemble of one of the world's most important examples of Baroque architecture faces the risk of losing its UNESCO nomination due to an ongoing process of de-characterization of the historical heritage resulting from irregular occupation and its precarious sewage and water infrastructure, causing damage to the historical site (ESP, 2002: C1, C3).

The reaction to the lack of conservation of Ouro Preto's historical heritage came predominantly from the civil society responsible for creating the NGO "Amo Ouro Preto" *(I Love Ouro Preto)*, designed mainly to raise the awareness of the local population about the importance of preserving this historical heritage.

The city of Paraty, a Brazilian port city founded in the middle of the 17th century to serve the demands of sugar cane and gold exportation, and a candidate to UNESCO nomination as a World Heritage City, has been suffering similar degradation.

If participatory monitoring had been introduced long ago, most of the present degradation problems could have been avoided in both these cities.

Challenges to a participatory monitoring process

In brief, cultural heritage must overcome two main challenges before it can introduce participatory monitoring: that of organizing the work with several different groups, each with diverse interests, and that of measuring outcomes according to the initial proposals.

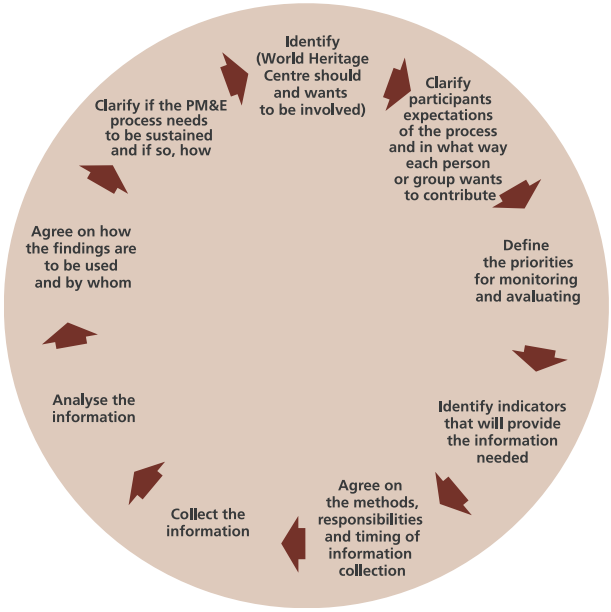
Urban heritage conservation based on participatory monitoring should involve a variety of social players besides the local population. Non-governmental organizations (NGOs) and other forms of civil society organizations must engage in dialogue with local public management and stakeholders in order to produce an agenda in which every player has his own role in an integrated project and its planning.

According to an analysis by Abbot and Guijt (1998:25) of four projects related to environmental sustainability[3] based on participatory monitoring processes, this obstacle seems quite surmountable. They determined that although each player emphasizes particular objectives, there were clear benefits perceived by the whole group. These benefits can be summarized as: "accountability to donors, enhancing participation, increasing local level capacity, and improving the sustainability of project activities."

To achieve the common benefits mentioned above, participatory monitoring activities must not only define clear targets, but must also be planned and nourished with adequate funds. The IDS Policy Briefing 12 (IDS, 1998: 2) assumes that participatory monitoring is based on four principles: participation, negotiation, learning and flexibility. In practice, all of these need to be planned in advance, and require adaptation over time, since participatory monitoring deals with uncertainties along the course of its implementation. The reason for these uncertainties appears in the first definition of 'participation' expressed in the IDS Briefing. Uncertainties are attributed to "opening up the design of the process to include those most directly affected, and agreeing to analyze data together." This requires negotiation to manage the conflicts of interest, definition of the main targets to be monitored, and decisions regarding how and when to obtain and analyze the data (IDS, 1998: 2). This entails a learning process conducted over time, which also implies some flexibility caused by the changing nature of the object monitored and by the empowerment of the players, gained from their added knowledge.

The diagram below, appearing in the IDS Policy Briefing (IDS, 1998: 3), shows one possible sequence of steps to introduce participatory monitoring, which illustrates the dimension of the challenges to be overcome by the stakeholders, civil society and public management in order to guarantee the success of this method.

Example of a sequence of steps involved in the participatory monitoring and evaluation process



Source: IDS Policy Briefing 12, 1998, p.3.

The World Bank is currently advocating that civil society "is an important actor in development" (Reuben, 2002: 1). At the same time, the Bank admits that it is facing "the challenge of improving mechanisms for tracking civil society involvement in bank-supported development operations and in national agendas for poverty reduction" (Reuben, 2002: 1). As for the Bank, conserving historical sites is one important action for poverty relief[4]. It may be considered that the forms of participation of the population in discussing and monitoring all phases of cultural heritage projects require not only a methodological approach but also a training program. This is particularly important in the Latin American countries where the inequalities in education and quality of life are so wide-ranging that stronger economic interests can easily choke the empowerment of the poor.

Fetterman (2002) developed additional insights to an empowerment evaluation approach to be applied to social issues, to the government and to foundations, among others. He emphasizes that any evaluation exists within a context and that the participants feel empowered when they are part of a process that can be associated to larger goals. He also proposes workshops to train program participants to evaluate and improve program practices.

Evaluation can be distinguished from monitoring in the sense understood by Abbot and Guijt (1998: 13). Evaluation is "ultimately about judging a situation and the merit or worth of an intervention," whereas monitoring "is about collecting information regularly that might feed into an evaluation, but it is not necessarily focused on reaching any conclusion about the overall effectiveness and direction of a programme. Monitoring focuses on assessing trends, examining differences between one moment and the next and drawing some interim conclusions."

An evaluation focusing on project outcomes within the project boundaries can cast the real effects of the project in the shadows. In the case, for instance, of a deteriorated historical site renewal that promotes a rise in the area's economic indicators, such as average income or employment rate, if these indicators are not also applied to the whole urban area, they may be measuring just the 'transfer' of problems from the renewed area to some other area.

Indicators and data are also specific to each approach. Evaluation, aiming at specifying the outcome of project implementation disassociated from those factors external to the project, normally requires more accurate indicators and surveys, preferably confronted with control groups. Participatory monitoring, as a tool designed to provide ongoing follow up of a project regarding its main targets and the integration of the local population in the implementation process, can require more sensitive data and intermediate indicators (The World Bank, 2000).

Selecting indicators for participatory monitoring aiming at empowering the intended population is one of the greatest challenges to be dealt with together by all the players. The selection process starts by standardizing the different levels of information and expectations among the players, and by determining the main purpose of the monitoring activity, as emphasized by Stovel (2002).

The suggestion offered by MacGillivray and Zadek (1995), as cited in Abbot and Guijt (1998:41), seems reasonable, that is, accepting as worthy indicators those that "will communicate information that is not only accurate, but also resonant for the intended audience. A good indicator is one that achieves a judicious balance between accuracy and resonance." In addition, Abbot and Guijt (1998:30) highlighted the example offered in Alexandra et al (1996), which used the Geographic Information System (GIS) to combine community-generated information with other databases providing customized data and digital maps to assist in planning.

Abbot and Guijt (1998:42) also present the five criteria adopted by the Sustainable Seattle Report (1995) to qualify good indicators of effective participatory monitoring:

- Promote sustainability – to reflect the long-term issue of a community over the course of generations;
- Gain acceptance by the community – to be locally understood;
- Be attractive to the local media – to allow the press to publicize and analyze community trends;
- Be statically measurable – to allow comparison with other similar contexts;
- Be logically or scientifically defensible – to facilitate general conclusions.

Furthermore, an adequate extent and scope of indicators can contribute to empowering those involved, as expressed in the World Conservation Monitoring Centre (1998: 15), by "providing a range of opinions on which to base a decision; discouraging options with predictably adverse consequences; and adding to a common set of agreed facts on which to base discussion." The specific indicators suitable to monitoring a particular cultural or natural heritage must be decided on by the working group, basing itself on the material and management conditions and on the connection of the historical heritage to an integrated urban plan for the whole area in which the historical site is located.

Suggestions for participatory monitoring actions

The list of exploratory suggestions presented below aims at proposing a participatory monitoring of cultural and natural heritage as a continuous process which is able to converge pro-active actions and the enhancement of the social commitment to the conservation of their heritage.

- The creation of a Public Hearing Office in charge of registering complaints by daily users and the local population regarding the conservation of the cultural heritage, and also for referring them to the responsible offices to propose solutions.

- The regular registration of complaints and requests for advice makes it possible to create a monitoring system by civil society that can advise on changes in both conservation and renewal projects over time. Furthermore, the ability to detect the main hindrances to conserving a specific historical site makes it possible to gain the knowledge needed to design the best advocacy campaigns.

- The creation of a Public Advice Office to address local problems related to legislation, to adequate use or to architectural damage, can avoid future risks to historical sites. This office, installed within the historical site, may include volunteers, college and graduate students in related fields of knowledge, as well as regularly employed members of the local population and other daily users.

- Getting students (high-school and college) involved in the monitoring surveys or in any stage of the monitoring and control process according to a long-term policy designed to avoiding future degradation or damage to the historical sites. They will be taught the importance of living in a city that has historical value and be helping to conserve it. Conservation will eventually become part of their lives, and, as proposed by Rojas and Castro (1999), will prompt a change in their awareness toward the importance of cultural heritage as a factor of social cohesion. This argument is also recognized by UNESCO within its Youth Programme, especially regarding voluntary services, which are considered as "chances for young people to exercise their citizenship by working together and with others in order to contribute to human development at local, national and international level" (UNESCO, 2003:1). Among the Ontario Heritage Foundation's experiences in monitoring cultural heritages, as related by Elliot (1995), students had an important role in the elaboration of routine reports.

- Participatory monitoring in cultural heritage projects should also include advocating projects, especially in developing countries where history is not well known or respected. Educational TV and radio programs, literature for children, and the promotion of cultural events with great exposure in the media, can spread the knowledge about the history of a society, aid in identifying the built-up landmarks of each period, and promote respect for them.

- Training centres should be designed to focus on training technical workers in the area to be preserved, on improving the know-how of professionals working in restoration, and on producing inventories, norms and handbooks to give support to the management and strategic planning of cultural heritage conservation. This is, in fact, a real demand expressed by the Brazilian Office for Cultural Heritage Conservation – IPHAN (Taddei, 2000).

- In addition to the work being undertaken by those related to implementing specific projects, training is also needed to introduce methodology and procedures to help the participants of a monitoring project to define the goals to be achieved and the means to acquire better results in conserving the local cultural heritage.

- In a informal meeting organized recently by the architects belonging to ASBEA (Association of Brazilian Architect Offices) and by the new municipal manager responsible for revitalizing the historical centre of São Paulo[5], it was suggested that a non-profit private association could be created in partnership with the municipal government to address renewal of this historical centre. For this purpose, small offices located in different places of the city, in addition to the centre itself, would be set up. This suggestion was intended to reinforce the fact that the historical centre of a metropolitan area such as São Paulo, with over 17 million inhabitants, belongs to the whole community, and not just to the residents or daily visitors of the area.

The suggestions pointed at are far from covering the whole challenging scope of an effective and sustainable pro-active monitoring of the cultural and natural heritage. As expressed by Stovel (1995: 17) regarding the continuing challenge to achieve more successful monitoring "much has been accomplished, but much remains to be addressed before it will be possible to say that fully effective policies and procedures for monitoring the state of conservation of World Heritage sites are in place." This statement is especially important if the continuous change of use requirements of historical buildings or natural sites are taken into account.

Conclusions

Among the main goals of monitoring cultural heritage, the most relevant can be summarized as: preventing future deterioration of cultural heritage and promoting long-term conservation at a lower cost, and addressing the changes brought about over time, adapting the cultural heritage to new demands while preserving its historical characteristics and importance.

The conservation of historical sites, whether they are built heritage or natural sites, can be better achieved if a greater commitment by the local population can be added to the monitoring process. To introduce a monitoring process where the stakeholders play an active role, together with local residents and the governmental staff, in preparing recommendations for changes in planning and implementation of projects aiming at conservation of cultural heritage, leads to a greater social cohesion, and, at the same time, improves the sustainability of the cultural heritage.

An integrated training program aiming at coordinating the major players involved in conserving heritage assets also helps the participants to define a consistent set of indicators that will provide information that will allow the long-term feasibility of project solutions. The participation of external experts in these training programs should focus on enhancing the knowledge of local professionals working in restoration, and the support to the public management of cultural heritage sites.

In practice, there are few cities in developing countries that can provide such integrated and efficient management for participatory monitoring. The lack of specific know-how and of effective attempts to introduce innovative actions to ensure and broaden social participation, constitute hindrances to achieving the required efficiency in terms of developing integrated urban planning in which cultural heritage conservation is of prime importance.

Finally, exploratory suggestions were presented aiming at achieving one of the central objectives of a participatory monitoring, that is to say, to build a stronger and more extensive commitment to the preservation of historical sites by involving diverse members of the society through an educational process designed to foster societal awareness of the value of cultural heritage. The core of the propositions was the creation of Public Hearing and Advice Offices located in the historical sites to develop pro-active actions, together with the local population and volunteers –including students–, to address natural and heritage conservation problems related to legislation, to adequate use, to architectural damage or restructuring need, to prevent future risks to the historical sites.

Nonetheless, if participatory monitoring of cultural heritage is in fact achieved, social cohesion will surely be achieved, and a sense of personal pride in belonging to a place can be instilled in the whole population of the historical site. This important outcome of historical urban

heritage conservation can be summarized in the words of Segre (1991:289): "The city is part of a live history. [The city] knows how to transmit a density of emotions that cannot be found in a movie, in a video or in a book. For that reason, the city must conserve its past, but at the same time revitalize it, make it understandable via new expressive terms or through new functions." There is a history lived and a history learned. It is not the same thing to read the history in a book and to see with one's own eyes the places, the landscape, the streets and the houses where the most important facts of a society took place.

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1. These are access to information, inclusion and participation, accountability, and local organizational capabilities.

2. The participation of the affected population is sometimes the only means of developing a survey, as informed by Schor and Artes (2001) regarding the "First Census of the Homeless in São Paulo," which had the indispensable help of homeless people.

3. One of these projects is developed by a NGO in northeastern Brazil, the country's poorest farming area, designed to enhance agricultural productivity and sustainability on behalf of lower income farmers. (IIEAD/AS-PTA/STR-Remigio/STR-Solanea (1996) Monitoramento participativo da agricultura sustentável: Relatório do Primeiro Encontro em Paraíba. IIED, London and AS-PTA, Solânea).

4. See Schiffer (2001) "Notes on Cultural Heritage and Poverty Relief" ICCROM, Rome. (Working Paper).

5. The municipality of São Paulo has an office called 'Pro-Centro', designed to revitalize the historical center of the city, which has been under the presidency of the Architect Nadia Somekh since early 2002.

6

Conclusions

Summary of final discussion – Vicenza Monitoring Workshop

by Marc Hockings

Plenary discussions

Following the six thematic sessions of the workshop (Advisory Body and Committee views, World Heritage monitoring and Periodic Reporting experiences, Monitoring Frameworks/Design of Monitoring Systems, Practical Experiences in Monitoring, Monitoring Technologies and Tools, Monitoring Issues and Principles), the concluding plenary focused on identifying conclusions and key outcomes from the workshop discussions, and developing proposals for follow-up action. The workshop participants noted that this meeting had brought together experts from both natural and cultural heritage backgrounds to discuss monitoring within a World Heritage context. The *World Heritage Convention* provides a valuable mechanism for such meetings of technical experts from across natural and cultural fields that would be otherwise unlikely to occur. In the course of the workshop discussions, participants noted many commonalities between monitoring issues across these fields and the potential for experts on both sides to learn from experiences of others. A number of differences were also noted (for example, monitoring in World Heritage cities with their complex mix of individually owned properties and governance systems poses unique challenges for development of monitoring and assessment systems). The diversity of experiences presented at the workshop highlighted the need to be aware of, and allow for, the cultural contexts and diversity (both natural and cultural) within which monitoring takes place.

The plenary session of the workshop focused on two primary topics:

- **monitoring processes as they apply to World Heritage sites;**
- **the linkage between monitoring and periodic reporting.**

The agreed conclusions of the workshop in relation to each of these topics are set out below. Comments on the conclusions to amplify the discussion that led to these findings are given, where necessary, in supporting text boxes below each conclusion.

Monitoring processes

Monitoring is the critical step within management processes at site level by which information is gained that is needed by responsible authorities and others stakeholders to enable them to evaluate the effectiveness of efforts to achieve their objectives, and to prompt, modify or adapt management processes and actions.

Monitoring effectiveness would be strengthened by giving attention to:

1. Supporting initiatives to develop and test relevant methodological frameworks for those involved in monitoring at site levels, including:

- development of a monitoring glossary which clarifies distinctions between monitoring, observation, assessment, evaluation, reporting etc. in major international languages;

> *A Definitions Working Group was established to begin work on developing such a glossary. The preliminary outputs from this group are included as an appendix to these proceedings. Work on a glossary will continue in partnership with others interested in conservation monitoring and evaluation with the objective of producing an agreed glossary before the end of 2003.*

- support for systematic frameworks that are developing and testing monitoring methodologies and building stronger linkages between these projects and World Heritage processes;

- develop and support a process to test the Monitoring Reference Manual for Cultural Heritage;[1]

> *Testing of this Manual will involve participation by relevant experts from ICCROM and ICOMOS, States Parties, site managers and other in-country and international experts. The* Enhancing our Heritage *project for natural World Heritage sites provides one model for how such testing could be carried out.*

- examine and reinforce commonalities and resolve differences within and between monitoring approaches in cultural and natural sites, and the evaluation frameworks developed for cultural and natural heritage;

> *This examination and discussion will require on-going dialogue between the various Advisory Bodies and with World Heritage Centre staff and the World Heritage Committee.*

- identification of principles and examples of best practices in order to guide development of appropriate monitoring and assessment systems;

This issue is being addressed in relation to monitoring and assessment of conservation of areas of natural significance (protected areas according to IUCN designations) through the IUCN World Commission on Protected Areas. This will be the subject of a workshop at the 2003 World Parks Congress. The outputs of the Vicenza monitoring workshop will be made available to participants in this Congress and, in turn, the outputs of the WPC deliberations will be provided to the World Heritage Centre, ICCROM and ICOMOS.

- within agreed principles of good practice, promoting recognition of the diversity of approaches to conservation and management in various regional and cultural contexts, and the need therefore to ensure that monitoring and assessment frameworks and methodologies respect this diversity.

This is a consequence of the conclusion of the participants that "one size does not fit all" and that monitoring and assessment systems should be adapted to suit local and regional circumstances, rather than attempting to promote a fully standardised approach to monitoring and assessment. The most important consideration is that the information from monitoring and assessment should be in a form that can be used by managers to adapt and improve site management, with cross-site and cross-regional consistency being a secondary consideration.

2. The need to recognize the critical prerequisites for establishing effective monitoring and assessment systems, including:

- the importance of defining and documenting World Heritage values and management objectives as a basis for design and content of monitoring systems;

In this process the linkage between values and management objectives should also be made explicit. The special status of sites as World Heritage properties means that the values for which they were recognised should be afforded recognition in the management objectives of the site. Monitoring of the status of these values should then form a central part of the assessment program.

- definition of reliable baselines for monitoring, clarifying how these baselines should be determined (allowing for the history, dynamics and context of the site), and what impact the choice of baselines has on monitoring programmes, and the analysis and interpretation of data;

A potential problem with monitoring is that the baselines against which changes of condition are measured may not represent the original or desirable condition of the resources. This problem may be compounded if monitoring programs are regularly changed, and new baselines established, reflecting a slowly shifting and generally deteriorating baseline.

- integrating concern for protecting all values recognized locally with those recognized through World Heritage inscription as a basis for management and monitoring;

It is recognised that many World Heritage sites are protected and managed for other values and objectives apart from the particular values that led to the World Heritage designation. The design and implementation of monitoring and evaluation systems should be holistic and take account of all management values and objectives.

- the importance of clarifying the relation of attributes to values (outstanding universal value as recognised in the *World Heritage Convention*) as a tangible reference for management and monitoring;

The nomination documents and Advisory Body assessments that are prepared during the listing process for World Heritage sites often describe site values in ways that are sufficient to identify whether the site is of outstanding universal value, but are not sufficiently detailed to provide a basis for monitoring the condition of those values. Further detailing of the site attributes that reflect or underpin the outstanding universal value of the site can be an important first step in the design of a monitoring and evaluation plan.

- recognising the need to focus monitoring and assessment on a limited set of key (headline) indicators;

Resources available for monitoring are likely to be always limited and hence monitoring and assessment efforts should be focused on the most important values and objectives for the site. In most cases, only one or two indicators will be able to be assessed in relation to each value or objective. The selection of the most meaningful and practical indicators is therefore important.

- the need to make explicit the assumptions which underlie the design of monitoring systems and the selection of objectives and indicators;

This recognises the fact that selection of indicators is an imprecise science, involving trade-offs between practicality, cost and precision. Making the assumptions underlying the selection of indicators explicit will assist in selection of the most valid, cost-effective and useful indicators.

- encouraging collaboration between external experts acting as facilitators, and internal experts, stakeholders and managers in carrying out both reactive and systematic monitoring;

- making appropriate provision for participation by relevant sectors, organisations and individuals using appropriate mechanisms for this participation;

Participation by relevant groups and individuals is recognised as an important prerequisite to effective evaluation. This includes not only relevant stakeholders, but also making sure that people with the right disciplinary expertise participate in the monitoring and assessment.

- recognition that monitoring is an on-going activity and therefore needs attention to provision of on-going training and funding, and documentation of monitoring methods and processes used;

Too often, monitoring has been initiated at sites but has not been maintained because of lack of long-term funding or changing site management priorities. In many instances, monitoring provides the most useful information for assessment when trend data are available over extended periods of time. Lack of adequate documentation of monitoring methods can make maintenance of programs and analysis and interpretation of data difficult, especially when staff responsible for the program design have moved on and are no longer involved in the program.

- importance of using appropriate technologies in the monitoring process;

Many different technologies are available for monitoring and it is important that the most appropriate monitoring tools are applied, taking account of the needs, resources and capacities of the site and its staff. In many cases, simple and inexpensive monitoring techniques will be both sufficient to meet the needs of the assessment and sustainable in the longer term. On the other hand, modern technologies such as remote sensing, using satellites, can offer cost-effective collection of data of great value to assessment systems. In all cases, non-destructive data collection techniques are to be preferred.

- providing managers with access to information from outside sources that is relevant to their properties.

Information from all available sources should be used as part of the assessment process. If the monitoring and assessment process is designed in an open and transparent manner, inclusion of information from a variety of sources will be facilitated.

3. The need to recognize the critical prerequisites for establishing sustainable monitoring systems

- building institutional commitment and a supportive institutional culture;

Institutional commitment to monitoring and assessment will be enhanced if the managing institution feels ownership of the process, rather than regarding it as an outside imposition derived from the need to meet some external reporting requirement. Mainstreaming monitoring within management systems and funding mechanisms will also enhance sustainability.

- building capacity (training) in monitoring at all levels;

Training opportunities in monitoring and assessment within the heritage and conservation sector are currently limited. Training capacity will need to be significantly enhanced if the needs of managers and other participants in the monitoring process are to be met.

- the importance of working through networks, partnerships and teams and providing opportunities for broad participation by all stakeholders and communities.

Experience demonstrates that broad participation by a wide variety of stakeholders enhances both the credibility of assessments and the long-term sustainability of monitoring systems.

4. Exploring the following issues

- contribution of qualitative and quantitative data, to the assessment process;

Existing monitoring and assessment systems use either qualitative or quantitative data, but systems which use both data types are less common. Further examination and documentation of the strengths and weaknesses of both types of monitoring data, and the way in which they can be used in a complementary fashion, would strengthen monitoring design and practice.

- strengthen credibility of assessment while respecting State Party responsibility;

Further research into the benefits of cooperative involvement of managers and external participants in monitoring and evaluation processes would assist States Parties in establishing effective monitoring systems, and may help address concerns about loss of responsibility or control. This information would also assist all participants in understanding their own roles and responsibilities with this process.

- dealing with complexity and indeterminacy;

Complexity and lack of determinacy within heritage management systems poses particular problems for the design of monitoring and evaluation systems. Further work is needed to develop the capacity to successfully address these issues.

- documenting expectations and uncertainties in monitoring systems;

It is important to recognise the biases and limitations of monitoring systems so that unrealistic expectations or false assumptions are not applied to the data that they generate. These aspects of the design of monitoring systems have been given relatively little attention in monitoring and evaluation reports.

- potential to analyse existing State of Conservation reports to identify common issues and threats;

The existing State of Conservation reports prepared for the World Heritage Committee represent a potentially useful source of data for regional and/or global analysis to identify issues and threats operating across many properties. The identification of these common issues would be the first step in formulating integrated regional or global responses to these challenges.

- harmonising reporting requirements between Conventions

Many sites fall within the reporting requirements of more than one Convention. Relevant conventions include the Convention on Biological Diversity and the Ramsar Convention. Harmonising reporting requirements will assist sites in developing integrated monitoring and reporting systems and will minimise confusions and overlap between work at the site level.

Periodic reporting

The Periodic Reporting Process is an important means for the World Heritage Committee to collect information on efforts to improve implementation of the *World Heritage Convention* at State and site levels, and to maximise its utility for States Parties. The process would benefit from:

- an explicit recognition that monitoring should underpin the Periodic Reporting process;

The quality of information included in periodic reports will improve if it is derived from long-term monitoring programs rather than assessments undertaken when the periodic report is being prepared. In addition, long-term monitoring is more likely to provide site managers with information that they can use to adapt and improve site management.

- giving priority to improving monitoring capacity and activity at site and national level, in order to increase the quality and utility of information;

- recognising the link between monitoring and Periodic Reporting by strengthening the links and feedback strategies between on-going site management and monitoring and the periodic reporting process, and using synthesised forms of communication to summarise monitoring results in Periodic Reports (e.g. a Periodic Report matrix).

Many World Heritage sites will have a number of monitoring programs in place that can be used to inform Periodic Reports. The development of a matrix to summarise the results of monitoring within Periodic Reports would aid communication. This matrix reporting format could show the relationship between key site values, monitoring programs and results, and consequent management actions.

Practical steps towards implementing conclusions

In order to carry the ideas expressed above toward implementation, participants proposed the following practical steps:

Policy concerns:

- Integrating many of the technical recommendations coming from the meeting within the on-going process of revision of the *Operational Guidelines*.

- Exploring alternative means of communicating site level Periodic Reports to increase understanding and utility of information presented (for example, in a matrix format).

- A working group was established to review definitions and terminology in order to quickly develop a consensus which could be presented and reviewed in forthcoming natural and cultural heritage forums, including the March 2003 review of the *Operational Guidelines*.

Operational concerns:

- A proposal was made to establish a thematic, on-line network for World Heritage monitoring in order to exchange experiences, and to create an accessible knowledge management system driven by the interests of stakeholders. One of the meeting participants has offered to support the initial stage of network development.

- Training courses and activities concerning monitoring (with field components) should be designed and implemented involving regional scientific partners and potential donors.

- The Secretariat of the Convention, in the context of the design of regional programmes, should focus on monitoring selected sites for an adequate period of time, and with adequate resources, in order to acquire the necessary data for an informed decision-making process by the Committee.

- The Secretariat might also consider reviewing past reactive monitoring mission reports in order to identify the most effective approach to this form of assessment.

- Manuals on monitoring and assessment currently being developed should provide in a user-friendly way examples of best practices to guide site managers through the documenting and monitoring processes.

- The feasibility of extending the "Enhancing Our Heritage" project (currently being implemented by IUCN and UNESCO in ten natural World Heritage sites) to cultural heritage monitoring should be explored.

1. ICCROM 2001. Draft Monitoring Reference Manual: Monitoring for management and conservation of World Heritage properties.

Annexes

Workshop Programme

Programme

Monday November 11, 2002

09:00 – 10:00 **Arrival and Registration**

10:00 – 10:45 **Welcome speeches**

Mario Bagnara, Assessore, Vicenza
Fatima Terzo, Banca IntesaBci
Nicholas Stanley Price, ICCROM
Giovanni Boccardi, World Heritage Centre
Regina Durighello , ICOMOS
Marc Hockings, IUCN

10:45 – 11:00 **Introduction to the workshop** (Herb Stovel, Marc Hockings)

11:00 – 11:30 *Coffee break*

11:30 – 13:00 **Session 1 – Advisory Bodies and World Heritage Committee**

Chair: Marc Hockings
Recorder: Sue Stolton

- Herb Stovel, Heritage Settlements Unit Director, ICCROM – *"An Advisory Body view of the development of monitoring for World Cultural Heritage"*
- Regina Durighello, Director World Heritage programme, ICOMOS – *"Monitoring the state of conservation of world heritage properties – Operational aspects"*
- Marc Hockings, Senior Lecturer, School of Natural and Rural Systems Management, University of Queensland, Australia – *"The WCPA Management Effectiveness Evaluation Framework – a basis for developing monitoring and evaluation programs to assess management of protected areas"*
- Benedicte Selfslagh, Rapporteur, World Heritage Committee, Belgium – *"A view from the World Heritage Committee"*

Discussion

13:00 – 14:30 *Lunch/Press conference*

14:30 – 16:00 **Session 2 – World Heritage Monitoring and Periodic Reporting Experiences**

Chair: Herb Stovel
Recorder: Gamini Wijesuriya

- Herman van Hooff, UNESCO office, Montevideo, Uruguay – *"Monitoring and reporting in the Context of the World Heritage Convention and its Application in Latin America and the Caribbean"*
- Giovanni Boccardi, Programme Specialist, World Heritage Centre – *"Improving Monitoring for World Heritage Conservation"*
- Elizabeth Wangari, Senior Programme Specialist, World Heritage Centre – *"Lessons learned from the periodic reporting process in Africa"*
- Patricia Green, ICOMOS, Jamaica – *"Monitoring Natural and Cultural Heritage: A Way Forward in the Caribbean"*

Discussion

16:00 – 16:30 Coffee break

16:30 – 18:00 **Session 3 – Monitoring Frameworks/design of monitoring systems**

Chair: Marc Hockings
Recorder: Christopher Pound

- Bruce Mapstone, CRC Reef Research Centre, James Cook University, Australia – *"The Importance of Clear Objectives for Monitoring World Heritage Area Sites"*
- Mona Serageldin, Adjunct Professor of Urban Planning, Harvard University, U.S.A. – *"Preservation Strategies and Processes of Change in Historic Centres. The Challenges and benefits of monitoring – A case study of Fez, Morocco"*
- Sue Stolton, Equilibrium Consultants, U.K. – *"Assessing Management Effectiveness of Natural World Heritage Sites"*
- Christopher Pound, Consultant Architect, ICOMOS, U.K. – *"Monitoring World Heritage Sites"*

Discussion

Tuesday November 12, 2002

9:00 – 11:00 **Session 4 – Practical Experiences in Monitoring**

Chair: Herb Stovel
Recorder: Herman van Hooff

- Gamini Wijesuriya, ICOMOS, New Zealand – *"Think locally, act globally – Role of monitoring and its application at national levels"*
- Jon Day, Great Barrier Reef Marine Park Authority, Australia – *"Monitoring and Reporting in Natural World Heritage Areas – A World Heritage Manager's Perspective"*
- Mireya Muñoz, ICOMOS, Bolivia – *"Monitoring of Andean Cultural Heritage Sites"*
- Jorge Rivas, Coordinator, Sangay Project, Fundación Natura, Ecuador – *"Experience of undertaking management effectiveness, monitoring and reporting in Sangay National Park (Ecuador) and the role of the EoH project, experience to date"*

Discussion

11:00 – 11:30 *Coffee break*

11:30 – 13:00 **Session 5 – Monitoring Technologies and Tools**

Chair: Marc Hockings
Recorder: Jon Day

- Paulius Kulikauskas, Head, International Projects, Research and Development, Byfornyelse, Denmark - *"Computerised Heritage Information Systems and Monitoring the Complexity of Change"*
- Yukio Nishimura, Professor Urban Design and Urban Conservation, University of Tokyo, Japan – *"Impact Assessment of the Highway Underpass Project in the Ancient Nara Palace, World Heritage Site"*
- Mario Hernandez, World Heritage Centre – *"Surveillance of Gorilla Habitat (Sogha) Using Space Technologies"*
- Fleming Aalund, ICOMOS, Denmark *"Monitoring Heritage Properties"*
- Sueli Schiffer, Professor, Universidade de Sao Paulo, Brazil – *"Monitoring the conservation of historical heritage as an empowerment process of social cohesion"*

Discussion

13:15 – 15:15 *Lunch/Tour of Palazzo Montanari*

15:15 – 16:30 **Session 6**

Chair: Herb Stovel

Discussions

16:30 – 17:00 *Coffee break*

17:00 – 18:00 **Concluding Session**

Chair: Giovanni Boccardi

20:00 Dinner hosted by the Comune of Vicenza

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Summary of Workshop Discussions

Summary of sessions on November 11, 2002

Session One

1. Who participates?
   - Role of Advisory Bodies, World Heritage Centre
   - Who initiates?
   - Communities/stakeholders
     Different when cities are being discussed
2. Need to bring together frameworks for natural and cultural heritage?
3. Trends and directions from World Heritage Centre
   How can we use processes in place already in World Heritage to advance monitoring?
4. Monitoring and reporting • differences
   • links
5. Importance of developing monitoring systems/adaptability/fit of indicators
   ↑ compatibility
6. Simplicity/reality/relevance
7. Values
   - attributes – specificity
   - link to monitoring – changing perceptions

Session two

1. Distinguish between monitoring and reporting
   ↓ (monitoring the monitoring)
2. Gap between expectations of periodic reporting process and reality
   field emphasis
3. Proactive vs. demand-led
4. Need to support periodic reporting process
   - training
   - increase "ownership" (overcome fear)
   - feedback
5. Harmonize reporting under Convention
6. Monitoring and maintenance
   - local implementation
7. Responding to evolving definition of cultural heritage/natural heritage
   → intangible
   → reflect own culture
8. Moving from "principles" to collaboration/cooperation
9. Who defines base-line?

Session three

1. Can Natural Heritage Monitoring systems be applied to cultural heritage?
2. Can quantitative systems of assessment be applied equally to CH/NH?
3. Management systems integrating concern for all values (World Heritage and others)
4. Stakeholders' have different objectives – sometimes in compatible
5. Monitoring should promote proactive responses, as a means of building cooperation and necessary support
6. Monitoring process needs to be linked to local needs
7. Multi-disciplinarity

8. Institutionalise monitoring at local level after initial monitoring projects
9. Focus on real achievable goals (don't over-complicate)
10. Distinguish between needs at site level, needs for *World Heritage Convention*?
    - What is link between local level and World Heritage?
    - Critical distinction is between reporting or monitoring (communication level)
11. Quantitative/qualitative
12. Building partnerships, teams for management, assessment and monitoring
13. Need to make assumptions explicit
    - facts/assumptions/perceptions
14. To what degree can analysis at local/for World Heritage coverage?

Summary of sessions on November 12, 2002

1. Computerized Management systems
    - not enough just to have information
    - need to work with those who will use MIS
    - can't equate qualitative approaches with MIS
2. Nara
    - differences between simulation approach and evaluation of cultural value
    - critical role of public involvement
    - conflicts between cultural heritage and development, therefore UNESCO to discuss with funding bodies
3. Space Technologies
    - useful for products (e.g. maps)
    - useful for monitoring – assist in detecting change
    - higher levels of monitoring → higher levels of issues
4. Monitoring Heritage Properties
    Article 12
    - OUV wider interpretation by State Parties
    - need to clarify by UNESCO as different interp. by
5. Sueli
    - selecting suitable indicators
    - benefits of participatory monitoring
    - may be more expensive but long-term benefits
    - issue of whose objectives applied?
6. Clearly define terminology: Monitoring, evaluation, assessment, reporting – Glossary
7. Select key indicators, monitoring should contribute to assessment
8. Periodic reporting format: use of matrix
9. World Heritage/committees/offices on National level. (inter-ministerial)
10. Follow-up to reactive monitoring and periodic reports
11. World Heritage as a vehicle!
12. World Heritage and development tourism identity

Links points 3, 9, 11

One size doesn't fit all.

1. Diversity in monitoring and management-organisational culture → applicability
2. Participation of trained staff in decision-making
3. External participation in monitoring and assessments as facilitator
4. Participation of NGOs, universities in management processes
5. Credibility of assessment and reports

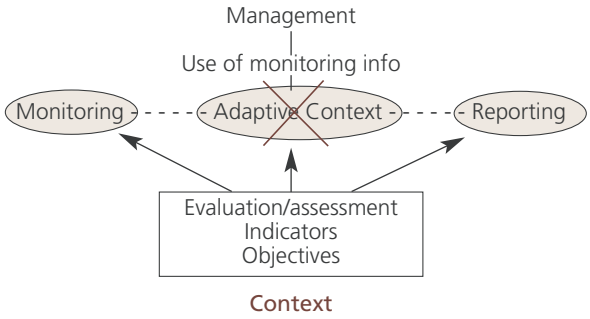
- Recognizing complexity – need different approaches
- Cost-effectiveness
- Training and documenting process – so on-going effective monitoring
- Glossary
    - useful
    - differences cultural/natural
    - issue of translating into different languages !

(Second set of sheets)

A. Monitoring

- reference frameworks
- prerequisites for effective monitoring
- prerequisites for sustainable monitoring
- issues

B. Periodic reporting



- Reconfirms that monitoring is an essential part of World Heritage Site management
- and monitoring requires significant commitment of resources, time – up front costs/more then balanced by long-term benefits
- Specialists focused on commonalities, basic principles underpinning monitoring similar

emphasis on maintenance preventive / relieves need for curative

- Diversity – match monitoring to needs, circumstances of sites
- Monitoring not enforcement but provision of information to aid:

- management processes
- conservation planning
- assessment of bearing capacity

HEALTH CHECK

- Link between understanding of values/objectives and management/monitoring systems
- Benefits to all

What to do?

- *Operational guidelines* revision process??
- How to bring to developing countries??

(World Heritage system)

1. Network of expertise as a reference
   - use of network to look at "issues"
2. Fund training courses to improve local understanding → proactive design of systems/GEF Funds
3. Study of existing monitoring programmes
4. Study of reactive monitoring by Centre to check effectiveness of work carried out
5. Adequate funding for mission experts
6. Focus on better information coming from better monitoring
   = less problems/sec. can propose focus on monitoring in regional programmes
7. Network – knowledge base/forum
8. Learning by example
9. Focus on documentation
   → communication in user friendly terms
10. Preamble link to tourism – $ generator
11. Extend EoH/feasibility of
    to cultural heritage

Monitoring World Heritage – Conclusions of the International Workshop

by Giovanni Boccardi and Herb Stovel

The Monitoring World Heritage meeting, held in the Palazzo Leoni Montanari in Vicenza, Nov. 11 and 12, 2002, was organised by ICCROM and UNESCO World Heritage Centre, and generously supported by the Banca Intesa BCI, and the City of Vicenza. Organisation of the meeting was also supported by ICOMOS and IUCN who both nominated key experts and provided financial support for participation. The Monitoring meeting was attended by 23 experts from 16 countries.

The principal purpose of the meeting was to strengthen appreciation and appropriate use of monitoring in the effective management of heritage properties of cultural and natural value, particularly in the context of sites inscribed on the World Heritage List.

In this context, the World Heritage system should be understood as offering a vehicle to promote best practices in monitoring for all heritage sites.

The sub-objectives of the meeting foreseen in the planning stage were:

1. To place the workshop discussion in the context of the large stream of related global meetings and initiatives concerned with monitoring issues for cultural and natural heritage.
2. To present current World Heritage Committee Advisory Body initiatives for monitoring.
3. To strengthen co-operation in tangible ways among those responsible for monitoring cultural and natural heritage.
4. To explore the effective integration of the new monitoring technologies within site management systems and programmes.

The workshop consisted of working sessions during which all participants presented summaries of the papers submitted in advance, followed by discussion and synthesis of issues and points raised. The papers were grouped around the following themes: Advisory Body and Committee views, World Heritage monitoring and Periodic Reporting experiences, Monitoring Frameworks/Design of Monitoring Systems, Practical Experiences in Monitoring, Monitoring Technologies and Tools, Monitoring Issues and Principles. The two final sessions focused on conclusions, identification of key outcomes and suggestions for follow-up. Participants also reviewed a summary document of issues raised during discussion of papers, which will be included in the proceedings of the workshop to be published.

Participants agreed upon the following conclusions:

- Monitoring is an essential part of the World Heritage site management, and should be understood not as external imposed control, but as providing information to aid management processes, and conservation planning.
- Monitoring should be seen as the essential underpinning of effective Periodic Reporting at site level.
- The commitment necessary to establish a permanent monitoring system is more than balanced by the long-term benefits offered by the system.
- Common basic principles underlie monitoring practices in both cultural and natural fields.
- Monitoring should guide managers towards giving emphasis to maintenance and preventive measures, thus relieving the need for curative/restorative interventions.
- The choice of monitoring systems and methodologies must be linked to the specific cultural and institutional context of the site.
- Effective monitoring requires strengthening links between efforts undertaken for the definition of heritage values, the setting of management objectives and their use in monitoring systems.

In order to carry the ideas expressed above toward implementation, participants proposed the following practical steps:

Policy concerns:

- Integrating many of the technical recommendations coming from the meeting within the on-going process of revision of the *Operational Guidelines*.
- Exploring alternative means of communicating site level Periodic Reports to increase understanding and utility of information presented (for example, in a matrix format).
- A working group was established to review definitions and terminology in order to quickly develop a consensus which could be presented and reviewed in forthcoming natural and cultural heritage forums, including the March 2003 review of the *Operational Guidelines*.

Operational concerns:

- A proposal was made to establish a thematic, on-line network for World Heritage monitoring in order to exchange experiences, and to create an accessible knowledge management system driven by the interests of stakeholders. One of the meeting participants has offered to support the initial stage of network development.
- Training courses and activities concerning monitoring (with field components) should be designed and implemented involving regional scientific partners and potential donors.

- The Secretariat of the Convention, in the context of the design of regional programmes, should focus on monitoring selected sites for an adequate period of time, and with adequate resources, in order to acquire the necessary data for an informed decision-making process by the Committee.
- The Secretariat might also consider reviewing past reactive monitoring mission reports in order to evaluate effectiveness of work carried out.
- Manuals being developed should provide in a user-friendly way examples of best practices to guide site managers through the documenting and monitoring processes.
- The feasibility of extending the "Enhancing Our Heritage" project (currently being implemented by IUCN and UNESCO) to cultural heritage monitoring should be explored.

World Heritage papers

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