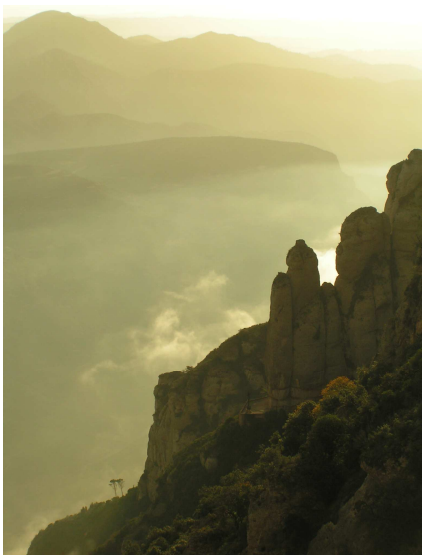
BELIEVING IS SEEING

Integrating cultural and spiritual values in conservation management



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Foundation for Sustainable Development

EarthCollective

IUCN

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Integrating cultural and spiritual values in conservation management

An overview of cultural and spiritual values in protected areas in support of the development of indicators, monitoring systems, management strategies and policy advice

Bas Verschuuren

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Executive Summary

BELIEVING IS SEEIN:, Integrating cultural and spiritual values in conservation management

Scope of the study: This report has been largely based on various sources of literature, case study reviews and expert workshops. Approximately 20 semi-structured interviews have also been carried out. Overall, 36 people have contributed to this report by providing literature, materials and professional guidance. Literature research and analysis of semi-structured interviews have resulted in a comprehensive overview of cultural and spiritual values in nature conservation. The semi-structured interview also contributed to a better understanding of policy, management, monitoring and indicator development. Knowledge gaps have been identified for management purposes, for example to be able to further develop management effectiveness tools. Critical to this is the role of perception in the development of appropriate indicators for which this study also offers some guidance. A policy review has been carried out in order to understand how policies relate across, national and international levels and to determine needs that may arise from the regional and local management context.

General Outcomes: This study found that cultural and spiritual values can create opportunities for strengthening conservation of biodiversity on which our livelihoods, directly or indirectly, depend. Cultural and spiritual values are in fact, critical driving forces for success in nature conservation and ecosystem management but are often difficult to represent in decision-making processes and undervalued. This problem has to do with the representation and communications of social values, i.e. the quantification of "people's values". The way people perceive nature depends on culturally defined values and belief systems that form an important, often intergenerational, source of information. Some of this valuable information, relating in particular to its spiritual dimensions, is often not considered at all or yet to reach its full potential in current nature conservation practices. The reason for this, amongst others described in the report, is: that knowledge is inaccessible (secret or sacred) and difficult to be understood (by outsiders) such as western-trained conservationists. Reconciling various worldviews and their corresponding cultural and spiritual values was found to be critical to successful nature conservation practices. Understanding the importance of nature as it is experienced in other worldviews forms challenges for managers, policymakers and local people alike.

Management: Further research in terms of developing applications that can be taken up by management in the field is needed. IUCN WCPA's Management effectiveness framework and WWF's RAPPAM methodology currently make no specific mention of integrating cultural and spiritual values but experts consider them flexible enough to incorporate these values. Further development of management effectiveness strategies needs to look at: the need to clearly articulate management objectives for cultural and spiritual values; work together with local people and religious groups to determine priorities for monitoring; provide effective and timely information (reporting & outreach) for managers and other stakeholders; and develop stronger links between reactive monitoring and adaptive management and planning processes. In monitoring, the following knowledge gaps exist: consensus on the use of ecosystem integrity indicators in state of conservation reporting and; consensus on the use of process indicators in adaptive management (strategic planning); different perspectives on what are appropriate indicators; different perceptions of time and ecosystem change through time; and typical differences in perception of time (linear/cyclic).

Sacred natural sites: Recognising sacred natural sites forms an outstanding opportunity to include cultural and spiritual values in protected areas and ecosystem management. The following issues have been recognised to be relevant with reference to sacred natural sites: hold high biodiversity values; can act as a traditional vehicle for protecting and enhancing ecosystem functions and bio-cultural diversity; contribute to conservations efforts and development of "people inclusive" management objectives as well as; environmental education, cross cultural learning and intergenerational transmission of bio-cultural/ traditional ecological knowledge. In addition they hold considerable potential to serve as a traditional blueprint for restoring and safeguarding ecosystem functions whilst supporting conservations effort linked to livelihood improvement and poverty alleviation.

Several recommendations follow the analyses carried out during this study in order to adjust the present IUCN WCPA categories to include cultural and spiritual values. These concern the following issues: IUCN advancement on cultural issues; integration of cultural and spiritual values in all protected area categories; legal recognition of sacred sites in protected areas; developing a multidisciplinary and multiple scale approach; a need for guidance in management implications; and using the ecosystem approach for communicating values.

International policy and institutions: It is recommended that IUCN, WHC and ICOMOS expand collaboration on developing consistent management and policy guidance for cultural and natural values. The need exists for IUCN WCPA to feed into the UNEP WCMC Protected Areas database and the WHC database to include specific attention for livelihoods, cultural and spiritual values and sacred natural sites. Within UNESCO's World Heritage Convention there are opportunities to develop effective synergies between the cultural management (currently under the responsibility of ICOMOS) and the convention for intangible heritage. Currently the convention for intangible heritage does not utilise the potential of cultural and spiritual values attached to landscapes and ecosystems. In addition, this study found that ICOMOS should advance the four cultural criteria of World Heritage Sites into a transparent strategy including recognition of sacred sites (perhaps in conjunction with the UNESCO Convention on Intangible Heritage).

Research needs: More detailed field research into the advancement of methods for indicator development based on perception is needed. There is also a lack of case studies that focus on integrating cultural and spiritual values in management and policy. Based on case studies and local context, the use of perception in developing indicators for management can be determined. This is expected to assist with safeguarding cultural and natural values, for example, setting historical base-lines and constructing trends of change in the natural environment. Improved understanding on the interlinkages of nature and culture is expected to contribute to the improvement and enhancement of current management and policy efforts.

Acronyms

CBD	Convention on Biological Diversity
CSVPA	Cultural and Spiritual Values of Protected Areas (WCPA task force)
FAO	United Nations Food and Agricultural Organization
FSD	Foundation for Sustainable Development
GIAHS	Globally Important Agricultural Heritage Systems (FAO)
IA	Integrated Assessment
ICOMOS	International Council on Monuments and Sites
IEA	Integrated Environmental Assessment
IUCN	International Union for the Conservation of Nature and Natural Resources
MAB	Man and Biosphere Reserve (UNESCO)
MA	Millennium Ecosystem Assessment
MCA	Multi Criteria Analysis
MDG	Millennium Development Goal
NGO	Non Governmental Organization
PA	Protected Area
PRA	Participatory Rural Appraisal
Ramsar	Ramsar Convention for wise use of wetlands 1971 (Iran)
RAPPAM	Rapid Assessment and Prioritization of Protected Area Management (WWF)
SIA	Social Impact Assessment
SNS	Sacred Natural Site
TEK	Traditional Ecological Knowledge
UNEP	United Nations Environment Program
UNESCO	United Nations Educational Scientific and Cultural Organization
WCC	World Conservation Congress (IUCN, quadrennial)
WCMC	World Conservation Monitoring Center (UNEP)
WCPA	World Commission of Protected Areas (IUCN)
WHC	World Heritage Convention (UNESCO)
WHS	World Heritage Site (UNESCO)
WIPO	World Intellectual Property rights Organization
WWF	World Wide Fund for Nature

Preface

The cultural values that form the brains and bowels of our perception of the natural world also have a great influence on how we live with nature and deal with, for example, environmental problems. There are many psychological and philosophical explanations for how our perception is made up but the way people perceive the world is, at least to a large degree, culturally determined.

In many cultures, sacredness is central to people's perception of nature. Landscapes and nature have, throughout history, fulfilled crucial roles in shaping peoples spirituality and have continued doing so into the present day. Spiritual values are at the core of such intergenerational cultural systems and play a pivotal role in the conservation, management and protection of nature. They are able to do so because, to a considerable extent, the ethical and moral reasons for dealing with one's surroundings are often intertwined with people's shared cultural and spiritual values. Although many forms of spirituality exist, and spirituality is expressed through various religions, faiths as well as local and indigenous belief systems and even new-age practices, the ability of spiritual values to influence biodiversity values is often not fully recognised or integrated in conservation and ecosystem management.

This report suggests ways to approach the opportunities before us for sensitising to cultural and spiritual values and to improve the present day situation. It suggests to work in an integrated manner and to be respectful of other people's worldviews. This report seeks to sensitize managers to include local people in conservation practices; it aims to stimulate participatory processes that advance understanding of perception based indicators for cultural and spiritual values in ecosystems. This report is part of larger research and therefore forms an overview of cultural and spiritual values in protected areas in support of the development of a tool for developing indicators, monitoring systems, management strategies and policy advice.

Cultural and spiritual values can create opportunities for strengthening conservation of biodiversity on which our livelihoods directly or indirectly depend. Despite the ever increasing ecological footprint and homogenising influence of globalisation, we now also have the opportunity to learn from each other in ways that were not possible before, to transcend the ways in which we think about nature and deal with environmental problems. In the midst of rapid biodiversity loss, we can learn how nature inspires people all around the world and find how its very diversity is crucial to the cultural diversity that in turn supports various different spiritualities we know today. In many of those spiritualities, nature is held sacred as it is also the life-support system on which the diversity of its cultures depends. Central to this is the notion that we as a globalising world can grow almost endlessly, perhaps not past the limitations of ecosystems, but certainly in terms of spirituality and cultural diversity.

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Introduction

Cultural and spiritual values are critical driving forces in successful nature conservation and ecosystem management but are often difficult to represent in decision-making processes. The cultural importance of natural ecosystems not only consists of tangible goods and services but also includes many -often intangible- non-material or information services. These non-material and spiritual values play a pivotal role in shaping peoples worldviews and perception of nature.

The way people perceive nature depends on culturally defined value and belief systems that form an important, often intergenerational, source of information. Some of this valuable information, relating in particular to its spiritual dimensions, may not yet be considered in current ecosystem management. Part of the reason for this may be that such knowledge is inaccessible and difficult to be understood by outsiders such as western-trained conservationists and ecosystem managers. Hence, accounting for the various worldviews and their corresponding cultural and spiritual values in the practice of ecosystem management, forms a challenge for managers, policymakers and local people alike.

This report investigates opportunities for the integration of cultural and spiritual values in conservation and ecosystem management. Special but limited attention is given to the role of perception-based indicators in monitoring and assessment strategies in the management of Sacred Natural Sites (SNS). In addition, this report is illustrated with examples from northern Australia where the author has had personal experience in understanding various dimensions of cultural values and sacred natural sites in the field.

Although this report has been largely based on various sources of literature, case study reviews and expert workshops, several semi-structured interviews have also been carried out (an example is provided in annex 5). In addition, many people have contributed to this report by providing literature, materials and professional guidance. These people have been listed in annex 6. Of special importance was the assistance of the members of the steering committee of IUCN's WCPA task force on "Cultural and Spiritual Values of Protected Areas" for being a source of inspiration and information.

Ultimately, this report aims to positively contribute to a growing body of knowledge on the importance of different cultural perceptions of natural ecosystems and landscapes for the development and strengthening of more effective and holistic strategies for ecosystem management and co-existence of simultaneous realities.

This report aims to stimulate ecosystem managers and policy makers to challenge conventional thinking in nature conservation and explore ways to increase attention and opportunities for integration of cultural and spiritual values in ecosystem management. It is hoped to identify new opportunities for the sensitisation of managers and policy makers to cultural and spiritual values in the management of sacred natural sites and protected areas.

Outline of the report

This report is based on a literature research and analysis of semi-structured interviews and has resulted in creating an overview of cultural and spiritual values in nature conservation policy, management, monitoring and indicator development. The report opens in **chapter one** by explaining what value based management is through defining some of its key concepts. The chapter explains what is understood with cultural values and also takes a closer look at the concept of value. It then describes how paradigms in conservation have come to include cultural and spiritual values that, in reality, transcend management.

Chapter two deals with the role of perception of nature in ecosystem management and investigates if and to what extent such perceptions are culturally defined. The importance of perception is then followed by the role that economics may play in relation to cultural values and their uptake into the decision-making process. It concludes that both approaches of communicating cultural values have intrinsic differences in that they support a formal rights based or local responsibility based approach in cultural conservation management.

Chapter 3 is based on an article about sacred sites written for the IUCN WCPA categories summit together with Joseph Maria Mallarach and Gonzalo Oviedo. The chapter looks at the benefits of integrating sacred natural sites in conservation policy and IUCN protected areas categories. The arguments used here are built on an increasing importance of cultural and spiritual values in conservation management that are embodied by sacred natural sites themselves.

From a management perspective some knowledge gaps have been identified in **chapter four**, specifically to be able to further develop management effectiveness tools. Four management effectiveness strategies are briefly evaluated for their abilities to incorporate cultural and spiritual values as well as sacred natural sites. Integrated assessment is offered as a tool to potentially assist with covering some of the gaps identified in the previously mentioned methodologies.

Critical to this is the role of perception in the development of appropriate indicators for which **chapter five** offers some guidance. It pays attention to the role of perception in selecting indicators and related monitoring strategies and provides a simple conceptual model for integrating both biological as well as cultural values into conservation management.

Chapter six concludes with some of the most central issues pointed out during the previous chapter but does not cover the full extent of all findings reported in those chapters. The recommendations made in **chapter seven** are based on insights derived from the most critical knowledge gaps that have been detected across the issues dealt with in this report.

1

Culture and value based management

"the fact of defining intangible values is not itself culturally neutral; it comes from the Western scientific tradition but if we do not define intangible in some way, it will be virtually impossible for them to influence management".

English 2003

Ceremony co-organized by religious leaders and park managers at Hustai Mountain. Local people and Buddhist monks pray for prosperity of their environment. They bring offerings at an "Ovoo", a sacred man made pile of stones placed on top of a mountain. The mountain is considered to be a male mountain and hence only accessible to males. There also exist female mountains in Mongolia.

Mongolia; Hustai Nuruu, National Park and Man and Biosphere Reserve.

1.1 What are cultural values?

There currently exists no standard approach or methodology to assess and value the cultural importance of ecosystems. The Millennium Ecosystem Assessment has developed a framework for assessing ecosystem services but this framework is not specifically tailored to provide guidance and directions for assessing cultural services. Today, numerous participatory processes and working methods exist to value cultural importance of natural ecosystems. Two notable field methods are participatory Rural Appraisal (PRA) developed by Robert Chambers and the Pebble Distribution Method (PDM)[i] developed by CIFOR. Nonetheless, the development of methodologies for the assessment and analysis of the cultural benefits provided by natural ecosystems is considered to be of primary importance to nature conservation at scientific, management and policy levels for a number of reasons that will be further explained throughout this report. (Ghosh et al. 2005, Secaria and Molina 2005, Ramsar 2006). In essence, it is important to remember that sustainable policy and management are also based on cultural perceptions since they are the result of decision-making processes initiated by people; they are inherent constituents of social choice.

These social and cultural dimensions are also explained by Jepson and Canney (2003) to be:

"Sets of ideals and beliefs to which people individually and collectively aspire and to which they desire to uphold. They structure the traditions, institutions and laws that underpin society".

Thus, in line with Jepson and Canney (2003), it becomes clear that we believe certain things, not because they are logically evident, but because we live in a group where these ideas are supported and confirmed (Stark 1994). Because of the importance of the

implications of cultural values, this report makes use of the operational definition for “cultural values” as it has been adopted by the IUCN’s World Commission on Protected Areas’ task force on Cultural and Spiritual Values of Protected Areas (CSVPA):

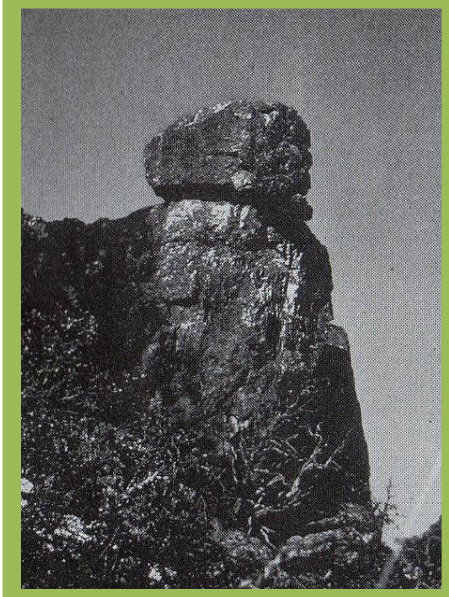
“Those qualities, both positive and negative, ascribed to protected areas by different social groups, traditions, beliefs, or value systems that fulfil humankind's need to understand, and connect in meaningful ways, to the environment of its origin and to nature”.

1.2 Cultural values in conservation

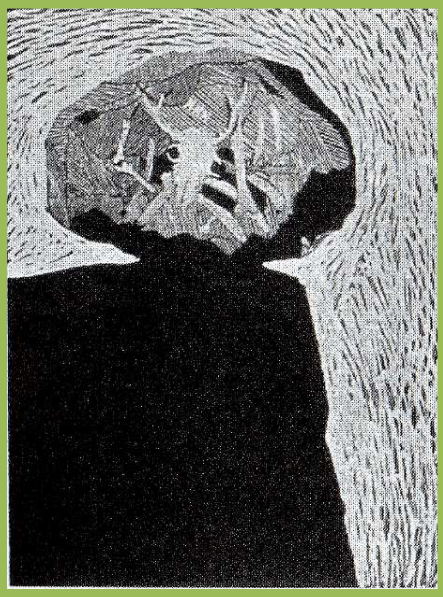
In this report, cultural and spiritual values are examined in relation to nature. The specific natural context may be a protected area, a landscape an ecosystem or even in terms specific aspects which may be referred to as natural resources or biodiversity. Given the broad application of the above definition of cultural values, it becomes clear that the need exists to assist managers and policy-makers in providing a comprehensive and conceptual understanding about what ought to be valued about nature according to the cultural perceptions and disciplines at play. Ecological values, for example, are often based on information derived from species and ecosystem processes using biophysical methods. Over time, the use of traditional ecological knowledge has gained a foothold in ecosystem management, especially when this knowledge showed to be ‘western science proof’. Cultural values on the other hand are based on how people perceive ecosystems and in many cases there might not be sufficient or objective scientific proof causing management to work with additional sources of information such as photos, drawings/artwork or poems (see figure 1). From these sources, indicators may be derived that can offer information on the status of natural processes.

When conservation management or resource development projects are not aware of cultural values, this may exacerbate existing conflicts and upset relationships between stakeholders. This may result in the loss of ecological and cultural significant values (bio-cultural diversity) and ultimately frustrate continuation of sustainable environmental management and equitable governance at the expense of ecosystem functioning and biodiversity values (Posey 1999, McNeely 2005, Verschuuren 2006). Approaches to inform decision-making and management processes have better chances of succeeding when they are based on local cultural values and responses that are derived from local peoples needs (Cocks 2006, Berkes 1999). This bottom up approach is an essential prerequisite for endogenous development. Many classic top-down valuation and assessment approaches, which are currently still being adopted, can escalate fundamental pressures and tensions. Therefore, they run the risk of receiving insufficient support at a local level. As a consequence, the lack of local support will frustrate and hamper ongoing management efforts and policy processes that in essence depend on local input.

Figure 1: From worldview to cosmovision



Rock formation referred to as bag of bones. Photo Frank LaPena



Conceptualisation of the indwelling spirit attributed to bag of bones. Drawing Frank LaPena

I can't pass a rock
Like you
Without being mystified
Or hypnotized

I have heard stories
Of rocks
And have known some rocks
personally

They represent the world by
their presence
Wisdom has no
relationship to size

One time, perhaps many times
A man became a rock
Thinking that a fine way
To gain immortality

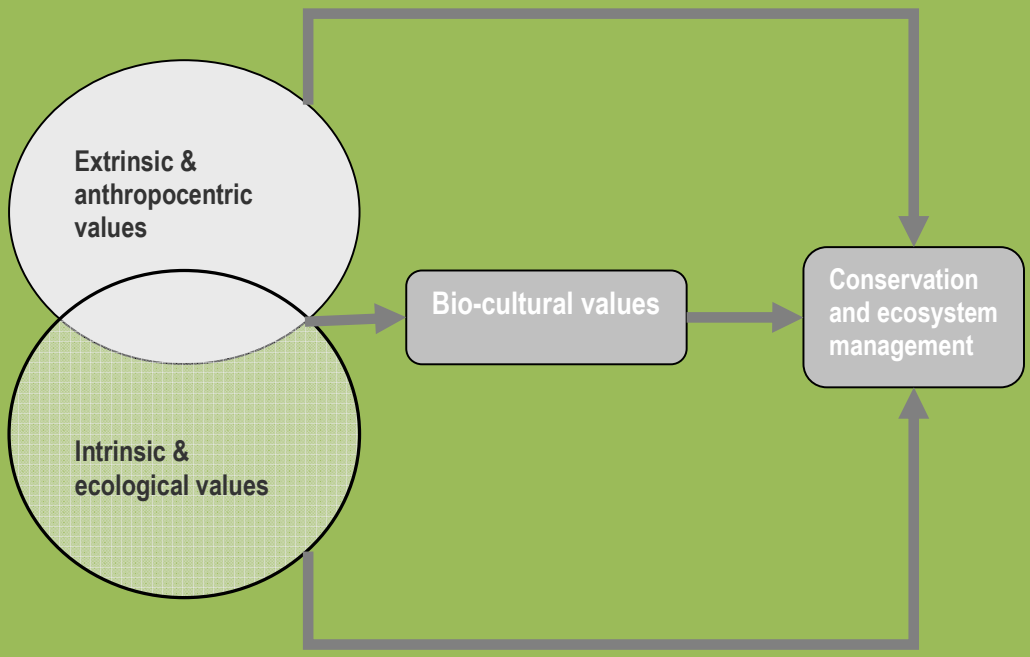
Tauhindali 1979 'A rock a stone'

Most management problems are perceived when people's values are being inadequately interpreted or defined. Attention needs to go out to selecting the methodology and frameworks used in order to capture and communicate peoples values to decision makers, especially when people themselves are not, or cannot, be involved in the decision-making process. According to English (2003):

> "The fact of defining intangible values is not itself culturally neutral; it comes from the Western scientific tradition but if we do not define intangible in some way, it will be virtually impossible for them to influence management".

For example, the power of the spiritual lays in the fact that it is intangible. It can only be valued adequately by those who perceive its importance and therefore the quality of the valuation resides with those people's interpretations and ability to communicate them. Communicating cultural and spiritual values is not only difficult because of the lack of an adequate framework or approach to capture the dynamics of culture but also because these values become distorted or get "lost in translation" travelling from experience and perception through the assessment and valuation approaches before they reach decision-makers. In trying to assess and value the spiritual significance of nature one finds the means to value it are complex and encompass issues like scale, perception, indicators and in some cases require integration of scientific disciplines which may not be easy to comprehend. Therefore, the discourse on valuing the spiritual has in some cases led to the conclusion that registering their importance undermines

Figure 2: Inclusive, bio-cultural conservation management



the very nature of its value. At worst, malfunctioning communication patterns and unjust valuation practices could possibly be perceived as factors contributing to the erosion of culture rather than a means to equitably support and strengthen management and decision making processes.

1.3 What is value?

It may be self evident that the understanding of "value" by managers and policy makers in the field of nature conservation will be explicitly associated with nature and the biological world. This understanding may furthermore be shaped by a range of factors including scientific education, technical training and a lifestyle typical for technologically developed countries. In those societies, it is not uncommon that people live in man made environments largely separated from nature and its subtle spiritual connections. However, a value can be abstract and disembodied or a quality of a physical thing and thus, for the purpose of this report, it can be concluded that value is everywhere, in mind as well as in matter. In practice, the debate over the source of values is ongoing and is being steered in different directions by different disciplines such as philosophy, ecology, social sciences and economics (Rolston III 1986, Jepson 2003, Schama 1995, Costanza 1997). There seems to be no consensus on how to develop a single definition of value. Instead, it appears to be more constructive to recognise and understand the different (cultural) perceptions within society and how they relate to one another (Bingham et al.1995). As a result

of this, there exist many definitions of value; some of the definitions that are commonly used in literature are:

- General importance or desirability of something (Bingham et al. 1995),
- The value means that which has worth; something of merit, something estimable - whether or not such worth is assigned by people (Harmon 2003)
- The contribution of an action or object to user-specified goals, objectives, or conditions (MA 2003)

The Oxford Dictionary provides three main types of uses of the term “value” namely exchange “value”, “utility” and “importance”. These concepts may be linked to the three main scientific disciplines of ecosystem valuation; namely sociology, ecology and economics (in popular terms increasingly voiced as people, planet, profit). In accordance with the MA, it makes sense to look at the broader suite of values provided by ecosystems besides biodiversity values. Ecosystems also provide security, resiliency and play a key role in social relations and health issues through landscape functions. Moreover, the full value of ecosystem functions relates to how these functions are being perceived and how they relate to freedom of choice and action (MA 2005).

Therefore, it makes sense to look more closely at the role of perception when evolving from a biophysical to an anthropocentric sphere. This is important because if values are merely objective they can be managed along with the biophysical environment and if they are merely subjective, management will consist of adjusting to public preference (Harmon 2003). In fact, this argument illustrates the dilemma of differentiating and valuing use and non-use values, tangible and intangible values, extrinsic and intrinsic values and biophysical and spiritual values.

Many societies place high value on the maintenance of either historically and culturally important landscapes as well as culturally significant species (Posey, 1999). Carter and Bramley (2002) define these values in terms of a resource's intrinsic (objectively measurable) and extrinsic (largely subjectively measurable) qualities. Both value types are significant but they are often not integrated into the management process. This dilemma has manifested itself as a continuous status quo for managers and decision makers although it is generally becoming more accepted both types of values need consideration, see figure 3. In line with Berkes and Folke (1998), Berkes (1999), Maffi (1999), English (2003) and Cocks (2006), it is the viewpoint of the author that at the interplay of cultural and biological values is of unique and elementary importance to conservation management as shown in figure 3. When approaching cultural and biological values from the viewpoint of their own related disciplines, their ‘inter-connectiveness’ should be used as a basis for conservation and ecosystem management (see figure 3).

1.4 Evolving paradigms in conservation management

To improve understanding of conservation and ecosystem management it is helpful, if not necessary, to understand the traditions and histories from which both conservation and ecosystem management originate. This report will not address the historic background of the conservation movement but will instead expand on why it is important to recognise that many traditional ways of living, including those that practice custodianship of the natural world, have been subjugated to a dualistic approach that in many cases was accompanied by colonialism and whose presence is still felt in conservation today.

This dualistic paradigm, which permeated into present day conservation and ecosystem management, originated from Western science. The dualistic paradigm is characterised by the individual perceiving him or herself as and observer separate from the natural world. It is often argued that the concept of bio-cultural diversity is rooted in the dualistic paradigm because, rather then being part of the natural world, culture is viewed as separate from it. In many traditional and indigenous cultures, people perceive themselves as part of nature and adhere to worldviews where this split simply does not exist. Nonetheless, the concept of bio-cultural diversity assists in extending the boundaries of the dualistic paradigm and explores the inextricable linkages that form the intimate relationships between the natural and the spiritual world. In this way, the concept of bio-cultural diversity is part of a paradigm shift that is very much needed to further the development of more sustainable “people inclusive” conservation and ecosystem management strategies.

As noted previously, to many local and indigenous people and to their respective ontologies, the linkages that typify the above dualistic epistemology are perceived as an interconnected whole. From this it can be concluded that the traditional and indigenous ontologies are distinct from those that are rooted in the dualistic paradigm (see figure 3). This distinction also becomes apparent in the conceptualisation of the time-space dimension. The conceptualisation of the time space dimension has a profound spiritual dimension, which has been subject to many contemplative thinking in various scientific disciplines such as quantum physics, philosophy as well as anthropology (Wilber 2001, Rolston III 1986, Steward 2003). Cultural paradigms shape people’s ideas of the time space dimension as illustrated by Rolston’s environmental philosophical writing: “The astronomical reaches of space can be taken as a consummate example of worthless nature. But the heavens seem to have projected the space time place for the genesis of all the heavier elements on which everything else is built…”. As Rolston seems to be predominantly influenced by a Western Christian worldview, Wilber (2001) being aware of these cultural paradigms which shape the human perception of time space dimensions turns the issue around by saying, “The world extended in space and time is but our representation”. And it is exactly this representation that has lead to shaping culturally diverse conceptualisation of time, space, spirit and

people. This conceptualisation is also referred to as cosmovision. Cosmovisions may differ from culture to culture and from person to person. Haverkort and Reijntjes (2006) emphasised that cosmovision is not something abstract, but a reality based on concrete observation and experience. They offer the following definition:

> "the way an individual or a certain population (community or cultural group) perceives the world and cosmos. It includes assumed interrelationships between the spiritual, natural and human world and provides the basis on which people relate with nature and the spiritual world and take decisions."

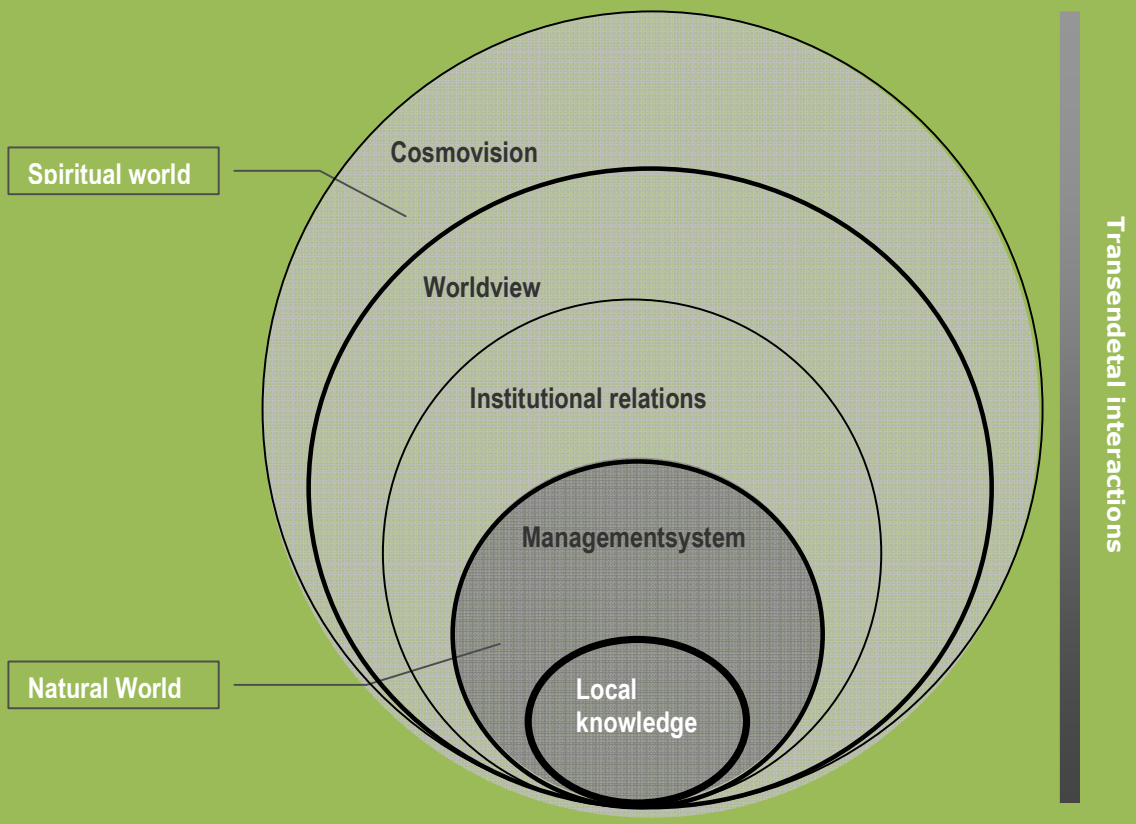
The linear conceptualisation of time, typical for technologically developed cultures, has led to the idea that growth is development and that the past is discontinuous with the present. Often traditional and indigenous worldviews consist of an ontology that does not contain a linear time dimension as the dualistic paradigm does. Instead, the cyclic (also known as spiralled) conceptualisation of time is based on complex interacting and mutually constitutive cycles in which interaction and change confirms and renews relationships. Here limitless growth is considered as a disruption rather then development. Development is understood in lifecycles and becomes a process of realisation instead of accumulation. Hence, traditional cosmovisions may consist of profound interferential guidance of ancestral spirits with the present natural world and are therefore commonly characterised by a cyclical time space dimension as they encompass many generations into the present.

1.5 The spiritual dimension in conservation management

Simultaneous with colonial histories, which included impositions of a heavily institutionalised and politically influenced religion and worldview, landscapes were filled with new elements: new property titles, new pastoral and agricultural species and new people (Howitt 2001, Cocks 2006). These new ways of living brought for new livelihood dependencies and new relations to nature and landscape, which are subsequently embedded, in present day conservation and ecosystem management and policies. Generally speaking, these colonial developments and impositions are painted at a background of the great enlightenment period that took place from 1600 onward and introduced an evolution in science, technology and subsequently also manifested itself in society and human well-being. Understanding the world through science has contributed significantly to the doing away with traditional spiritual dimensions as Wilber (2006) puts it:

“We start with the simple observation that the metaphysics of the spiritual traditions have been thoroughly critiqued – “trashed is probably the better word”- by both modernist and post-modernist epistemologies, and there has yet arisen nothing compelling to take its place”.

Figure 3: Transcendental interactions in conservation management
Source: Verschuuren 2006, Based on Berkes (1999)



An important characteristic of these new epistemologies (also referred to as the Cartesian or Scientific paradigms), is the lack of critical spiritual connectiveness that persists in the links between people, nature and landscapes. Many examples exist of local and indigenous people's custodianship where this connectiveness is evident. Also in western culture, such connectiveness exists through the concepts of "sense of place" and "genus loci". In relation to sacred natural sites, it may be referred to as the "sacer loci". The later is the root for the word "sacred" in Latin which mean is "restricted by belonging to the Gods" (Shackley 2001).

In the context of the present discourse, the critical spiritual connectiveness refers to the transcendental aspects as described earlier in the text (see figure 3) when conceptualising transcendental interactions in conservation management. Emphasising and restoring the linkages between biological and cultural diversity has shown that in many cultures the spiritual relations of local people are a vital source not only for human wellbeing but also for the well-being of nature and ecosystems. These culturally determined spiritual human-ecosystem relationships therefore form a great potential for enhancing conservation management and policy targets such as for example the Millennium Development Goals (MDG's).

2

Perceived importance of nature

"Landscapes are culture before they are nature; constructs of the imagination projected onto wood water and rock... ...'there is an elaborate frame through which our adult eyes survey the landscape. Before it can ever be a response for the senses, landscape is the work of the mind. Its scenery is built up as much from strata of memory as from layers of rock."

Schama 1995

This Celtic site was used by Celts for ceremony and religious purposes celebrated at specific times throughout the year as indicated by the position of the stars. The stone circle is oriented in line with the constellation of Orion. Today, the site is again being used by "new Age" spirituality practitioners as well as the general public that leave offerings or tokens in the centre of the circle.

Ireland, south west Cork County: Cloch Chearcal Argus Cairn also called Dromberg stone circle.

2.1 Cultural perceptions of ecosystems

Ecosystem and conservation management are subjected to and influenced by cultural perceptions as well as political and economic interests. Therefore, ideas about what landscapes should be conserved are also influenced by such perceptions and they are often used as a political leverage in the decision making process. This is illustrated by the growing importance of building ecosystem management on the concept of sacred natural sites within the program of work of the international conservation community such as IUCN, WWF, UNEP and CBD. Including such places in conservation and ecosystem management plans also implies that the people involved in this achievement will have to learn to think in a new way about the landscape and ecosystems which they are managing.

When embracing cultural diversity, its perceptions and consciousness, and applying it as guidance for selecting criteria for putting in place management objectives, one also needs to question the role of current biophysically founded management actions and accept culture as a dynamic and evolving co-creator of management and policies. Concurrently, including different cultural perceptions in conservation and ecosystem management activities demands an understanding of local and indigenous people's self-determination to be incorporated in the ecosystems governance model. Within the United Nations, the Permanent Forum on Indigenous Issues (2006) also addressed the issue of indicators in relation to human wellbeing as it was brought forward in the Millennium Ecosystem Assessment and through the framework of the MDG's. Experts agreed that:

> "…indicators must place significant emphasis on indigenous peoples' inherent values, traditions, languages, and traditional orders/systems, including laws, governance, lands, economies etc. This must include recognition of the value of indigenous work (e.g. "making a living" versus "having a job"). Indicator development should reflect true indigenous perspectives such as portraying approaches grounded in wholism and unique values."

Subsequently this led to a set of recommendations to adjust the MDG's and take into account the ways well-being is perceived by indigenous people (United Nations Permanent Forum on Indigenous Issues, 2006). Some of the issues like the issue of scale, the issue of prior-informed consent and the issue of self-determination are already dealt with elsewhere in this article but there are a several more that are relevant to conservation and ecosystem management, namely:

- Identity is an important aspect of indigenous peoples' well-being that is particularly difficult to measure;
- A broader view of ownership, access, use and permanent sovereignty over land, sea, and water rights, environmental management and land quality, should be in place; and
- Health for communities and health for ecosystems should be highlighted.

Recognising the concept that culture is dynamic and that governing principles should be based on principles of "self determination" accordingly (as shown in the example of Coronation Hill) other issues arise that need careful consideration in conservation and ecosystem management as illustrated with the following example.

More often than not, people and land managers, tend to incorporate ''exotic'' species as part of their perception of a given landscape and as part of their ethno botanical repertoire, particularly when economic, agricultural, and aesthetic motivations are involved. In northern Australia's Kakadu National Park and World Heritage Site, this has led to a growing appreciation of the presence of wild horses in the park. In particular, the Aboriginal people that co-manage the park with the Parks and Wildlife Service insisted on this introduced (some would say pest species) species to maintain in the park despite the impact it causes on the park's ecology.

In fact, Aboriginal peoples place a cultural-historic value on horses that has simultaneously led to the species growing spiritual significance. Because of this, Aboriginal people now recognise places in the landscape that are called "horse dreaming" which, like other dreaming sites, are venerated and imbued with spiritual importance. Naturally, these places are an expression of human-ecosystem relationships and form focal points of cultural and spiritual values. They offer opportunities for specific management objectives that fit in the concept of sacred natural sites. Hence, protecting biological diversity (ecosystem integrity) and the cultural and spiritual diversity (sacred natural sites, culturally significant landscape)

poses a challenge to managers and policymakers that require them to search for appropriate solutions outside of their conventional references and beliefs.

2.2 Cultural values and ecosystem management

Ecosystems not only consist of physical attributes; they are subjected to and influenced by cultural perceptions. As Schama (1995) notes, "Landscapes are culture before they are nature; constructs of the imagination projected onto wood water and rock". Schama goes further in supporting this statement, ''...there is an elaborate frame through which our adult eyes survey the landscape. Before it can ever be a response for the senses, landscape is the work of the mind. Its scenery is built up as much from strata of memory as from layers of rock.'' Hence, cultural perceptions and shared history of landscapes can result in different and even contesting meanings of ecosystems and landscapes.

In particular, this cultural and spiritual importance of landscapes and ecosystems is often ignored in the decision making process. The cultural and spiritual values of biodiversity relate to the importance of a culture's management and governance system, their respective languages, knowledge bases and expressions in arts and traits. This report looks at the cultural and spiritual values of local and indigenous people in relation to nature conservation and ecosystem management. The importance of such intangible values has been increasingly recognised by various sectors and institutions from local to global levels. The topic now gauges interest from scientists and policy makers which have subsequently lead relevant policies and scientific studies, namely: the establishment of the Ad Hoc Working Group on Article 8j of the Convention on Biological Diversity (CBD)[ii]; the entering into force of the 2003 United Nations Education Scientific and Cultural Organisation (UNESCO) Convention on Intangible Heritage; and the recognition of cultural services of ecosystems in the recently released Millennium Ecosystem Assessment (MA) (UNESCO 2003, MA 2003 & 2005) as well as the prominent position of indigenous people at the United Nations through the Permanent Forum on Indigenous Issues.

From the viewpoint of the MA, the cultural services provided by ecosystems also consist of critical intangible, non-material, and information services (de Groot et al. 2002, MA 2005). Information services are those non-material, often intangible benefits derived from human interaction with ecosystems such as inspiration for art, development of (ecological) knowledge, education and spiritual health. The UNESCO Convention on Intangible Heritage has defined such intangible heritage as:

> *"the practices, representations, expressions, knowledge, skills - as well as the instruments, objects, artefacts and cultural spaces associated therewith - that communities, groups and, in some cases, individuals recognize as part of their cultural heritage."*

To assess the cultural importance of natural ecosystems, advancements in valuation science are needed to account for the various cultural and belief systems that form the linkages between ecosystem

performance and human wellbeing (Berkes 1999, Posey 1999, Vanclay 2002, Harmon 2003, Ghosh et al. 2005). This report approaches these inextricable linkages as a complex interconnected whole taking into account that cultural perceptions of natural ecosystems are rooted in dynamic cultural systems, such as language and traditional ecological knowledge (TEK), which have evolved over generations of interaction with natural ecosystems and landscapes (Berkes and Folke 1998, Folke et al. 1998, Maffi 1999, Stewart and Strathern 2003, Gosh et al. 2005, Verschuuren 2006).

In some cultures, the spiritual significance of special features of an ecosystem such as rivers, mountains or an individual tree or animal species has led to their recognition as sacred natural sites; places that are known for their high biodiversity values (Schama, 1995, Stewart and Strathern 2003, Dudley et al. 2005, Putney 2005). These places are traditionally managed based on ancestral principles and spiritual values that in many cases ensure cultural continuity and environmental management. The spiritual values of sacred natural sites may be important enough to local people to conserve natural ecosystems even though an economic cost-benefit analysis may advise conversion of the natural ecosystem through resource development such as mining or agriculture. See the example of Coronation Hill (1.4).

2.3 Cultural values in protected areas

In many protected areas, the management of non-material, cultural and spiritual values forms a challenge for conservation-managers, policymakers and indigenous people alike. It requires a consolidated understanding of the full value, from ecological, socio-economic to the cultural importance of the natural environment. Comprehensive field-tested tools to integrate local and indigenous people's cultural and spiritual values in modern ecosystem management practices are currently under development. Within the nature conservation movement, these developments are shaped along lines of increasingly holistic "people inclusive" management strategies. This is also reflected in the definition of Protected Areas of the (IUCN):

> *"Area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means".*

This dynamic definition of protected areas is accompanied by the IUCN protected areas categories that are increasingly endorsed by nations throughout the world as a framework for classifying protected areas and related governance and management tools[iii]. In addition, it should be noted that views of what protected areas are and how to manage them have been shaped in various ways throughout history. It is hoped that this process will continue as it is proposed in chapter two to change the above definition's

term of “associated cultural resources” into a more holistic understanding of the intricate relationship between nature an culture (Verschuuren et al 2007).

According to Hurd (2006), “This idea of protected areas without people is an American model, based on the romantic idea of wilderness as a place without people, but indigenous people can help maintain biodiversity. Where they have been removed, the bio-diversity has declined.” Reflecting on this, Dowie (2005) states that, “It's no secret that millions of native peoples around the world have been pushed off their land to make room for big oil, big metal, big timber, and big agriculture. But few people realize that the same thing has happened for a much nobler cause: land and wildlife conservation.” These discussions show that new strategies in conservation management are required. Since the Fifth Worlds Conservation Congress (WCC) in Durban South Africa 8-17 September 2003, there is an increasing emphasis on participatory management approaches, thinking out of the box and beyond parks boundaries (Balasinorwala et al. 2004).

Similar out of the box thinking is needed for ecosystem management at large and, in particular, within the increasingly popular field of ecosystem services. Following recent debate, critique on the MA’s ecosystem services approach resonates with a strong emphasis on the ethics and aesthetics of conservation and ecosystem management. Based on this presumption, ecosystem services are mostly seen as economic benefits and their respective quantification leads to market-oriented mechanisms to bring conservation in to synchrony with market ideologies (McCauley 2006, Carpenter et al. 2006). One very important notion gained from this discourse is that the need exists for valuation tools that are both useful to decision-makers and socially and environmentally sustainable and equitable. In reality, over the last decades, there has been a multitude of environmental and ecological valuation studies and many have been based on valuing mostly the tangible and monetary importance of ecosystem services.

Of most goods and services that ecosystems provide to people, the cultural importance is often underestimated in decision-making processes and difficult to capture using traditional valuation methods (deGroot et al. 2002, MA 2003, 2005). Advancements of primarily economic methodologies have resulted in improved understanding of the tangible and, to a lesser extent, the intangible benefits of natural ecosystems (Funktowicz and Ravetz 1994, Costanza et al 1997, Balmford et al. 2002, Pagiola et al. 2003). However, the number of cultural valuation studies is significantly lower (Clark 2006). This may be due to the extraordinary socio-cultural complexities involved with valuation techniques such as scale, boundaries, units, indicators and verifiers. Integration of the cultural and ecological aspects and building on community values therefore have been identified key components for enhancement of conservation and ecosystem management strategies that should be facilitated by corresponding policies at all levels.

In northern Australia, spiritual values have materialised in the landscape through sacred sites and features which form the spatial function through which Aboriginal people connect by means of song and ritual to the Dreamtime and ancestral creator beings. Figure 4 provides several examples of how such linkages become evident. These sacred elements are part of a living landscape connecting history to everyday life hence Aboriginal culture is by no means static or merely a historic relic. The Dreamtime is the creation story of the earth, man and everything on it. In the beginning, totemic beings - also called ancestral beings - walked the earth and created the landscape and all people in it. The landscape and the features the totemic beings created, relate to the ancestors and are recognised as places where their spirits reside. For many Aboriginal people, the landscape in which they live is a seamless fabric of physical, spiritual and cultural threads (Howitt 2001a). Places in the landscape where ancestral spirits reside may be earmarked as sacred natural sites by conservation and ecosystem managers. Such a place may historically also be called a Dreaming and the stories and songs connected to it "Dreamtime stories".

2.4 Economic valuation of cultural importance

One way of approximating the value of expressions of intrinsic and extrinsic values may be the use of economic approaches. It is clear that economic valuation approaches such as measuring "willingness to pay" or the "cost replacement method" for property in a natural setting may function as a tool to put a price tag on the aesthetic functions of the landscape in an economic sense. However, such methods may assist in addressing some of the human ecosystem relations such as leisure or aesthetics but they may not work when reciprocity dominates value systems. Often the monetary value is merely a poor reflection - or an approximation of the "full value" of the human-ecosystem relationship - that does not do justice to the cultural and spiritual values attached to the ecosystem as a whole. In this respect, one has to realise that there are values outside markets. Human preferences are not exclusively linked with a consumer's behaviour as it is described by economics.

Moreover, these values are often based on perceptions that do not consider local and or indigenous people to whom ecosystem values might include special cultural and spiritual dimensions. This poses the problem of having to make a stronger argument for cultural and spiritual values when values enter the equation of decision makers. It also stresses the importance of involving local and indigenous people from the start into relevant conservation processes. In addition, cultural and spiritual values have been found to relate to use as well as non-use values of ecosystem goods and services. Good examples are the cultural values of traditional agriculture and methods of food production, which are also a focus of FAO's Globally Important Agricultural Heritage Systems (GIAHS)iv. Where use values are concerned, the monetary value of goods and services in terms of market price might resemble or contest the value as it is perceived from a cultural perspective. People's perceptions are known to have an impact on conservation and ecosystem management. Despite the fact that the measurement of perception may be

Figure 4: Expressions of cultural and spiritual values related to nature (Magpie Geese)

Preparing Magpie Geese - Adjumarllarl Rangers, on the floodplains at Kunbarllanjnja community, Arnhem Land, Northern Territory, Australia. Rituals and hunting are connected to the Magpie Goose as a food source.

Ceremonial dance – Beswick Community, Arnhem Land. Magpie Geese can be mimicked in ceremonial dance like this to depict a creation story.

Magpie Dreaming - Florence falls, Litchfield National Park. This site, on Mak Mak people's land, was created by an ancestral being depicted as a Magpie Goose called Karramala (Rose et al. 2002).

Magpie Geese rock paintings at Injalak Hill, Kunbarllanjnja community. Aboriginal rock art is known as the world's oldest continuous painting tradition and is also a form of intergenerational transmission of knowledge.

Art work_George magpie goose 1985 by George Milpurrurru, Ganalbingu, Arnhem Land. Aboriginal art work is nowadays highly valued by art galleries and collectors worldwide.

Marketing of Magpie Geese inspired art. T-shirt by Riptide Churinga company called Magpie Geese Dreaming. Popular products are increasingly produced under license with the consent of Aboriginal people.

imprecise, their use can be of real value to the ecosystem managers and conservationists. When perceived importance is taken into account in the decision making process, this can result in situations where spiritual values are dominant over economic or ecological values such as in the case of proposed mining at the holy "Crough Patrick" (St Patrick's Mountain) in western Ireland where thousands of Irish and foreign people embark on a pilgrimage each year. Another example showing striking similarities is that of proposed mining at Coronation Hill described in the next paragraph.

In northern Australia in Kakadu National Park (and World Heritage Site) as well as on its adjacent lands, a typical landscape is found and referred to by the local Aboriginal people as "Sickness Country". Part of this "Sickness County" is registered on topographical maps as "Coronation Hill" as it was named by early surveyors. The story of proposed mining activities at Coronation Hill and the subsequent Aboriginal

concerns regarding these developments has become a world famous example of cultural and spiritual values outweighing economic interests.

Although mining had previously taken place at Coronation Hill, the site came back under Aboriginal ownership and was then leased to the government for the establishment of Kakadu National Park. Kakadu is under co-management as a result of the Aboriginal people leasing their ancestral land respectively to the Australian Government (for conservation purposes) and a mining company (for uranium mining). The Jawoyn, Traditional Owners of Sickness Country, this time publicly, voiced their concerns about mining development taking place in Sickness Country. It was believed that any harm done to Sickness Country would upset the ancestral spirits and by allowing this to happen, taboos would be broken and ancestral spirits upset. Great sickness and terror of immeasurable dimensions is predicted to fall upon those who upset the country and consequently all of humanity.

The authenticity of Aboriginal cultural arguments, perceptions and values was officially established by anthropologists to clarify the degree to which information sources about these values may have been understood as credible or truthful and subsequently approved of in court. Although the economic benefits of mining Coronation Hill at that time where estimated to be approximately AUD$750 million, Aboriginal people stood their ground and safeguarded their ancestral lands, their people and essentially the rights to self-determination over their own evolving dynamic culture and worldview (Lawrence 2000).

In cases where a group is claiming full economical power over resources and ecosystems, these claims will be subject to (intellectual) property rights that can consequently be acquired by those who most "value" them (WIPO undated). This process takes place via the economical principles of exclusive and transferable rights. This is based on the idea that suitable assignment of property rights and private bargaining between individuals can correct externality problems and lead to efficient outcomes. This idea - the "Coase theorem" - is generally attributed to the Nobel prize-winning economist Ronald Coase (Perman et al. 2003). The monetary value has become a proxy for the goods and services valued by the individual. Hence, this economic and political model of governing resources does not only lead to externality problems concerning the environment but also causes equity problems, social injustice and erosion of cultural diversity.

When being sensitive to cultural and spiritual values we want to be open-minded but this also raises questions that stem from our own worldview. How much can we do and, at the same time, not yield comfortable or politically desirable power positions? Can we really, or to what point can we, change our own framework of perception to comprehend other people's values? Often we think that what is good for us is good for everyone and, without realising it, impose our reality upon others. This may, in the end, work counter-productive and contribute to the erosion of cultural and, subsequently, biological diversity.

2.5 Rights based and responsibility based approaches

Cultural knowledge regarding ecology and environment has thus been integrated in belief and religious systems as well as systems of land use and use of natural resources. Building on local knowledge and belief systems is therefore of vital importance for the success of participatory ecosystem management and best practice in biodiversity conservation (Shepherd 2004, McNeely 2005). These bio-cultural linkages have been recognised internationally -often within human rights, conservation or development organisations programmes of work (see also annex 3):

1. Universal Declaration on Human Rights 1948,
2. International Covenant on Economic, Social and Cultural Rights 1966,
3. Rio Declaration, Agenda 21, Convention on Biodiversity and article 8j;
4. World Conference on Science 1999, lead to Declaration on Science and the Use of Scientific Knowledge;
5. Recognised in UNESCO Universal Declaration on Cultural Diversity 2001;
6. UNESCO Convention on Intangible Values 2003;
7. Third World Water Forum in 2003- Indigenous Peoples' Kyoto water declaration;
8. IUCN –Vth World Conservation Congress Durban, Participatory model of protected areas;
9. Ramsar, Resolution VIII.19 on Cultural values of wetlands 2002;
10. WIPO - World intellectual Property Organisation, Intergovernmental Committee on Intellectual Property and genetic resources, Traditional Knowledge and folklore.

There are many more global governance tools and numerous declarations voicing the importance of cultural diversity and the interplay of our planet's ecosystems and human well-being. Some of them are excerpted and placed in annex 3. Within the discourse of protected areas however, Pomroy et al. (2004) assert that a protected area per definition is a governance tool. It limits forbids or otherwise controls use patterns and human activity trough a structure of rights and rules. Resource governance is the way in which users and their intentions are managed through a set of rights, rules, shared social norms and strategies (Pomroy et al. 2004). Resource governance can include:

1. Formal and informal forms of resource ownership;
2. Use rights and the laws that support those rights;
3. Rules rights and regulations that dictate how resources can and cannot be used.

Over the past two decades, ecosystems are increasingly valued in terms of goods and services that contribute to our human well-being. However, "resources are fundamentally a matter of relationships, not things. They do not exist outside of the complex relationships between society technology and culture, economics and environment in some pre-ordinated form" (Howitt 2001b). Howitt continues to

elicit that [while resources are waiting to be discovered they are created by these relationships, very much like Schama's constructs of imagination projected on wood water and rock. Managing resources therefore is not simply about access or trade in pre-existing things called resources. According to Howitt, "It is about fundamental transactions of power, wealth and privileges, ideas about environment, population and resources are not neutral but are in essence political". In global policy, such as that developed by the CBD and its signatories, this implies that legal issues of ownership often precede those of social equity and environmental sustainability. For example, the effectiveness in dealing with social, cultural and environmental aspects of indigenous people's issues (as addressed in CBD's article 8j) is continuously being hampered by the lack of assertion of ownership and the adoption of rights based approaches. These approaches under development by the Ad Hoc open-ended Working Group on Access and Benefits Sharing[v] are subjected to forces beyond its own control. In the end, legally binding multilateral agreements depend upon the quality and enforcement of national legislation and political commitment of its signatories. The lack of political commitment to establish any legal basis or resolution, which entails the sharing and possible redistribution of benefits derived from nature, is in some cases induced trough the influence of private stakeholders with vested power interests. As a result, the CBD and WIPO are committed to apply mechanisms that have their roots in rights-based society rather then a responsibility-based society.

Also at national, regional and local policy levels, an increasing need exists for ecosystem managers and conservationists to become aware not only of the socio-political role of resources, but also the spiritual dimensions of the human-ecosystem relationship. This need is demonstrated in cases where troubled relations between indigenous people and resource managers exist. However, whilst good practices and partnerships certainly exist, too often resource management practices tend to consider important human values irrelevant and invisible. Accounting for indigenous and local peoples values demands sensitizing and understanding of the possible epistemological and ontological implications of ecosystem management in an integrated way.

3

The importance of sacred natural sites

"Cultural diversity and biological diversity are not only related, but often inseparable; there is a clear correlation between areas of biological mega-diversity and areas of cultural diversity.

Indigenous peoples every-day experiences and production and consumption patterns are very often linked to spirituality and reflect a holistic way of understanding nature."

Klaus Töpfer (former director UNEP)

Barramundi (*Lates calcarifer*) rock painting. The style of painting where the inside of the animal is visible is called "X-ray". It is part of the world's oldest continuous painting tradition which confirms the living spiritual relationship of Aboriginal people and the wetlands that form their environment.

Injalak Hill, Kunbarllanjnja (Oenpelli), Arnhem Land, northern Australia.

3.1 What are sacred natural sites?

In the field at various places around the world, protected areas managers have encountered situations in which sacred natural sites play a pivotal role in indigenous management systems. These sacred natural sites can be defined as:

*" specific places recognised by traditional and indigenous people as having spiritual and religious significance or as sites established by institutionalised religions or faiths as places of worship and remembrance" (*Jeanrenaud 2002*).*

The revitalised interest for including cultural and spiritual values as a measure of bio-cultural diversity offers opportunities for renewing concepts such as sacred natural sites and further develops strategies that match these dynamic conservation objectives. This is of particular relevance to the cultural and spiritual values asserted in recommendation 5.13 of IUCN's Vth Worlds Park Congress generated in the "Stream on Building Broader Support for Protected Areas" (Balasinorwala et al. 2004). It states the importance to acknowledge indigenous peoples' internationally guaranteed rights to, among others, own and control their sacred places, their archaeological and cultural heritage, ceremonial objects and human remains contained in museums or collections within or adjacent to protected areas. These include the following rights to:

a) Define and name their sacred places and objects, ancestral remains and archaeological, cultural and intellectual heritage and to have such designations respected as authoritative;
b) Where relevant, maintain secrecy about and enjoy privacy in relation to their heritage, objects, remains and places as described above;

c) Restitution of sacred places, heritage, objects and remains taken without their free and informed consent;
d) Freely exercise their ceremonies, religious and spiritual practices in the manner to which they are accustomed;
e) Gather, collect or harvest flora, fauna and other natural resources used in ceremonies and practices that take place at sacred places or archaeological and cultural heritage places; and
f) Maintain their responsibilities to their ancestors and future generations.[vi]

It has become evident that the integration of cultural and spiritual values of sacred natural sites can play a pivotal role in the sustainable and equitable conservation and ecosystem management. However, from an ecosystem management perspective, care needs to be taken to ensure that cultural and spiritual values do not jeopardise biodiversity values.

Spiritual values are often linked to the importance of nature using natural symbols and natural elements with sacred and religious significance. They embody the qualities of nature that inspire humans to relate with reverence to the sacredness of nature. The same quality of nature stimulates transcendental experiences and makes us as humans think about our environment through a sense of connectiveness. In Latin the word *spiritus* means “breath” whilst in Greek it relates to the word “anatropous” and means “look up” or “rise”. Both meanings make obvious indications to what one can relate to as a transcendent dimension, being spiritual or religious. These qualities are also embodied by sacred natural sites and the “locus sacer” as sacred sites have been called in Western post animistic religious traditions.

The sacred and spiritual dimensions of nature are experienced individually but also collectively as is the case with sacred natural sites. The distinct cultural perspectives associated with sacred natural sites are considered shared values amongst a group of people that have a clearly distinguished culture from others (Carmichael 1994). Nonetheless, the spiritual and sacred dimensions of nature are transcendent at a level where sacred natural sites form a shared source of inspiration that is appreciated and recognised by various social and cultural groups. A good example illustrating this point is the returning of rocks, delivered in person or by mail, which tourists from all over the world had taken from Uluru (Ayers Rock at Kata Tjuta National Park, Central Australia). The main reasons for returning the rocks seemed to be sympathy, compassion and also an increased awareness of their spiritual significance. The returning of rocks increased after the site was officially handed back to the traditional owners[vii]. Ownership was based on their custodianship and simultaneously the profound spiritual and sacred dimensions of the site that had over time grown to a global appreciation and recognition formalised as a World Heritage Site by UNESCO.

3.2 Sacred natural sites in conservation policy

The collective body of case studies presented at the 2003 Kunming workshop[viii] and the 2005 Tokyo International Symposium[ix] has given rise to the development of the 2005 "UNESCO/IUCN Draft Guidelines for the management of sacred natural sites". These guidelines are a synthesis of synergies and opportunities for the management of sacred natural sites and the intangible cultural and spiritual values of indigenous people related to them. The guidelines, currently under development assist in putting in place specific management objectives in Protected Areas (PA's) and cultural landscapes.[x] At a global level, these developments have contributed to growing interest from international organisations such as the CBD, IUCN, UNESCO, FAO and WWF that are now increasingly addressing sacred natural sites in their program of work and placed the potential sustainable development and conservation of sacred natural sites on their respective agendas.

Because these areas frequently also hold high biodiversity values, these sacred natural sites hold considerable potential to serve as a traditional blueprint for restoring and safeguarding ecosystem functions whilst supporting conservations efforts and consequently developing "people inclusive" management objectives. In addition, because of sacred natural sites' unique intercultural and interdisciplinary character (see figure 8), they can be a suitable means for environmental education, cross-cultural learning and intergenerational transmission of bio-cultural knowledge. These potential benefits call for safeguarding sacred natural sites and their integration into conservation and ecosystem management strategies. Even though a precautionary approach and sensitising to cultural and spiritual values is a prerequisite, conservation management has the ability to play a largely facilitating role in this process.

From a conservation or ecosystem management perspective, these culturally significant places may be labelled World Heritage Site based on six out of ten criteria (the other four are natural criteria):

I. "to represent a masterpiece of human creative genius";
II. "to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design";
III. "to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared";
IV. "to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history";
V. "to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change";
VI. "to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria)";

Another means that allows signaling of cultural significance at a local, regional and national scale is the recognition of sacred natural sites. Recognition of spiritually significant places, through the concept of sacred natural sites, is in many cases thought to contribute to their legitimacy and offers a vehicle for their inclusion in conservation activities, ecosystem management plans and corresponding policies.

Concurrently, this would require the inclusion of cultural criteria in ecosystem management and the adoption of the concept of bio-cultural diversity, which would inevitably lead to the broadening of management objectives and the enhancement of related and facilitating policies such as the IUCN management categories, the CBD mechanism for access and benefit sharing and UNESCO's convention on intangible heritage. Simultaneously, the concept of sacred natural sites gains recognition because it enables managers and policymakers to conceptualise and communicate complex spiritual-ecosystem relationships through intercultural learning and local environmental education whilst at the same time developing conservation objectives(see figure 1). The declaration on the Role of Sacred Natural Sites and Cultural Landscapes in the Conservation of Biological and Cultural Diversity[xi] (see also footnote 5) emphasises the importance of sacred natural sites:

1. Considering that sacred natural sites and cultural landscapes are of vital importance for safeguarding cultural and biological diversity for present and future generations;
2. Recognizing that many sacred natural sites have great significance for the spiritual wellbeing of indigenous peoples and local communities;
3. Noting the need to promote and safeguard cultural and biological diversity, particularly in the face of the homogenizing forces of globalization;
4. Bearing in mind that sacred natural sites, cultural landscapes and traditional agricultural systems cannot be understood, conserved and managed without taking into account the cultures that have shaped them and continue to shape them today

Embracing the concept of sacred natural sites, it is evident that focal areas of spiritual values and cultural significance exist. However, it is of critical importance to recognise that in many cultures and traditional worldviews their importance generally extends to the wider landscape. Hence, the whole landscape can be permeated with spiritual significance. Sacred landscape poses a particular set of problems for ecosystem management such as the secrecy of knowledge and the transboundary nature of cultural perceptions and patterns of land-use. Evidence that such bio-cultural linkages exist is often embodied in nature and expressed through a cluster of socio-cultural values such as according to the convention of intangible heritage (UNESCO 2003):

1. Oral traditions and expressions, including language as a vehicle of the intangible,
2. Cultural heritage;
3. Performing arts;
4. Social practices, rituals and festive events;

5. Knowledge and practices concerning nature and the universe; and
6. Traditional craftsmanship.

Figure 4 provides an example of some of these expressions of intangible heritage that are intimately linked to the natural environment.

3.3 Sacred natural sites in IUCN categories

Sacred sites (including sacred natural sites) that fit into national and international definitions of protected areas can where appropriate be recognized as legitimate components of protected area systems and can be attributed to any of the six IUCN protected area categories. At the same time, the cultural and spiritual values of protected areas should be better reflected in the whole range of categories, whereas at the moment they are absent or insufficiently recognized.

IUCN's definition of protected areas ("an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources and managed through legal or other effective means") recognizes the intrinsic cultural dimension of protected areas. The cultural and spiritual values that human communities and individuals assign to protected areas and natural places of special significance are expressions of such a cultural dimension.

This has been reflected, at least partly, in the experience of the protected areas managers and conservationists from around the world. Many protected areas contain sites of importance to one or more faith or spiritual value systems, including both sacred natural sites and built monuments such as monasteries, temples, shrines, pilgrimage trails, etc. Even in systems of protected areas of the most secularised countries of Europe, which were established using only ecological criteria, it is estimated that between 20-35% of them include significant cultural or spiritual values (Dudley et al, 2005).

Managers have to ensure that these spiritual values are protected alongside natural heritage. However, sacred sites are currently not effectively reflected in protected area designations and management plans, and existing policy and legal frameworks do not adequately support sacred (natural) sites (Jeanrenaud 2001). There is sound and widespread evidence that sacred natural sites have been providing - often over the centuries - and continue to provide effective biodiversity conservation (Posey 1998, Berkes 1999, McNeely 2000, Jeanrenaud 2001, Harmon & Putney 2003, Dudley et al 2005). It has become evident that the integration of cultural and spiritual values of sacred natural sites can play a pivotal role in sustainable and equitable conservation and ecosystem management.

Recommendation 5.13 from the Fifth World Parks Congress called for governments, NGOs, local communities and civil society to "ensure that protected area systems, protected area designation, objective setting, management planning, zoning and training of managers, especially at the local level, give balanced attention to the full spectrum of material, cultural and spiritual values; and requested IUCN to "review the 1994 Protected Area Category Guidelines with the aim of including cultural and spiritual values as additional potential management objectives in categories where they are currently excluded".[xii] Furthermore, Recommendation 5.19 on "IUCN Protected Area Management Categories" requested that the revised, updated edition of the 1994 guidelines "Gives greater recognition of cultural and spiritual values, so that the full range of special qualities of each protected area are fully recognized".

At that time, it was suggested that Category III might provide a natural "home" for sites with a particular focus on sacred values and that guidance on Category III could be modified accordingly. Since 2003, research on five continents has shown that sacred natural sites exist in all categories of protected areas and each may have particular benefits depending on circumstances (Secretariat of the CBD 2004, Putney 2005, Dudley et al 2005, Verschuuren 2006, Mallarach 2007). This conclusion is applicable in both developing and developed countries. As an example of the latter, the Delos Initiative case studies currently feature over 30 sacred natural sites located in protected areas ranging from Categories II-VI[xiii]. Figure 5 below provides some examples.

Figure 5: Examples of sacred sites in IUCN categories

Ia	**Strict Nature Reserve: protected area managed mainly for science**		
	Sri Lanka	Yala National Park	Significant to Buddhists and Hindus and requiring high levels of protecti faith reasons.
	Russian Federation	Yuganskiy Kanthy	Significant to Christianity. The protected area has been created around Numto –a Khanty and Nenets sacred place– in Beloyarsk region.
Ib	**Wilderness Area: protected area managed mainly for wilderness protection**		
	Mongolia	Bogd Khan Mountain	The Mountain is significant to Buddhism and previously to shamanism Mountain has been officially designated as a sacred mountain by the Evidence exists of wilderness area declaration dating from 1294.
	Mongolia	Dornod Mongol	Significant to Buddhism. Vangiin Tsagaan Uul (White Mountain of Vang sacred Buddhist peak within the reserve.
II	**National Park: protected area managed mainly for ecosystem protection and recreation**		
	Malawi	Nyika National Park	Large area containing four sacred sites, which local people can still us rainmaking ceremonies.
	Japan	Kii Mountains Na Parks and WHS.	Several Shinto and Buddhist temples, sacred sites for and pilgrimage tra both faiths in continuous use for over one millennium
	India	Great Himalayan Na Park	Includes many places of religious importance for Hinduism.

III	**Natural Monument: protected area managed mainly for conservation of specific natural features**		
	Cambodia	Phnom Prich W Sanctuary	A small area within the sanctuary is a sacred forest and therefore a n monument (another example are the *kaya* forests of Kenya).
	Russian Federation	Golden Mountains of A	Sacred for many indigenous beliefs and faiths: Christian, Buddhist, and Isl
	Greece	Mount Athos peninsula	Stronghold of Orthodox Christianity including 15 monasteries and a number of hermitages with over one millennia of continuous mo activity.
IV	**Habitat/Species Management Area: protected area managed mainly for conservation through manage intervention**		
	Lebanon	Qadisha Valley anc Forests of the ceda God WHS	Sacred forest to the Christian Maronite Church, including a signi monastery, hermitages, and residence of religious authorities.
	Borneo	*tembawang* gardens	Some sacred sites will need continual intervention or even be planted -su the *tembawang* gardens that contain high levels of biodiversity
	Sri Lanka	Peak Wilderness Parl Pada or Adam's Peak	Sacred natural site for Islam, Buddhism, Hinduism and Christianity, attra many pilgrims of all these faiths.
V	**Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation recreation**		
	China	Xishuangbanna Na Park	Landscape with several sacred sites (groves and mountains), which have been managed by the community and are part of an important biologically rich cultural landscape.
	Romania	Vanatori Neamt N Park	The spiritual heart of Romania, including 16 Christian monasteries, along outstanding wildlife: European bison, brown bear and wolf populations.
	Spain	Montserrat N Reserve & Natural Pa	Christian monastery with centuries old hermitages which has be pilgrimage centre since the 14th century. Today it is the most heavily v protected area of Spain
VI	**Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosys**		
	Ecuador	Cayapas Mataje	Sustainable use area said to contain the world's tallest mangroves and k for important spirit dwellers that are worshipped by local people.
	USA	San Francisco National Forest	Sacred to over one dozen of Native American tribes, mainly the Navajo.
	Egypt	St Catherine Area W Mt Sinai	Mount Sinai is sacred to Judaism, Christianity and Islam. The ar monastery of St Catherine is WHS.

Sacred sites may exist in more or less natural ecosystems, cultural landscapes or managed landscapes and when they occur in protected areas they need to be fully incorporated into management strategies in cooperation with the relevant faith and community groups.

Category III – a natural monument – is therefore only one possible management option. Highly sacred sites where human visitation is discouraged may benefit from being classified as Category Ia. Sites including retreat or hermitages centres, where solitude and silence are essential, could qualify for Category III.[xiv] Other sacred sites, found in managed protected landscapes, should best be placed under other categories, notably Category V. Therefore, while IUCN should provide additional advice about approaches to management of all protected areas containing sacred sites - or landscapes - as well as for the cases of sacred sites that could also become protected areas, there is no limit on the category in which they occur and sacredness is therefore not a distinguishing feature for any category in particular.

3.4 Integrating sacred sites within protected areas

Over the last years, IUCN through the WCPA Task Force on Cultural and Spiritual Values of Protected Areas (CSVPA) and in collaboration with UNESCO has been developing draft guidelines for the Management of Sacred Natural Sites in protected areas,[xv] based on the body of case studies presented at the 2003 Kunming workshop[xvi] and the 2005 Tokyo International Symposium.[xvii] At present these guidelines cover most important management issues related to sacred natural sites in protected areas linked to indigenous or primal traditions; a parallel process for developing guidelines for management of sacred sites related to mainstream, institutionalised religions has been initiated by the Delos Initiative of CSVPA. Relevant recommendations made by the participants of the Tokyo International Symposium are summarised in figure 6 :

Figure 6: Excerpted recommendations from the Tokyo International Symposium.

1. Considering that sacred natural sites and cultural landscapes are of vital importance for safeguarding cultural and biological diversity for present and future generations;
2. Recognizing that many sacred natural sites have great significance for the spiritual wellbeing of indigenous peoples and local communities;
3. Noting the need to promote and safeguard cultural and biological diversity, particularly in the face of the homogenizing forces of globalization;
4. Bearing in mind that sacred natural sites, cultural landscapes and traditional agricultural systems cannot be understood, conserved and managed without taking into account the cultures that have shaped them and continue to shape them today

IUCN works in different ways to integrate cultural and spiritual values in protected areas, fostering positive synergies throughout the world. It aims to ensure the effective protection of sacred natural sites and their recognition as contributors to biodiversity conservation and the objectives of protected area systems. Through its Secretariat programmes, IUCN implements projects and actions in this regard in several countries of Asia, Africa and Latin America. Through the work of the CSVPA, WCPA has enabled much evidence to support the integration of cultural and spiritual values in protected area management,

and the development of policies, tools and actions to promote the protection of sacred sites. Within CSVPA, the Delos Initiative focuses on the sacred natural sites in technologically developed countries throughout the world in order to maintain both the sanctity and the biodiversity of these sites.

CSVPA's work enables WCPA to play an important role in redressing the imbalance between the emphasis given to the tangible and intangible aspects of protected area management. This role can be enhanced by assisting WCPA members, protected area agencies and the protected areas community to identify and manage the cultural and spiritual attributes of protected areas as a means of maximizing their contribution to society.

At the First Workshop of the Delos Initiative held 23-26 November 2006 at the Monastery of Montserrat in Catalonia, Spain, the participants incorporated the experience and knowledge they gained during the preparation of case studies. Some of these experiences and findings were summarised in the "Montserrat Statement" excerpted on the next page.[xviii]

Figure 7: Excerpt from the Montserrat Statement of the Delos Initiative 1st workshop.

RECOGNISE that for assurance of long-term sustainability, conservation goals, programs and messages need to be grounded in deeply held values, beliefs, ideas, and practices. The conservation community needs to recognise these aspects and give these deeply held values, beliefs, ideas, and practices the place that they deserve in the conservation of protected areas. This constitutes both a challenge and a great opportunity to build further support for the conservation movement, involving partners and stakeholders that up to the present have not been supportive, because they felt excluded by the materialistic outlook that nature conservation has often adopted;

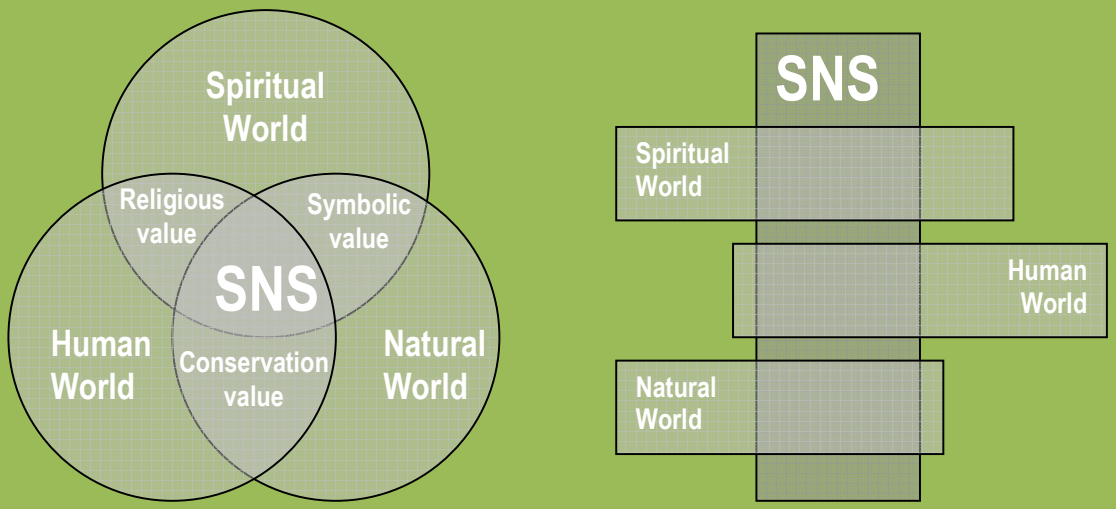
RECOGNISE AND CONFIRM the actual existence of sacred natural sites in all of the IUCN categories of protected areas found in technologically developed countries;

FURTHER ACKNOWLEDGE that positive synergies between natural, cultural and spiritual values extend to sacred sites beyond the boundaries of designated Protected Areas and therefore functions as a vehicle for supporting and communicating nature conservation.

3.5 The benefits of integrating sacred sites in protected areas

Because sacred sites areas frequently also hold high biodiversity values, these sacred natural sites or sacred landscapes hold considerable potential to serve as a traditional blueprint for restoring and safeguarding ecosystem functions whilst supporting conservation efforts and consequently developing "people-inclusive" management objectives (Verschuuren et al, 2006). In addition, because of sacred natural sites' unique intercultural and interdisciplinary character (see figure 8) they can be a suitable means for environmental education, cross cultural learning and intergenerational transmission of

Figure 8: Generic model of values that compose sacred natural sites (Source: Verschuuren et al. 2006)



spiritual and bio-cultural knowledge. These potential benefits call for safeguarding sacred natural sites and their integration into conservation and ecosystem management strategies. Considering a precautionary approach to cultural and spiritual values is a prerequisite for conservation and fostering of cultural and spiritual values, one may ask if conservation management has not an obligation to facilitate such precautionary approaches.

The most common view shared by institutionalised and indigenous spiritual traditions alike is that the world is a 'multiple level hierarchic reality' (Smith 1977). Figure 8 shows these relationships simplified as three different planes that overlap. It is a way of showing that management of sacred sites should consider all values and stakeholders involved. Therefore, it is necessary to acknowledge that in this world where many different worldviews coexist, each worldview may have its own hierarchy of values. Within these worldviews, different traditional cosmological sciences have evolved over time - often in harmony with nature -and many of which are still alive in different regions around the world.

Figure 8 shows the multilevel hierarchic relationships simplified as three different planes that overlap. It is a way of showing that management of sacred sites should consider all values and stakeholders involved. Therefore, it is necessary to acknowledge that, in this world where many different worldviews coexist, each worldview may have its own hierarchy of values. to gain new allies for protected areas, especially those that include intangible values, it is important to focus on the common ground, instead of insisting that everybody accepts the worldview of modern science[xix]. Embracing the concept of sacred natural sites, it is evident that focal areas of spiritual values and cultural significance exist. However, it is

of critical importance to recognise that in many cultures and traditional worldviews, their importance generally extends to the wider landscape. Hence, in some regions the whole landscape can be permeated with spiritual significance.

Depending on the governance model of the protected area, the empowerment of custodians of sacred sites permits their participation in conservation management. Traditional custodians of sacred sites will need to be able to communicate and translate cultural and spiritual values of sacred sites where relevant to the management objectives. Sacred sites offer an excellent opportunity to engage in this dialogue and develop synergies that are environmentally sustainable and socially equitable.

From an ecosystem management perspective, care needs to be taken to ensure that cultural and spiritual values do not jeopardise biodiversity values (Shepherd 2004, Verschuuren 2006,). Integrating sacred sites, or more broadly, the perception of sacredness of nature, in conservation plans can only be achieved when doing this across ideological, physical and institutional borders, both within and outside protected areas! In short, this is a process which integrates knowledge and wisdom. Therefore, including sacred sites in all protected area categories builds on their intercultural and crosscutting values which, in turn, produces equitable synergies between spiritual, cultural and natural diversity in support of more holistic conservation objectives. [xx]

4

Cultural and spiritual values in management effectiveness

"Science can help ensure that decisions are made with the best available information, but ultimately the future of biodiversity will be determined by society". Millennium Ecosystem Assessment 2005.

Amazon Indians (Amerindians) are using Google Earth, Global Positioning System (GPS) mapping, and other technologies to protect their fast-dwindling home. Tribes in Suriname, Brazil, and Colombia are combining their traditional knowledge of the rainforest with Western technology to conserve forests and maintain ties to their history and cultural traditions, which include profound knowledge of the forest ecosystem and medicinal plants.

Amazone, Brazil, South America.

Source: New Scientist,
Photo: Amazon Conservation Team (ACT)

4.1 Management effectiveness

One of the most eminent problems of integrating cultural and spiritual values into effective management strategies is that cultural and spiritual values of protected areas and sacred natural sites are not necessarily measurable in terms of material or biophysical processes. The most important spiritual and cultural values are based on people's relationship with their environment most of which UNESCO has identified as intangible values. Such values are often group values - culturally or socially defined - whose perceptions may also fit affiliated worldviews. This has implications for protected area management as often, these cultural and spiritual values are not specifically included in the management objectives. Once they have been included in management objectives, management actions can be consolidated and later improved as a response to the outcomes of management effectiveness assessments.

Assessing management effectiveness has been defined by Stolton 2000 as:

"The assessment of how well an area is being managed – looking at design issues; the adequacy and appropriateness of management systems and processes; and the delivery of protected area objectives including conservation of values".

Stolton also notes;

""However good management is, if values continue to decline, the protected area objectives are not being met. Therefore the question on condition assessment has disproportionate importance Therefore the question on condition assessment has disproportionate importance".[xxi] When relating these words to

the management of cultural and spiritual values, the need becomes apparent to first ensure the inclusion of Sacred Natural Sites as they should be part and parcel of cultural and spiritual values in protected area management. As many sacred natural sites exist whose cultural values (and consequently their biological values) are under threat, inclusion in protected areas and extended protection measures could cause the related cultural and spiritual values to be safeguarded and restored.

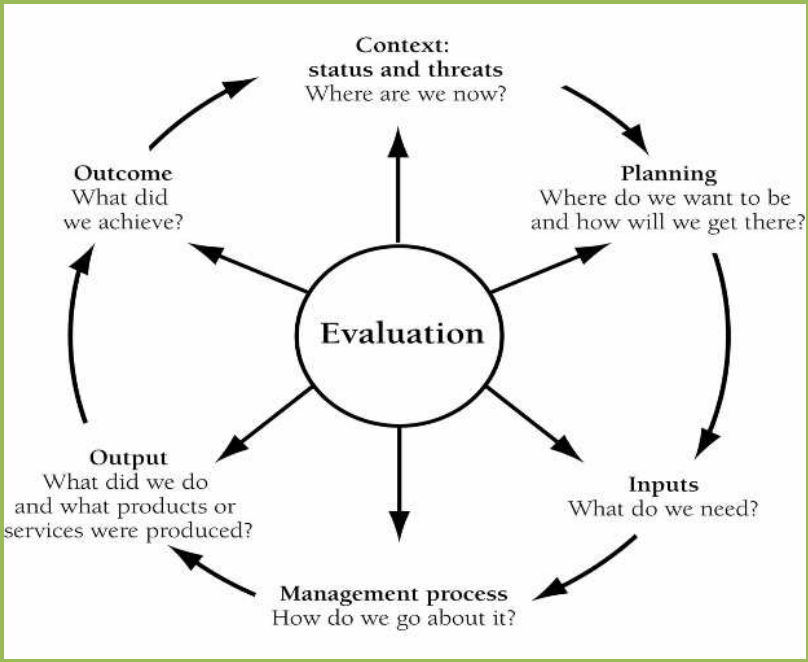
This report considers four main methodologies for testing management effectiveness of protected areas which are:

1. WWF RAPPAM methodology: System wide, multiple site applicable tool for inventory and systematic comparison of detailed management issues, weighted score approach;
2. IUCN Framework for Assessing the Management Effectiveness of protected Areas (Hockings et al. 2000);
3. World Bank/WWF tracking tool: multiple sites assessment of trends and issues, scorecard approach.
4. Enhancing our Heritage: Site level tool, detailed monitoring of management effectiveness, checklist approach.

Annex 1 provides a comprehensive overview of the above methodologies and presents a comparative analysis of strengths, weaknesses, options for integration and suitability for dealing with cultural and spiritual values as well as sacred natural sites. The first two methodologies have been tested in the field to include Sacred Natural Sites and specific Cultural and Spiritual Values (pers comm; Mallarch J, Higgins Zogib L.). Both methodologies are considered flexible enough to encompass cultural and spiritual values. However these methodologies take slightly different approaches to measuring management effectiveness and registering the outcomes of the assessments and evaluations. This has consequences for expertise required to fulfil the assessment and the applicability of its results.

Alternatively, other methodologies exist that have been developed for related disciplines such as the assessment of effectiveness of environmental policy in addressing environmental problems of the EU (Guedes et al. 2001) and the assessment of effectiveness, indicators and criteria for sustainable forest use by CIFOR. The latter has developed a “Toolbox Series” that provides additional information not only on indicators and management effectiveness but on a whole range of management issues and methodologies including their application in the field.[xxii] Although these methods may not make specific mention of cultural and spiritual values nor sacred natural sites, there are lessons to be learned. Those lessons learned from implementing social and cultural aspects of management effectiveness assessments can arguably be incorporated at the site level. The WCPA management effectiveness framework may be used as a reference when designing an approach for integrating cultural and spiritual values and sacred natural sites in PA management (see figure 9).

Figure 9: The Management Cycle. Source: Hockings M, Stolton S and Dudley, N (2005)



4.2 The WCPA management effectiveness framework

This report aims to bring out a basis of information and ideas that may assist park managers and policy makers with the inclusion of cultural and spiritual values associated with sacred natural sites into PA management plans. To most park managers, this would mean the inclusion of these values in very specific locations with a specific cultural context causing huge cultural differentiation at a global level. Therefore the specifics of the science of assessment and its applications on a global scale in terms of providing specific guidance are out of the scope of this report. However, this reports builds on the fairly universal WCPA framework (Hockings et al 2000) which is based on the idea that management follows a process known as the management cycle (see figures 9 and 10); an idea that is shared among park managers around the world.

The WCPA management effectiveness framework consists of six distinct elements which are generally used to develop monitoring and evaluation systems:

1. Context of existing values and threats: Where are we now?
2. Progresses through planning: Where do we want to be?
3. Allocation of resources (inputs): What do we need?
4. Result of management actions (process): How do we go about it?
5. Produce, goods and services (outputs): What were the results?

6. Impacts or outcomes: What did we achieve?

Conservation organisations use various assessment methodologies based on the WCPA framework as a basis for their monitoring and evaluation of management effectiveness. Some examples have been mentioned in annex 1, whereas others have been developed by WWF, GEF, World Bank, and individual parks agencies of various provinces and countries (such as Greece, Spain, Finland and Australia). Other examples of developing innovative frameworks, based on inclusion of sacred natural sites in technologically developed countries, is the Delos Initiative.[xxiii] At a global policy level, the CBD Programme of Work on Protected Areas also calls on its signatories to institute systems for assessing management effectiveness of protected areas and even makes special reference to the integration of sacred natural sites (Dudley et al. 2005).

Figure 10: WCPA management effectiveness framework.
Source: Hockings et al. (2005)

Elements of evaluation	Explanation	Criteria that are assessed	Focus of evaluation
Context	***Where are we now?*** Assessment of importance, threats and policy environment	- Significance - Threats - Vulnerability - National context - Partners	Status
Planning	***Where do we want to be?*** Assessment of protected area design and planning	- Protected area legislation and policy - Protected area system design - Reserve design - Management planning	Appropriateness
Inputs	***What do we need?*** Assessment of resources needed to carry out management	- Resourcing of agency - Resourcing of site	Resources
Processes	***How do we go about it?*** Assessment of the way in which management is conducted	- Suitability of management processes	Efficiency and Appropriateness
Outputs	***What were the results?*** Assessment of the implementation of management programmes and actions; delivery of products and services	- Results of management actions - Services and products	Effectiveness

Outcomes	***What did we achieve?*** Assessment of the outcomes and the extent to which they achieved objectives	-	Impacts: effects of management in relation to objectives	Effectiveness and Appropriateness

To integrate cultural and spiritual values into park management a focus on the development of indicators is needed. Each of the six components of the IUCN-WCPA framework methodology - context, planning, inputs, process, outputs and outcomes- indicators can be put in place that accord with the objectives they are meant to inform (see figure 9). Special attention will need to be given to the possibilities for including Sacred Natural Sites and their respective cultural and spiritual values. More effective management of protected areas can be supported by acknowledging and adjusting to specific aspects of sacred natural sites as indicated in figure 11.

4.3 Integrating tools and methods into the WCPA framework

There exist a multitude of reference frameworks and methodologies that may be used to guide the process of including the management of cultural and spiritual values related to sacred natural sites in protected areas. Most of these reference frameworks or tools may be applied at one or more of the specific stages of the WCPA management effectiveness framework.

Having requirements 1 to 5 in place is itself already a challenging undertaking. However, requirement 6 - the monitoring plan - entails another specific set of considerations regarding indicator selection, criteria, and perception that were mentioned earlier and will be further elaborated later in this report.

Figure 11: Minimum requirements for effective management of and implications for sacred natural sites
Source: Adapted from: Stolton S, Equilibrium Consultants.

Minimum Requirements for Effective Management (Stolton, 2006)	Implications for SNS
1. Legal designation	Many sacred natural sites are not legally recognized. Limited legal recognition may have deeper cultural or political motivations. Of assistance can be crossing the IUCN PA categories with governance types (Dudley et al 2005).
2. Demarcation of protected area boundaries	Sacred natural sites may be trans-boundary or outside of PA borders. Sacred natural sites have enormous potential to become (part of) protected areas (based on IUCN definition of protected areas).
3. Clear management objectives	Cultural and spiritual values related to sacred natural sites are often not included in protected area management objectives. For simple guidelines and further reading, see IUCN Vth WWC recommendations.
4. Operational plan	Management activities related to sacred natural sites include possibilities for local people and communities to participate in maintaining biodiversity and cultural diversity on basis of the common ground offered through conserving bio-cultural diversity.
5. Operational budget	Managing sacred natural sites offers new options in terms of innovative financing methods with community and faith groups
6. Monitoring plan	Indicators for the cultural and spiritual values of sacred natural sites are being developed and are not yet part of the common management effectiveness strategies mentioned in this report. Issues persist with such indicators being based on perception.

The integration of cultural and spiritual values and sacred natural sites has to take place in management as well as policy ranging from local and international levels. Cultural and spiritual values should not only be integrated in individual protected areas but also in system wide strategies for managing and governing a range of protected areas. Aspects of integration therefore take place amongst various scales from:

- Management to policy;
- Local to international levels;
- Private to public spheres and;
- Single protected areas to system wide applications.

4.4 The use of Integrated Assessment

In support of management and policy making, integrated (environmental) assessment can be a useful tool to better understand the environmental and social problems related to current conservation efforts. In the light of developing environmentally sustainable and socially equitable strategies for including cultural and spiritual values as well as sacred natural sites, integrated assessment offers an interdisciplinary tool that can help ensure that decisions are made with the best available information.

Various definitions of integrated assessment have been provided in literature; for example, Hisschemöller et al (2001) provides a rather broad description of integrated environmental assessment:

"Assessment is integrated when it draws on a broader set of knowledge domains than are represented in the research product of a single discipline. Assessment is distinguished from disciplinary research by its purpose: To inform policy and decision making, rather than to advance knowledge for its intrinsic value".

Toth & Hizsnyik, (1998) are more specific in defining integrated assessment as:

"An 'added-value' assessment that brings together a range of scientific disciplines and other information drawn from the wider community which will provide policy-relevant outputs and assist effective decision-making".

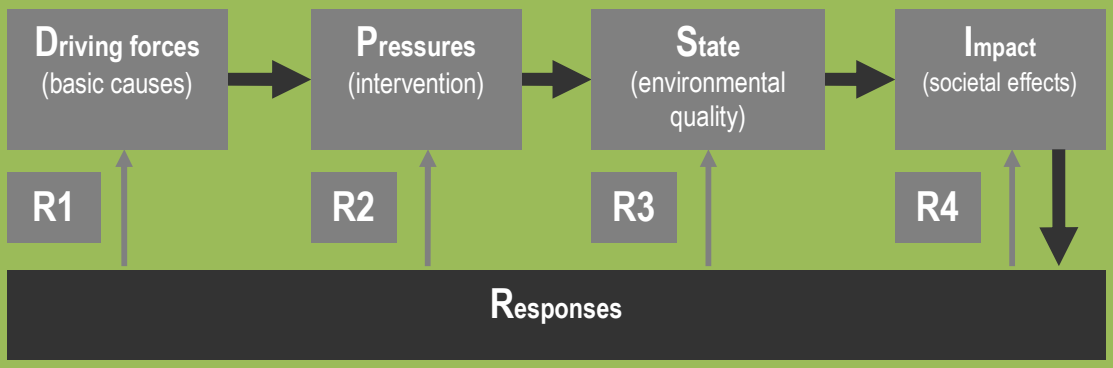
Van Asselt and Rotmans (2002), however, provide a simple definition which whilst not making special reference to the integrative character of integrated environmental assessment, does stress its policy relevance:

"Integrated environmental assessment is a process of producing and communicating policy-relevant information on key interactions between the natural environment and human society".

Toth & Hizsnyik (1998) further identify a number of roles for integrated assessment that can be synchronized with similar processes of integrated management (e.g. adaptive management and reactive monitoring) as proposed by Hockings et al. when explaining the WCPA framework and are then further linked to processes relevant in management:

1. Initial monitoring (environmental processes and determining driving forces);
2. Risk assessment (type, causes and implications);
3. Response assessment (ranking options);

Figure 12: DPSIR model



4. Goal and strategy formulation (objectives and strategies needed);
5. Implementation (execute strategies);
6. Evaluation (assess performance);
7. Post-monitoring (effects of policies, actor compliance).

Before comparing the effects of management actions with the intended management objectives, criteria need to be matched to these objectives and indicators need to be developed to measure these criteria. Evaluations of effects depend on identifying a chain of causation linking the outputs, outcomes and final impacts of a project intervention. For this function, the DPSIR (Drivers, Pressures, State, Indicators, and Responses) model developed by the European Environment Agency offers a sound framework (see figure 12).

Hockings et al (2000) suggest a set of guidelines at the basis for assessments of management effectiveness when using the WCPA framework. Although all of these guidelines are important, some of these guidelines are of key importance to managing cultural and spiritual values. Figure 13 below shows these guidelines and emphasizes their relevance for managing cultural and spiritual value and sacred natural sites.

Figure 13: Assessment guidelines' aspects for managing cultural and spiritual values and SNS

	Guidelines as a basis for assessment	Relevant aspects for managing cultural and spiritual values and SNS.
1	Assessment systems should aim to be participatory at all stages of the process and should seek to involve all relevant organisations and individuals that may have a genuine and demonstrated interest in the management and/or use of a site.	Include: local and indigenous people, faith groups and religious groups.
2	The management objectives and the criteria for judging management performance must be clearly defined and understood by the managers and assessors.	The understanding of what objectives and criteria are important may vary among cultures, worldviews and local perceptions of an area. If truly participative, local and indigenous people, faith groups, religious groups, should be included alongside managers and assessors. They can be both managers and assessors but as seen in Annex 1, some assessment methodologies depend on "outside expertise".
3	Performance indicators should relate to social, environmental and management issues, including the relationship between the protected area and its surroundings.	Sacred natural sites may surround protected areas they can be used to cultivate relationships between the protected areas environmental targets and peoples' objectives in and outside the park. Perception is largely culturally influenced, hence performance indicators may also relate to cultural issues (e.g. culturally significant flag ship species such as the black-necked crane which has been revered by Tibetan Buddhists for centuries as a symbol of peace).
4	In reporting on assessment, strengths and weaknesses should be identified and issues should be divided between those that are within and outside the manager's control.	In case of sacred natural sites management, responsibilities can be shared with local and indigenous people, faith groups, religious groups. All participants should then be informants in the assessment process.
6	Assessment should allow prioritization of conservation effort.	This should include conservation of cultural and spiritual values as these are often linked to knowledge bodies and behavioural patterns that are critical to maintaining biodiversity values over larger periods of time.
7	Assessments should be based on sound and appropriate environmental and social science	Indigenous people practice a different type of environmental science then western trained scientist do. It has to be understood that the science we use to determine what aspects of protected areas we conceive to be important is to a large extend a social construct. People from different cultures and with different worldviews should be equally represented in the assessment in a way that corresponds with their role in management.
8	Assessment is likely to include both quantitative and qualitative information that should be supported by measurement or other evidence.	In terms of indicators, one should avoid having different understandings of what quantitative and qualitative indicators are. For example, the amount of people who perceive a decrease in abundanceof a specific fish species may be regarded a quantitative indicator by a social scientist however to a natural scientist it will mean no such thing. Cultural and spiritual importance that is found in intangible heritage and or perceptions of people are typically difficult to quantify.

Source: Adapted from Hockings et al. (2005).

In relation to the last point in the above table, more detailed field research into indicator development based on perception is needed. In most cases it will be needed to better understand what perception constitutes of. This implies looking at socio-anthropological, philosophical and psychological knowledge in order to understand perception and putting it in the context of nature conservation. Ultimately, this is important because perception can be used in developing indicators for management which can be qualified in terms of it being successful and useful in safeguarding cultural and natural values; for example, in setting historical baselines and constructing trends of change in the natural environment.

5

Perception-based indicators

5.1 What is perception?

At present, in nature conservation and ecosystem management, increasing importance is placed on the full range of values related to landscapes and ecosystems. Besides the many functions of (protected) areas that contribute to human wellbeing, through what are also becoming known as ecosystem goods and services, there is growing recognition of the fact that these ecosystems and landscapes are perceived in very different ways by different people and stakeholders. Often perceptions of ecosystems are culturally induced and embedded into worldviews that are instricably connected to the environment. In case of spiritual values, these human-ecosystem interrelationships can be transcended and extend to the cosmos with what is typically called a 'cosmovision' (see figure 1). This has consequences for the way perception plays a role in selecting indicators, indicator criteria and their application in monitoring systems and management. Indicators have been defined in literature by several authors based on their purpose. Smeets and Weterings (1999) state that communication is the main function of indicators. According to the authors, "Indicators should enable or promote information exchange regarding the issue they address". This simple definition seems suitable in that it easily allows for inclusion of perception-based indicators.

Perception's etymological root lays in Latin and simply means "understanding"; to become aware of something through the senses as a way of interpreting something. Hence the common proverb "Seeing is believing"; at least, that is the common understanding of how perception works. Immanuel Kant, known to have been of significant influence to many post-modern philosophers, advised that the way we categorise things limits the way we see things. Kant would have said, "Believing is seeing". The definition of perception nonetheless extends to intuitive understanding or insight. In this article, and specifically in relation to the local and indigenous connectivity to the land, perceptions

"...indicators must place significant emphasis on indigenous peoples' inherent values, traditions, languages, and traditional orders/systems, including laws, governance, lands, economies etc. This must include recognition of the value of indigenous work (e.g. "making a living" versus "having a job"). Indicators development should reflect true indigenous perspectives such as portraying approaches grounded in wholism and unique values."

Source: Permanent Forum on Indigenous Issues (2006)

Indicating culturally relevant landscape features in relation to wetland inundation.

Kunbarllanjnja community, Arnhem land, northern Australia.

are rooted in people's cosmovision. With respect to these cosmovisions, perception needs to be understood in the broadest possible sense thus including "extrasensory perception". Extraordinary perception exceeds intuition as it is generally described as perceiving things other than through the known senses. See figures 1 and 3 for examples of extra sensory perception as part of indigenous people's worldview. The example depicts a photo and artist impression that shows the unification of the natural, spiritual and human world imbued in a Sacred Natural Site.

Given the complex nature of these worldviews and particularly their cultural and spiritual dimensions, innovative participatory management strategies are required. In particular, when formulating management objectives based on cultural and spiritual values, it is of critical importance to understand these values in their socio-cultural context. When managing culturally significant ecosystems, it is equally important to recognise the cultural and spiritual values and include them in assessment and monitoring strategies.

5.2 Perception in conservation management

People's perceptions on cultural and spiritual importance of ecosystems provide information to management necessary to make informed and equitable decisions. Hence, participation of local people and consensus on interpretation and valuation of cultural and spiritually significant values is required. These values are of critical importance for the policies that govern day-to-day management and ultimately the assessment of management effectiveness in protected areas that are under indigenous or co-management.

Consequently, local people, as keepers of cultural and spiritual values play a pivotal role in terms of indicating the importance of their cultural and spiritual values related to nature and ecosystem management. Depending on the governance model of the protected area and the balance between empowerment of indigenous people and participation in management indigenous people will be able to communicate the importance of their cultural and spiritual values where relevant to the management objectives. For management to comprehend those values for their use in determining management objectives, strategies and evaluation methods, suitable indicators have to be developed that can incorporate different perceptions and non-use values. Hence, local and indigenous people need to be involved in the process of developing, selecting and measuring those indicators. At best, locally based means of deciding what is important for management needs to be respected and approved. Management needs to be able to facilitate and incorporate indigenous decision-making processes and outcomes based on differing perceptions and value judgements. To do so, management must make use of innovative and participatory strategies in assessment, indicator development and monitoring. These processes will help

increase management effectiveness especially when they will be enabled through management and governance based on local people's decision-making.

Developing suitable indicators to inform management on the state or condition of the values at hand can be a complicated task. Prior to selecting indicators, the criteria, which lie at the basis for selecting indicators, need to be clarified. It is argued that these criteria vary with the type of values the indicator is expected to reflect..Most of all, the criteria depend on how these values are perceived by local people.

Ecological values for example are often based on information derived from species and ecosystem processes using biophysical methods. More recently, the use of traditional ecological knowledge is gaining a foothold in comtemporary ecosystem management, especially when this knowledge is supported by 'western science proof'. Cultural values, on the other hand ,are based on how people perceive ecosystems and, in many cases, there might not be sufficient or objective scientific proof causing management to work with additional sources of information such as photo's, drawings/artwork or poems (see figure 1). Thus, in line with Jepson and Canney (2003), it becomes clear that we believe certain things, not because they are logically evident, but because we live in a group where these ideas are supported and confirmed (Stark 1994).

For example, vegetation can be used to measure the impact of hiking activities in sacred landscapes and along pilgrimages. Based on scientifically measurable criteria such as sensitivity, responsiveness, and specificity indicator species can be selected that signify the vegetations response to hiking activities. Subsequently, in making use of monitoring programs, adaptive management can react on trends derived from these indicators. It may be decided to respond by regulating access of hikers and pilgrims accordingly and divert the pilgrimage from vulnerable areas. However, taking into account the importance pilgrims place on the spiritual significance of a specific place or path to a site, a different set of management options may be required.

When concurrently measuring biological diversity and spiritual significance at sacred natural sites, different criteria apply to selecting suitable indicators. One can ask whether specific plants or animals are known to have spiritual significance and measure these or one can simply measure availability of all plant and animal species with specific conservation status. Cultural appropriateness and spiritual significance are both very different criteria from sensitivity, responsiveness and specificity mentioned in the previous example. They are different not only because some criteria are based on ecological and others on cultural values, they also imply that management has to integrate different knowledge and believe systems namely the western scientific paradigm and traditional knowledge systems based on local peoples cosmovisions.

5.3 Integrating local and global scales

According to recent research stressing the importance the Millennium Ecosystem Assessment put on assessing the real value of ecosystem services, the research community needs to develop analytical tools for projecting future trends including the evaluation of the success of interventions supported by indicators to monitor biological, physical, and social changes (Carpenter 2006).

The marrying of biophysical and social sciences also has implications for the development of bio-cultural indicators for conservation and ecosystem management. The changes in conservation ethics bring forth a shift towards including (local and indigenous) people in day-to-day conservation management. According to the United Nations Permanent Forum on Indigenous People, the issues of scale should be addressed when proposing indicators, including at the international, regional and national levels. It is increasingly realised that effective management is more dependent on multi-user, multi-functional models that interact constructively with local and indigenous populations. This also implies recognition and respect for the values these people deem to be of importance, specifically in relation to the natural environment. Usually these values are tied to a culturally determined worldview with a very important role played by the spiritual values attributed to nature.

As these cultural values are local values that typically vary from culture to culture, it is thought to be extremely difficult to advise indicators for assessment at a global level and at the same time stay as precise as possible. The excerpted (article 11 and 12) of the Nara Document on Authenticy below is a key example of global policy guidance provided by ICOMOS. However, similar policy guidance does not exist specifically for interaction with the natural environment. Moreover, the two are often treated as separate even when they are combined into objectives of a single policy (see figure 14, cultural and natural criteria for world heritage sites). Another good example of this is UNESCO's Convention of Intangible Heritage which until today has not used the full potential for making explicit the many linkages between intangible heritage and country.

One of the main implications and challenges the conservation paradigm faces is the development and integration along local and global scales. The integration of local and global values is known to be a difficult issue. The issue is manifested through the gap that exists between the way that policies are set and the way corresponding management objectives are being determined and met in the field. The problem can be characterised through, for example, the contrast between "global values" which promote the existence of healthy ecosystems for future generations and "local values" where direct-use values through hunting wildlife for food security may be stressed. In the face of conservation and ecosystem management, local assessment methodologies need to be upscaled to a regional and, in some cases, a global level and global policies need to be designed in such a way that they can incorporate such values (Verschuuren et al, 2006). To some extent, the opposite is also true and global indicators in some cases need to be based on local values to remain relevant. However, it should be kept in mind that the

objectives- those the indicators are meant to inform --, can be vary significantly across local and global scales.

5.4 Local values in global policy

To support its policy at a global level, the United Nations Permanent Forum on Indigenous Issues has identified two streams for indicator development that are both relevant to ecosystem management and conservation. The first stream focuses on identity and offers some practical ecological parameters that can be monitored at a global level and may be seen as state indicators whilst others are merely process indicators. In the first stream, "Identity, Land and Ways of Living" under the theme "Health of Ecosystems", the forum mentions:

a) Number of endangered flora and fauna linked to indigenous peoples' current and future subsistence needs, and dependence based upon ceremonial and cultural practices;
b) Number of fish, animals and other life-forms that can be sustainable, hunted, fished and gathered on lands and territories;
c) Documentation of climate change, contaminate levels, habitat destructions affecting viability of subsistence resources and protection of traditional habitat;
d) Indigenous peoples' inclusion, participation and employment in ecosystem management. Other indicators in the same theme that are easier to assess because they can be obtained without indigenous engagement or specific ecosystem knowledge are:
e) Number of preventive programs, regulations, ordinances and measures (tribal and non-tribal) protecting ecosystems in indigenous lands from mineral extraction and non-sustainable activities;
f) Number of environmental protection violations and reports of conservation damage within and near indigenous lands and territories;
g) Rates of and number of reports of toxic contamination and industrial damage too the aquatic ecosystem that affects indigenous peoples consumption of fish, shellfish, aquatic plants;
h) Rates of suppression effects whereby an ecosystem and the fish, wildlife or plant life it supports is contaminated or destroyed beyond the ability of indigenous peoples to consume or practice its cultural, subsistence and ceremonial use; and
i) Existence of legal frameworks for indigenous veto over the use of indigenous lands.

With reference to protected areas and the role of conservation for the management of bio-cultural values, a rights based approach should be considered. In stream two, "Indigenous Rights to, and Perspectives on, Development" under the theme "Indigenous governance and management systems", the Forum mentions:

a) Recognition of indigenous governance and laws by state governments; and
b) Support for indigenous capacity, leadership, policy and program development by state and indigenous governance, including number of programs and persons participating in and completing training.

There is a need for innovative assessment and management approaches in order to 'bridge the gaps' when integrating local and global scales. Approaches based on locally derived indicators that can inform both day-to-day management as well as policy-making up to a regional level would greatly assist conservationists and ecosystem managers. Conventional policies that impose top-down chains of management may need to be sensitised to outcomes of local assessments, participatory processes and transparent working methods (Verschuuren et al, 2006). These bottom-up like processes are particularly suited to communicate local values so that these can be taken into account in the decision -making process and the processes of endogenous development. A participatory stakeholder -based approach generally enables the identification of obstacles such as vested competing interests and inappropriate management and policy, which are concurrently put on the table and re-examined. Nonetheless, our ability to understand these values depends, in part, on the degree to which information sources about these values may be understood as credible or truthful (ICOMOS 1994).

5.5 Bio-cultural values in management

A good example of an indicator for bio-cultural diversity is linguistic diversity. The world according to Smeets (2006) "is a mosaic of visions and each vision is encapsulated by a language. Every time a language is lost, one vision of the world disappears". Linguistic diversity is known to be highest in equatorial regions where also the earth's highest biodiversity is found (Maffi 1999, Harmon 1996). Although biological mechanisms are not necessarily linked to the occurrence of languages - which does seem to be the case with islands showing high endemism in flora and faunal composition and corresponding high levels of linguistic diversity - the causal relationships between biodiversity and linguistic diversity do not always show a scientifically proven correlation. Nonetheless, from an anthropological point of view, linguistic diversity is able to serve as a proxy indicator for bio-cultural diversity at a global level.

For example, the importance of language for biodiversity management is highly significant when looking at the vocabulary and lexicon of a language. Biodiversity is particularly expressed in language at a local level in the form of place names and the many expressions and words for various ecological traits (e.g. Amazon Indians have over 20 word for green and [Australian?] Aboriginal people over 12 names for waves). The intimate relationship that people have with place and territory typically evolved over generations of oral traditions; naming and classification systems, resource use practices, ritual,

spirituality and worldview. One notable example shows how language is linked to place in northern Australia.

In northern Australia, often habitats are named after the most common plant; for instance, *Wunybuwunybu* if there are many Paperbark (Melaleuca) trees. Local Aboriginal people also expressa strong feeling of sense of place related to the *Wunybuwunybu* and its habitat: “That was good river – him flat one. Pretty river – all the grass – thick one. All the way along the river. Old people used to sit down like that. I come from that. I got nothing now for sitting down like that… I want to bring that story out. My taxi was the dug-out canoe…Me, I come from the Paperbark, not from the tin house" (Jackson 2004). This clear differentiation of associated worldviews (that of the “Paperbark people” and that of those from “the tin house”) within the same community may also indicate a distinct relationship with land in terms of (loss of) ecological knowledge and spiritual values.

Local values are based on how people perceive their environment. The perceptions of cultural and spiritual importance are more likely to differ among individuals and communities than, say, perceptions of the importance of food production. Moreover, assessment and valuation of cultural and spiritual values should result in clarifying trade-offs based on competing interests in the light of human well-being. Equitable decision making itself is a social choice, but can only be reached when all stakeholders have been involved in the assessment process and when their values are respected. This includes empowering people and communities to shape and adequately participate in the relevant development processes.

5.6 Implications for perception based management

When assessing the cultural and spiritual values of landscapes, ecosystems and respective biodiversity, one is confronted with knowledge-practice-belief complexities (Berkes 1999). Of course, local and indigenous people identify and prioritise values differently from conservation and ecosystem managers. Respecting local values also implies respecting local belief systems embedded in different worldviews and cosmovisions. Local people usually do not think in causal relationships that can be scientifically proven. Respect for local values in value assessment and day-to-day management processes therefore need to take all information and knowledge into the equation whether its epistemology is scientifically validated or not.

Ecosystem and conservation management are subjected to - and influenced by - cultural perceptions as well as political and economic interests. Ideas about what landscapes should be conserved are also influenced by such perceptions. This is illustrated by the growing importance of building ecosystem management on the concept of sacred natural sites within the program of work of the international conservation community such as IUCN, WWF, UNEP and CBD. Including such places in conservation and

ecosystem management plans also implies that the people involved in this achievement will have to learn to think in a new way about the landscape and ecosystems that they are managing. According to Schama (1995), ‘‘There is an elaborate frame through which our adult eyes survey the landscape. Before it can ever be a response for the senses, landscape is the work of the mind. Its scenery is built up as much from strata of memory as from layers of rock.’’ Hence, cultural perceptions and shared history of landscapes can result in different and even contesting meanings of ecosystems and landscapes.

When embracing the concept of cultural diversity, its perception and consciousness, and applying it as guidance for selecting criteria for putting in place management objectives, one also needs to question the role of current biophysically founded management actions and accept culture as a dynamic and evolving co-creator of management and policies. Subsequently, including different cultural perceptions in conservation and ecosystem management activities demands an understanding of local and indigenous peoples’ self-determination to be incorporated in the ecosystems governance model. Within the United Nations, the Permanent Forum on Indigenous Issues (2006) also addressed the issue of indicators in relation to human wellbeing as it was brought forward in the Millennium Ecosystem Assessment and through the framework of the MDG’s. Experts agreed that:

> “…indicators must place significant emphasis on indigenous peoples’ inherent values, traditions, languages, and traditional orders/systems, including laws, governance, lands, economies etc. This must include recognition of the value of indigenous work (e.g. “making a living” versus “having a job”). Indicators development should reflect true indigenous perspectives such as portraying approaches grounded in wholism and unique values.”

Subsequently, this led to a set of recommendations to adjust the MDGs and take into account the ways well-being is perceived by indigenous people (United Nations Permanent Forum on Indigenous Issues, 2006). Some of the issues like the issue of scale, the issue of prior-informed consent and the issue of self-determination are already dealt with elsewhere in this report but there are several more that are relevant to conservation and ecosystem management, namely:

- Identity is an important aspect of indigenous peoples’ well-being that is particularly difficult to measure
- A broader view of ownership, access, use and permanent sovereignty over land, sea, and water rights, environmental management and land quality, should be in place;
- Health for communities and health for ecosystems should be highlighted;

Recognising the concept that culture is dynamic and that according governing principles should be based on principles of “self determination” (as shown in the example of Coronation Hill), other issues arise that

need careful consideration in conservation and ecosystem management as illustrated by the example in following paragraph.

More often than not, people and land managers, tend to incorporate ‘‘exotic’’ species as part of their perception of a given landscape and as part of their ethno botanical repertoire, particularly when economic, agricultural, and aesthetic motivations are involved. In northern Australia’s Kakadu National Park and World Heritage Site, this has led to a growing appreciation of the presence of wild horses in the park. In particular, the Aboriginal people that co-manage the park with the Parks and Wildlife Service insisted on this introduced (some would say pest species) species to maintain in the park despite of the impact it causes on the parks ecology. In fact, Aboriginal people place a cultural-historic value on horses that has simultaneously led to species growing spiritual significance. Because of this, Aboriginal people now recognise places in the landscape that are called “horse dreaming” which, like other dreaming sites, are venerated and imbued with spiritual importance. Naturally, these places are an expression of human-ecosystem relationships and form focal points of cultural and spiritual values. They offer opportunities for specific management objectives that fit in the concept of sacred natural sites. Hence, as mentioned earlier, protecting biological diversity (ecosystem integrity) and the cultural and spiritual diversity (sacred natural sites, culturally significant landscape) poses a challenge to managers and policymakers that require them to search for appropriate solutions outside of their conventional references and beliefs.

5.7 Indicator criteria, ranking and selection

When collecting data on cultural and spiritual values, participatory methods need to be applied. Cultural and spiritual importance may be attached to the ecosystem’s basic goods and services and these values influence people’s perception on what should be a suitable or valuable indicator for management. Where appropriate, criteria will need to be agreed upon that allow for defining the range of measurement options rather than applying standardized methods.

This process is thought to be inherent to governance models in which local and indigenous people are equal stakeholders so that their values are integrated in the management plan as well as the day-to-day management. Typically, this leaves space for assessment and evaluation teams to adjust monitoring and management methods according to their cultural appropriateness. Indigenous and local people participating in the selection of indicators, the corresponding criteria and the assessment and evaluation of management may determine what is cultural appropriate. This process is dynamic and values may change over time or it may even be subjected to secrecy, which will call for a precautionary approach to management when determining indicator criteria and selecting indicators.

Scientists have established criteria for indicator selection in ecosystem management. Pomroy et al. (2004) developed useful and practical indicators for managing marine protected areas and established a set of criteria that can assist with this selection. Following these criteria may help select a suite of indicators needed to inform on the status of a management objective and at the same time taking care not to diffuse information but keep it manageable. The type of criteria varies from the objective that needs to be informed upon and the type of ecosystem at hand. A given goal or management objective can have one or multiple indicators that, following best practice, should meet five criteria:

1. Measurable - Able to be recorded and analyze in quantitative or qualitative terms.
2. Precise - Defined the same way by all people
3. Consistent - Not changing over time so that it always measures the same thing. Based on an existing body or time-series data to allow a realistic setting of objectives.
4. Sensitive - Changing proportionally in response to actual changes in the attribute or item measured and responsive primarily to that item. Being relatively tightly linked in space and time to that activity.
5. Simple - Simple indicators are generally preferred to complex ones. Easy to understand and measure - by non-scientists and those who will decide on their use (REFERENCE?)

Zylstra (2005), in developing criteria for indicators, found that, “too few indicators cannot support decisions on the complexity of ecosystems and objectives; too many indicators may result in an inability for management to be guided by the indicators”. Salafski and Margolius (1998) proposed the following key criteria, which, according to them, should be used to guide indicator selection; a) concreteness; b) theoretical basis; c) public awareness; d) cost; measurement; e) historical data; f) sensitivity; g) responsiveness; and h) specificity. The process also helps to avoid excessive costs and excessive lists of indicators which according to Margolius and Salafski (1998) may also provide contradictory guidance on decision-making or be vulnerable to open-interpretation by different stakeholder groups. Hence, we recognise the role of cultural perceptions in eliciting biological indicators based on traditional knowledge. In addition, ecosystem management and conservation efforts are currently faced with the challenge to incorporate the outcomes of value judgements in indicator criteria based on cultural and spiritual importance perceived by indigenous and local people. When applying cultural criteria, the interpretation of such criteria generally leaves a lot of space for interpretation in order to fit it into the cultural context in which a specific management intervention takes place. Nonetheless, these criteria may be utterly useful as illustrated by the selection criteria for World Heritage Sites which perhaps surprisingly, consists of four natural andsix cultural criteria (numbers 4 to 6 out of 1 to 10, below these have been numbered 1 to 6 , see figure 14).

Figure 14; UNESCO's Six cultural criteria for the selection of World Heritage Sites.

I. "to represent a masterpiece of human creative genius";
II. "to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design";
III. "to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared";
IV. "to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history";
V. "to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change";
VI. "to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria)";

Source: www.unesco.org

For example, ICOMOS, the official body to test world heritage cultural criteria, has developed the illustrated Burra Charter (1992). This guidebook assists managers and policy-makers in making good decisions about the care of important places and provides a framework that may be useful to assist in developing indicator criteria and indicator selection. From complementary sources, additional criteria on cultural and spiritual properties of nature may be derived. Bearing in mind that "judgements about values attributed to cultural properties as well as the credibility of related information sources may differ from culture to culture, and even within the same culture. It is thus not possible to base judgements of values and authenticity within fixed criteria" (ICOMOS 1994). The following is a selection of criteria that may be used to serve as guidance for selecting indicators for cultural and spiritual values:

1. Proven bio-cultural diversity;
2. Cultural appropriateness;
3. Source spiritual and intellectual richness;
4. Source of cultural authenticity;
5. Enhancement of cultural and heritage diversity;
6. Respect for other cultures and all aspects of their belief systems;
7. Intangible expression;
8. Credibility and truthfulness of related information sources;
9. Use and function, traditions and techniques, location and setting, and spirit and feeling;
10. Elaboration of the specific artistic, historic, social, and scientific dimensions;
11. Community consensus and possibly interdisciplinary consensus concerning values;

12. Improve respect and understanding for the diverse expressions and values of each culture.

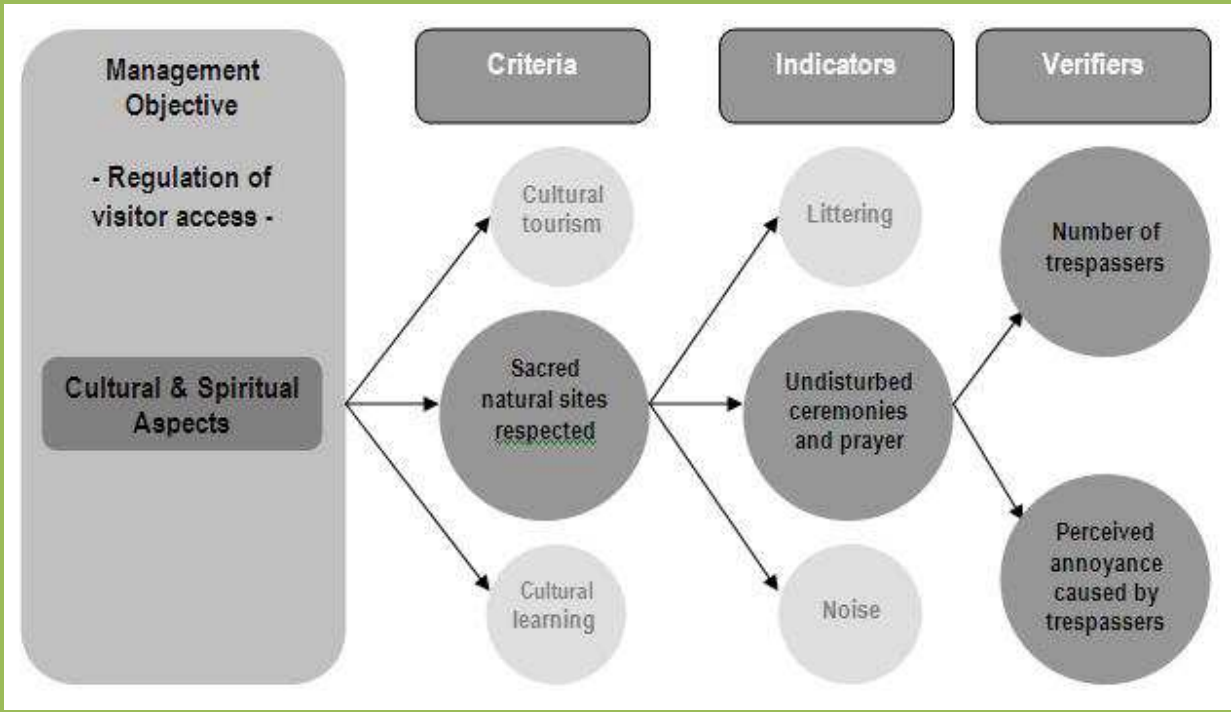
The above list is of course non-exhaustive and, as stated above, it is intended to act as guidance and not as a standard checklist. However, the overall purpose of indicator criteria is to ensure that there is a mutual agreement on what information is supposed to be relayed to management. Therefore, in the case of bio-cultural indicators where worldviews, beliefs and perceptions condense into management values, it is of the utmost importance that criteria are agreed upon by all parties with full understanding of the implications that may arise from assessing cultural and spiritual importance in contrast to the usual biophysical information used.

For practical reasons, each indicator may be attributed a difficulty ranking on a scale from one to five signifying the relative ease with which the specific indicator can be measured. Ranking takes into account: time; technical skill; finances; and other resources. For example, ranking can be done as follows: 1. the indicator is easy to measure; 2. the indicator is fairly easy to measure; 3. measurement requires moderate effort; 4. fairly hard to measure; 5. hard to measure. Prior to measuring indicators within a practical monitoring system, ranking may be applied to determine a suite of indicators. Ideally, indicators should be measured at the same time using similar and simple methods. Prior to applying indicators, they should be tested through research, expert review and practical testing and revision where possible.

Within the WCPA framework, the natural, cultural and social aspects of indicators have been indicated to be of crucial importance; however, these have not yet been adapted for the purposes of integrating cultural and spiritual values and sacred natural sites into park management effectiveness strategies.
Figure 15 shows a conceptual systematic overview that can assist managers and policymakers with indicator selection based on CIFOR (Prabhu et al 1999). In addition, indicators may be used as a powerful tool to raise public awareness on equity and conservation issues. These indicators, according to Phrabu et al (1999) should hence provide;

1. information about the extent to which key management objectives are being achieved;
2. information about the condition of the most significant conservation values (especially those perceived as being at risk);
3. information about the level or extent of perceived threats, pressures or risks to significant values;
4. information that can help resolve important, complex or controversial management issues (including social issues);
5. information that can be particularly useful in guiding ongoing decision-making (especially management direction and priorities);
6. information that can provide feedback about the outcomes of large expenditure on management items or programmes.

Figure 15: Indicators, criteria and verifiers developed according to CIFOR



Initially Hockings (YEAR) differentiates between state and process indicators. State indicators are those indicators that refer to the state of the environment that is being monitored (e.g. status of vegetation to detect visitor pressure). Process indicators are defined as indicators of achievement and provide feedback on the extent to which management objectives are being met. The development of both types of indicators requires a participatory approach particularly when aims of basing indicator selection on perception are also desired.

As work on perception based indicators is ongoing, and many of the experiences that could contribute to formulate guidance on this issue are typically found in specific localities, it is expected that over time we may assess and review these experiences in order to learn more and provide guidance. In addition, it is recommended that further research will look into the role of perception in indicator selection and into the specifics of its applications in nature conservation and ecosystem management. Concurrently, this will not only improve our understanding of how nature is perceived along various cultures, it will also improve our understanding of ecosystem services and natural processes. In turn, this improved understanding on the inter-linkages of nature and culture is expected to contribute to the improvement and enhancement of current management efforts.

6

Conclusions

"Resources are fundamentally a matter of relationships, not things. They do not exist outside of the complex relationships between society, technology and culture, economics and environment in some pre-ordinated form. Resources are waiting to be discovered, they are created by these relationships. Managing resources therefore is not simply about access or trade in pre-existing things called resources. It is about fundamental transactions of power wealth and privileges. Ideas about environment, population and resources are not neutral but are in essence political".

Source: Howitt R (2001b)

Bauxite refinery on Aboriginal land. The mine was established in 1963 without consultation of the traditional owners, the Yolngu (Yirrkala) people.

Nhulunbuy, Arnhem Land, Northern Territory, Australia.

6.1 Introduction

Increasing importance is placed on the full range of values related to landscapes and ecosystems. There is also growing recognition of the fact that ecosystems and landscapes are perceived in very different ways by different people and stakeholders. These perceptions are, to a significant extent, embedded within cultural memory. Being dynamic, culture itself illustrates that value judgements based on perception are naturally subject to ongoing change.

Given the complex nature of worldviews and particularly their cultural and spiritual dimensions, innovative participatory management strategies are required. Most of all, the criteria depend on how these values are perceived by local people. Local and indigenous people need to be involved in the process of developing, selecting and measuring those indicators. At best, local judgements about what is important for management need to be respected. Depending on the governance model of the protected area (or ecosystem), indigenous people will be enabled to participate in management. A facilitating processes will need to be in place to assist indigenous people in communicating the importance of their cultural and spiritual values to inform management and policy objectives.

Stepping out of the traditional nature conservation paradigm shows us that many changes are inevitable in terms of dealing with pressures coming from increasing population and a globalising world. Therefore reinforcing local people's values and community's linkages with biodiversity shows protection can be assured effectively.

6.2 About valuation

One needs to be aware of the fact that our own worldview and background is shaped by education, profession and scientific

paradigms. These affect our ideas of how we understand the world and often leave little space for understanding interpretations that stem from other ontologies.

Advancing a typology of socio-cultural values should always take place giving due space for incorporating "living culture" and peoples perceptions. Moreover, it should be done with an actual purpose in mind for a particular management and/or policy objective, particularly as valuation is one of those scientific disciplines that can potentially lead to endless debate. To this end, it will be needed to agree upon a scale along which such values are appreciated in order to communicate what would constitute "high value", and how to recognise high value for something like "inspiration" when we see it. Hence, it is recommended that any indicators relating to cultural and spiritual values are constructed in a participatory manner and build on agreement of those whose values are involved. Although indicators are subject to change as cultural outlooks change, they should still be defined in order to account for the respective values in management and policy processes.

6.3 Management questions

For most management and policy purposes it is important to keep stressing that any given valuation will be meaningful only in an explicitly stated context of the defined purpose for which its use is envisaged. Following the need for such a management approach, we may follow policy inspired by Parks Canada to help get a grip on the issue:

1. What is the significance (or "intrinsic" value) of a place?
2. What are the benefits that flow from conserving it?
3. What are the values adopted by those who are responsible for it?

As assumptions and caveats vary with specific cases with different local contexts and different purposes for which valuation is applied, it becomes increasingly important to look at trade-offs and apply a responsibility-based approach in conjunction with a rights-based approach. It is critical to look at the role of compensation (in a rights-based approach) when new markets for ecosystem services and benefits arise (such as carbon, water and biodiversity). In practice, the importance of stakeholder identification, consultation, involvement and ownership (of assessment results) need to be clearly specified. We may, again following Parks Canada (concept of "commemorative integrity"), ask three questions:

1. Is the site at risk or under threat?
2. Are the values for which it is protected communicated?
3. Are the values taken into account in decision making?

This report focuses on cases where management issues regarding the integration of cultural and spiritual values play a key role. Emphasis is likely to be placed on guidance concerning taking cultural values into account in practical management of ecosystems and protected areas. Therefore, it is necessary to move

beyond assessment or sensitization about the values that are at stake. At a local level, these values need to be understood and one needs to recognize that this is an essential foundation. This also has consequences for the way perception plays a role in selecting indicators, indicator criteria and their application in monitoring systems and management.

Two strategic directions have been identified that are of critical importance when coming to grasps with integrating cultural and spiritual values. It is argued that both directions are interdependent and should be developed simultaneously in order to be effective.

1. Developing indicators for addressing cultural and spiritual values to track performance against an objective, and provide process-correction alerts that can feed into adaptive management and monitoring processes.
2. Developing tools for management in a fuller sense, for example, management effectiveness as well as adaptive management and monitoring. The latter seem to fit well with the dynamics of culture and its potential implications on biodiversity because adaptive management is based on circular rather the linear management processes.

Both directions are essentially different and focus on “what values to manage” or “how to manage”.

6.4 What values to manage?

Cultural values have been recognised to be of importance by various international agreements and conventions, scientific studies and NGO’s. A working definition of cultural and spiritual values is provided by the convention of intangible heritage of UNESCO 2003(see Chapter 2) that can be detailed and applied through assessment of;

1. Oral traditions and expressions, including language as a vehicle of the intangible,
2. Cultural heritage,
3. Performing arts,
4. Social practices, rituals and festive events,
5. Knowledge and practices concerning nature and the universe and
6. Traditional craftsmanship in their relationship to nature.

When managing culturally significant ecosystems, cultural and spiritual values should be incorporated in the management objectives as well in assessment and monitoring strategies. To assess the cultural importance of natural ecosystems, advancements in valuation science are needed to account for the various cultural and belief systems that form the linkages between ecosystem performance and human wellbeing. Because most practical management situations demand pragmatic implications and directives to be derived from planning and evaluation processes, it is advised to work in participatory manner and

thereby show respect and develop an understanding for local peoples values. This will help increase self esteem as people will feel valued because their contributions to ongoing management are desireable, significant and possibly compensated for in an appropriate manner.

6.5 How to manage?

Various management effectiveness strategies gave been looked at but further research and testing of the results in terms of developing applications that can be taken up by management in the field is needed. IUCN WCPA's management effectiveness framework and WWF's RAPPAM methodology currently make no specific mention of integrating cultural and spiritual values but experts consider them flexible enough to incorporate these values. Some aspects that have been identified to play a significant role when further developing strategies for effective management:

1. Need to clearly articulate management issues and objectives;
2. Work together to determine priorities for monitoring/evaluation ;
3. Provide effective and timely information for managers;
4. Integrate local people (and stakeholders) into management and reporting processes;
5. Develop stronger links between, reactive monitoring, periodic reporting and adaptive management planning;
6. Consensus on the use of integrity indicators in state of conservation reporting;
7. Consensus on the use of process indicators in adaptive management (strategic planning);
8. Managers, researchers and local people all have very different perspectives on what are appropriate indicators;
9. Managers, researchers, local people and politicians have different perceptions of time and ecosystem change through time;
10. Typical differences in perception of time may be the linear perception of time and the cyclic perception of time.

A role of general guidance may be developed through recognition of sacred natural sites and spiritual values in the protected areas definition. More specific guidance through management and planning objectives may be achieved through integration of sacred natural sites in protected areas categories of the WCPA. The value of the management objectives of the international WCPA system is limited because they cannot be but very general and hence, insufficient for planning. In drawing up guidance, it should be considered that planners and managers of protected areas usually are different groups of people with different expertise and views. Another layer beyond management objectives is the preparation of "guidelines" which of course can be very useful for planning as well as management.

6.6 Integrating across scales

It is clear that integration and recognition of sacred sites in management and policy needs to take place across all levels; from local, regional, national to the international level. Of special significance is the local level because cultural and spiritual values are "people's values". A bottom-up approach is preferred; the ultimate difference is made in day-to-day management where people's values meet biodiversity. This is where the actual values and resource base needs to be safeguarded whilst at a higher level we quickly see aggregation of values taking place alongside the increasing importance of communication, dissemination and education to the broader public.

In terms of management, the WCPA categories may serve as a vehicle to communicate at various levels. Within the scope of this report, it would be an asset to be able to include how we want the categories to make these contributions:

1. Local: Bring together stakeholder and communities and work with them to better understand how their worldviews relate to nature. Involve local people and stakeholders in the planning process and make them owners of the information they relay on basis of intellectual property rights when appropriate. Take into account their perception when setting management objectives and strategies as well as in related policies.
2. Regional: Ensure planning exercises align with national policy and apply guidelines for integrating sacred sites in management and planning. Facilitate and advise local branches and initiatives based on spaces in national policy that indicate cultural and spiritual values to be of importance. Most important is the uptake of information from and stimulation of participatory processes from and for the uptake of local people's values.
3. National: Signal the importance of sacred sites and enable their recognition in national policy. Ensure guidance will be adopted to integrate scared sites in management and planning exercises (i.e. link international guidance to local and regional initiatives)
4. International: Recognition for sacred sites and cultural and spiritual values in international policy such as conventions will stimulate nations that are signatories to international regimes to equally be receptive to those values and integrate them into their national policies.

Naturally, dealing with management or policy will place different demands and implications on all of the above levels.

6.7 Re-enforcing bio-cultural linkages

Both cultural and biological diversity are being degraded by similar drivers but both are degraded in different patterns and sequences. Addressing the drivers of loss of both does not necessarily need to take place through the same processes, e.g. conservation. Better understanding of the links between a

cultural group and biodiversity may be achieved by looking at various disciplines such as ethno botany, agricultural systems and livelihood dependency for example. The expansion of [capital/financial/economic?] markets remains inevitable, economic growth will continue so we need to find different ways to conserve cultural diversity that are not necessarily market-based but which can be aligned with prevailing market forces. In some cases, cultural diversity can be maintained through a market such as in eco-tourism and possible in the near future through payments for ecosystem services (such as carbon, landscape, biodiversity and water credits). These market based methods may be combined with culturally significant systems of food production and forest management. Such linkages help highlight the importance of cultural and biological diversity and, as such, oppose trends of homogenisation.

Linguistic diversity as an indicator for cultural diversity does not always form a one–to-one relationship. Using other indicators for cultural diversity such as those that can be derived from the Convention of Intangible Heritage is advisable. Language is however a meaningful proxy as almost everything is conveyed by language. Data on language is available at a global level but, at a local level, other complications exist making it difficult to upscale the key relationship between humans and environment codified in language. When comprehending traditional knowledge, it is the lexicon and not the diversity of languages that is of critical importance. More research will need to be done on upscaling local values in a way that it can be usefully combined with information derived from indicators at (inter)national levels (see also integrating across scales).

6.8 Sacred Natural Sites:

Sacred natural sites are of significance as they form an outstanding opportunity to include cultural and spiritual values in protected areas and ecosystem management. Sacred natural sites:

1. Hold high biodiversity values;
2. Can act as a traditional vehicle for protecting and enhancing ecosystem functions and bio-cultural diversity;
3. Contribute to conservations efforts and development of “people inclusive” management objectives; environmental education, cross cultural learning and intergenerational transmission of bio-cultural knowledge;
4. Hold considerable potential to serve as a traditional blueprint for restoring and safeguarding ecosystem functions whilst supporting the conservation effort;

These potential benefits call for safeguarding sacred natural sites and their integration into conservation and ecosystem management strategies. Even though a precautionary approach and sensitising to cultural

and spiritual values is a prerequisite, conservation management has the ability to play a largely facilitating role in this process.

However, it is important for the concept of sacred sites to gain acceptance in day-to-day management. Hence the WCPA categories can assist in providing the incentive to include sacred sites in planning and management actions so that this may lead to synergies in management and policy among the various stakeholders. When including sacred natural sites, managers in particular need to be provided with guidance on how to include cultural values in their management practices. Ideally, local people should be employed with management to facilitate integration of sacred natural sites and to synergise management objectives with the needs of custodians in a respectful manner. In addition, sensitizing of managers can be achieved through cross-cultural learning.

More specific guidance through management and planning objectives may be achieved through integrating sacred natural sites in protected areas categories of the WCPA (see also recommendations for additional information).

7

Recommendations

"It is tremendously worrisome that we don't talk about nature anymore. We talk about natural resources as if everything had a price tag. You cannot buy spiritual values at a shopping mall. The things that uplift the spirit are intangibles. Those are the values that people do look for and everyone needs".

George Schaller (2006)

Shinto statue and traditional Buddha statue in the Sensoji (Buddhist) temple forest garden. In Tokyo, temple forest gardens still exist despite the increasing market value of the land. The Ginkgo Biloba tree (here shown in the background) is classified on IUCN's Redlist of Threatened Species as "Endangered". Ginkgo has been reintroduced into the wild from monastery gardens and some populations survived which were tended after by Chinese monks.

Asakusa temple, Tokyo, Japan

7.1 Introduction

The recommendations made in this section are based on joining various sources of information such as (scientific) literature review, case study analysis and interviews with experts. In addition, these recommendations are based on knowledge and experience derived from international conferences, workshops and experiences in the field.

The recommendations also include suggestions on how to best resolve knowledge gaps that currently exist when drawing up a framework for integrating cultural and spiritual values in nature conservation. Although interdisciplinary, multi-scale and stakeholder approaches have been identified to be of critical importance in attempting to fill current knowledge gaps, there has not yet been any field testing of the preliminary results of this study. It is expected that as methodology, framework and criteria will be further developed based on several pilot studies, these will be better fitted to local circumstances and management objectives. The process of field testing at various case studies is therefore necessary for developing knowledge and practical solutions that can deliver the experience and build a resource base needed to achieve any type of framework that may be applied at such a wide variety of local cultures and ecosystems.

As work on perception based indicators is ongoing and many of the experiences that could contribute to formulate guidance on this issue are typically found in specific localities, it is expected that over time we may assess and review these experiences in order to improve learning and provide informed guidance. In addition, it is recommended that further research be undertaken in understanding role of perception in indicator selection and into the specifics of its application in nature conservation and ecosystem management. Concurrently, this will not only improve our understanding of how nature is perceived along various cultures, it

will also improve our understanding of ecosystem services and natural processes. In turn, this improved understanding on the interlinkages of nature and culture is expected to contribute to the improvement and enhancement of current management efforts.

7.2 IUCN WCPA categories

In order to adjust the present WCPA categories to include cultural and spiritual values it is suggested to analyse management objectives of each category based on the sites offered in the table in annex 5. This sort or analysis may help to detect caveats and opportunities that can be addressed when looking at ways to better incorporate cultural and spiritual values in the WCPA categories system. Other recommendations taken from Verschuuren et al 2007 are:

1. IUCN should advance on cultural issues and in the future IUCN's Guidance needs to include explanations of its key concepts, such as "living cultures" and "spiritual significance". A simple change in the IUCN's definition of protected areas from cultural resources to "cultural values" would already be significant step in the right direction;
2. The cultural and spiritual values of protected areas should be better reflected in the whole range of categories, whereas they are currently absent or insufficiently recognized;
3. IUCN protected areas categories should accommodate cultural and spiritual values including sacred (natural?) sites and where appropriate be recognized as legitimate components of protected area systems in line with Recommendation 5.13 from the Fifth World Parks Congress;
4. Synergies between conservation management and traditional sacred sites or cultural and spiritual values management should be maximized in order to maintain and achieve sustainable and equitable management aims. It may be the case that the two sets of objectives are quite easily served by the same measures;
5. Adaptation to the reality of sacred sites in terms of categorization and management approaches should be considered when this increases the extent to which there is or could be convergence between the protection/management measures required for spiritual values and those required for natural heritage values;
6. Integration of sacred sites in conservation management should be based on involving multiple aspects such as scientific disciplines (natural and social sciences); environmental compartments (soil, water, atmosphere); stakeholders (views, interests and perceptions); scales in space (local, regional, national, international and global); scales in time (short-term versus long-term effects; and cause-effect measures (adaptive management, ecosystem approach).
7. Guidance and management implications for different categories are in demand and currently being developed. Therefore, planning and management objectives should reflect sacred sites as an integrated component of planning and management plans and processes;

8. The ecosystem approach offers global guidance towards opening a dialogue and finding common ground as a basis for communication in order to consider management and planning options regarding sacred sites (notable are the principles 2, 5, 6, 10,11 and 12), see Smith & Maltby 2003).

Future IUCN Guidance (specifically CSVPA) needs to include definitions or explanations of its key concepts, such as "associated cultural resources", “living cultures", "spiritual significance". At present, "associated cultural resources" in the definition can be an incorrect term when, for example, referring to folklore as a resource for tourism. This term ignores the fundamental issue that, within protected areas, there are "living cultures" which cannot be called "associated cultural resources". The Maasai from Serengeti are not "associated cultural resources". So the simple change in the definition from cultural resources to "cultural values" is highly desirable although it would still be insufficient from the perspective of fully recognising living cultures.

"Cultural resources" in the 1994 guidelines are variously linked in the following concepts that will need further deepening and definition:

- Cultural features (not defined)
- Cultural and traditional attributes (not defined)
- Cultural significance (not defined)
- Spiritual significance (not defined)
- Indigenous people or local community (not specified)
- Local customs and beliefs (not specified)

Currently "associated cultural resources” remain tangible elements mostly of past cultures with the only point of perspective offered on this matter (especially in relation to sacred natural sites)referring to the specific phrasing, “associated cultural resources may include the following features… …natural sites with heritage significance...".

7.3 International institutions

To this end, it is necessary to assess the extent to which there is - or could be - convergence between the protection/management measures required for spiritual values and those required for natural heritage values. It may sometimes be the case that the two sets of objectives are well and simply served by the same measures. Similar information may benefit the work of the WHC and ICOMOS which currently apply natural and cultural criteria for their site listings but fail to specify how these criteria are actually scored. It is recommended IUCN, WHC and ICOMOS work together on developing consistent management and

policy guidance for cultural and natural values including the profound interlinkages that exist between (what are mostly perceived as) two value sets.

In terms of progressing work on indicators, it is recommended to produce an overview of key literature and tools from various sources such as the WCPA framework, *How is your MPA doing?* (Pomroy et al 2004) the Delos Initiative, the UN permanent platform for indigenous people, the UNESCO Global Indicators Directive Charter plus the Venice Charter, Terra lingua global indicators etc. A possible way forward is to analyse these approaches based on the various levels they are serving and the amount of overlap that exists between the indicators within those levels. A possible strategy may be to make reference to indicators based on the various levels of integration.

Develop linkages and feed into UNEP WCMC Protected Areas database to include specific attention for livelihoods, cultural and spiritual values and sacred natural sites where deemed appropriate. If an overarching database of sacred natural sites is developed, efforts may be synchronised between databases that currently exist. The WHC also has a database that makes mention of man-made sacred sites but not sacred natural sites. Again, there do not seem to be any criteria in place along which registration should take place. In addition, in linking these issues to site management several questions have been drawn up but could not be fully addressed within the timeframe of this research. These preliminary questions are listed in annex 5.

Within UNESCO's World Heritage Convention there are opportunities to develop effective synergies between the cultural management (currently under the responsibility of ICOMOS) and the Convention for Intangible Heritage. Currently the convention for intangible heritage does not recognise the importance of cultural and spiritual values attached to landscapes and ecosystems of which the incorporation would be a good start. In relation to this, ICOMOS should advance the four cultural criteria of World Heritage Sites into a transparent strategy including recognition of sacred sites (perhaps in conjunction with those including the intangible heritage related to sense of place).

More detailed field research into the developments of methods for indicator development based on perception is needed. It is advised research is carried out in conjunction with the development of case studies that focus on integrating cultural and spiritual values in management and policy. This way the use of perception in developing indicators for management can be determined in terms of it being successful and useful in safeguarding cultural and natural values, for example, setting historical base-lines and constructing trends of change in the natural environment.

References

Balasinorwala T, Kothari A, and Goyal M, (eds.) 2004. Participatory Conservation; Paradigm Shifts in International Policy. IUCN Gland, Switzerland and Cambridge, UK and Kalpavriksh, India. Iv+120pp.

Balmford A, Bruner A, Cooper P, Costanza R, Farber, Green RE, Jenkins M, Jefferiss P, Jessamy V, Madden J, Munro K, Myers N, Naeem S, Paavola J, Rayment M, Rosendo S, Roughgarden J, Trumper K, Turner K, 2002. Economic reasons for conserving wild nature, Science, vol. 296: 950-953

Berkes, F, 1999. Sacred Ecology; Traditional ecological knowledge and resource management; Taylor & Francis, Philadelphia.

Berkes, F, and Folke, C, 1998. Linking social and ecological systems for resilience and sustainability, in; Understanding Social and Ecological Systems, Cambridge University Press

Bingham, G., R. Bishop, M. Brody, D. Bromley, E. Clark, W. Cooper, R. Costanza, T. Hale, G. Hayden, S. Kellert, R. Norgaard, B. Norton, J. Payne, C. Russell, and G. Suter, 1995. Issues in ecosystem valuation: improving information for decision-making. Ecological Economics 14:73-90.

Carmichael D, Hubert J and Reeves B. 1994. Sacred sites, Sacred places. London Routeledge.

Carpenter R S, deFries R, Dietz T. Mooney H A, Polasky S, Reid, W V, Scholes, R J, 2006. Millennium Ecosystem Assessment: Research Needs in Science, Science, Policy Forum Vol. 314. no. 5797, pp. 257 – 258. Available from http://www.sciencemag.org/cgi/reprint/314/5797/257.pdf (last accessed at 23-10-06).

Carter R W, and Bramley, R, 2002, Defining Heritage Values and Significance for Improved Resource Management: an application to Australian tourism, International Journal of Heritage Studies, Volume 8, Number 3, pg 175 – 199.

Clark K, 2006. Capturing the public value, the proceedings of the London Conference 15-26 2006./ Whimster Associates Ltd.

Cocks ML, 2006. Moving beyond the realm of 'Indigenous" and "local" people. Human Ecology 34(2): 185-200.

Costanza R, d'Arge R, deGroot R S, Farber S, Grasso M, Hannon B, Limburg K I, Naeem S, O'Neill R V, Paruelo J, Raskin R G, Sutton P, vandenBelt M, 1997. The value of the world's ecosystem services and natural capital, Nature 387:253-260

Dowie, M., 2005. Conservation refugees; when protecting nature means kicking people out. Orion magazine nov-dec 2005. Available at http://www.orionmagazine.org/pages/om/05-6om/Dowie.html (Last Accessed at 10-10-2006)

Dudley N, Higgins-Zogib L, Mansourian S, 2005. Beyond Belief: Linking faiths and protected areas to support biodiversity conservation. A research report by WWF, Equilibrium and the Alliance of Religions and Conservation

English J A, and Lee E, (2003). Managing the intangible, Sanctuary of dreams. The full value of parks, from economics to the intangible, Rowman and Littlefield publishers.

Folke C, Berkes F, Colding J, 1998. Ecological practices and Social Mechanisms for building resilience and sustainability, in; Understanding social and Ecological Systems, Cambridge University Press

Funktowicz S O, Ravetz J R, 1994. The worth of a songbird: Ecological economics as a post normal science. Ecological Economics 10, 197-20

deGroot R S, Wilson M, Boumans R, 2002. A typology for the description, classification and valuation of Ecosystem functions, Goods and Services (p. 393-408). In: "The Dynamics and Value of Ecosystem Services: Integrating Economic and Ecological Perspectives". Special issue of Ecological Economics Volume 41, Issue 3: 367- 567

Ghosh A, Traverse M, Bhattacharya D K, Brondizio E S, Spierenburg M, deCastro F, Morsello C, deSiqueira A, 2005. Cultural Services, Chapter 14, Policy Responses, in Volume 3: Global & Multiscale Assessment Report, as part of the Millennium Ecosystem Assessment, Island Press, Washington, DC. Available at http://www.maweb.org//en/Products.Global.Responses.aspx (last accessed at 14-10-2006)

Guedes Vaz S, Martin , Wilkinson D, Newcombe J, 2001. Reporting on environmental measures: Are we being effective? European Environmental Agency, Environmental issue report No 25

Haverkort B, Reijntjes C, eds. (2006) Moving Worldviews, Reshaping sciences, policies and practices for endogenous sustainable development. Compas series on Worldviews and sciences 4. Leusden.

Harmon D, 2003. The source and significance of values in protected areas. The full value of parks, from economics to the intangible, Rowman and Littlefield publishers.

Hisschemöller M, Tol, RSJ, and Vellinga P. 2001. The relevance of participatory approaches in integrated environmental assessment. Kluwer Academic Publishers. Printed in the Netherlands. Integrated Assessment 2: 57–72, 2001.

Hockings M, Stolton S, Corrau J, Dudley N and Parrish J. 2005. The World Heritage Management Effectiveness Workbook: Revised edition: How to build monitoring, assessment and reporting systems to improve the management effectiveness of natural World Heritage sites: Revised Second Edition. University of Queensland, Australia.

Howitt R, 2001a, Frontiers, borders, Edges: Liminal challenges to the Hegemony of exclusion. Australian Geographical studies, 39(2):233-245.

Howitt R, 2001b. Rethinking Resource Management. Justice, sustainability and indigenous peoples. Routeledge, Taylor and Francis Group, London and new York.

Hurd W, 2006. Green Barons, Conservation refugees. Available from http://conservationrefugees.org/pdfdoc/greenbarons.pdf (last accessed at 10-10-2006)

ICOMOS Inc, 1992, The illustrated Burra charter: Making good decisions about the care of important places, Canberra, Australian heritage Commission.

Jackson S, 2004, Aboriginal perspectives on land use and Water management in the Daly River Region Northern territory, a report to the Northern Land Council. CSIRO, Sustainable Ecosystems.

Jeanrenaud S, Soutter R, Oviedo G, 2001. An international Initiative for the protection of sacred natural sites and other places of traditional and indigenous people with importance for biodiversity conservation, A concept paper, Draft 5. (Available at: http://siteresources.worldbank.org/INTBIODIVERSITY/929397-1115368717304/20480312/WWFPaperonSacredSites2001.pdf)

Jepson P and Canney S, 2003. Values-led conservation. Global Ecology & Biogeography, v12, pp. 271-274(4)

Lawrence D, 2000. Kakadu: The Making of a National Park, Melbourne University Press

Lee C (eds.), 2003. The importance of sacred natural sites for Biodiversity Conservation. Proceedings of the International workshop held in Kunming and Xishuangbanna Biosphere reserve, Peoples republic of China 17-12 February 2003

Maffi L, 1999, Linguistic Diversity, language and the environment. Cultural and Spiritual Values of Biodiversity, a comprehensive contribution to the UNEP Global Biodiversity Assessment.

Margoluis R, and Salafsky N, 1998. Measures of Success, Designing, Managing and Monitoring Conservation and Development Projects. Island Press, Washington DC.

McCauley D J, 2006. Selling out on nature, in Commentary, Nature Vol 443, 7. Available from http://www.nature.com/nature/journal/v443/n7107/pdf/443027a.pdf (last accessed 19-10-2006).

McNeely J A, 2000. Cultural factors in conserving biodiversity. In Wilkes A, Tillman H, Salas M, Grinter T and Shaoting Y (eds.). Links between Cultures and Biodiversity. Proceedings of the Cultures and Biodiversity Congress, Yunnan Science and Technology Press, China, pp. 128–142.

Millennium Ecosystem Assessment, 2003, Ecosystems and Human Well-being: A Framework for Assessment, Island Press.

Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-being: Synthesis. Island Press, Washington DC.

Pagiola S, vonRitter K, and Bishop J, 2004. Assessing the Economic Value of Ecosystem Conservation. Environment Department Paper No. 101. The World Bank, Washington DC

Perman R, Common M, McGilvray J, Yue M, 2003. Natural Resource and Environmental Economics, Addison Wessley Publishers, 3rd Edition.

Plume C, 2004. RAPPAM and the WB/WWF Tracking Tool. World Wildlife Fund/LAC Secretariat, NGO Experts Meeting/IABIN Protected Areas Network; Nov 1-2, 2004.. Available from http://www.iabin.net/binary_docs/meeting_pa-tn_nov2004/cplume.ppt (last accessed 02-10-2006)

Prabhu R, Colfer CJP, Dudley RG, 1999. Guidelines for Developing, Testing and Selecting Criteria and Indicators for Sustainable Forest Management, CIFOR Toolbox series no. 1. Available at http://www.cifor.cgiar.org/acm/methods/toolbox1.html (accessed at 26-07-2006).

Pomroy R S, Parks J E, Watson L M, 2004. Section 2, The MPA management effectiveness indicators. In; How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness. IUCN Gland Switzerland and Cambridge, UK Available at http://www.effectivempa.noaa.gov/guidebook/doc/ME_Guidebook2.pdf (accessed at 25-05-2006).

Posey D, 1998, Cultural and Spiritual Values of Biodiversity, a comprehensive contribution to the UNEP Global Biodiversity Assessment.

Putney A and Harmon D, 2003. The full value of parks, from economics to the intangible, Rowman and Littlefield A, 2005.

Putney A, 2005. Building cultural support for protected areas through sacred natural sites. Chapter 10 in McNeely 2005, Friends for Life, IUCN, Gland, Switzerland and Cambridge

Rolston III H, 1986. Philosophy Gone Wild, Essays in Environmental Ethics, Prometheus Books, Buffalo, New York

Rose D B, D'Amico S, Daiyi N, Devereaux K, Daiyi M, Ford L, Bright A, 2001. Country of the Heart. An Indigenous Australian Homeland. Aboriginal Studies Press, Aboriginal and Torres Strait Islander Studies. III. Title. 305.89915.

Schama 1995, Landscape and Memory. Harper Collins publishers London.

Secaria, E & Molina M E, 2005. Planning for the Conservation of Sacred Sites in the Context of Protected Areas: An adaptation of a Methodology and lessons from its application in the Highlands of Western Guatemala. The nature conservancy, UNESCO, in press.

Shackley M, 2001. Sacred World Heritage Sites: Balancing meaning with management. Tourism recreation research. Vol 26(1), 2001: 5-10

Shepherd G, 2004. The Ecosystem Approach: Five Steps to Implementation. IUCN, Gland, Switzerland and Cambridge, UK. vi + 30 pp.

Smeets E and Weterings R, 1999. Environmental indicators a typology and overview. Technical Report No. 25. European Environmental Agency, Copenhagen.

Smeets R, 2006. Language matters in The Intangible Heritage Messenger, Special Issue, Endangered languages, September 2006, Intangible heritage Section (ITH) UNESCO. Available from http://unesdoc.unesco.org/images/0014/001471/147185e.pdf (last accessed 25-09-2006)

Smith H. 1977. Forgotten Truth. The Common Vision of the World's religions. Harper & Collins Publishers. San Francisco.

Smith R D & Maltby E, 2003. Using the Ecosystem Approach to Implement the Convention on Biological Diversity: Key Issues and Case Studies. IUCN, Gland, Switz. & Cambridge, UK. x + 118 pp.

Stark, Rodney, 1996. Why religious movements succeed or fail. A revised general model. Journal of contemporary religion 133-146

Steward, P J, Strathern A, 2003. Landscape, Memory and History, Anthropological Perspectives. Anthropology Culture and Society, Pluto Press London

Stolton, S 2005, Management effectiveness, monitoring for WH values and statutory reporting, UNESCO Paris. Workshop report may 2005. Available from http://whc.unesco.org/uploads/pages/documents/document-320-26.doc (last accessed 08-09-2006)

Theadoratus D and LaPena F, 1998. Wintu sacred geography of northern California. In; Carmichael D L, Hubert J, Reeves B, Sansche A, 1998. Sacred Sites Sacred Places, One World Archaeology; 23, Routeledge London and New York

Toth FL & Hizsnyik E, 1998. Integrated environmental assessment methods: evolution and applications. Environmental Modeling & Assessment 3: 193-207.

UNESCO / IUCN, 2005. Draft Guidelines for the Conservation and management of sacred natural sites. Version 9 – September 1, 2005

UNESCO 2003, Convention for the safeguarding of the intangible cultural heritage. Convention text available at http://unesdoc.unesco.org/images/0013/001325/132540e.pdf (last accessed at 20-09-2006)

United Nations Permanent Forum on Indigenous Issues, 2006. Report of the meeting on Indigenous peoples and indicators of well-being, Ottawa, 22-23

vanAsselt MBA, Rotmans J, 2002. Uncertainty in Integrated Assessment Modeling, From Positivism to Pluralism. ICIS (International Centre for Integrative Studies), Kluwer Academic Publishers. Climatic Change 54: 75–105.

Vanclay F, 2002. Conceptualising Social Impacts, Environmental Impact Assessment Review, Environmental impact Assessment review 22 (2002) 183-211.

Verschuuren B, 2006. Sociocultural importance of wetlands in northern Australia, Proceedings of the UNESCO – IUCN 'Conserving Cultural and Biological Diversity: The Role of sacred natural sites and Cultural Landscapes' Tokyo, Japan (30 May to 2 June 2005).

Verschuuren B, Mallarach J M, Oviedo, G, 2007. Sacred Sites and Protected Areas. IUCN World Commission on Protected Areas, Summit on the IUCN categories in Andalusia, Spain May 7-11 2007. (Available from: http://www.iucn.org/themes/wcpa/theme/categories/summit/papers/papers/Sacredsites3.pdf)

Wilber K, 2001. Quantum Questions: Mystical Writings of the World's Great Physicists. Introduction, of shadows and symbols. Shambala publications, Boston.

Wilber K, 2006, Integral Spirituality: A Startling New Role for Religion in the Modern and Post-modern World. Shambala publications, Boston

Williams DR & Harvey D , 2001, Transcendent experience in forest environments. Journal of environmental psychology 21, 249-260

Williams DR, Steward SI, 1996, Sense of place. An illusive concept that is finding home in ecosystem management. Journal of forestry 96 (5), 18-23

WIPO, Undated. Intellectual Property and Traditional Knowledge. Booklet no. 2.

Zylstra M, 2005. Perception of indicator suitability and trends for potential Marine Protected Areas in the North Sea: a case study of the Frisian Front. Unpublished Masters thesis at Wageningen University and Research.

Annex

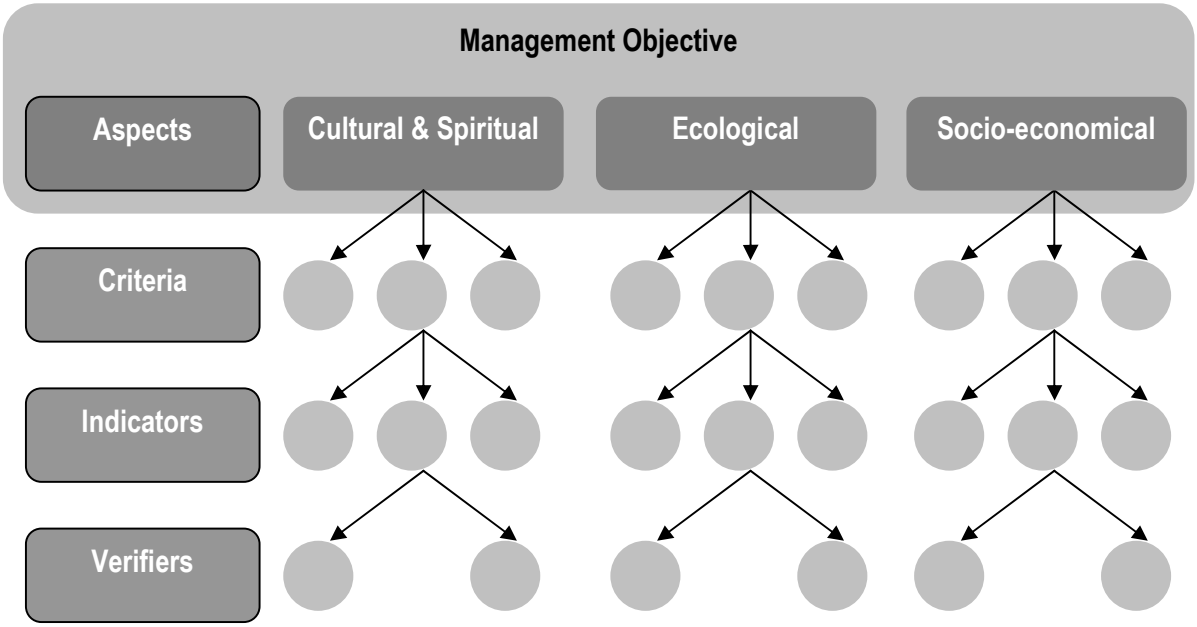
Annex 1: Management effectiveness methodologies strengths and weaknesses.

Assessment method for management effectiveness	Purpose	Strengths	Weaknesses	Integration with other tools	Cultural and spiritual vales sacred natural sites
1.IUCN WCPA Framework	Assessing management effectiveness in single PA's. Based on 6 steps of management effectiveness assessment cycle	Six elements of the framework can be used as a structure for reporting across parks and institutions and is applicable at various scales Assist in meeting funding requirements Potential for PA management accreditation Provides basis for adaptive management Allows communication at inter-institutional level and level of Conventions.	No specific methodology for regional and global management issues.	Has been used as a basis for WHS effectiveness assessment (tool 4)	Flexible enough to accommodate any methodology concerning cultural and spiritual values.
2. WWF RAPPAM Rapid Assessment and Prioritization of Protected Area Management Methodology	Conservation management effectiveness in and across PA's. Ranking based on weighted questions and simple excel data sheets (options for simple statistics) Identifies strengths and weaknesses across PA system Based on expert judgment	Manipulation of data, good visible representation of results Analyzes range of threats across PA system and Identifies high-priority areas Identifies strategic, system-level policy interventions	Training is required for individuals and teams involved with undertaking assessment *Does not* provide detailed, site-level adaptive management guidance, though it *can* be used as a framework for developing a site	designed for public PAs but can be applied to private Pas Based on WCPA framework	most applicable to IUCN categories I to IV cultural landscapes category V remain difficult

	and 100+ questions	"simple", relatively inexpensive and rapid assessment	specific monitoring Real community / other stakeholder involvement, difficult Limited evaluation of outcomes		
3. World Bank/WWF tracking tool	Monitor a portfolio of sites with a simple well-designed tool. Based on 30 questions plus data sheet	Small amount of quantifiable data Scoring system should not be used for comparison between sites Aimed at managers' and portfolio coordinators' needs Short and relatively quick to complete	Should be backed up by more detailed assessment system Questions are not weighted. Limited evaluation of outcomes. Relies on knowledge of experts and PA managers	TT based on internationally recognized structure for reporting management effectiveness (WCPA framework) Adaptable because it is based around assessing elements of the management cycle and evaluating the effectiveness of management against agreed objectives	Cultural and spiritual values overlooked – space for a tick box but not detailed indicators on this subject at present time
4. Enhancing our Heritage WH	Assess conservation status of natural criteria of WHS based on rating 140 questions	Improve management of World Heritage sites through better assessment, monitoring and reporting systems and by applying the results to adapt or enhance management Establishes consistent criteria across sites	Designed for the four Natural criteria of WHS, does not make reference to the complementing 6 cultural criteria Not advised to use for periodic reporting Basic information base lacking at site level	Use the WCPA Framework to develop a consistent approach to assessment and reporting. Managers training in the WCPA management effectiveness framework	Need more work on the social and cultural aspects of monitoring.

		management change needed to build support for assessment Comprehensive assessment is time consuming

Annex 2: Suggested models for indicator development.



Annex 3: Declarations and guidelines relevant to sacred natural sites

Institution	Measures
CBD	• Akwé:Kon Guidelines • PA Programme of Work • 8(j) Programme of Work • Ecosystem Approach
Ramsar	• Guidelines on Participation of Indigenous and Local Communities in Wetland Management • Cultural Aspects of Wetlands
IUCN	• Principles and Guidelines on Indigenous and Traditional Peoples and Protected Areas • Guidelines on Indigenous and Local Communities and Equity in Protected Areas • "Speaking a Common Language: The uses and performance of the IUCN System of Management Categories for Protected Areas" • Durban Action Plan
WGIP	• Principles and Guidelines for the Protection of the Heritage of Indigenous People
Declarations	• Dana Declaration on Mobile Peoples and Conservation • Playa del Carmen Declaration on Shamanism, Nature and Sacred Sites • Tokyo Declaration on the Role of Sacred Natural Sites and Cultural Landscapes in the Conservation of Biological and Cultural Diversity

Source; Oviedo G, 2006.

Annex 4: Linking values to management objectives and indicators

Values	Ecological - biophysical	Socio-economic	Governance
Indicators	1. Focal species abundance 2. Focal species population structure 3. Habitat distribution and complexity 4. Composition and structure of the community 5. Food web integrity 6. Recruitment success within the community 7. Type level and return from extraction (harvest) of resource 8. Ambient quality (water, air, soil) 9. Area showing signs of recovery 10. Area under no or reduced human impact	1. Local recourse use patterns 2. Local values and beliefs about the resource 3. Level of understanding of human impacts on the resource 4. Perceptions of resource availability 5. Perceptions of local resource harvest 6. Perceptions of non-market and non use value - these are still knots, question is what they are and integrate these values accordingly 7. Material style of life 8. Quality of human health 9. household income distribution by source 10. Household occupational structure 11. community infrastructure and business 12. Number and nature of markets 13. Stakeholder knowledge of natural history 14. Distribution of formal knowledge to community percentage of stakeholder group in leadership position changes in conditions of ancestral and historical sites, features and monuments	1. Level of resource conflict 2. Existence of a decision-making and management body 3. Existence and adoption of a management plan 4. Local understanding of MPA rules and regulations 5. Exciting and adequacy of enabling legislation 6. Ability and location of MPA administrative resources 7. Existence and application of scientific research and input 8. Existence and activity level of community organisations 9. Degree of interaction between managers and stakeholders 10. Proportion of stakeholders trained in sustainable use 11. Level of training provided to stakeholders in participation 12. level of stakeholders participation and satisfaction in management 13. Level of stakeholder involvement in surveillance 14. Clarity defined enforcement procedures 15. Enforcement coverage 16. Information dissemination
Management objectives	1. Resources sustained or protected 2. Biological diversity protected 3. Individual species protected 4. Habitat protected 5. Degraded areas restored	1. Food security enhanced or maintained 2. Livelyhoods enhanced or maintained 3. Non-monetary benefits to society enhanced or maintained 4. Benefits equitably distributed 5. Compatibility between local culture and management maximised 6. Environmental awareness and knowledge enhanced	1. Effective management structures and strategies maintained 2. Effective legal structures and strategies for management maintained 3. Effective stakeholder participation and representation ensured 4. Management plan compliance by resource users enhanced 5. Resource conflicts reduced and managed

Source: Based on Pomroy, R. S. Parks, J. E. Watson, L. M. (2004).

Annex 5: Some questions to guide semi-structured interviews

"Developing Indicators for Monitoring and Management of Sacred Natural Sites based on Cultural and Spiritual Values in Protected Areas".

The World Heritage Convention recognizes and protects both cultural and natural heritage of outstanding universal value. The World Heritage Convention's definition of heritage also provides an innovative opportunity for the conservation of sites with both tangible and intangible heritage and for cultural landscapes as 'combined works of nature and man'.

1. The enhancing our heritage project focuses on the natural criteria I to V for world heritage sites, why?
2. In the new system these criteria are named 6 to 10 the first 6 are "cultural" criteria. Have these criteria been taken into account when developing the Enhancing our heritage booklet?

Currently there exists appropriate guidance on assessment of management effectiveness regarding conservation objectives of biodiversity and other natural values of heritage sites. The following questions relate to the cultural properties of WHS.

3. In your opinion, why is it important to protect and conserve cultural values in Natural World heritage Sites?
4. Do you feel that cultural aspects of heritage are currently sufficiently emphasized within management (effectiveness) of natural WHS (why?/why not?).

In site management it is important to recognize that cultural and spiritual values (non material, intangible) can be particularly hard to assess, monitor and manage.

5. Do you feel that current tools (e.g. the world heritage management effectiveness workbook and Evaluating Effectiveness for WCPA) sufficiently address the assessment and protection of the cultural aspects related to natural heritage (why?/why not?),
6. From you experience in the field; Are cultural values well addressed in comparison to natural values? (e.g. the additional values to World Heritage values in management objectives in Tool 1 after developing objectives from values),
7. From your experience; when using the World Heritage management effectiveness workbook are opportunities for addressing cultural values in well utilized?

Whilst developing objectives from values cultural, social and economic values are mentioned alongside biodiversity and other natural values. Values are used to set management objectives.

8. In your opinion who will determine the values on which management objectives are based?
9. What guidance (criteria/checklists) are currently available for eliciting (cultural) values?
10. Are these values based on the 10 criteria for classification of World heritage Sites?
11. to your best knowledge; What is (could or should be) the role of stakeholders such as local people and indigenous in this process?

Sacred natural sites form linkages between the protection of monumental heritage, recognition of the living heritage of indigenous people, the spiritual wealth of humanity and at the same time interact at these levels with the natural environment.

12. Do you have any experience in dealing with management (effectiveness) of sacred sites? (Perhaps from one of the 10 project sites (such as Canaima?) in enhancing our heritage?)
13. From your experience did you find that there exists a need to equip management (make aware or provide with the right tools) for dealing with sacred natural sites?
14. How do you think specific management objectives for sacred natural sites can be developed that are capable off supporting, facilitating or improving the current status of (management of) sacred natural sites.

Good management relies on information from monitoring and sound indicators. The “wellbeing” of sacred natural sites is also based on how people perceive the sacred natural sites (based on their own cultural criteria). In equitable management regimes people determine if a sacred natural sites is successfully managed or not. Some of their indicators may be elicited others cannot.

15. Would you agree that relying on people’s judgment can substitute a tangible indicator?
16. In case of co-management or IPA’s do you think it is necessary to stool or validate management decisions on biophysical indicators in order to allow management decisions to be executed?
17. Do you think that adaptive management can be a successful strategy for tuning management to social preferences (cultural and spiritual values).
18. What governance types or Parks you feel are most likely to adapt their management strategies to perception based (rather then biophysical) indicators?
19. Can you see any potential bottlenecks or conflicts when using perception based indicators for assessing cultural and spiritual values?

Annex 6: Alphabetical list of people consulted

	Surname	First name	Organisation	Job discription
1	Alem Rojo	Alfonso	SERNAP	Indigenous Policy Officer
2	Auchincloss	Elisabeth	IUCN - World Conservation Union	Conservation Learning Officer
3	Besancon	Charles	UNEP World Conservation Monitoring Center (WCMC)	Director
4	Bishop	Joshua	IUCN	Senior Environmental Economist
5	Christina	Swiderska	IIED	Manager Cultural Development Program
6	Davidson	Nick	Ramsar	Deputy Secretary General
7	Dudley	Nigel	Equilibrium	Consultant
8	Groot de	Dolf	IUCN CEM/Wageningen University and research Environmental Systems Analysis	Co-chair/Assistant professor
9	Harmon	Dave	The George Wright Society	Executive Director, (also vice chair for North America, IUCN WCPA)
10	Higgins-Zogib	Liza	Forests for Life WWF International	Protected Areas Officer,
11	Hockings	Marc	IUCN World Commission on Protected Areas	Vice-Chair (Science, Knowledge and Management of Protected Areas)
12	Klarc	Kate	Heritage Lottery Fund	Deputy Director (Policy & Research)
13	Kohafkan	Parvis	FAO Rural Development Division	Director/Globally Important Agricultural Heritage Systems (GIAHS)
14	Koppen van	Kriss	Wageningen University and research Center, department of Environmental Policy	Professor and senior lecturer
15	Lee	Cathy	UNESCO, Division of Ecological and Earth Sciences	Facilitator
16	Maffi	Luisa	Terralingua	President Terralingua
17	Mallarach	Josep M.	Delos Initiative	Co-ordination, A project of the IUCN-WCPA
18	McCandless	Susannah	International Society of Ethnobiology	Coordinator
19	McLeod	Toby	Sacred Land Film Project	Director

20	Morrison	Joe	North Australian Indigenous Land & Sea Management Alliance (NAILSMA)	Executive Officer
21	Oviedo	Gonzalo	IUCN	Social Policy Advisor
22	Papayannis	Thymio	Ramsar/ Med-INA (Mediterranean Institute for Nature and Anthropos)	Director Med-INA
23	Pater de	Cathrien	Dutch ministry of Agriculture Nature Conservation and Food Quality	Senior policy officer
24	Peard	Georgina	IUCN - The World Conservation Union, Program on Protected Areas	Project Officer-World Heritage
25	Pritchard	Dave		Policy advisor
26	Pugnetti	Gloria	Cambridge Center for Landscape and People	Director
27	Putney	Allen D.	IUCN/WHC	leader task force on Cultural and Spiritual values of protected Areas/consultant
28	Rodríguez-Navar	Guillermo E.	Red Colombiana de Productores	Director
29	Rosabal Gonzale	Pedro M	IUCN - The World Conservation Union, Program on Protected Areas	Director-World Heritage
30	Rössler	Mechtild	UNESCO World Heritage Centre	Chief, Europe & North America
31	Schaaf	Thomas	UNESCO World Heritage Centre, Division of Ecological and Earth Sciences, Man and the Biosphere (MAB) Programme	Coordinator
32	Sheppard	David	IUCN World Commission on Protected Areas	Commission Director
33	Spierenburg	Marja	University of Amsterdam	Scientific researcher Social Policy
34	Vigilante	Tom	Kimberley Land Council	Land and Sea Unit
35	Wiersum	Freerk	Wageningen University and Research center. Department of Nature and Forestry Policy	Senior lecturer
36	Zylstra	Matt	EarthCollective, eyes4earth	Program coordinator

Endnotes

[i] Learn more about PDM and CIFOR's Multidisciplinary Landscape Assessment at: http://www.cifor.cgiar.org/mla/_ref/method/index.htm (last accessed 04-05-2006)

[ii] Each contracting Party shall, as far as possible and as appropriate: Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices

[iii] The IUCN Guidelines for Protected Areas Management Categories are available from http://app.iucn.org/dbtw-wpd/edocs/1994-007-En.pdf (last accessed 02-07-2006).

[iv] More information on Globally Important Agricultural Heritage Systems (GIAHS) can be found at http://www.fao.org/sd/giahs/

[v] CBD Article 1, "fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding". Available from; http://www.biodiv.org/programmes/socio-eco/benefit/ab-wg-01.asp (last accessed 20-08-2006)

[vi] Vth Worlds Park Congress in Durban South Africa 8-17 September 2003 Recommendation 5.13 is available at http://www.iucn.org/themes/wcpa/wpc2003/pdfs/outputs/recommendations/approved/english/html/r13.htm (last accessed 10-17-2006).

[vii] At Uluru visitor center there are many letters from visitors to the Rock over the last couple of decades who had taken parts of the Rock home. They'd since learnt how sacred the site was, and how stealing from it can bring bad luck, and had decided to return their rocks to their natural place. More information including a radio interview on this matter can be found at Australia's ABC radio at: http://abc.net.au/religion/features/sacredsite/uluru.htm (last accessed 10-10-2006).

[viii] The importance of Sacred Natural Sites for Biodiversity Conservation. International workshop held in Kunming and Xishuangbanna Biosphere reserve, Peoples republic of China 17-12 February 2003.

[ix] Conserving cultural and biological diversity the role of sacred natural sites and cultural landscapes held in Tokyo, Japan 30 May - 3 June 2005.

[x] The Guidelines for the Management of Sacred Natural Sites can be accessed at; http://topshare.wur.nl/naturevaluation/75082 (last accessed 14-11-2006).

[xi] Declaration on the Role of Sacred Natural Sites and Cultural Landscapes in the Conservation of Biological and Cultural Diversity Available at http://www.un.org/esa/socdev/unpfii/news/Tokyo_Final_Declaration.pdf (last accessed 29-09-2007).

[xii] **WPC 2003 Durban, Recommendation 13 Cultural and Spiritual Values of Protected Areas.** The participants in the Session entitled "Building Cultural Support for Protected Areas", held in the Building Broader Support Workshop Stream, recommended that all protected area systems recognise and incorporate spiritual values of protected areas and culture-based approaches to conservation. WPC Recommendations are available at: http://www.iucn.org/themes/wcpa/wpc2003/english/outputs/recommendations.htm

[xiii] For more information visit the web site of the IUCN WCPA Delos Initiative at (http://www.med-ina.delos/org).

[xiv] There are sacred sites devoted to silence and solitude, for instance those used for retreats, by Daoist or Christian hermits as well as indigenous people. Others sacred sites that are not, such as El Rocío-Doñana in Spain which by its own nature is attracting huge crowds in pilgrimages, who practice chanting and celebrations, usually in loud voice, for days or weeks.

[xv] The UNESCO/IUCN Draft Guidelines for the Management of Sacred Natural Sites can be accessed at http://topshare.wur.nl/naturevaluation/75082

[xvi] The importance of Sacred Natural Sites for Biodiversity Conservation. International workshop held in Kunming and Xishuangbanna Biosphere reserve, Peoples republic of China 17-12 February 2003.

[xvii] Conserving cultural and biological diversity. The role of sacred natural sites and cultural landscapes; held in Tokyo, Japan 30 May - 3 June 2005.

[xviii] The Montserrat Statement is available at the web page of The Delos Initiative at: http://www.med-ina.org/delos

[xix] See also the position paper ' What do we mean by "wild nature"' of Deborah Bird Rose, of the Australian National University (ANU) giving an indigenous peoples' perspective that challenges some western notions of nature and protection. Available at the categories summit website: http://www.iucn.org/themes/wcpa/theme/categories/summit/papers/Whatdowemeanbywild.pdf

[xx] Being aware that in some indigenous worldviews the concept of sacred is absent, precisely because its opposite, profane, is not recognized as real; hence, everything is perceived as sacred. In that they coincide with the non-dualistic dimensions shared by mystics of mainstream faiths (Smith 1977).

[xxi] Linking management effectiveness evaluation and periodic reporting: Possibilities and Challenges, Powerpoint presentation by; Sue Stolton, Equilibrium Consultants. Second meeting of the reflection year on the World Heritage periodic reporting, 2-3 march 2006. Available from; http://whc.unesco.org/uploads/pages/documents/document-320-39.ppt (last accessed 09-09-2006)

[xxii] CIFOR's Toolbox series are freely available from http://www.cifor.cgiar.org/acm/pub/toolbox.html

[xxiii] The Delos Initiative seeks to seeks to; 1) investigate the interface between humanity and nature, 2) promote the integrated management of the natural and cultural heritage and 3) harmonise cultural and spiritual aspirations with the conservation of nature. Initiative focuses on the sacred natural sites in developed countries throughout the world (such as Australia, Canada, the European countries, Japan, New Zealand and the United States of America). Its main purpose is to help in maintaining both the sanctity and the biodiversity of these sites, through the understanding of the complex relationship between spiritual / cultural and natural values. For more information see: http://www.med-ina.org/delos/ (last accessed; 20-10-2006).