Values of Protected Landscapes and Seascapes

A series published by
the Protected Landscapes Task Force of IUCN's World Comission on Protected Areas
Series Editorial Team: Thora Amend, Jessica Brown, Ashish Kothari, Adrian Phillips and Sue Stolton

2

Protected Landscapes and Cultural and Spiritual Values

Edited by
Josep-Maria Mallarach

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Volume produced in partnership between the WCPA Protected Landscapes Task Force and the Task Force on Cultural and Spiritual Values of Protected Areas.

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Preface to the volume by the Series Editor Team

by Thora Amend, Jessica Brown, Ashish Kothari, Adrian Philips and Sue Stolton

This is the second volume in the new series on the Values of Protected Landscapes and Seascapes produced by the Protected Landscapes Task Force of IUCN's World Commission on Protected Areas (WCPA). In launching the series early in 2008, we explained the rationale behind protected landscapes: some lived-in landscapes are so important for conservation and sustainable development that they deserve special protection and IUCN has recognised such landscapes in which effective national or local conservation measures are already in place as Category V protected areas: Protected Landscape and Seascapes. As protected areas based on the interactions of people and nature over time, these places sustain biological and cultural diversity, as well as being valuable in many other ways. We explained too that, while the Protected Landscapes Task Force had begun to document these values[1], we felt that there was need for more detailed examination, explanation and advocacy of these landscapes in order to promote a wider understanding of the range of benefits that Category V protected areas have to offer: hence, the publication of this series on the values of Protected Landscapes and Seascapes, in which each volume will explore the different values that this category provides through a set of case studies preceded by a synthesis section discussing the lessons to be learnt.

The first volume in the series, Protected Landscapes and Agrobiodiversity Values[2], was well received. We are confident that this second volume, The Cultural and Spiritual Values of Protected Landscapes, will be equally useful to a wide range of practitioners and policy makers. In producing this volume we worked in partnership with the WCPA Task Force on the Cultural and Spiritual Values of Protected Areas (CVSPA) and we are delighted that Volume II will be published in both English and Spanish, with the Spanish version due out later this year.

When we selected the topic of cultural and spiritual values for this second volume, we were aware that, for non-material reasons, many protected landscapes are of great importance to local communities and to the countries and regions in which they are found. Indeed such landscapes have deep significance for people all around the world. While this can express itself in different ways in different cultures, there is a common thread: such landscapes inspire affection and respect, reinforce cultural identity and are vital for spiritual well-being. This volume has broken new ground by documenting on a global scale the non-material values that are to be found in protected landscapes. The introduction to the case studies shows just how varied this contribution is from around the world and draws important policy conclusions.

In selecting the case studies for this volume, the focus was not on any particular designation, but rather on whether the landscape qualities and management objectives of a site are in keeping with those of Category V protected landscapes. So, as with the first volume on agrobiodiversity, this volume includes case studies about areas that appear to be suitable for Category V status, but which have not as yet been recognised as such. Thus, while some case studies are of places that are classified as Category V protected areas and are already listed as such on the UNEP/WCMC World Database on Protected Areas (WDPA), others are partly assigned to another category, whilst others have no recognition in the IUCN system of management categories.

Nationally and internationally too, the position is complex. Some sites are covered by national legislation, including specific Category V legislation, whilst others are not formally protected by any legislation or are only community-conserved areas. Some case studies relate to areas that have -or could have- other forms of international recognition or protection, such as World Heritage Cultural Landscape or Biosphere Reserve.

It is clear from this that many countries have not yet undertaken a thorough review of their protected area systems in accordance with IUCN advice[3]. More specifically, it is apparent that there is as yet no universal confidence in the use of the Category V approach and a preference remains for assigning protected areas to other categories that are more familiar, such as Category II. Yet, as in the volume on agrobiodiversity values, this new publication shows that

1 Notably in Category V Management Guidelines (2002), a special number of PARKS on Category V Protected Areas (2003) and a book, The Protected Landscape Approach (2005

2 Amend T., Brown J., Kothari. A., Phillips A. and Stolton S. (eds.) (2008). Protected Landscapes and Agrobiodiversity Values. (Volume 1 in the Series, Protected Landscapes and Seascapes). IUCN and GTZ. Kasparek Verlag, Heidelberg.

3 Davey A. (1998) National System Planning for Protected Areas, IUCN, Switzerland and Cambridge, UK.

many more places could benefit from a formal designation as a protected landscape.

In future volumes, we plan to explore other themes, such as the value of Category V protected areas in conserving wild biodiversity, in bio-regional planning, in sustaining local and regional economies, in supporting traditional sustainable practices in local communities, as models of natural resource management, stewardship and sustainable rural development, in public health, well-being and recreation, and in -a related theme to this publication- inspiring the arts. As each of these volumes appear, the full value of this approach to conservation will become ever clearer.

We believe that formally identifying and protecting lived-in, working landscapes of high conservation value could be of great advantage to more societies around the world than those that currently employ Category V. We hope that this series will demonstrate the advantages of the Category V approach and encourage more national and sub-national authorities to include it formally as part of their protected areas systems and to assign areas with more confidence to this category. In short, we trust that this series as a whole and this volume in particular will promote a wider understanding and use of this timely approach.

We wish to thank Josep-Maria Mallarach for his work as editor of this volume, all the more so given that his task was performed to a very tight timetable in order to be ready for IUCN's World Conservation Congress in Barcelona in October 2008. We are also grateful to the members of the Volume Editorial Advisory Team, Jessica Brown, Thymio Papayannis, Fausto Sarmiento and Rob Wild. We are grateful too to the many authors of individual case studies who have contributed their knowledge and experience - without their efforts, this publication would not have existed. Finally, we thank those who have helped make this publication possible: the German Technical Assistance Programme, GTZ and Fundació Obra Social de Caixa Catalunya savings bank, Silene Association, Natural England, The Countryside Council for Wales, Scottish Natural Heritage, the Quebec-Labrador Foundation/Atlantic Center for the Environment, and the IUCN Theme on Strategic Direction on Governance, Communities, Equity, and Livelihood Rights in Relation to Protected Areas (TILCEPA).

Cultural and spiritual values of protected landscapes and seascapes: an overview

Josep-Maria Mallarach

Protected landscapes and seascapes would not exist without the deeply rooted cultural and spiritual values held by the people that once inhabited these places and who very often continue to care for them. In fact, protected landscapes and seascapes could be seen as one of the most striking outward manifestations of the intangible values inherent in cultural heritage. Unlike other values, such as agrobiodiversity or ecosystem services, which are relevant to many protected landscapes, cultural and spiritual values are fundamental in the very strictest sense of the word.

According to IUCN, Category V protected areas, which include both protected landscapes and seascapes, are defined as "areas of land, with coasts and seas when appropriate, where the interaction of people and nature over time has produced an area of distinctive character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such areas" (IUCN, 1994). Hence, protected landscapes and seascapes are the tangible result of the harmonious interaction of people and nature over time. The result is inherently dynamic since these 'scapes' are evolving and adapting to the continuous changes occurring within the environment and society. No human society can exist without the cultural and spiritual values that define our worldviews and shape our interaction with the natural environment. Thus, today's landscapes and seascapes are a reflection of these values. This key idea is encapsulated in the sentence "Landscapes, our innermost being reflected" used to disseminate the European Landscape Convention.

Karamat of Shaykh Mohamed Hassen Ghaibie Shah at Lion's Head, Holy Circle of Cape Town. Photo Josep-Maria Mallarach

This introductory chapter discusses why cultural and spiritual values are fundamental to this category of protected areas and examines the relationship between them. In a wider context, the chapter also discusses tangible and intangible cultural values and the main trends they are undergoing at a global level, before explaining how the selection of the case studies was performed. Finally, the chapter presents an overview of the main findings based on the analysis of the case studies and then a number of conclusions.

Defining the key terms

First, an important caveat: the three official IUCN languages -English, French and Spanish- share the same worldview, which was shaped by the scientific revolution in Western Europe in the seventeenth century and the spread of positivism and reductionism. It treats man and nature as separate and isolates the spiritual from the material world. Another consequence has been the extraordinary increase in the analytical capabilities of these languages, reflected in the astounding number of new words that have been coined over the last three centuries, to the detriment of their power to synthesize ideas, which was embodied in many of the venerable old key words.

In many other cultures, however, the Cartesian distinction between the material and the spiritual does not exist, people considering instead that spiritual realities permeate everything and that humans, nature and the entire universe share the same material and spiritual dimensions (Smith 1967). For this reason, many of the key terms discussed here -and their French and Spanish translations- lack an exact equivalent in most of the world's languages. For instance, although the distinction between cultural and spiri-

tual makes sense in secularised societies, in which culture has developed more or less independently of spirituality over the last few centuries, it is completely irrelevant in most of the world's cultures where spirituality permeates every aspect of life; and it is misleading to try to impose it on those cultures.

To understand the meaning of cultural values it is first necessary to define culture. Culture has been defined as "a set of distinctive spiritual, material, intellectual and emotional features of a society or a social group. In addition to arts and crafts, culture encompasses lifestyles, ways of living together, value systems and traditions" (UNESCO 2001). According to the Universal Declaration of Cultural Diversity, cultural diversity is the common heritage of humanity. "This diversity is embodied in the uniqueness and plurality of the identities of the groups and societies making up humankind. As a source of exchange, innovation and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature" (art.1). Therefore, "the defence of cultural diversity is an ethical imperative, inseparable from respect for human dignity. It implies a commitment to human rights and fundamental freedoms, in particular the rights of persons belonging to minorities and those of indigenous peoples. No one may invoke cultural diversity to infringe upon human rights guaranteed by international law, nor to limit their scope" (art.4) (UNESCO 2001).

Intangible cultural heritage has been defined as "the practices, representations, expressions, knowledge [and] skills (…) transmitted from generation to generation [that are] constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, [which] provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity" (UNESCO 2003).

A subset of this intangible cultural values is related to traditional ecological knowledge, a concept that has been defined as a "cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationships of living beings (including humans) with one another and with their environment" (Berkes 1999).

In this context, spiritual values may be understood as another subset of the intangible cultural values of a given society. They include all the values that have a direct relationship with religion, traditional faith or beliefs systems. Since these values are connected with the sacred, they

Monastic village of Varatec at Vanatori Neamt Nature Park, Romania. Photo Josep-Maria Mallarach

are often considered to be the most significant. Religion -in the sense that is often currently used in the West- is also to a large degree a Western concept whose semantic scope has shrunk since the last centuries and now refers only to what is called the 'inner life'. As a result, the current concept of religion in English, French or Spanish lacks an exact equivalent in most of the world's languages. In fact some of the world's largest religions, such as Islam and Hinduism, do not consider themselves as 'religions', seeing themselves rather as 'traditions' that encompass every aspect of life –inward and outward. This understanding is in fact nearer the original meaning of 'religion', a word which comes from the Latin re-ligare, and means the 're-linking' of the different realms of reality, from the material to the spiritual. It is in this sense that it is used in this volume. Sacred site is another concept which links the material and spiritual - thus the simplest definition of sacred site is an area of special spiritual significance to peoples and communities (Wild and McLeod eds. 2008).

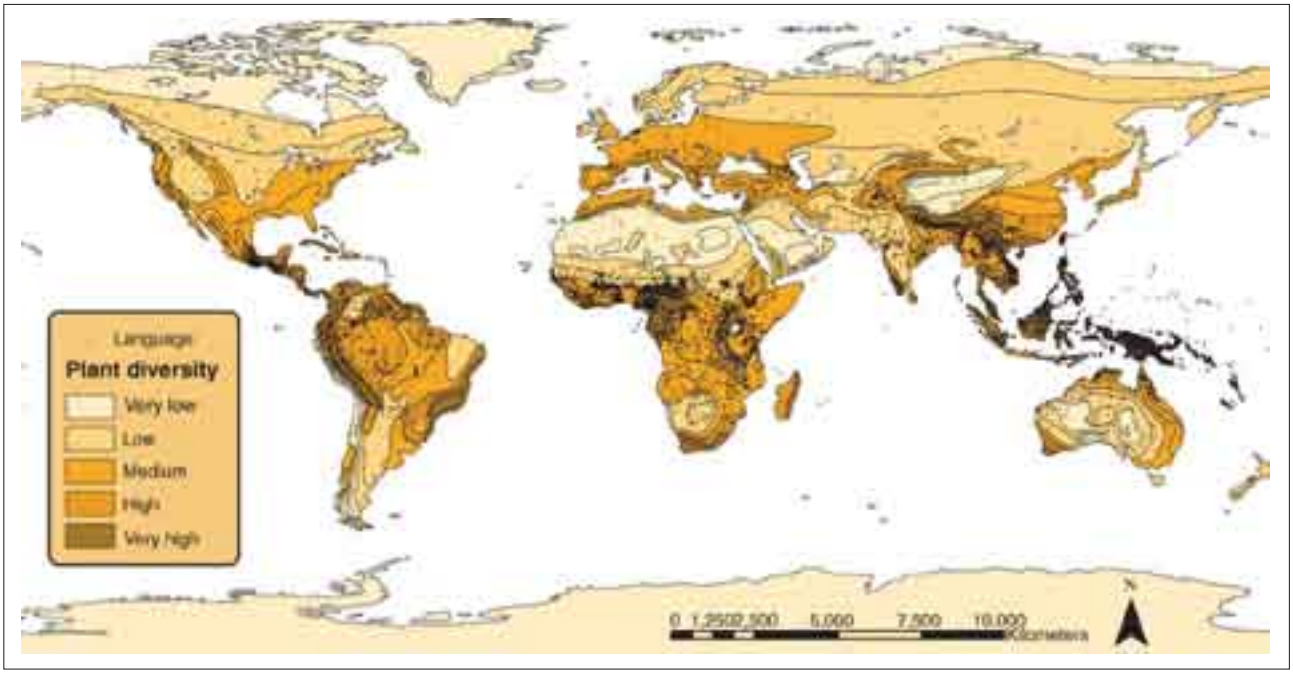
The concept of *landscape* as understood by all three official languages of IUCN and in the European Landscape Convention embodies both the natural world and what people have done to it over time – or nature plus culture. But such a concept does not exist in the vast majority of world languages, mainly because the Western view of nature, as something apart from people and their culture, is likewise alien to many languages. Instead, the word or words most languages use to describe this concept usually refer not only to material components, but also to non-material realms, which are perceived as alive and often a more significant part of nature and landscape than their material counterparts (Bernbaum 1997).

Recently, however, the Western views of nature and landscape have been imported into a number of languages, in particular into those of societies that have been most heavily influenced by the Western worldview. Nevertheless, other cultures reject such a concept, arguing that their alternative concepts are more suitable ways of describing reality. So we have to acknowledge that the title of this volume is a Western way of describing a reality which in many cultures and languages of the world is articulated by a single all embracing word or, in some cases, by none, since it remains entirely implicit, despite its vital significance.

Regarding values, suffice to say that "values, like meaning and purposes, slip through science like the sea slips though the nets of fishermen". Yet, all human beings swim in this sea, so they cannot exclude values from their worldview (Smith 1985).

The relationship of biodiversity to cultural values

An important issue is the relationship between cultural and natural diversity. According to the *Fourth Global Environment Outlook*, "Biodiversity also incorporates human cultural diversity, which can be affected by the same drivers as biodiversity, and which has impacts on the diversity of genes, other species and ecosystems" (UNEP 2008). Since there is this intimate relationship between these two kinds of diversity, it should come as no surprise that of all the new terms and concepts that have emerged in recent years, the concept of 'biocultural diversity' is the one gain-



Plant diversity and language distribution. From Stepp et al. 2004, published in L. Maffi (2005).

ing wide acceptance, revealing clearly the complex linkages of culture and nature (Maffi, ed. 2002).

One such association is between linguistic diversity and biodiversity. There are indeed remarkable overlaps between areas of biological megadiversity and areas of high linguistic diversity, just as there is a high correlation between low cultural diversity and low biodiversity (Harmon and Maffi, 2002). A close correlation has been found between endemism in language and in higher vertebrates: thus sixteen countries (64%) share the distinction of appearing amongst both the twenty-five countries with the most languages and the twenty-five countries with the most higher vertebrates. These include large countries with highly varied terrains, climates and ecosystems such as Brazil, China and Mexico, island countries such as Papua New Guinea, the Philippines and the Solomon Islands, and tropical countries such as Cameroon, the Democratic Republic of the Congo and Tanzania (Harmon 2002).

The loss of languages is perhaps the most striking and well-documented example of the loss of cultural diversity. As with biodiversity, language diversity increases towards the tropics. It has been estimated that there are more than 7,000 languages in the world that, like biodiversity, are becoming increasingly subject to greater extinction rates. It is estimated that, during the last 500 years, about half the known languages in the world have disappeared and that if current trends continue, the prospects for language diversity are even starker than for biodiversity. Some estimates suggest that 90% of today's languages could be extinct within a century, leaving only about 600. The reasons for the losses of languages are complex and are related to the political and technological development of society, particularly since the rise of the nation-state (Kraus, 1992).

Another indicator of the relationship between biological and cultural diversity and conservation can been found in the number of edible plants known by a given society. For example, although more than 40,000 edible plants were once known to the Aboriginal inhabitants of South Australia, very few of these are now used by the (mostly) European immigrants living in the region, who have neither given them common names nor ever use them. It has been argued that this has led to the disappearance and perhaps elimination of a number of such plants, as they are often seen simply as 'weeds' (Skutnabb-Kangas and Philipson, 2006).

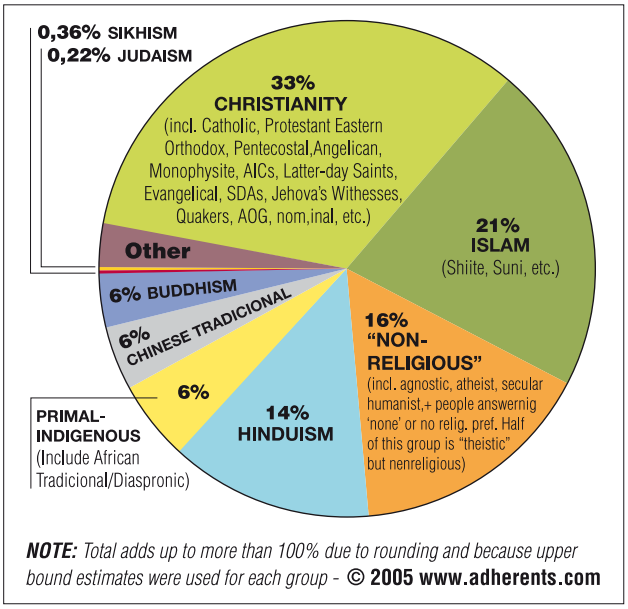
When the book *The Protected Landscape Approach* (Brown et al. 2005) compiled a number of case studies by documenting experiences of protected landscapes and seascapes from all over the world, it was found that the relationship with cultural and spiritual values was very relevant in most of them.

Trends in cultural and spiritual values

Globally, trends in the diversity and richness of cultural and spiritual values follow a similar pattern from place to place that can be summarised as follows: loss, impoverishment and homogenisation. At the same time, analogous processes are occurring in biodiversity and to the distinctive landscapes and seascapes that these values helped create and sustain over time. A number of significant international initiatives have also been developed to address these issues, which are discussed below.

According to the best available estimates, about 84 % of humankind follows some organized kind of religion or spiritual tradition. Of these, the vast majority (75%) are followers of one of the four mainstream religions: Christianity (33%), Islam (21%), Hinduism (14%) and Buddhism (6%). The followers of all the remaining world's religions (Judaism, Taoism, Sikkism, Jainism, etc.) are substantially fewer in number than those that adhere to Buddhism. On the other hand, the number of primal spiritual traditions probably number over 6,000, although their followers only account for about 6% of humankind (www.adherents.com. 2008)

Current trends show a relative increase in people who do not follow any organized religion, together with the spread of many forms of new spirituality (New Age movements) and Eastern spiritual traditions and religions in the most secularised countries. On the other hand, the increased contact between religions and spiritual traditions has resulted in the development of syncretic belief systems in



NOTE: *Total adds up to more than 100% due to rounding and because upper bound estimates were used for each group -* **© 2005 www.adherents.com**

several regions, especially in Central and South America and in many parts of Africa.

All world religions and spiritual traditions have a high esteem for nature and many regard nature as a divine manifestation. They normally posses cosmologies and provide guidance for relating humans to the natural world. However, in recent centuries mainstream religions have not paid much attention to these questions (Nasr 1986). Sacred natural sites are probably the oldest form of nature conservation and in many countries they may cover similar or greater surface areas than formally established protected areas (Wild and McLeod 2008). It has been shown that sacred natural sites are found in all continents and in all types of protected areas (Verchuuren et al. 2007) including technologically developed countries (Mallarach and Papayannis 2007) and in a number of specific habitats such as wetlands (Papayannis 2008).

On the other hand, it has been argued that the origin of the developments that have led to the unsustainable trends that are at the heart of the global ecological crisis are directly related to the decline of spiritual natural values in Europe, a process that has been called the 'des-sacralisation of the cosmos' (Nasr 1996). A significant positive trend in recent years has been the increased interest shown by all mainstream religions in nature conservation and the environment. This has led to many positive developments at different levels with tangible results for natural conservation, which have been well documented elsewhere (Dudley et al. 2005).

Some recent international landmarks

During the last few years a certain number of key international agreements have taken place that relate in different ways to the cultural and spiritual values of protected areas. These include the following:

The 1992 Convention on Biological Diversity (CBD) includes the protection and promotion of "knowledge, innovations and practices of Indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity"; in this capacity, the CBD is seeking to develop indicators of the state and trends of Indigenous knowledge and languages.

The 2000 European Landscape Convention stresses that "the landscape contributes to the formation of local cultures and that it is a basic component of (…) natural and cultural heritage, contributing to human well-being (…). [It] is an important part of the quality of life for people everywhere (…) and (…) its protection, management and planning entail rights and responsibilities for everyone"

The 2001 UNESCO Universal Declaration of Cultural Diversity, discussed before, as a foundational statement, as it is the 2003 UNESCO Convention on the Safeguard of Intangible Cultural Heritage which aims "to ensure respect for the intangible cultural heritage of the communities, groups and individuals", and to "raise awareness at the local, national and international levels of the importance of the intangible cultural heritage, and of ensuring mutual appreciation thereof". On the other hand, the UNESCO Cultural and Natural World Heritage Sites include a number of representative outstanding cultural landscapes over the world and constitute another relevant tool.
In 2007 the United Nations passed the Declaration on the Rights of Indigenous Peoples, which, although not legally binding, enshrines fundamental and morally authoritative principles related to the cultural and spiritual values of indigenous people.

To conclude this short list, it is worth mentioning that the Ramsar Convention on wetlands has developed guidelines including natural and cultural values that have been adopted by the Conference of the Contracting Parties.

Sacred lake of Karthok in Yuksam, Sikkim. Photo: Nakul Chettri

Overview of the case studies

This volume includes sixteen case studies, although one of them actually includes three single cases. There are four from Africa, four from Europe, three from both South America and Asia, and one from both North America and Australia. About half of the case studies refer to legally established protected areas, the remaining areas being protected under other traditional forms of governance such as community-conserved areas. These case studies include people who speak over twenty languages as a mother language, only three of which can be considered to be mainstream - Arabic, English and Portuguese. The case studies feature followers of the world's four mainstream religions, as well as eight different indigenous spiritual traditions (see table below).

The primary aim of the case studies is to show how important many protected landscapes and seascapes are for the cultural and spiritual values that they contain, and that such values are relevant to protected landscapes and seascapes in very different ecological, social and political contexts that may be either legally established as protected areas or managed under other effective means such as traditional systems of governance

Selection of case studies

The identification of suitable case studies was done in collaboration with several IUCN networks, including the two WCPA Task Forces that have collaborated to produce this book: the Protected Landscapes Task Force and the Task Force on Cultural and Spiritual Values of Protected Areas, as well as the Theme/Strategic Direction on Governance, Communities, Equity, and Livelihood Rights in Relation to Protected Areas (TILCEPA). More than forty different proposals were received, from which the Editorial Advisory Teams together with the editor selected those that were considered the most appropriate.

The first and most basic criterion for selection was that a case-study site must be either a designated Category V protected areas, the equivalent or be managed as such. Three further criteria were then employed: first of all, a geographical, cultural and spiritual balance was decided upon; second, sites whose cultural, artistic and/or spiritual values are globally recognized were chosen (for example, Cultural/Natural World Heritage Sites or sites included in the List of the Intangible Cultural Heritage of Humanity); lastly, fresh case studies prepared by members of the Task Force on protected Landscapes and the Task Force on Cultural and Spiritual Values of Protected Areas were also selected to ensure an overall representative selection of case studies.

A fair number of the proposals received corresponded to protected areas that were not classified under any IUCN category. Some were not even designated protected areas, despite being effectively managed as such. As discussed in the Preface to this volume, the reason for this may be because protected area categorisation procedures in most countries have not been clearly established and consequently are not very reliable. In addition, there may be political or economic reasons that explain why a number of Category V protected areas have been classified as other categories (for example, many national parks are mis-categorised as Category II). As a result, the categories included in the World Database of Protected Areas are not always consistent and reliable. For non-designated protected areas, which are managed as protected landscapes, the problem does not exist, since they are not included in the UNEP/WCMC World Database on Protected Areas (WDPA).

Thus, it was decided to include two case studies that are designated protected areas classified as Category II, but which are largely managed as Category V areas, as well as accepting a number of non-designated areas that are also managed following the principles of Category V.

As in Volume 1 of this series, most of the case studies included in this volume discuss sites that conserve a vast array of other values such as natural heritage and biodiversity, landscape, agrobiodiversity and ecosystems. Cultural and spiritual values are usually prominent among the spectrum of values highlighted and in many cases are the main values present, although they never exist in isolation. In fact, understanding the relationship between the full set of values is critical for achieving a holistic view of these areas and how they have been shaped and maintained.

Each of the case studies begins with a summary description of the protected landscape and its most significant cultural and spiritual features. Also described are the legal and administrative status of the protected landscape (when applicable), past and current land- and water-use practices and their links to cultural and spiritual values, and conscious management policies and practices, especially in relation to maintaining or enhancing cultural and spiritual values. Then, the key challenges and threats are discussed, along with possible responses including plans and recommendations for the future. Most cases include a glossary of local terms used for natural, landscape and particular cultural and spiritual features, which may help the reader to understand better the worldviews that the corresponding languages convey. All cases include references for further reading.

Summary table of case studies

Continent country	Name	Category V	Governance	Culture	Religion	Added values
Africa Egypt	St Katherine Natural Protectorate	Designated	Co-management	Byzantine Arab-Bedouin	Judaism Christianity Islam	Sacred Natural Site (SNS)
Africa Uganda	Lake Mburo National Park	Category II Managed as V	Government	Bahima	Indigenous spiritual tradition	Pastoralism values vs. Cat.II
Africa Madagascar	Ankodida Community Protected Area	Community Conserved Area (CCA) Includes a Category III forest	Community managed	Malagasy	Indigenous spiritual tradition - animism	SNS First Cat. V PA in Madagascar
Africa Morocco	Jabal Bouhachem Site of Biological and Ecological Interest	Hurn – CCA	Co-management	Arabic & Berber	Islam Pilgrimage centre Sufism	SNS Shurafa population identity
Asia Cambodia	Archaeological Park of Angkor	Designated	Government	Angkor	Buddhism Hinduism	Ramayana Dance
Asia India	Sikkim sacred landscape Reserve of Biosphere	Managed as Category V	CCA	Sikkimese	Tibetan Buddhism and Hinduism	Sacred groves and other types of SNS
Asia Nepal	Khumbu Sherpa in Sagarmatha buffer zone	Designated Buffer zone	Co-management	Khumbu Sherpa	Tibetan Buddhism	Beyul concept of SNS
Europe Spain	Vall de Poblet Protected Area of National Signifiance	Designated managed as V	Co-management	Catalan Cistercian	Christian Catholic	Identity historical land management records
Australia	Yuraygir National Park	Category II Managed as V	Government	Aboriginal	Aboriginal spiritual tradition	Alternatives to erasing memories of aboriginal mgt
North America Mexico	Dzibilchaltún Cultural Park	Proposed and managed as Category V	Government	Maya	Mixture of Maya religion and Christian Catholic	History – Archaeology
Europe Greece	Athos territory	Managed as Category V	Self-government of the monastic communities	Byzantium Greek	Christian Orthodox	Spiritual centre library
Europe Romania	Vanatori-Neamt Nature Park	Designated	Government	Moldavian	Christianity Orthodox	Spiritual and cultural centre
Europe United Kingdom	North York Moors National Park	Designated	Local government	English	-	History
Europe United Kingdom	Snowdonia National Park	Designated	Local government	Welsh	-	Welsh political and historical Identity
Europe United Kingdom	Lake District National Park	Designated	Local government	English	-	Romantic poetry and landscape painting, land trust
South America Colombia	Sierra Nevada de Santa Marta – Heart of the World	Managed as Category V and VI	Indigenous self-government	Kogi Arhuaco, Wiwa & Kankuamo	Indigenous Spiritual Tradition	Developed cosmological and ecological knowledge
South America Brasil	Ilhabela State Park	Designated as Category II but proposed as V	Government	Caiçaras fishers	Local Spiritual Tradition	New protected seascape
South America Ecuador	Imbakucha watershed	Managed as Category V	Partial CCA	Kichwa Utawalu	Traditional indigenous and Christianity	SNS handcrafts and textile designs

Finally, there is a discussion of the key issues that the case studies highlight regarding the significance of cultural and spiritual values, the threats and challenges they are facing and the responses that are being implemented or have been proposed.

The significance of cultural and spiritual values

The case studies describe a vast number of cultural and spiritual values that are considered to be of the utmost significance for local people and sometimes also by society as a whole. All the cases show a continuous, long-term association with the land dating back at least a number of centuries if not over a thousand years. In many cases, the main values have a clear and distinct religious/spiritual significance. Some, like Mount Sinai, Angkor and Demojong are highly significant for more than one world religion, although the majority of cases refer to values related to one single religion or spiritual tradition. However, in some cases, the same site was already regarded as sacred by former civilizations, as in the case of Athos, which was considered sacred during the classical Hellenic period.

The fact that the spiritual values of certain places are seen to be so significant explains why very harsh environments such as the Sinai Desert, occupied by the world's oldest continuously occupied Christian monastery, have been inhabited for so long. This fact also explains the development of astounding civilizations such as Angkor, the largest religious complex in the world, and how the custodians of the Heart of the World in Sierra Nevada de Santa Marta have developed such a unique holistic worldview that has been so resilient over the centuries.

A second group of values that mix spiritual and cultural aspects are related to lifestyles. The cases of the Bahimas, the pastoralist people of the Beautiful Land in the Lake Mburo region, and of the Ankodika provide two striking examples. Other relevant cases are those of the Caiçaras people living in the seascape of the Ilhabela archipelago and the old Maya culture of Dzibilchaltún in the Yucatan peninsula.

Another group of cultural values is related to arts and crafts. These include a diverse array of values since in most traditional societies everybody is an artist or craftsman (a distinction that is inexistent in most cultures), everything is done with art and therefore all objects –from homes to tools or dresses- have an artistic value (Coomaraswamy 1934, 1956). The case studies harbour an impressive collection of artistic wealth: buildings such as the vast and amazing complex of Angkor, the monastic citadels of Saint Katherine or Poblet, the impressive

Hermitage of Sant Roc, Montsant Natural Park, Catalonia, Spain. Photo: Josep-Maria Mallarach

buildings of the monasteries of Simonopetra and Neamt, unique collections of paintings (the icons of Saint Katherine), extensive archives with a large collection of ancient manuscripts in Poblet and Saint Katherine, dances, songs and dramas of the Tibetan culture of Sikkim and the Sherpa culture of Beyul Khumbu, the rich Byzantine liturgical musical tradition of Athos or Modalvia, the sacred dances of Angkor or the production of traditional crafts by the Kichwa Utawalu.

A fourth type of cultural value is related to languages and the wisdom that they convey. The cases of the Kichwa Utawalu in the Andes and the Sherpa in the Himalayas, among others, provide good examples of rich linguistic value, which give special meaning to the names of peoples and places and provide extremely important concepts that do not exist in Western languages.

A fifth group of cultural values is linked to beauty or aesthetics, being the source of inspiration for poetry and landscape painting, and to social or political identities, usually in relation to history and mythology. The case of the three British national parks discussed in this volume provides an eloquent example of these processes; likewise, the role that beauty plays in the pastoral culture of the Bahima has vast implications on their lifestyles and their landscape.

The contrast between competing cultural and/or spiritual values is analysed in several of the case studies. One of the most provoking is that of the Yuraygir, where the values of the aboriginal and of western immigrants are in conflict. The fact that the vast majority of parks are a modern Western creation may explain why conserving the cultural values of their former inhabitants, which in some cases may cause conflicts, is not often understood as being the responsibility of managers.

Offerings at Bear Butte State Park, ND, USA. A vision quest sacred site for the Plains tribes. Photo: Josep Maria Mallarach

Current threats and challenges

External pressures that undermine the ability of local communities to sustain their lifestyles and traditional practices have negative impacts on cultural and spiritual values and so ultimately on the landscape that the society concerned has helped to shape and manage. As in the case of agrobiodiversity values, the effects of national or regional policies linked to globalised markets and their related dominant cultural models have been almost entirely negative in each case studied here. In many cases mass tourism has had a negative impact, although in some cases for local people such as the Sherpas of Khumbu the relationship with less massive types of tourism is reasonably positive. Moreover, cultural and spiritual breakdown affects many technologically developed countries (Mallarach and Papayannis 2007).

In some cases -Lake Mburo, for example- government intervention has established what could be described as an inappropriate category of protected area and has thus damaged the cultural and spiritual values of local populations and the landscapes they have created.

Other threats include population pressures, climate change, ethnic tensions, loss of cultural identity and a lack funding for conservation. The issues faced by rural communities in the case studies are no different from those faced elsewhere, although in these areas, such issues and problems are more strongly linked to a loss of cultural and spiritual values associated with traditional forms of land-use and have an impact on the conservation of protected landscapes and seascapes.

Diversity of governance systems

Since the Durban World Congress of Protected Areas (2003) the significance of the governance for protected areas, including related cultural and spiritual values, has been well established. Governance should not to be confused with management. Governance refers to who decides what to do in protected areas and how it is done. Hence, it deals with power, accountability, the exercise of authority and so forth. A broader interpretation of equity not only implies a fairer share of costs and benefits, but also a better consideration of existing values (Borrini Feyerabend et al. 2004). Out of the four main types of governance that exist -government alone, shared governance, private owners and indigenous and community conserved areas- the second and the last type are those in which cultural and spiritual values usually play the most significant role.

The case studies display a significant diversity of governance types, from the self-governed monastic state of Athos, to different types of community-conserved areas such as Ankodika and Jabal la'Lâm. They also include diverse types of co-managed protected areas such as the Khumbu Buffer Zone and Saint Katherine Nature Protectorate, as well as the more standard government managed (or, as in the UK, local government managed), managed protected landscapes with various degrees of local participation in their boards.

In legal terms, the case studies discuss two different situations: legally established protected areas and diverse types of community-conserved areas, where protection is achieved through traditional systems of governance.

The basis for successful conservation of cultural and spiritual values

The basis for conserving the cultural and spiritual values of local populations has four common themes, similar to those found when conserving agrobiodiversity values[1], that can be summarised as follows:

First, successful conservation depends on communities having self-esteem and self-respect and being fully aware of the significance of their traditional cultural and spiritual values; they should be capable of maintaining their core values while adapting to new circumstances.

Second, formal or informal systems of governance are required that ensure that local populations' rights are protected, their customary laws respected and their worldviews taken into account. People should have a meaningful say in determining their own futures through effective participation, be it formal or otherwise, in appropriate institutions. Such requirements cannot always be met within the protected area itself and may depend on a context of sympathetic national policies.

Third, there should be sufficient support from international and national bodies, regional and local governments, relevant NGOs and the general public, who should value these communities, the landscapes they maintain and all the products and services they offer, be they tangible or intangible. People should be aware that without the cultural and spiritual values that sustain these communities, humankind would be greatly impoverished.

Finally, the prevailing economy and power structures should not conflict with the maintenance of local communities' lifestyles; indeed they should support it. This point is often connected to the conservation of agrobiodiversity, as was discussed in the first volume of this series.

Concluding remarks

The long-term interaction between a local population and nature that has resulted in a harmonious landscape is the outward manifestation of a given worldview, which is often based on a set of resilient spiritual and cultural values. Such values are not only an additional significant benefit that Category V protected areas may offer to society, but can be their very raison d'être. Without a resilient and effective intangible cultural heritage, protected landscapes and seascapes would simply not exist.

In the best cases, cultural and spiritual values have evolved with the landscape, so that the influence is reciprocal: the landscapes influence the values, refining and fine-tuning them, and the values sustain the human activities that shape the landscape. This can be seen in many outstanding landscapes and seascapes, including most of the case studies included in this volume. However, whenever these values are weakened or undermined, the conservation of protected landscapes is threatened. When this happens, public policy measures are called for and management plans, technical support and economic incentives are needed, although they may not be available in all regions of the world. Conversely, the integration of the deepest held intangible values of local populations in the management of protected areas can have a very positive impact with little additional cost.

A considerable wealth and diversity of cultural and spiritual values are discussed in these case studies, which rank alongside the many other values that protected landscapes and seascapes hold. Considering that these landscapes are the result of harmonious interaction with local communities over time, and that the vast majority of human cultures have a significant spiritual dimension, it is not surprising that spiritual values appear in most of the case studies included in this volume. In fact, most people living in protected landscapes either follow or are influenced by religion or spiritual traditions. The lack of any appropriate recognition of the significance of intangible cultural values has been a consistent lacuna in many IUCN documents and publications, although in recent years this gap has been partially filled by the efforts of several commissions, working groups and task forces, including those that have created this volume

1 Amend T., Brown J., Kothari A., Phillips A. and Stolton S. (eds.) 2008. Protected Landscapes and Agrobiodiversity Values. Volume 1 in the series Values of Protected Landscapes and seascapes. IUCN & GTZ. Kasparek Verlag, Heildelberg.

All the above considerations provide a clear answer to the question of whether the protection of cultural and spiritual values is a legitimate purpose of protected areas. In fact, in the case of protected landscapes and seascapes, at global level and in the long term, it would not be possible to conserve one without the other.

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UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage -unesdoc.unesco.org/images/0013/001325/132540e.pdf

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He has authored and edited several books and a number of papers on planning, management and effectiveness evaluation of protected areas, most recently dealing with the intangible cultural heritage of nature. With other members of the Delos Initiative he created the non-profit association Silene (www.silene.es) to promote the intangible values of nature, especially in relation to nature conservation. He can be contacted at mallarach@silene.es or at P.O. Box 148, 17800 Olot, Spain.

Around the sacred mountain: the St Katherine Protectorate in South Sinai, Egypt

John Grainger and Francis Gilbert

Summary

The St Katherine Protectorate in southern Sinai is one of Egypt's largest protected areas and includes the country's highest mountains supporting a surprising biodiversity and a high proportion of endemic species. It is a land with a unique history of enormous national and international significance because it contains religious and culturally significant sites, including Mt Sinai and the fortress Monastery of St Catherine where Orthodox monks have lived for 17 centuries. Since the fourth century the remote reaches and religious sites of the Sinai have attracted pilgrims and fascinated travellers. The core of the Protectorate is a World Heritage Cultural Site.

The Protectorate has been effectively managed as a Protected Landscape since the development of management plain in 2002 but increasing development pressure catalysed by mass tourism in this previously remote region is today leading to the overexploitation of its resources. Attention is needed to conserve the unique natural, cultural and religious heritage of one of the world's most spectacular, fragile and important places.

Overview

The St Katherine Protectorate is situated in the south of the peninsula of Sinai, in the middle of the fabled desert wilderness of the Exodus. The Protectorate is one of Egypt's largest and most important protected areas, and its 4350 km^2 span virtually the entire high mountain massif of southern Sinai (Maps 1 and 2). It encompasses one of the most spectacular and resource-rich areas in the Middle East and includes Egypt's highest peaks, supporting a unique assemblage of high altitude ecosystems with surprisingly diverse fauna and flora and many endemic species.

Sinai is a unique place for human history both in terms of the events that have taken place there and the manifestations of its history. As the only land route out of Africa throughout the Pliocene and Pleistocene, it is probable that early man first left Africa through the Sinai between 1.7 and 1.6 million years ago (Bar-Yosef and Belfer-Cohen 2001, Derricourt, 2005). There is also ample evidence that humans occupied the Peninsula about 300,000 years ago. The successive millennia of human passage and occupation have left their mark in the form of ancient trade routes, historic settlements, intricate land and water-use systems, and traces of sophisticated social organisation and cultural artefacts. In Sinai the first consonants (Proto-Sinaitic) were created, to become eventually the basis of the Greek and Hebrew alphabets. Inscriptions found at Serabit El Khadim in southern Sinai record the first-ever human use of copper instead of stone. The Peninsula also bridges the eastern Mesopotamian and western Mediterranean parts of the Fertile Crescent, the native region of the wild progenitors of the eight Neolithic 'founder' crops important in early agriculture, and four of the world's five most important domesticated animals, including sheep and goats. The Sinai

Map 1. Regional map of St Katherine Protectorate

Map 2. Local area of St Katherine Protectorate

was the route through which many of these domesticated species were exchanged between adjacent cultures until ultimately they were spread throughout the world.

The lands of the southern Sinai are best known to Jewish, Christian and Muslim faiths for their association with biblical tradition: the Exodus or the 'wanderings', the New Testament descriptions of the Flight into Egypt and the return of the Holy Family to Palestine. Consequently, numerous historical sites and monuments contained within the St Katherine Protectorate have great significance to these three monotheistic religions.

The most renowned sites are Mt Sinai, the Mountain of God and reputedly the place where Moses received the Tablets of the Law, and the Monastery of St Catherine[1], one of the best-preserved sites dating from the early Christian period and the oldest to have been occupied continuously. The Monastery represents over 1500 years of monastic tradition and contains an unparalleled collection of Byzantine icons and manuscripts. The Monastery and the associated local biblical sites have been visited and venerated by pilgrims for more than 1700 years, imbuing the landscape with a palpable and profound sense of piety and sanctity. Set within the matrix of the Protectorate's physical landscape, they interconnect via tangible and intangible threads of ancestral trails, cultural traditions and religious connotations.

The St Katherine Protectorate forms one element of a regional system of five protected areas, collectively representing the diversity and biodiversity of marine, coastal and terrestrial ecosystems of southern Sinai. The Protectorate's setting and distinct character, together with its unique fusion of historical, cultural and natural values combine to constitute a quintessential Category V protected area.

In recognition of its universal and outstanding values, in 2002 the 641-km^2 core area of the Protectorate was inscribed by the UNESCO World Heritage Committee as the St Catherine World Heritage Area on 'Cultural Criteria' I, II, III and IV. The listed 'core' area is physically demarcated by the Precambrian circular volcanic dyke that encircles the highest mountains in Egypt and includes Mt Sinai, the Monastery of St Catherine and associated religious sites.

1 In English transliteration the name of the Monastery uses Catherine with a 'C'; the World Heritage Site is referred to as the St. Catherine Area; the Protectorate's name and that of the town use 'Katherine' with a 'K'.

The five Protected Areas of South Sinai and the World Heritage Site surrounding Mt Sinai (map produced by Tim Newbold, Nottingham University).

Natural, cultural and spiritual features

Physical/natural landscapes

The South Sinai massif is an isolated mountainous block of some of the world's oldest rocks, dating back over 700 million years to the late Precambrian. It is a wild and largely barren land of stark natural beauty. Saw-edged mountain peaks of ancient crystalline rocks rise to more than 2000 m in its central core, dominating the landscape of the Protectorate. The mountains induce a higher rainfall than on the surrounding coastal plains, making it the coolest place in Egypt and the only one to have snow. This moderating influence provides varied habitat conditions that support a surprising diversity of wildlife. The high mountains form an island-like refuge of central Asian steppe vegetation: more than 450 higher plants have been recorded within the Protectorate, including almost half of Egypt's endemic flora. The high mountains have been recognised as one of the important centres of plant diversity for this region of the Middle East (IUCN 1994).

Sinai's endemic fauna is largely restricted to this island refuge and is found together with relict species from elsewhere: Sinai rosefinch *(Carpodacus synoicus)* from Asia, ibex *(Capra nubiana)* and perhaps wolf *(Canis lupus arabs)* from Europe, and striped hyena *(Hyaena hyaena)* and Tristram's grackle *(Onychognathus tristramii)* from Africa. The Protectorate is an Important Bird Area (Baha El Din 1999) and is one of the most important places in Egypt for insects: two-thirds of Egypt's butterflies occur here (Larsen 1990), including two endemics, of which one, the tiny Sinai baton blue *(Pseudophilotes sinaicus)*, is probably the smallest butterfly in the world, with its entire world range restricted to a few square kilometres centred on Mt Sinai itself.

The Monastery from Mt Sinai

Archaeological and historical landscapes

Sinai lies at the crossroads of much of the world's history. Early man and, more recently, many armies and cultures have passed across its landscapes in both directions, from the armies of the Pharaohs, Cambyses, Alexander the Great and the Roman legions, to Moses and Christ. In 641 AD Amr Ibn Al-Ass led a Muslim army across Sinai to conquer Egypt and spread the Islamic faith into North Africa and beyond. Later campaigns saw the Crusader armies and Ottoman Turks enter the Peninsula, while in the modern era the Sinai was the theatre for the twentieth century wars between Israel and Egypt.

Whether for the purposes of trade, pilgrimage or conquest, the people that passed through or remained in Sinai left the landscape with a miscellany of traces of their passage and influences. There are over 300 major archaeological sites of varied provenance known in the Protectorate, with many of the most significant dating from the Early Bronze Age (3100-2200 BC). Of great significance are the *nawamis* -thought to be ceremonial tombs for nomadic herders- dating from the Chalcolithic period (Bar Yosef et al, 1977). These incredibly well preserved circular stone structures are probably the world's oldest examples of stone roofed buildings and the oldest known remains of a pastoral nomadic society.

Associated with and linking many archaeological sites are the ancient caravan routes and desert trails used since prehistoric times for trade and passage between the coast and the interior deserts. The ancient Nabataean desert route passing just north of the St Katherine Protectorate became the major route for Muslim pilgrims travelling from Egypt to Mecca and Medina for the *Haj* or *Umra*. The traditional route taken by Christian pilgrims to the Monastery of St Katherine, reputed to house the biblical burning bush in addition to relics of Saint Katherine herself, was from Wadi Feiran and through Naqb El Hawa – "the pass of the winds". This pass cuts through the circular dyke wall and opens out onto the plain of El Raha, where according to Exodus the Israelites waited for Moses, and then onto the Monastery.

Religious and spiritual landscapes

The St Katherine Protected Landscape's major significance is as an area of immense spiritual significance to three of the world's monotheistic religions - Christianity, Islam and Judaism. The Protectorate hosts Mt Sinai, the 'Mountain of God', where Moses is said to have spoken with God and to have received the tablets of Law, events recorded in the holy books of all three faiths[2]. Although other mountains in the region have been and continue to be postulated as the true Moun-

2 See Chapter 95 (Al-Tin - The Fig) of the Holy Quran

tain of God, centuries of pilgrimage and Christian and Islamic tradition have by now almost certainly secured this legacy for the Mt Sinai (Jebel Musa) of the Ring Dyke.

Christian monasticism has its origins in the deserts of Egypt and Sinai. In the third century many Christians fled the systematic persecution of the Christians under Diocletian, even as the Roman Empire started to implode as a result of civil war and the buffeting from the barbarians from the north. Lacking Roman garrisons, Sinai was a logical and accessible place of retreat and early Christians found refuge in the remote wilderness, settling in southern Sinai around sites sacred in the Biblical tradition. Even under the Christian emperor Constantine, many thousands withdrew from secular society to lead an anchoritic life, one of the earliest forms of Christian monastic living and originating before the inception of religious life in community. The area around Mt Sinai was a major focus of this new asceticism and the large community of anchorites it attracted eventually became the nucleus of the Monastery of St Catherine. The remains of Christian chapels and hermitages dating back to the second and third centuries or the later Byzantine period are scattered throughout the immediate area around Mt Sinai and the Monastery. Others such as the small monasteries of Dir Rimhan and Dir Antush on Gebal Um Shaumar lie more distant but within a day's walk.

The Orthodox Monastery of St Catherine dates from AD 337 when the Empress Helena, mother of Constantine, ordered the building of a sanctuary around the site of the biblical Burning Bush. Her building still stands as a Chapel behind the apse of the magnificent sixth-century basilica (Church of the Transfiguration), the most venerated place within the Monastery. The fading of Roman authority and a decline in trade from caravans resulted in a shift from commerce to brigandage and a general lawlessness among some Sinai tribes, which drove the early monastic communities to seek protection. In 527 the Emperor Justinian began to build the famous monastery on the northern slopes of Mt Sinai, both to protect the monks from marauding nomads and to help secure Byzantine interests, particularly the road from Aqaba to Suez. The walls built to protect the monks and the military garrison survive to the present day and theirs is the oldest Christian monastery in the world to have maintained its monastic function without disruption from its foundation. The Byzantine walls protect a group of buildings of great importance both for the study of Byzantine architecture and in Christian spiritual terms

The Monastery's library preserves the second-largest collection of early codices and manupscripts in the world, outnumbered only by the Vatican Library. Its strength lies in the collection of Greek, Coptic, Arabic, Armenian, Hebrew, Georgian and Syriac texts and it was from here that the Russian Count von Tischendorff in 1859 'borrowed' its most precious manuscript, the Codex Sinaiticus. This work, the oldest extant version of the Gospels and the only copy of the Greek original, was written between 330–350AC and originally contained the whole of both Testaments. The major part of the Codex ended up in the British Library, although some extra pages were discovered in the 1970s in the monastery and are now on display in its own museum. Over the centuries the monks of St Catherine's Monastery have maintained close relations with their Muslim neighbours and rulers. Displayed in the Monastery is a copy of the Firman, a document reputedly sanctioned by Prophet Mohammed in 623 AD, which exempted the monks of St Catherine's from military service and tax and called upon Muslims to give them every help. During the Fatimid Caliphate (909–1171) a chapel within the Monastery's inner precinct was converted to a mosque; it still stands and was recently renovated.

The isolation of the Monastery allowed it to escape the effects of the iconoclasm of the eighth century, a period in which many religious images were destroyed throughout Byzantium. As a result, the Monastery houses the world's finest collections of early religious icons dating back to the fourth century and includes the oldest icon on an Old Testament theme. Many of the icons are painted in the encaustic tradition using pigmented hot wax. The Monastery also contains liturgical objects, chalices and reliquaries of outstanding craftsmanship. Decorating the apse of the basilica, the Katholikon, is a mosaic of the Transfiguration, a monumental composition from the late sixth century and a masterpiece of Byzantine art.

Following a life of prayer and devotional work the resident monks have been able to preserve this unparalleled heritage of Byzantine art and culture. Small numbers of hardy Christian pilgrims made their way to Sinai; the first recorded pilgrimage was by the nun Egeria in the fourth century. Although having long welcomed occasional guests and visitors, the increasing pressures of tourism threaten to change this tradition. The Saint Catherine Foundation, a UK-registered charity, was established in 1996 under the royal patronage of HRH the Prince of Wales to support conservation work at St Catherine's Monastery, particularly related to the library and its vulnerable manuscripts.

Although not intended by its builders, the Monastery's spectacular setting at the base of Mt Sinai, with its commanding view over the Plain of Er Raha where the Israelites waited for Moses, has resulted in an enduring association between the natural beauty and remoteness of the site on the one hand, and human spiritual commitment on the other.

Cultural landscapes

St Katherine is the only protectorate in Egypt to contain a sizeable indigenous population and a significant urban development within its boundaries, a situation that presents both management challenges and opportunities to promote sustainable development practices. More than 7,000 Bedouin live within or close to the Protectorate's borders, a number swelled by about 1,300 settlers from the Nile Delta who mainly live in the small town of St Katherine. 'Bedouin' simply means 'people of the desert', and most are descendants of tribes who arrived from the Arabian Peninsula between the fourteenth and sixteenth centuries AD. The main tribes in southern Sinai today are the Muzeina, Tarabin, Tiyaha, Garasha, Sawalha, Huweitat and the Gebaliya. Each tribe controls a different part of southern Sinai.

The area around St Katherine, however, belongs mainly to the Gebaliya, literally the 'people of the mountains', whose origins are very different. Approximately 2,000 strong, this tribe has played an integral part in the life of the Monastery since its beginning. In 527 A.D the Emperor Justinian sent a contingent of 100 families from Wallachia near the Black Sea to help build the monastery and to be its servants, "obedient to the monks they and their descendants until God regain possession of the world and all that is upon it": they were soon supplemented with another 100 families from Alexandria, and finally much later from El-Matariya in the north-eastern Delta (Murray 1935, Bailey 1984, Hobbs 1995). After the mid-seventh century most of the Gebaliya converted to Islam, thereby enriching their unique culture. The four clans of the Gebaliya tribe each trace their lineage to one of these groups (for example, the El Gindy clan trace their ancestry back through the Alexandrian cohort) and thus began the special relationship between the Gebaliya and the Christian monks that persists to this day. The Gebaliya prepared meals, tended the monastery's mountain gardens and provided manual labour in return for food and a share of the harvests. The Gebaliya continue to regard the Monastery as their benefactor – calling themselves Awlaad ad-Dayr, the 'children of the Monastery'.

Traditionally, the Gebaliya Bedouin of St Katherine have lived a pastoral nomadic way of life: pastoral, in that they kept livestock, and nomadic, in that they moved with their animals between seasonal pastures. Summer was spent

View into Wadi Arbaien across the old Bedouin section of St Katherine town. Photo: Mike James.

in the high mountain pastures tending their gardens, whilst winter was spent in the lower areas. During the Israeli occupation of Sinai beginning in 1967, the traditional nomadic lifestyle of the Bedouin changed. Today, life is now more settled and many Bedouin men work in non-traditional activities, mainly for tourist companies as guides or cameleers, although some continue to cultivate mountain gardens. The women now tend the smaller number of livestock and produce traditional craft items for their own use or increasingly for sale to tourists.

Wild plants and animals have traditionally supplemented the Bedouin's diets, health, incomes and material culture. Local Bedouin use more than 170 species of plants to treat various medical disorders, from colds, digestive problems and skin disorders, to bites and stings (Bailey and Danin 1981). In 2001 a project for the conservation of globally significant medicinal plants was initiated in the St Katherine Protectorate with the support of the Global Environmental Facility. The project's aims are to promote the sustainable use of medicinal plant species while exploring and protecting the Bedouin's traditional knowledge and intellectual property rights. One of the results of the project is the creation of an NGO in St Katherine, the Medicinal Plants Association.

Legal status

The high mountain area within the present Protectorate was managed as a nature reserve by the Society for the Protection of Nature in Israel during the Israeli occupation of Sinai following the war of 1967. With the return of Sinai to Egypt a proposal was made to 'dedicate' the whole mountainous area of South Sinai as a National Park (Dames and Moore 1981). In 1988 Prime Ministerial Decree No. 613 identified St Katherine as a *'Natural Protectorate'* under Law 102 (1983) in recognition of the "area's conservation importance in terms of the mountain structural formations, unique biological features and its internationally renowned religious, historical and cultural heritage". It was named the 'St. Katherine Protectorate', although no actual boundaries or management objectives were defined, and no staff or resources were allocated for management. The practical realisation of the Protectorate can be considered to date from April 1996, when Prime Ministerial Decree 904 defined the protectorate's boundaries and Egypt initiated a five-year development programme aided by a €6m grant from the European Union.

The wide-ranging management programme included the creation of a local management unit, infrastructure and support facilities, resource conservation management and monitoring programmes, as well as programmes for Bedouin support, participatory management, public awareness and visitor management. To date there are no formal distinctions amongst protected areas in the current Egyptian legislation, although the St Katherine Protectorate has been effectively managed as a Category V area since 2002, with the development and implementation of a management plan (NCS 2002). The plan explicitly nominates and justifies the categorisation of the St Katherine Protectorate as a Protected Landscape, the first in Egypt. It is used as an in-house document given that it has not been formally approved and promulgated by the Ministry of Environment or the Egyptian Environmental Affairs Agency.

The IUCN Category V is particularly suited to the St Katherine Protectorate with its mosaic of land-use and ownership patterns, diverse management regimes including customary tribal law, and land management and conservation traditions such as *dakhl* and *hilf* (see Box below). It encourages the sort of flexible arrangements instituted for the management of resources, including co-management and other stewardship arrangements that can bring benefits to local communities and sustain local livelihoods.

When co-management paradigms were being explored with local communities during the establishment of the Protectorate, the Bedouin constantly stressed the importance of using customary law (*'urf*) to assign responsibility for nature protection in specific areas to individual men who were *'ahl al-makan*, i.e. resident or frequent users of those places. The *haris al-biyah* (community guards) system was eventually instituted, whereby local Bedouin were selected by their own communities to be employed full-time by the Protectorate to patrol and work in designated areas, because, it was argued, only this level of responsibility would make any violation of conservation regulations by tribal people a violation of *'urf* custom and personal honour.

The Protected Landscape category, therefore, provides an appropriate management approach for the St Katherine Protectorate as a way of integrating biodiversity conservation, religious and cultural heritage protection and the sustainable use of resources. In addition to the international guidelines for Protected Landscapes, specific management objectives are identified in its management plan, including an ecosystem approach, conservation of traditional cultural and religious values, integration into the South Sinai network of protected areas, integration into local development and land-use in order to assist sustainable local rural development and benefit local communities, and facilitation of compatible recreational, educational and scientific uses.

The Protectorate lies adjacent to the coastal areas of South Sinai whose resorts have become a mainstay of the Egyptian economy and one of the world's fastest growing development areas for mass tourism. In contrast, the St Katherine Protectorate, along with South Sinai's other

protected areas of Ras Mohamed, Nabq, Abu Galum and Taba, remain relatively undeveloped and, being largely inaccessible to vehicles, they form natural bulwarks to the physical expansion of mass tourism activities. However, the process of acculturation brought about by the influences of foreign tourists and workers from the Nile Valley culture has permeated deep into the life of local Bedouin communities.

Administrative status

Prime Ministerial Decree No. 613 established an Executive Council, headed by the Governor of South Sinai, to manage the Protectorate; other Council members were from the Ministries of Tourism, Petroleum, Agriculture, Defence and Interior as well as from the Egyptian Environmental Affairs Agency and the Academy of Scientific Research. This administrative structure was altered in 1989 with Decree 30/1989, by which the Egyptian Environmental Affairs Agency alone was mandated with the Protectorate's management. However 'ownership' of the Protectorate area is effectively vested in the Governorship of South Sinai. Since 1996 the Protectorate has been managed locally by a unit based in the town of St Katherine. The Protectorate is divided into two management areas, the North and South Ranges, and staff are deployed accordingly. The unit falls under the authority of a Sector Manager for Sinai, and now reportedly has 69 staff consisting of Rangers, local Community Guards and ancillary or temporary positions (Fouda et al. 2006). The present staffing levels represent a ratio of 16 staff per 1000 km^2, well below the global mean of 27 staff per 1000 km^2 for protected areas, and far below the average for Africa of 70 per 1000 km^2 (James 1999). A minimum target staffing level of 85 i.e. 20 staff per 1000 km^2 was projected in the management plan.

The main roles and functions of field staff are based on the legislation concerning natural protectorates (Law 102 of 1983 and Prime Ministerial decree 264 of 1994) and on the legislation on the environment (Law 4 of 1994). However, the Protectorate as a whole falls under the administrative authority of the Governor of South Sinai, who is the highest authority in South Sinai. The Governorate has overall responsibility for regional planning and development strategies for industry, housing, road and tourism projects, and can effectively redirect or override protected area management decisions or prescriptions. Field staff have no powers of detention or arrest, and can only report violations of protected area regulations, relying on the police and judiciary to pursue and prosecute cases.

Gebaliya Bedouin with apricots from his garden. Photo: Tim Hurst.

Gebaliya Bedouin grafting a fruit tree. Photo: Mike James.

The Monastery is the property of the Greek Orthodox Church and belongs to the Archdiocese of Sinai under the hierarchical system of the Eastern Orthodox Church[3]. It is a self-governing and independent monastery, under the administration of the Abbot, who has the rank of Archbishop of St Catherine, Feiran and El Tur, the smallest diocese in the world. Antiquities within the area are managed by the Egyptian Supreme Council of Antiquities, working through the South Sinai Regional Office of the Egyptian Antiquities Organization at El-Tur.

Land and water use practices

Traditional land and water uses

As almost everywhere in the world, the relationship between the Protectorate and its indigenous people has proved difficult and sensitive. From the outset in management planning, an overriding assumption was that local people, tourists and native biodiversity could coexist. Although increasingly commonly held, this belief has remained largely untested in the Middle East, particularly in an area of the size and complexity of St Katherine. A second guiding principle has been that the people most dependent and associated with the Protectorate's resource base, the Bedouin, are the best stewards for these resources, and therefore they should be enabled to manage their own resources locally.

The Gebaliya are a conservative people with a long-standing but increasingly vulnerable tribal culture, as well as a profound knowledge of their land. In the high mountains the traditional form of land-use was a system of transhumance: in early summer the Bedouin would move their households into the higher mountain reaches to take advantage of the late-spring plant growth and to tend and harvest their mountain gardens. Their type of land-use was established almost 2000 years ago and is very much part of their heritage. Orchard agriculture was typical of the Byzantine world and the cultivation of small mountain gardens was probably first introduced into Sinai by hermits coming to settle in the area during the first few centuries AD and then later invigorated by Greek monks with their fruit and olive trees and grafting techniques. Gardens were walled to protect them from animals and to improve fertility in this rocky landscape and soil was often transported to the gardens from outside. The Gebaliya are the only Bedouin to have adopted this form of agriculture.

These large and well-organised gardens probably date from the time that the Monastery was being established at the end of the fourth century and were designed to cater for the increasing number of monks and the attendant Gebaliya. The largest garden is in Wadi El Arbaein and belongs to the Monastery. It covers about 20 ha and contains over 700 very old olive trees. When he visited in 1816, Burkhardt described this garden with its olive trees as a "pleasant place to rest" (Zalat and Gilbert 2008). The Gebaliya still aim to use gardens as a significant source of food, irrigating them from hand-dug wells where water levels permit. The walled gardens are very characteristic of the wadis in the high mountains: there are more than 400 orchard gardens within the Gebaliya territory, each on average about 0.2 ha. Some are owned by the Monastery but are tended by the Bedouin in return for half of the produce (Perevolotsky 1981). Vegetables and cereals are grown, but vines and tree crops such as almonds, apricots, figs, pears, olives and apples form the bulk of the produce (Zalat and Gilbert 2008).

The gardens are vital in another sense too: they represent patches of rich vegetation amidst an arid rocky landscape, containing relatively ungrazed wild plants along with cultivated crops and fruit trees. These constitute islands of rich resources for wildlife and are undoubtedly very important in augmenting and sustaining biodiversity. The cultivation and irrigation of these gardens is currently being abandoned by the Gebaliya under the dual pressures of a long-lasting drought and the necessity for paid work to feed their families: this is a serious conservation issue for the Protectorate.

The St Katherine Protectorate lies in the arid North African belt characterised by a Saharan-Mediterranean climate and, although altitude moderates the temperature regime, summers are relatively hot, with a mean maximum temperature of 36°C (August), while winters are relatively cool, with a mean minimum of -7.8°C (February). There are

Nawamis - possibly ceremonial tombs, dating back to between 4000-3150 BC. Photo: Tareq Amin.

3 The exact status of the church within Eastern Orthodoxy is ambiguous; for some, it is considered autocephalous (i.e. not reporting to any higher-ranking bishop), while others see it as an autonomous church under the jurisdiction of the Greek Orthodox Church of Jerusalem.

no natural permanent streams and so the only sources of fresh water are shallow aquifers replenished by winter precipitation that mostly falls as snow on the mountain peaks. On average there are only 13 days per year in St Katherine when 0.1 mm or more of rain falls in a single day and only three days with more than 5 mm; furthermore, evaporation rates are very high. Water supplies are very limited for both wildlife and people and are often freely available only seasonally, depending on rainfall. Natural springs occur where rocks are highly fractured or jointed and are often tapped by Bedouins to irrigate gardens; temporary rock pools and occasional springs are the only water sources available for wildlife.

Thus, water is the principal limiting factor, even though the Bedouin possess great skill in using the erratic rainfall and limited groundwater supplies. Often located by traditional divining, these supplies are exploited by digging wells, although they require precipitation for replenishment. However, the whole area has been suffering for the last 15 years from a long-term drought. Recent tourist development has greatly exacerbated the situation, resulting in serious depletion of this limited groundwater. Shallow groundwater aquifers are also highly susceptible to contamination and surveys by the Protectorate show that municipal water supplies are frequently contaminated by faecal coliform bacteria. Groundwater quality is poor, with high concentrations of dissolved salts that cause urinary tract problems among local people. The average daily water demand of all the people, tourists and residents in Saint Katherine is three-times greater than the supply from ground water and water already needs to be brought in by tanker.

Nomadic ethnoconservation systems, such as the *al-hilf* (see Box) practised by the Gebaliya Bedouin, are analogous to one of the most widespread and long-standing traditional institutions in the Middle East for the conservation of rangeland resources - the *hima*. This is a conservation arrangement that goes back over 1400 years and is rooted in Islamic law and tribal custom (Grainger and Llewellyn 1994). Such systems have great pragmatic value and should be a lesson for modern approaches to the conservation and equitable sustainable use of natural resources in arid and semi-arid regions. As everywhere in the world,

Box: Customary law and resource use

One important aim of the management of protected areas consists of trying to maintain traditional customs for conserving and using resources, thereby preventing the invasion of destructive and exploitative modern techniques.

In the past the Bedouin in south Sinai practised the tribal system of *al-hilf* ('the agreement') to control the seasonal use of pasture, or the personal action of *dakhl* ('essence'), normally to protect trees. In the *al-hilf* system, Gebaliya Bedouin agreed on an annual basis to prevent herds from entering certain high mountain pastures above 1800 m, between February and May. This was a deliberate way of protecting fodder plants by allowing them to regenerate and flower before being besieged by livestock. With *dakhl*, a system chiefly used by the Muzeina and nominally still in effect, a man assumes responsibility for the protection of a group of trees in a particular area. Anyone who cuts green limbs or destroys a tree within this zone would be fined according to tribal law (*'urfi*) and the cash or livestock fine turned over to the man who detected and reported the violation.

Although these traditional conservation systems are now largely vestigial, the *hilf* system was recently revived by the Gebaliya and a *hilf* was declared on Gabal Safsafa in order to conserve the Sinai Baton Blue butterfly and its food plant.

They did this as the result of a research project in the high mountains of the St Katherine Protectorate (James 2006). The project discovered that the tiny endemic Sinai baton blue butterfly (*Pseudophilotes sinaicus*), quite possibly the smallest butterfly in the world, is critically endangered because its entire world distribution is restricted to a minute area of about 5 km^2. The caterpillars and adults of this species feed exclusively on Sinai thyme (*Thymus decussatus*), another threatened and near-endemic species. In an attempt to conserve this butterfly, in 2002 the Gebaliya with the support of the Protectorate declared Farsh Shaiyeib near the summit of Gabal Safsafa, a traditional *hilf.* The area is only a few hundred square metres, but contains the densest stands of thyme plants and by far the largest population of the butterfly. Domestic animals were kept out until the thyme had flowered and the caterpillars pupated, thereby protecting the butterfly population. This was the first new *hilf* established by the Gebaliya in living memory.

pastoral nomadic cultures such as that of the Bedouin of St Katherine Protectorate have changed rapidly in recent decades and have given way to the powerful forces of sedentarisation, globalization and, in the case of St Katherine Protectorate, mass tourism. As a result many of these indigenous resource conservation techniques are endangered or even extinct, with the consequent loss of both the values of local people and their traditional knowledge.

Management policies and practices

The Protectorate is richly endowed with natural, cultural, historical and religious heritage, and the protection of these unique natural and cultural values was the primary purpose stated for the declaration of the St Katherine Protectorate. However, a wider national objective was for the Protectorate to help underpin and expand the tourist industry in Sinai, chiefly by developing alternative and sustainable forms of tourism activities. The twin aspirations of conservation and development are encapsulated in the Protectorate's vision statement: "The St Katherine Protectorate will be one of the world's great mountain parks with its natural and cultural resources used sustainably and appropriately for the long-term benefits of the people of Egypt and the world".

South Sinai's natural and cultural heritage has been the main catalyst for an ambitious development programme for tourism. However, this heritage had been put at serious risk from unsustainable development pressures linked to the rapid expansion of mass tourism, to the extent that they now threaten to undermine the Protectorate's intrinsic values. Major conservation issues arising from the increasing demands of tourism were exacerbated by politically and militarily motivated development and settlement strategies aimed at securing the Sinai Peninsula. The visible symptoms are an expanding population and lifestyle changes, inappropriate urban and mass tourism developments, the despoiling of the natural landscape, over-extraction and localised contamination of the limited groundwater supplies, and socio-economic marginalisation of the local Bedouin communities

Management planning

In response to the prevailing conditions and with regard to available resources, an integrated management plan was developed in 2002 by the St Katherine management unit and local stakeholders with the support of EU funds (NCS 2002). The plan sets out the basic purpose and management philosophy for the Protectorate, lays out its goals and objectives, and outlines general policies and strategies to achieve them. It aims to protect critical habitats and historical sites, including the area subsequently designated as the World Heritage Site, to assist community programmes and to establish appropriate management infrastructure. The primary management goals expressed in the plan are for the conservation of the mountain ecosystem of Southern Sinai including all its elements and processes, and the conservation of traditional cultural and religious values.

Although the whole of the St Katherine Protectorate is legally protected, certain areas or zones require different levels of management or protection, and with limited resources a pragmatic approach needs to be adopted for such a large and inaccessible area. To accomplish this, a resource-base zoning plan was developed as part of the management plan, by which an area is zoned according to its need for protection, level or intensity of management and capacity to sustain traditional, public or commercial uses. The zone plan follows a gradient that ranges from almost no human impact allowed to an intensive-use zone which may be considerably modified and also includes an external buffer zone. The system provides guidelines for management actions and for the resolution of conflicts, which frequently arise when attempts are made to conserve and utilise the same resource base. The World Heritage Site in the core area of the Protectorate has a special integrated management status based on the various management zones included within its boundaries.

Cultural Conservation

Concurrent with biodiversity loss, the world's human cultural diversity is rapidly disappearing as indigenous people are displaced or acculturated, languages forgotten and traditional and other forms of knowledge relating to biodiversity are lost forever. Human cultural diversity and biological diversity are intimately connected. It is apparent that biological diversity in agricultural systems was higher in earlier times and has been reduced considerably as traditional agriculture and types of agricultural technologies have declined. From the outset of the Protectorate the management unit established a sustainable multi-faceted programme aimed at helping support local Bedouin communities and promoting their culture and indigenous knowledge. The major interventions centred on primary health care, veterinary support, selective local employment and income generation activities such as Bedouin-managed tourism and handicrafts. The Bedouin have been central to the Protectorate's conservation programmes in roles that vary from community-appointed guards to managing an acacia rehabilitation programme (Hobbs et al. 1998).

Besides direct employment, two projects set up through the Protectorate's development project are still generating income more than six years after their inception: FanSina, a women's handicraft business and Al Karm, a model Bedouin eco-lodge.

Fansina is a Bedouin Craft programme started at St Katherine in 1997 at the request of local Bedouin women that assists them in preserving and marketing their traditional skills, thereby increasing household incomes. The initial intervention has grown into a registered business completely owned and managed by Bedouin: more than 300 women are involved, working from home in the production and marketing of items of their decorative embroidery and beadwork with stylized and authentic motifs inspired by their local culture and environment. Fansina recently received a grant through an EU-funded project to expand the scheme to other Bedouin communities.

Al-Karm was established in 2002 with EU funding. The Protectorate management unit worked with local Gebaliya to construct a minimalist ecolodge with 6 rooms and space for up to 20 people, owned and managed by 24 Bedouin families. It lies in Wadi Gharba on the old pilgrim route to the monastery, three hours' hike from St Katherine. It was created by refurbishing and adding rooms to an abandoned Gebaliya hamlet and gardens. There is no electricity, but it has rustic showers heated by solar energy and compost toilets. The ecolodge presently suffers from a low occupancy rate as it is relatively remote from popular tourism venues and current security regulations restrict its promotion as a destination for foreign visitors. An EU-funded project is currently addressing these issues and building two new ecolodges.

Key challenges and threats

In common with most of Egypt's protected areas, the natural and cultural landscapes of the St Katherine Protectorate face serious threats to their conservation status and integrity (Fouda et al. 2006). The threats are both current and looming, and arise from events and phenomena with different scales and consequential impacts. Some threats such as climate change and international tourism have a global dimension, whilst others arise from national institutional weaknesses in protected-area governance and institutional capacity or are rooted in local socio-economic issues and imperatives (for example, the over-harvesting of natural resources, acculturation and low levels of environmental awareness).

Many of the environmental problems of the Protectorate are essentially solvable and include the overgrazing of endemic and rare plants, the unsustainable intensive collection of medicinal plants used in folk medicine, the hunting of wild animals (e.g. ibex) and a lack of environmental education programmes in schools and the community concerning the use of natural resources in a sustainable manner.

View across the historical Monastery garden of Bustan towards the high mountains of Wadi Gebal. Photo: Mike James.

Global warming challenges

The unique flora and fauna of the high mountains of southern Sinai, along with the Bedouin communities and their cultural heritage, are under threat from climate change. Much of the unique fauna and flora of the high mountains are relicts, marooned by increasing aridification over the last 10,000 years. As contemporary climate change under global warming gathers pace, there are serious doubts about the survival of these organisms because the normal route to safety -moving higher up the mountains and hence contracting their range- is no longer an option. The Sinai baton blue butterfly is a good example (Hoyle and James 2005): both it and its food plant probably evolved as distinct species under more benign conditions when their distributions were more extensive and more continuous. Now they occupy small patches of habitat scattered among suitable sites around Gabal Safsafa and Gabal Ahmar. The butterfly population on each patch is small, often only between 10-50 individuals. The flowering of the wild thyme, its only food plant, depends on rainfall and a dry year can reduce the available flowers by 40%: since the caterpillars feed on the flowers, this represents a serious reduction in resources. The tiny sub-populations of the butterfly are therefore at risk from four separate threats: normal year-to-year climatic variation; the increased variability and hotter temperatures predicted for the next 100 years under global warming; over-collection of thyme for medical purposes; and over-grazing by domestic animals. Under most scenarios that include global warming, the long-term survival of this unique butterfly is doubtful unless rigorous control of collection and grazing is enforced, above all of certain patches of the host-plant that are especially important. This is both a challenge and an opportunity for the Protectorate management - a challenge to implement a successful sustainable strategy and an opportunity to use this charismatic species as a means for getting its conservation message and an understanding of the local impacts of global warming across to local stakeholders and visitors. All the fauna and flora, together with the existence of the Bedouin communities, are threatened by increasing drought due to global warming. Many areas in Egypt's Eastern Desert have been abandoned for lack of water, and there is a very real possibility that large areas of the St Katherine Protectorate may suffer the same fate. An EU-funded project to bring Nile water to the town of St Katherine (see below) may save some areas from the human aspects of this fate, but there are real concerns for biodiversity.

Local governance challenges

Many of the challenges faced by the St Katherine Protectorate are in large part a consequence of the institutional deficiencies associated with development planning for South Sinai. There is poor coordination between agencies, which have overlapping and often competing development and legal mandates, and the implementation of sustainable planning directives is thus often constrained. Two of the most important formal plans for the sustainable development of the St Katherine Protectorate, an integrated master plan and a sustainable urban development plan, have never been meaningfully implemented. The risk is that the Protectorate's future integrity will be jeopardised unless the local Government agencies, particularly the Governorate and City Council, identify with the long-term vision for the Protectorate.

The lack of 'joined-up' local management and institutional cooperation has wider international implications. There is presently an absence of official recognition or local acknowledgment of the status of the core area of St. Katherine as a World Heritage Site and the development restrictions that this entails. Furthermore, there are no indications of the global significance of the Site for visitors, except within the Visitor Centre, which is rarely open. Consequently, there is very little awareness among visitors to the core area, centred on the Monastery and Mt. Sinai, that they are within a World Heritage Site.

Planning challenges

The inscription of the area to the World Heritage Convention requires that certain conditions are fulfilled and that development carried out in accordance with laws and approved plans. However, Egypt's commitment to the Convention is clearly not being honoured within the St Katherine Area. When inscribing the St Katherine Area in 2002, the Committee invited Egypt to implement fully a 1998 sustainable development plan for the town of St Katherine (UNESCO 2002). The development of the St Katherine townscape is meant to be regulated by an official development plan drawn up by the Ministry of Housing and New Communities that implicitly curtails development and population expansion in order to retain its Bedouin character. The main concept is centred on a twin node strategy for St Katherine with (a) all new development being located away from the old town area and only consolidation through infill and general upgrading being allowed in the old town to ensure its containment and (b) the establishment of significant "cones of vision" or "protection corridors" within the World Heritage Site, in which no development at all is to be allowed.

However, this official plan, together with the restrictions on development that World Heritage status implies, have been widely ignored by the local authorities, resulting in negative physical and aesthetic impacts on the World Heritage Site. Among other things, closely spaced street lighting has been installed along twelve kilometres of the

desert entrance road into St Katherine. These lights have significantly and negatively changed the previously dramatic natural approach into the Site and were installed without any approved Environmental Impact Assessment, thereby clearly violating the development plan and World Heritage Convention's conditions and contravening instructions from the Protectorate management unit. As well, they are disliked and resented by the local Bedouin population. Another example is a residential development complete with roads and lighting constructed in Wadi Isbayia, that circumscribes Mt Sinai from the south-east, and is in an area outside the development zone prescribed in the approved 1998 urban plan. The city council also continues to 'landscape' throughout the city and its approaches with alien plants, in contravention of Protectorate Law 102 which expressly forbids the introduction of such exotics. It has also erected prominent directional signs entirely out of keeping with the local landscape.

International tourism and visitor management challenges

Pilgrims have visited the monastery throughout its existence, increasingly so from the nineteenth century onwards when travelling became easier. Until the late twentieth century, such visits were not problematic for the monks, who invariably welcomed visitors. With the tarring of the road to St Katherine in the 1970s, increasing numbers of people have arrived, many coming merely to visit and see, rather than to gain any religious solace. Access will be even easier if plans are realised to re-commission and expand the small airport built in the 1970s, which lies 17 km north-east of the Monastery.

South Sinai has experienced a radical change from being an almost unpopulated, peripheral and remote place less than three decades ago, to an area with one of the world's fastest growing mass tourism industries. During the 1990s some 90% of Egypt's tourism investment was concentrated on the coastal resorts of southern Sinai. In 1987 there were only two hotels in Sharm El Sheikh, with a total of 300 rooms catering for about 20,000 visitors. Only 20 years later there were almost 250 hotels and 38,000 rooms, with about 2.6 million visitors. It is estimated that by 2017 the Sharm area alone will have 65,000 rooms, and the total capacity of South Sinai will be approximately 139,000 rooms, sufficient for 20 million guests on one-week stays (SEAM 2005).

Monastery of St Catherine in winter from Gebal Ad Dir. Photo: Tareq Amin.

Development is mainly focused on the 150-km coastline along the Gulf of Aqaba, stretching from Ras Mohammed/Sharm El Sheikh at the southern end to Taba near the Egypt/Israel border in the north. The spill-over effect of the mass tourism boom into the St Katherine Protectorate is and will be considerable. Concerns were expressed as early as the mid-1990s as to the impact on natural and cultural resources, particularly on the Monastery, which was then receiving about 97,000 visitors per year, mainly day-trip visitors from the coastal resorts (Shackley 1999). From 1992 to 2002, the recorded number of visitors to St Katherine increased more than tenfold, from 29,000 to over 320,000. If this trend continues, in the next five years over 600,000 visitors could be expected in the Protectorate and the most important cultural sites of the Monastery and Mt Sinai.

These two sites are already inundated by the number of visitors – Mt Sinai can have up to 1000 people a day climbing up to watch the sunrise from the small area of its summit. This large number of visitors has consequent negative physical and aesthetic impacts on Mt Sinai in general and on the small summit area in particular, significantly reducing the quality of pilgrim spiritual experience. Systems previously established for managing garbage and human waste have become overwhelmed. More importantly, the risks to life and safety have increased with the growing numbers climbing at night and there are frequent injuries and occasional deaths on the mountain. The condition of this hugely significant religious and essentially spiritual site has deteriorated considerably in terms of aesthetics, physical impacts and visitor safety since its inscription as a World Heritage Site and following the ending of EU funding for the St Katherine Protectorate.

The World Heritage Committee has recognised that excessive pressure from tourists represents the greatest threat to the Site's physical integrity and aesthetic qualities –above all, to the Monastery and Mt Sinai- and has encouraged Egypt to prepare a visitor management plan for the Monastery and surrounding area. However, in the six years since its inscription, no effective measures have been taken to implement this commitment, although recently the Monastery of St Catherine received modest support from an EU project to design and implement site restoration and a visitor management plan for the Monastery, Mt Sinai and Wadi ed Dir.

With the rapidly growing number of visitors expected in the area within the next few years, the Egyptian Government will have to take a much more proactive stand to ensure that visitor numbers stay within the World Heritage Site's aesthetic and physical carrying capacity. There has been a reluctance to adopt such measures elsewhere in Egypt: for instance, the number of divers on the coral reefs off Sharm El Sheikh in some cases now exceed its estimated ecological carrying capacity by a factor of ten, but no diving limitations have been enacted (Jobbins 2006).

The funding challenge

A major cause of the decline in visitor services is that the Protectorate is seriously under-funded. Although an entrance fee to St Katherine Protectorate, introduced in 2004, generates over $1 m per year, only a small fraction of this revenue is returned to the Protectorate and the World Heritage Site for operating costs. This lack of finance so constrains management that it even precludes the cost of maintaining the Protectorate's web page. This to a large extent reflects the generally poor understanding and political support for the wider social, economic and ecological values of protected areas in Egypt. Commercial expediency, including the issuing quarrying and mining permits, often overrides conservation objectives and little consideration is given to the role of the protected area system as a vital tool that will enable Egypt to respond to emerging and increasingly important global biodiversity issues such as climate change or to the growing impact of international tourism and poverty alleviation (Fouda et al. 2006). This lack of political support is reflected in the serious general under-funding of Egypt's protected area system, which covers about 14.3% of the country. A recent study of sustainable funding for Mediterranean Protected Areas ranks Egypt at the bottom of the list of countries surveyed for levels of funding per unit area. Egypt invests $0.7 per hectare, whereas Jordan invests $10.2, Lebanon $19.3 and Turkey $7.2 per hectare.

Impending/upcoming challenges

The EU is supporting a South Sinai Development Programme with a grant of €64 m. Under this programme a project has been approved to bring piped water from the Suez-El Tur pipeline into the St Katherine World Heritage Site – a distance of more than 80 km and a rise of more than 1700 metres. In the preliminary study for this project there was no recognition of the area's World Heritage status, or indeed that it was even a Protected Area, and there was no strategic assessment of the project's potential impacts. Although a safe and adequate water supply is an indisputable basic human right (and the water supply to local communities must be improved), it seems obvious that other water conservation measures such as restrictions on development and the prohibition of hotel swimming pools should be explored before about 2000 m^3 of water a day are brought to and disposed of in this unique desert environment. The traditional and unique Bedouin character of the town, the landscape and cultural values of the St Katherine area and its status as a World Heritage Site will be irrevocably damaged from the development pressures

that will inevitably accompany the lifting of this ecological and economic limiting factor.

Future plans

Management planning

It is imperative that the local authorities fully acknowledge the regulatory authority of the Egyptian Environmental Affairs Agency in the Protectorate and improve co-operation on all planning and development initiatives, including urban planning issues. A significant first step would be for the Ministry of Environment/Egyptian Environmental Affairs Agency to review the existing site management plan with the aim of formally endorsing the document and promulgating it amongst all government and local stakeholders. Effective mechanisms must then be put in place that will allow for the proper implementation of the plan, along with an adequate funding source derived from an appropriate share of the entrance fees to the World Heritage Site.

In tandem the local authorities must ensure that all future developments accord with both the official sustainable urban development plan for the town of Saint Katherine and the Government's commitment to the spirit and letter of the World Heritage Convention. In regard to the latter, the value of supervision by concerned international authorities, both conservation and religious, cannot be overstated.

Sustainable tourism

Tourism and its associated activities has become the main economic driver in the Protectorate area. Nevertheless, the present paradigm driving tourism development within the St Katherine Protectorate is environmentally and culturally inappropriate and, unless reoriented, could well destroy the area's unique natural and cultural landscape. The future integrity of the monastery, the biblical sites and the surrounding desert landscape will ultimately depend on the ability of the authorities to manage properly the rapid increase foreseen in tourism numbers, as well as the growth of the local population. The Government must ensure that future tourism development is environmentally sustainable and culturally appropriate. It must promote and facilitate the development of a different tourism paradigm to the mass tourism model seen elsewhere in Sinai and Egypt; in this new paradigm, nature-based and religious tourism activities should be central.

Formerly, Bedouin-managed mountain-trekking catering mainly for Israeli visitors thrived in the Protectorate. However, the clientele and the activity has largely disappeared since the first Palestinian intifada. Security regulations have since constrained the revitalisation of such adventure and cultural tourist activities that are better suited to exploiting the natural values of the Protectorate, and have also prevented the promotion of the ecolodge as a destination for foreign visitors. Recently a Bedouin-run trekking company, Sheikh Sina, has been founded (financed by the EU) as a local initiative intended to equip Bedouin guides with hospitality management and language skills and improve mountain tourism operations in South Sinai by raising the quality of the already existing mountain hikes. The initiative will also assist in building two new Bedouin ecolodges in the South Sinai region, using the Al Karm experience as a learning model.

There are other private initiatives being established among the local communities, such as the Yalla Jabaleya project, aimed at promoting culturally orientated and environmentally sensitive tourism activities, wich are both economically viable and sustainable. For such a tourism paradigm to thrive, the Government must lift the institutional barriers that presently constrain such local initiatives.

Local self-help initiatives

The Community Foundation for South Sinai is a new non-profit organization designed to benefit communities across South Sinai. It was registered in November 2006 as the first community foundation in Egypt, part of a fast-growing global movement that enables people to bring lasting benefits to their own communities. The vision is to connect people who care about Sinai, by enabling the creation of an endowed fund of substantial value for the varied communities of South Sinai, thereby providing a lasting resource for grassroots community activity. Eventually, a successful community foundation becomes sustainable, meeting its own running costs and having a substantial and sustained annual budget, independently managed by local people, for accessible grants that meet community needs. Endowment is a concept familiar in Islam, which has a strong tradition of philanthropic giving. Currently, an extensive programme of research into community needs

The chapel of St Catherine on the summit of Mt St Katherine. Photo Mike James.

is being undertaken to identify priorities, along with local project-based initiatives designed to generate employment in keeping with local custom and practice.

Re-inscription of the St Katherine World Heritage Area

The inscription of the St Katherine Area on the World Heritage List should have ensured that a higher level of protection and attention be given to this globally significant site. There have been few obvious benefits of having the St Katherine Area declared as a World Heritage Site; development continues without due consideration of the area's status, and there has been virtually no publicity or promotion of the St Katherine Area as a World Heritage Site – it is essentially Egypt's forgotten World Heritage Site. Because the site was inscribed on cultural criteria, this gives the impression that only the Monastery and Mt Sinai are of World Heritage value, rather than the 640-km^2 setting which provides the landscape context. It is probably this misconception among the authorities that threatens the landscape setting with inappropriate development.

Recently an Egyptian NGO, Nature Conservation Egypt, concerned by the negative developments on the Site, has suggested to the World Heritage Committee that it should revive its earlier recommendation (UNESCO 2003) inviting Egypt to re-nominate the St Katherine Area as an 'Associative Cultural Landscape'. This would restore a sense of the site's holistic value and give St Katherine a higher national and international profile as one of the few sites in this category. Furthermore, in its evaluation of the site in 2002, IUCN supported the idea of nominating St Katherine as a World Heritage Cultural Landscape and also recommended it to UNESCO as a putative biosphere reserve.

Tourists climbing Mt Sinai. Photo: Mike James

It is to be hoped that re-nomination may raise national awareness of the site and its significance and should consequently accord it increased protection and international supervision. However, this re-nomination should be accompanied by more intensive management efforts and much greater co-operation from the relevant local and national authorities, since only then will this World Heritage Site and its enveloping protective landscape be properly secured for the world's future generations.

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Links

- Egyptian Environmental Affairs Agency – www.eeaa.gov.eg
- Holy Monastery of St Catherine at Mt Sinai - www.sinaimonastery.com
- Nature Conservation Egypt – www.ncegypt.org
- St. Katherine Protectorate. www.stkparks.gov.eg
- Sheikh Sina (Bedouin trekking company in St Katherine) - www.sheikhsina.com
- The Community Foundation for South Sinai -www.southsinaifoundation.org
- The Saint Catherine Foundation - www.saintcatherinefoundation.org
- Yalla jabaleya community project - www.yallajabaleya.com

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Telling stories: managing cultural values at Yuraygir National Park, Australia

Steve Brown

Summary

Across the world, protected areas are being actively created as solely natural landscapes and people's attachments to place through stories and memories are being forgotten. Oral histories of people and communities with living connections to park landscapes are not being adequately collected or documented for the purposes of management. A consequence is not only that landscapes become devoid of the enriching and dynamic personal stories of experienced human-environmental relationships, but that the idea of protected areas as living landscapes and peopled places is being overlooked or downplayed in management practice.

Issues related to 'forgetting' as a threat to understanding cultural values and effective protected area management are explored in this paper using the example of Yuraygir National Park, located on the east coast of Australia, where much historical work has been undertaken. The paper focuses on the cultural and spiritual values of two groups – local Indigenous communities and Anglo-Australian holidaymakers. It explores the nature of attachment of these groups to the Yuraygir landscape and examines the impact of management policies and practices on cultural values. Active management programs are required to recognise and respect the spiritual and symbolic meanings that people ascribe to protected area landscapes to support community identity, well-being and human rights. Such management programs can increase local community support for protected areas.

Introduction

In his 1987 book *Playing God in Yellowstone* Alston Chase asserts that the ecology of Yellowstone National Park is being destroyed by the management regime assigned to protect it. In many national parks in Australia there is a cultural parallel to this perceived ecological scenario. Australian protected areas are being actively created as solely natural landscapes and people's attachments to these landscapes are not being recognised or adequately understood as an integral part of management planning and practice. This paper considers how understandings of attachment, identity and place are essential for conceptualising protected area landscapes.

In Australia the creation of the New South Wales National Parks and Wildlife Service (NPWS) in the 1960s was specifically modelled on the US National Park Service and the approaches it was using at that time. This approach incorporated ideas about the recreation of a pre-colonial ecological scene (Leopold et al. 1963) that included the removal of past owners, workers, visitors and, to varying degrees, Indigenous custodians. Removal in the contexts of Australia and the United States was not about involuntary resettlement (as in more recent times in developing countries), but rather represented a failure to acknowledge people's historical connections to protected area landscapes.[1]

If park managers do not engage with the history of a place or with its people, we will quickly forget who lived or worked there, what happened there and to whom and why the place is important. If park staff put people's stories out of mind or omit to record or tell them, then this legacy will disappear from history-telling (but not always from local memory). Recognising people's memories and experiences (for example, about regular firing of the vegetation, favourite fishing spots or Indigenous knowledge of massacres) not only returns those people to the historical narrative and maintains their connections with the place, but also helps fulfil park management objectives. Documenting park histories is about remembering (in a corporate sense), acknowledging people, respecting people's rights to continue their connections to places that they love and value and being able to manage those places appropriately.

This paper will explore issues related to forgetting as a threat to cultural, including spiritual, values. Drawing on recent studies undertaken at Yuraygir National Park the paper will outline the array of cultural values recognised as belonging to this protected area. By focussing on two contemporary groups -Aboriginal custodians and Anglo-Australian holidaymakers- the paper will explore issues that arise when cultural values, community attachment and community identity are inadequately documented or forgotten in the practice of protected area management.

The paper connects the need to understand attachment,

1 Brown et al. (2003) and Lennon (2005) outline how the national systems of parks have evolved and broadened since the 1960s in the United States and Australia, respectively.

identity and landscape in terms of concepts of cultural landscape. Cultural landscape approaches recognise that all landscapes are the product of complex long-term inter-relationships between people and the environment (Brown 2007, DECC 2008, Lennon 2005). A benefit of cultural landscape approaches is that they can provide an opportunity to integrate the management of cultural values with biophysical values in protected areas.

Description of the protected area landscape

Location

Yuraygir National Park (YNP) is located on the north coast of New South Wales, near the regional centres of Grafton and Coffs Harbour and approximately 600km north of Sydney. The park boasts over 65 Km of coastline, encloses a number of small coastal villages and covers an area over 35,000 ha. The Solitary Islands Marine Park, established in 1998, adjoins the southern coastline of YNP.

Map 1. Yuraygir National Park

Key features

The landscape of YNP gives physical form to people's cultural values. The present protected area landscape is one that has been shaped by geological and ecological processes, by culture and by human history.

YNP lies within the eastern land margins of the 180 million-year-old Clarence Basin, where Triassic sediments are locally exposed in the coast range and the coastal headlands. Elsewhere, Quaternary sands of the beach barrier systems and coastal plain overlay these sediments, forming a complex mix of depositional and erosional landforms. The wide coastal plain is typically sandy with well-developed beaches and sand dunes. The Corindi, Wooli and Sandon Rivers are the most important river systems in the area.

The park lies within an ecological transition zone between the temperate southern areas of eastern Australia and the tropical north. The zone of overlap has significance for the number and diversity of both plant and animal species (NPWS 2003). Nine major groupings of plant associations have been identified and mapped within the park (Griffith 1984). Fire regimes and sand-mining, as well as introduced plants and feral animals, have resulted in considerable ecological change and, for example, 14 of 30 mammal species recorded in YNP are considered threatened.

Description of cultural and spiritual features

History and historic traces

The landscape/seascape that is now YNP has been -and remains- the Country of Aboriginal people. Aboriginal stories from the area tell of the creation of this landscape (Heron 1993), while regional archaeological evidence suggests usage for over 20,000 years (McBryde 1974, Neil and Stock 1986). Aboriginal people maintained connections with the park landscape throughout the nineteenth and twentieth centuries and continue to do so (Brown and Murphy 2002, Kijas 2007).

Since the early nineteenth century Yuraygir has been a relatively isolated area within an economically marginal region. The poorly structured, infertile and highly erodible soils of its forests, heathlands and swamps were not suitable for intensive agriculture. To this day, the landscape's lack of suitability for agriculture and its inaccessibility have shaped the history of the coastal villages, the gazettal of national parks and the pattern of recreation.

Generations of Aboriginal custodians once camped, fished, held ceremonies and traversed the Country. Despite its

isolation after European settlement and long before its gazettal as a park, logging took place in the forests and hinterland, cattle were grazed and bees brought here to winter. While commercial fishing, sand-mining and summer holidays brought people to the coast in the nineteenth and twentieth centuries, it was not until after park gazettal in 1975 that human activity on the coastal areas once again increased. This is partly because park gazettal coincided with a rise in tourism and recreational activity as sea-changers left metropolitan areas and flocked to the NSW north coast to live, and partly due to the fact that the end of pastoral activity, timber extraction and mining made the area more amenable for recreation.

From the historical and archaeological narratives that have been constructed for YNP (Kijas 2008, Tuck 2006) I have developed ten overarching historical themes or layers, as shown in Table 1. Historical themes are a tool that can be used to better understand, interpret and map the history and storylines of a place or landscape (Australian Heritage Commission 2001). In the case of YNP, they have proved a useful tool for organising and ordering a large amount of heritage information, as well as for explaining the connectivity between history, people and landscape. As can be seen in the table below, YNP is rich in cultural and spiritual values.

Historical theme or layer	Landscape	Place/Feature	Cultural value(s)
Aboriginal cultures: Yaegl and Gumbaingirr country	Aboriginal landscape from deep time, throughout the historic period to the present	Campsite; story place; named location; ceremonial place; scarred tree; stone and ochre quarry; water source; wild resource; burial; fish trap	Spiritual Social Historic Scientific
Marking the land: Surveying	Landscape associated with identifying forms of ownership and occupancy of land	Trig. station; blazed tree; marked fence post; other survey marker; fence aligned with cadastral boundary; named feature; surveyors campsite	Historic Scientific
Working the land: Grazing, dairying, cropping and beekeeping	Landscape associated with cultivation and rearing of plant and animal species, usually for commercial purposes	Shed/lick-shed; tick-inspection complex; rubbish dump; paddock; cleared land (including for beekeeping); ring-barked tree; tree stump; altered vegetation (firing); area of cultivation (grass, cane, banana); fence line; track; cattle grid; creek crossing; stockyard; dip; drain; dam; stock route; campsite; cultural planting (such as lemon tree); story place; named location; machinery	Social Historic Scientific
Extracting timber: Forestry	Landscape associated with identifying and managing land covered in trees for commercial timber purposes	Mill complex; loggers camp; formed track; snig track; loading ramp; vehicle/machinery; cut tree stump; area of altered vegetation	Social Historic Scientific
Extracting minerals and coal: Mining	Landscape associated with the identification, extraction, processing and distribution of mineral ores and coal	Landscape alteration (dunes); road/track; bridge; storage area; quarry; shaft; mullock heap; machinery; vehicle; rehabilitation plantings	Historic Aesthetic
Working the sea and estuaries: Fishing	Landscape/seascape associated with gathering, producing, distributing and consuming resources from aquatic environments	Story place; fishing co-op structure; hut/shed; boat ramp; road/track; boat; oyster processing complex	Social Historic Scientific
Living on the land: Homesteads and settlements	Landscapes associated with living in isolated homesteads, villages and camps and links to the outside	Settlement; house/hut; store; story place; named location; cultural planting; well; water tank; pump; pipeline; rubbish dump; access road; bridge; stock grid; telephone line; power line; memorial	Social Historic Aesthetic
Enjoying the landscape: Recreation	Landscape associated with recreation and relaxation	Hut; campsite; tent-site; fire-place; cultural planting; jetty; trail/track; graffiti; race-track; cricket pitch; statue	Social Historic Aesthetic
Militarising the landscape: Testing bombs	Landscape associated with military training and defence	Military camp; gun-firing location; target area; shell casing	Historic
Conserving the landscape	Landscape associated with natural and cultural heritage management, as well as recreation management	Park infrastructure (accommodation, office, sheds, roads, power, water supply); campsite; walking track; signage; culture camp; animal trap; machinery; vehicle; area of regeneration and weed control; area of control burning; vandalism	Social Scientific Historic Aesthetic

Table 1. Yuraygir NP: Historical themes, heritage features and cultural values

Cultural values

The cultural values associated with each historical theme are listed in Table 1. The values framework used is that advocated by The Burra Charter (Australia ICOMOS 1999), where the terms social, spiritual, historic, scientific and aesthetic are used to tease out cultural values for past, present and future generations in a methodical way (Marquis-Kyle and Walker 2004:27).[2]

The landscape of YNP has a fundamental cultural significance because of its social, spiritual, historical, scientific and aesthetic values. It is a complex, layered cultural landscape where topography, vegetation, histories, physical traces and people's contemporary attachments combine to provide a chronicle of an eventful past and present.

Legal status

YNP was declared in 1980 and incorporated the former Angourie and Red Rock National Parks (both created in 1975). There have been continuous additions of land to the park since 1980 to create a protected area that stretches for more than 65 km along the coast and extends into and across the coast range.

YNP is listed on the World Database on Protected Areas under IUCN Category II - National Park. However, arguably, for two main reasons Yuraygir and the associated Solitary Islands Marine Park meet Category V criteria - Protected Landscape/Seascape. First and foremost, the area is part of an Indigenous living landscape in which the relationship of Aboriginal people to this landscape over thousands of years has resulted in cultural and spiritual connections. Second, Yuraygir has for millennia been a landscape where the interaction of people and the environment over time has produced an area of distinct character with significant cultural values and strong community attachment. For example, recreation is a continuing activity which has a 150-year long history of interaction with the landscape and is an integral part of local identity-making.

There is a potential to expand YNP to include adjoining private land through community partnerships. Such lived-in and multiple-tenure contexts would almost certainly require creating conservation lands that meet IUCN Category V criteria.

2 Other protected area values-classification systems (Lockwood 2006) could also be applied at YNP.

Administrative status

The Department of Environment and Climate Change (DECC) is responsible for the establishment and management of protected areas in the state of NSW, Australia. The management of protected areas in NSW is carried out in the context of the state's legislative and policy framework, primarily the National Parks and Wildlife Act 1974 (NPW Act) and the policies of the National Parks and Wildlife Service (NPWS) which is a part of DECC.

Section 72 of the NPW Act requires that a Plan of Management, a legal document outlining how an area will be managed, be prepared for each protected area. Development of the Plan of management for YNP commenced in 1980, but was not adopted by the NSW Minister for the Environment until October 2003, 23 years later. In part, this protracted time-period reflects controversies about new roads, access and camping that had to be worked through and resolved in the process of preparing the plan. The intensity of feelings and emotions held by local people/communities for the YNP landscape underpinned these controversies.

YNP is managed locally from the NPWS regional office in Grafton. The protected area lies within two NPWS administrative areas and is divided into four geographic units, with the management of each unit overseen by a Ranger. Field Supervisors and Field Officers are responsible for on-the-ground work such as the overseeing of the camping area, track maintenance and weed/feral animal control. There is no permanent staff accommodation located within the protected area. An Aboriginal Heritage Conservation Officer based in Grafton is the primary contact point between the DECC and local Aboriginal communities. Advice relating to settler Australian cultural heritage management is available from heritage professionals based regionally (Coffs Harbour) and in Sydney.

Indigenous landscape and cultural values[3]

"*The coastline is a network of pathways between places of spiritual importance. Its landmarks are associated with stories and important figures.*" Fox Laurie (Yaegl Elder)

Aboriginal cultural heritage has a strong landscape dimension – all of the landscape is part of someone's or

3 At the time of contact with Europeans, Aboriginal people of the north coast occupied their core group areas year-round, occasionally travelling large distances to attend ceremonies. Based on Byrne's (1986) population estimates, about 280 people would have occupied the current YNP area. In 2006 there were about 550 Indigenous people living in towns (Maclean, Yamba and Corindi/Red Rock) near to the park.

some group's country. For Aboriginal people the concept of 'caring for Country' is a complex notion related to personal and group belonging and to maintaining and looking after the ecological and spiritual well-being of the land and of oneself.

Within the YNP landscape there is a range of cultural heritage objects, sites, places, landscapes and intangible heritage associated with Aboriginal cultures (Table 1). Many Aboriginal stories relating to YNP (for example, about working, fishing, collecting worms and camping) are inter-woven or entangled with the stories of Anglo-Australians.

Land-use and links to cultural and spiritual values

Dispossession and retaining connection

Land is a key to understanding Aboriginal connection to landscape and in understanding dispossession (Goodall 1996, 2006). The way in which settler Australian expansion corresponded with Aboriginal loss of control of Country has been well documented for many regions in Australia (for example, Byrne and Nugent 2004:11-53). Important factors in this complex process were frontier violence, rapid settler population growth, the appropriation of land and government policies of racial segregation. The establishment of the cadastral grid of property boundaries, along with the fencing of land, increasingly served to limit Aboriginal access to places and resources.

Despite land dispossession and racial segregation, Aboriginal people were able to retain connections to their Country. Limited settlement of the north coast region, above all up to about the 1860s, meant that violent conflict between Aboriginal and settler peoples came later and more sporadically to this region than to other eastern Australian frontiers (Goodall 1996). The later onset of violence, plus the fact that many Yaegl and Gumbaingirr people remained in parts of their own country throughout the post-contact period, allowed for the continuation of ceremonies and cultural activities (Brown and Murphy 2002, Heron 1993).

In the twentieth century connection to Country was often maintained by direct employment (for example, in the forestry and fishing industries), camping during school-holidays and on weekends and/or through subsistence activities. These subsistence activities included wild resource use (collecting native foods including shellfish to supplement diet), and collecting beach-worms (for use as bait and for sale to fishermen) and picking native flowers for sale. Worming was a particularly important family activity that enabled people to be in their Country. The social learning that accompanied the worming expeditions

Yuraygir National Park: heath on the coastal plain. Photo: Johanna Kijas.

played an important role in sharing and passing on knowledge and in the reproduction of group, family and individual identity (Kijas 2008).

Access

Access is an issue with both a physical and a cultural dimension. Historically, Aboriginal movement across the landscape was restricted by government policies of segregation.[4] In the case of Yaegl people who mainly lived on distant reserves this meant that travel to the area that is now YNP was often limited by distance. Connected to mobility was the affordability of travel and, in particular, vehicle ownership, and it was only from the late 1960s onwards that Aboriginal people began to own cars. The declaration of the parks in 1975 also impacted on Aboriginal use of the area (discussed below).

The cultural dimension of access relates to the loss of Aboriginal knowledge. The loss or partial retention of cultural information and a lack of cultural knowledge held by young people -above all, about dangerous places- has meant that there have been issues in accessing particular areas of the park. Reduced knowledge of dangerous places has resulted in avoidance of larger areas by some Aboriginal people. Kijas (2008) reports:

"One of the great regrets expressed by many [Yaegl] adults is that too many of their younger generation do not have the knowledge or interest about where they should or should not, venture in the landscape. This gets them into grave trouble by going into places they should not be in, where consequently they become sick, which in turn can perpetuate alcoholism and depression."

The stories of contemporary Yaegl adults tell of instances where, as children, they were told not to go into particular places by their Elders and "they had a great sense of obligation to doing what their elders told them" (Kijas 2008). Rarely were reasons given. Consequently returning with only partial knowledge to these locations as adults is undertaken with extreme circumspection as cultural protocols are continually discussed and restored.

Management policies and practices

The declaration of protected areas in NSW has impacted on Aboriginal use of the land that lies within parks. A consequence of park declarations, whether intentional or not, has been to continue the process of Aboriginal dispossession because Aboriginal people can no longer camp wherever they wish and cannot hunt or gather wild resources within protected areas without specific permission or licences. In the case of YNP many Aboriginal people who had previously use the landscape informally stopped visiting the park after it was declared (Kijas 2008).

Knowledge of and respect for Aboriginal cultural values has gradually shaped the policies of park management.

Wild resource use

Aboriginal people have historically relied on wild resources, not only to keep cultural practices alive, but also for subsistence. Wild resources provided food to supplement diet and supported small-scale economic enterprises. English (2002) has documented the importance of places of wild resource use to the northern Gumbaingirr people based at Corindi Beach, just south of YNP. His study revealed a complex web of places associated with fishing, hunting and collecting that had been in use over the last 50 to 100 years.

English concluded that incorporation of such places within a protected area might be problematic for Aboriginal people because any potential benefits from reservation had to be "weighed against the possible diminution of Aboriginal people's ability to access land and resources" (English 2002:33). Added to this was the fact that there "would appear to be little scope to use the heritage provisions of the NPW Act to account for, or protect, wild resource use places" (English 2002:31).

The DECC is currently developing a policy on wild (or cultural) resource use. Within the Park Management Policy Manual (DECC 2007), a set of principles are provided to guide park managers. The principles include support for Aboriginal people to access parks in recognition of their culture and to support their connection with the land. However, permissible activities are required to be ecologically sustainable and consistent with the purposes and uses of parks. The conflicts that may arise in applying these principles are dealt with by establishing a range of partnerships between DECC and Aboriginal groups.

Camping places, camping fees

Within YNP the location of camping areas has been formalised and increasingly regulated. For Aboriginal people, this has meant that some camping locations used in the historic period have been lost or camping outside of designated areas has been restricted.

Another dimension for some Aboriginal people relates to cultural restrictions on some of the designated camping areas. Station Creek camping area is a case in point. Some Elders have explained that they would fish here but would not camp overnight, believing there to have been a massacre that makes it a place of great sadness where

4 Government policies of racial segregation began in the late nineteenth century and continued until the late 1960s.

"the spirit is still crying out from the ground" (Brown and Murphy 2002:81-82).

For Aboriginal people, park entry fees and camping fees are seen as an affront to accessing their Country. Cost is a significant factor for people entering or camping within a national park in NSW. In addition, recreational fishing, including for Indigenous people, is regulated by NSW Fisheries under the *Fisheries Management Act* 1994 and by the Marine Parks Authority under the Solitary Islands Marine Park zoning plan. One response to this situation is to establish Aboriginal culture camps and a DECC policy supporting culture camps is currently being developed.

Participation in cultural heritage management

A further area where legislation and government policy impacts on Indigenous cultural values is heritage management. Prior to the enactment of Aboriginal cultural heritage legislation in NSW in 1969, Aboriginal people were not generally involved in heritage management or archaeological studies, such as when stone artefact collections were made in the early 1960s from the Station Creek area (McBryde 1982, Rogers 1971). From 1969, the management of Aboriginal cultural heritage came under the auspices of the NPWS with a legislative amendment that aimed to protect Aboriginal 'relics', specifically focussing on pre-contact material remains. In amendments to the NPW Act in 1974 a provision for gazettal of 'Aboriginal Places' was included to allow for the protection of Aboriginal spiritual places (including natural features) and places of historic significance to Aboriginal people (such as massacre sites). Within YNP no Aboriginal Places have been gazetted because the focus of the Aboriginal Place Program has been on areas outside of the protected area system.

Most Aboriginal sites recorded in YNP were documented during surveys undertaken by archaeologists in the 1970s (Starling 1971, Rowland 1977). Investigations to assess the impact of park development on Aboriginal heritage values within Yuraygir date from the late 1990s (for example, Brown and Murphy 2002:86-118) and it is now standard practice to engage with Aboriginal people to assess impacts of NPWS activities on Aboriginal cultural heritage places. Impact assessments are undertaken either by the communities themselves or in collaboration with consultant archaeologists.

Key threats, challenges and responses

One of the key threats to Aboriginal cultural and spiritual values in YNP remains a continuing loss of cultural knowledge. In the case of Yaegl people, this refers to the reduction in knowledge being passed on from Elders to younger generations (for example, cultural protocols about access and the practice of worming). The reasons are complex and will not be explored in this paper. However, oral history projects such as that undertaken with Yaegl people (Kijas 2007) and the recording of local Aboriginal histories (Gow-Laurie 1996, Heron 1993, Kijas 2007, Yarrawarra Place Stories 2000), have an important role to play documenting the Aboriginal community's attachments to YNP, as well as articulating community aspirations.

From a local park management perspective there are a number of challenges to be faced with regard to Aboriginal heritage management at YNP. Some of these are linked to the naming of the park. YNP was one of the first parks in NSW to take the name of a local Aboriginal language/group. Nevertheless, two issues have emerged as a consequence: the first concerns the fact that the spelling of the language/group name has changed from 'Yuraygir' to 'Yaegl' since the name was applied 28 years ago, the second (and more complex), to the fact that local group boundaries are contested and that the naming of parks can be seen to favour particular groups (Kijas 2007). However, park managers can resolve such issues through open and honest dialogue with all relevant parties.

At a higher level, government is in a position to respond to historical injustices. In the NSW context, these responses are framed by Two Ways Together, the NSW Government's

The Waugh's camp at Brooms Head late 1880s. Courtesy of Rosemary Waugh-Allcock.

Camping, swimming and surfing at Brooms Head, 2008. Photo: Caroline Ford.

ten-year plan (2003-2012) to improve the lives of Aboriginal people and their communities (Department of Aboriginal Affairs 2003), as well as by the State Plan goal of 'Strengthening Aboriginal Communities' (Premier's Department 2006).

Three ways that government is responding to past practices of Aboriginal dispossession and disempowerment are through the recognition of first people's rights (DECC 2006), by providing access to protected areas and through involvement of Aboriginal groups in park management. Within DECC there is an emphasis on the establishment of partnerships between Aboriginal groups and government for the purpose of park management. The agency acknowledges a special responsibility in finding creative and positive ways for the DECC and Aboriginal people to move forward together with a shared understanding of the past.

The DECC is currently working with Aboriginal groups with connections to YNP, firstly, by documenting historical Aboriginal associations with YNP and the contemporary cultural and spiritual values of the park landscape (Brown and Murphy 2002, Kijas 2007). For non-Indigenous staff this information in combination with cultural awareness training supports a respect for and informed engagement with Aboriginal groups.

Secondly, working relationships with local Aboriginal groups have gradually evolved. The development of consultative processes relating to major DECC projects, along with an increasing number of local heritage officers within local Aboriginal community groups, have supported genuine community input into the management of YNP (Kijas 2008).

Thirdly, the DECC has established a number of programs aimed at increasing Indigenous employment within the agency. The Aboriginal Cadet Program, which includes training for park ranger positions, was established in 2002 and provides each cadet with financial study assistance, a paid annual 8-12 week work placement and a guaranteed position upon graduation and satisfactory completion of their work placements.

Recreational landscape and cultural values

"The beach of memories is always Diggers Camp, where my family and I have been coming for over a quarter of a century … To return to the site where the family tent used to be pitched, where campers are no longer allowed, is to find myself searching for the ghosts of the children we were." (Mears and Edwards 1997:12)

This section of the paper focuses on Anglo-Australian recreation within Yuraygir and in particular on holidaying. For YNP the combination of coastal villages and the national park provides opportunities for boating, picnicking, camping, fishing, swimming, surfing and bush walking on some of the best beaches in Australia (NPWS 2003). The park landscape has always been a place of escape and relaxation for local and distant groups of people.

Two features of recreational places within YNP, which are not discussed below, are worth noting. First, camping locations most frequented by Anglo-Australians, including the formalised camping areas of YNP, coincide with evidence of deep-time occupation by Aboriginal people. These locations require management for their multiple cultural values. Second, evidence of camping within YNP is ephemeral and few archaeological traces survive of previous access tracks, campsites or recreational activities such as fishing, surfing or boating. This means that most evidence of recreational use and activity is derived from historical records and from oral testimony.

Land-use and links to cultural values

Holidaymaking is a land-use that links cultural values at two levels in Australia. On a national level White (2005:xiv) observes that by the beginning of the twentieth century an Australian holiday 'tradition' was discernable, with distinctive customs and practices. At local levels camping and associated activities such as swimming, fishing and walking are social practices that serve to reinforce identity and connection to place (Harrington 2007).

Along the coastline from Yamba to Red Rock, recreational camping has taken place since 1860, when the settlement of the first coastal villages began. Each village has a distinctive history of occupation by different communities and family groups from within the region (Kijas 2008). Thus, the pattern of coastal recreation reinforced a sense of identity, difference, separation and community for many residents of the north coast region. The history of conflict in land-use concerning sand-mining, as well as the creation of YNP and the Solitary Islands Marine Park, has been important in shaping people's more recent connections to the park landscape.

Management policy and practice

In NSW, national parks are managed in accordance with a number of principles, including, "provision for sustainable visitor use and enjoyment that is compatible with the conservation of the national park's natural and cultural values" (NPW Act). As a generalisation, the cultural values of NSW protected areas are not well understood with regard to holidaying and recreation.

This relates in particular to intangible values of belonging, community identity and well-being. Thus, conserving cultural values related to recreation as mandated by legislation and in accord with The Burra Charter becomes problematic.

Within YNP there are seven designated camping and day-use areas and two areas that provide for day-use only. The management framework for these and other recreational facilities such as walking tracks is set out in the Plan of Management for the park (NPWS 2003:35-47). More broadly, the Park Management Policy Manual (DECC 2007) outlines policy with regard to visitor management, services and infrastructure. However, strategies for understanding the cultural values of recreation visitors have not been developed.

Pebbly Beach Camping Area in the south of YNP is a good example of management practice recognising and supporting historical and social values. Pebbly Beach is an isolated camping location. It has been regularly used over a long period by large parties of families and friends who live in the immediate local area, but also by campers from south-eastern Queensland. The camping area has always been accessed using four-wheel drives and is characterised as a low-key camping experience.

By respecting the history and character of recreational camping, the local park management regime has sought a balance between continuity and change at Pebbly Beach. Continuity has meant allowing access to the area for those people with long-term connections, retaining the isolated campsite setting, maintaining four-wheel drive access and facilitating the low-key camping experience. On the other hand, changes have included formalising the camping area (installing toilets, defining campsites and protecting shell middens and vegetation), formalising the access route, employing a care-taker, charging fees and closing parts of the beach to vehicles. Collaborative clean-ups of the camping area surrounds are undertaken by NPWS staff and regular camp-users.

The management of intangible cultural heritage values and landscape change at Pebbly Beach is successful because the history of holidaying and people's connection to place has been acknowledged and respected.

Key threats, challenges and responses

Loving it to death

Visitor numbers for YNP in 1999 were estimated as 450,000 with an annual expenditure estimated at eight million Australian dollars (Buultjens and Luckie 2004:8, 32). Buultjens and Luckie (2004:20) found that most visitors to YNP in 1999/2000 came from north-eastern NSW (46%) and that professional people -presumably for whom camping fees are not a significant issue- make up a high proportion (37%) of all visitors to parks in north-eastern NSW. What these figures suggest is that affluence is an increasing threat to local community identity and the pattern of camping practiced at YNP.

Booking of camping sites is a significant issue in the management of cultural values. Local park managers have sought to maintain YNP as a place where campers can arrive and camp without having to book ahead and thus maintaining a relaxed and informal feel. Management has resisted instituting a ballot system for controlling access to camping sites at peak holiday periods (as occurs in many NSW coastal parks). For Yuraygir the ballot system would discriminate against local long-term users, some of whom have links to the landscape extending over many generations. Given the increasing pressure on camping areas this may be a difficult position to maintain. Adding further pressure to this situation is the state government drive to increase visitor numbers to NSW national parks by 20 per cent by 2016 (Premier's Department 2006).

Not happy campers

Connected with the pressure of increasing visitor numbers to YNP and camping fees, a current challenge in managing cultural values is related to the changing 'mix' of campers. The numbers of people coming to the park from outside the region is increasing relative to local use. For people from south-eastern Queensland, YNP is the nearest park offering a remote coastal camping experience. There is anecdotal evidence suggesting that many local people resent the use of a NSW national park (established and maintained using state taxes) by people from another state.

One expression of strength of feeling about this issue has been the protests, ostensibly about increased camping fees, by local Clarence Valley residents in early 2008. A week-long protest camp was established outside of the park entrance to Station Creek and a small demonstration was staged outside of the NPWS Office in Grafton. The DECC defended the increase in fees based on the costs associated with managing camping areas, the increase in the consumer price index and the need to avoid competition with local commercial operators. A factor that may be driving the local discontent is the challenge to local community identity and cultural practice related to belonging and a loss of connection to holiday landscapes.

Future directions

Recreation is a process and social practice that serves to reinforce identity and connection to landscape. Within

park management planning generally, recreation is viewed as a use (or purpose) rather than a process. Thus, a Plan of management typically frames "recreation in a natural setting" as a category of use of a protected area and regulates the extent to which this category is appropriate to the planning area. In the case of YNP, management policies recognise Aboriginal cultural use as part of their cultural heritage, while Anglo-Australian cultural use (for example, camping) is seen purely as an external pressure and not part of the cultural landscape of the park that needs policy protection.

This planning approach does not identify or respect the historical and social values associated with recreation at each local level. By recognising recreation as process and characterising it as a cultural activity, a starting point for planning will rely on documenting the history of recreation for each local landscape and understanding people's attachments to that landscape. In other words, the process commences with community engagement and participation in order to create an information base that then informs planning, policy and management for recreational activities.

In contrast, policies for supporting Aboriginal community engagement and participation in park management are generally welldeveloped within NSW. In conjunction with partnerships tailored to local circumstances, oral histories can underpin management strategies and actions aimed at supporting the evolution of Aboriginal cultural values and meeting the aspirations of Aboriginal groups.

Conclusions

Although it is currently listed as a Category II protected area, YNP in many ways fits the criteria of a Category V Protected Landscape, based on the extent to which its landscape has been shaped by the interaction of people and nature over time. As long as YNP is seen as a Category II National Park, the integration of cultural values into park management will be more difficult to address.

The cultural values of this landscape are inextricably bound up with the lived experiences, identities and connections of past and present individuals and communities. For local Aboriginal groups and for Anglo-Australian holidaymakers, YNP is part of a landscape, both real and imagined, of community identity and sense of place: that is, the cultural landscape is rich in social and historical meaning.

History, whether based on documents, images or told stories, is what informs us of people's attachments and feelings for special places. Work undertaken to document

Yuraygir National Park coastline. Photo: Andrew Lugg.

the historical and social values at YNP has demonstrated the importance of memories and oral histories in giving life to landscapes, as well as understanding people's connections to their special places and landscapes. Vigilance is required on the part of park management to ensure that people's stories, memories and aspirations are continually integrated into management processes and are not forgotten.

If people's stories and attachments to protected area landscapes are not recorded, then an impression is created that the landscape is a wilderness, that is, it does not have a human history. Thus, active management programs need to take into account awareness of the spiritual and symbolic meanings that people ascribe to protected area landscapes. Furthermore, protected area managers need to understand how these meanings support community identity, well-being and human rights. By respecting and acknowledging people's attachments to and feelings for landscapes, park managers can help ensure that there is long-term community support for protected areas.

Acronyms

DECC Department of Environment and Climate Change of New South Wales, Australia
NSW New South Wales (Australia)
NPWS National Parks and Wildlife Service of New South Wales, Australia
YNP Yuraygir National Park

Glossary

Culture camp
A site with temporary or permanent facilities where cultural activities are carried out. Such activities can include visiting a significant place, sharing traditional knowledge or gathering wild resources.

Dangerous place
A location where inappropriate cultural behaviour (deliberate or innocent) may result in individual or group harm.

Gazettal
Formal dedication of an area of land as a protected area under the NPW Act.

Mullock heap
Dump of waste or uneconomic rock created in the course of mining.

Yuraygir National Park: Some of the best beaches in Australia. Photo: Andrew Lugg.

Sea-changers
People who abandon urban life in favour of residing in a rural coastal community.
Snig track
Route along which timber is hauled to enable loading onto a transport vehicle.

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Characteristic Mt. Athos landscapes: the case of the Holy Simonopetra Monastery

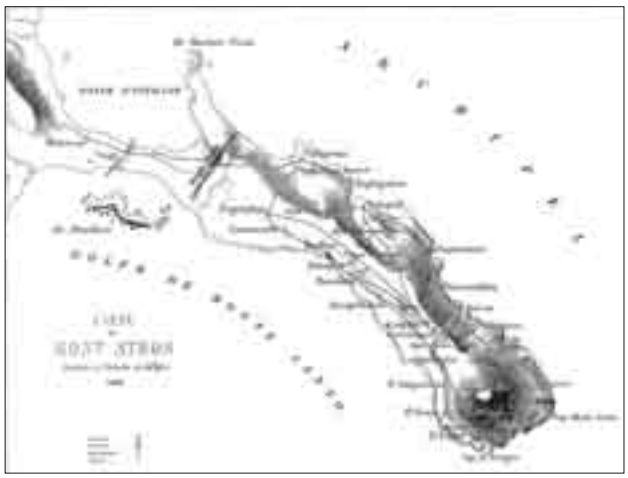
Thymio Papayannis

Summary

Mount Athos, The Holy Mountain, is the third of the three Halkidiki peninsulas in Northern Greece. It is well-known for its 20 monasteries with their millenary cultural and spiritual traditions of Orthodox Christianity, as well as for its magnificent landscapes and high biodiversity. Recognised as a World Heritage Site both for nature and for culture and as a Natura 2000 site, it is a multicultural, self-governed area lying within Greek national territory. The Holy Community, which governs the peninsula, is promoting an integrated approach to the management of the Athonite cultural and natural heritage.

Of the 20 monasteries on the Holy Mountain, Simonopetra was one of the first to understand the need for careful planning of conservation measures and the wise use of monastic lands and facilities, including its characteristic and varied landscapes. Assisted by dedicated scientists and experts, it is confronting the ever-increasing challenges of modern times proactively, anticipating its own needs and working out its own solutions. Thus, it is facing the third Christian millennium with fortitude, faith and optimism.

The small open boat, heavily loaded with its 12 passengers, docked early on a winter's evening at the *arsanas* of Simonopetra Monastery. A monk from the neighbouring Dionysiou Monastery, who had rowed ably and forcefully in spite of the turbulent sea, secured the boat and helped the visitors and their escort to disembark. The sky was heavily overcast and darkening rapidly as night approached. As soon as the small group started climbing the stone-paved path, a violent storm with lashing thunder, lightning and slashing rain erupted. The climb became increasingly difficult, but as they turned a corner, the majestic buildings of Simonopetra, perched high on a steep rocky pinnacle, came into view, illuminated by the frequent bolts of lightning.



Map 1. Athos peninsula in 1867. Simonopetra is located on the west coast, south of Karyes, the capital of Athos.

In spite of the rain, we stopped in awe at the sight of the austere monastic buildings suspended somewhere between earth and sky, etched in profile against the massive rock escarpments that rise to the top of Mt. Athos, known for a millennium as the 'Holy Mountain'. We continued climbing in silence until we reached the heavily fortified gate of the monastery, where a warm reception from its monastic fraternity was awaiting us.

Mt. Athos at the dawn of the third millennium

The spiritual rebirth of Mt. Athos

As we were told by the monks, after the fall of the late Byzantine Empire Mt. Athos lived through a turbulent period. Owing to its role as a sanctuary for the Christian Orthodox faithful, its population increased during the Ottoman occupation of the Eastern Mediterranean and the Balkans. It also served the political plans of the Russian Tsars, who greatly increased the presence of monks in the Aghios Panteleimon Monastery[1]. After the liberation of Northern Greece and the Balkan wars at the beginning of the twentieth century, Mt. Athos lost many of its dependencies and sources of income: in 1922 most of its lands were confiscated and distributed amongst farmers immigrating from Asia Minor and the monastery entered into a long period of decline.

In 1963, however, the Holy Mountain celebrated its first millennium. The consensus at that time was that its continued existence as a spiritual institution constituted a unique event in human history and, after the genesis and legacy

1 It is revealing that in 1902 the population of Mt. Athos was 7,342, of which 3,276 were Greeks, 3,956 Russians, 307 Bulgarians, 286 Romanians, 51 Georgians and 16 Serbians. By 1972 the total population had decreased to just 1,146, but had risen slightly to 1,290 by 1990. [Pentzikis 2003]

from ancient times of Hellenic humanism, the second of two great gifts to humankind originating from this region.

Moreover, life on Mt. Athos has never stopped and continues today. In the decades that followed the millenary celebrations, a remarkable and hopeful blossoming of Athonite monasticism appeared on the slopes of the Holy Mountain, both amongst its faithful and in its activities. This re-birth –the result of the growing spiritual needs of our times– has continued to grow and has marked the entry of the monastery into the third Christian millennium.

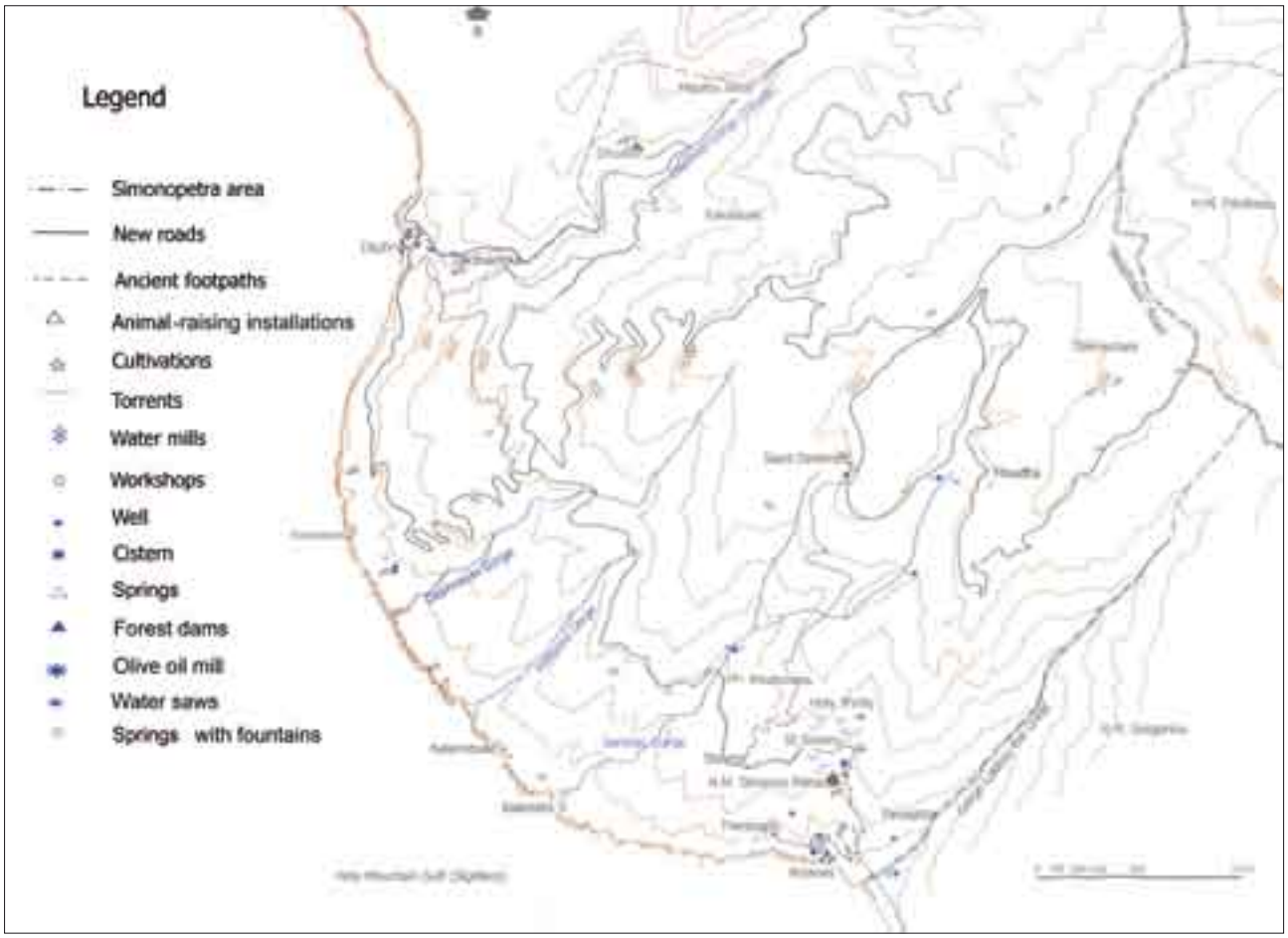
Thus, in recent years, many young people have joined this monastic community and are striving to live according to the ancient traditions of Mt. Athos, transmitting through their beliefs and actions the messages of faith, freedom, respect, solidarity, cohesion, creativity and true existence to contemporary society. Their aim is at all times to combine tradition with contemporary realities in a search for a harmonious blend of conservation and balanced development.

Two factors that must be taken into account when analysing the Holy Mountain today are its communal character based on constituted self-governing monastic communities and its multiethnic and multicultural nature (Tachiaios 2006), both on a local scale within the confines of Mt. Athos and outside in a broader context of the relationships of the monasteries with countries other than Greece. When combined with the respect of millenary traditions, these elements determine the contemporary realities of the Holy Mountain (Elissaios 2007).

Status, administrative structures and perspectives

Mt. Athos today constitutes a self-governed body within the Hellenic Republic, as recognised by Article 105 of the Greek Constitution and by the Joint Declaration made during the accession of Greece to the European Union in 1981. It is divided into 20 constitutionally recognised autonomous monasteries founded over the past 12 centuries, whose number will not be allowed to increase any further.

Public administration is performed by the Holy Community and the monasteries, while the spiritual and ecclesiastical authority is maintained by the Ecumenical Patriarchate. The Greek state is represented by a Governor who is responsible for seeing that agreements are fulfilled and for public order and security.



Map 2. Simonopetra territory.

As a property, the entire peninsula belongs exclusively to the Holy Monasteries, which in collaboration with the state have the right to manage the territory and its buildings, facilities, infrastructure and artefacts. Various forms of subsidiary facilities or dependencies (*skete, kellia, kallivia* and *hesichasteria*) are found within the monasteries' lands.

The basic decision-making organs of Mt. Athos are the Holy Community, consisting of 20 representatives (one from each monastery) who meet twice a week in Caryes, and the body of 40 representatives (Extraordinary Double Holy Assembly), which meet for a minimum of two sessions per year. As well, the law-making gathering of the 20 Abbots has two obligatory sessions a year. The executive body, the Holy Supervision (Iera Epistasia), consists of four members and a number of committees that deal with specific issues (Pentzikis 2003). In recent years, there has been a tendency for these institutions to reach consensus decisions on major issues and to find joint solutions for problems that concern the entire Mt. Athos peninsula.

Perspectives and planning of the Holy Community

In a recent report to UNESCO's World Heritage Committee, the Holy Community presented a clear view of its perspectives and plans for the management of the cultural and natural heritage of Mt. Athos (Holy Community 2008). Its main point was that, despite being generally in favour of collaboration with the relevant services of the Hellenic State, the responsibility for such management must remain in the hands of the traditional institutions of the monastic communities on Mt. Athos.

Approaching Simonopetra monastery from the Arsanas. Photo: Josep-Maria Mallarach.

With this in mind, the Holy Community has already completed a Special Environmental Study with the assistance of an expert scientific team, which is being reviewed by the Ministry of Environment, Physical Planning and Public Works. This is a legal responsibility for all major protected areas in Greece and is a prerequisite for the preparation of more detailed management plans. Once it has been approved, the Holy Community, along with representatives from the monastic fraternities and a number of highly qualified scientists, intends to establish a management body for implementing necessary management measures.

In addition, Mt. Athos wishes to cultivate a balanced dialogue, not only with the national authorities, but also with the European Union and international organisations such as the World Heritage Convention that have shown interest and concern for the Holy Mountain.

Protection framework

International and European Union framework

As a result of the initiatives of the relevant national authorities and the work of various scientists, as well as due to its great natural and cultural treasures, the Athos peninsula has long been recognised internationally as of immense importance. However, there has been little consultation with the appropriate institutions on Mt. Athos and this has tended to create the impression of a lack of respect for Athonite autonomy.

Thus, in 1988 Mt. Athos was recognised by the World Heritage Convention as a mixed site for both culture and nature. In early February 2006, the WHC sent a monitoring mission to Mt. Athos, which drafted a number of recommendations (UNESCO 2006], most of which were favourably received in a frank and positive manner by the Holy Community as a basis for further dialogue (Holy Community 2008).

In addition, on the basis of the criteria of the Habitats Directive, the entire Athos peninsula has been incorporated into the EU Natura 2000 Network in accordance with the provisional list approved by the EC and the Hellenic State[2].

2 With site code GR1270003.

In terms of the IUCN classification of protected areas, Mt. Athos is classified as a Category V Protected Landscape/ Seascape, a category defined as a "protected area managed mainly for landscape/seascape conservation". The IUCN Guidelines for Protected Area Management Categories defines this category further as "an area of land, with coast and sea as appropriate where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/ or cultural value and often with high biological diversity". This is not totally applicable to the territory of Simonopetra, where landscape conservation is mainly related to spiritual pursuits and the site is considered sacred. Nevertheless, there are efforts within IUCN and its Task Force on Cultural and Spiritual Values of Protected Areas to incorporate the sacred elements of sites into the categorisation of protected areas. Although this was recognised in the Guidelines for Protected Area Management Categories, it has now become much clearer in a recent publication that provides guidance for sacred natural sites. (Wild and McLeod, 2008]

National protection status

Unfortunately, there is almost no landscape protection in Greece: the state has signed the European Landscape Convention, but has not yet ratified it. Nevertheless, legislation pertaining to the natural environmental and to archaeological sites and monuments indirectly provides some degree of protection. The main problem, though, is the implementation of legislative provisions, which falls under the jurisdiction of two separate ministries with little or no history of collaboration[3], while responsibility is shared by various levels of regional and local government[4]. This is totally inadequate for sensitive sites and their landscapes such as Mt. Athos and, in particular, the Simonopetra area, in which cultural and natural aspects are inextricably interwoven.

It should be noted here that the Ministry of Culture (unlike the Ministry of Environment, Physical Planning and Public Works) has shown considerable interest in matters pertaining to the Holy Mountain, especially in relation to the conservation of its aesthetic cultural heritage (architecture, artefacts, icons and frescoes).

Athonite framework

As mentioned above, the Mt. Athos authorities believe that all protection initiatives and measures must respect the autonomy of the area and must be initiated and controlled by the appropriate monastic organs. In addition, they should be based on the principles of Byzantine monastic tradition, which recognise the sacredness of the natural world as an integral part of the Divine Creation; in this sense, Mt. Athos has been considered as 'the Garden of the Virgin Mary' ever since its origins. In addition, both autarchy and self-dependence are part of this monastic tradition and are expressed in the management and use of natural resources and in daily affairs (Papayannis and Elissaios 1994). The major challenge here is how to create a synergy between the spiritual background of Mt. Athos and the requirements of natural and landscape figures of protection (such as those promulgated by UNESCO, IUCN and EC), while at the same time taking into account the daily needs of the monastic communities and their dependencies.

In accordance with the clear legal status of Mt. Athos, and under the supervision of the Holy Community and with the assistance of public services, the 20 monasteries have responsibility for and jurisdiction over the conservation of the cultural and natural heritage of their properties. Thus, the forests and the natural environment are managed and conserved directly by each monastery and most have had approved management plans -mainly concerning forest exploitation- prepared by expert foresters. There is also a special service for the entire peninsula, the Forestry Ephorate. Hunting is forbidden, although poaching by forestry

The Holy Monastery of Simonopetra and the Arsana, from the sea. Photo: Father Theodossios

3 The Ministry of Culture, on the one hand, and the Ministry of Environment, Physical Planning and Public Works, on the other.
4 Regional Secretariat appointed by the Government, elected prefectures and municipality authorities.

and construction workers is sometimes a problem. This has possibly led to the disappearance of large herbivores such as deer. The unauthorised entry or approach of any boat closer than 500 metres to the coast is also forbidden, a prohibition that thus rules out commercial fishing.

The opening of new roads and the entry of motorised vehicles now requires permission from the Holy Community, which, in a highly positive development for the area, is only granted very occasionally. Responsibility for the conservation and restoration of monuments and sacred objects lies with the monasteries to which they belong and to assist in this task the Hellenic State has founded the Centre for the Safeguarding of the Athonite Heritage in Thessaloniki, which approves all relevant scientific studies and supervises the execution of all work carried out in the peninsula. In addition, the relevant services of the Ministry of Culture are available to help wherever required; there are, however, certain grey areas concerning jurisdiction between ministerial services and the institutions on Mt. Athos, which can at times create friction, although this is usually resolved in an amicable fashion.

The territory of Simonopetra

The Holy Monastery of Simonos Petras (Simonopetra) was founded by Simon the Athonite in 1267 AD in the south-west of the Athos peninsula on a 13 km^2 oval-shaped piece of land with a coastline of 4.8 km. Its mean elevation is 446 m a.s.l., rising to a high point of 889 m a.s.l, with an average slope of around 30 per cent.

The monastery itself was erected amidst a spectacular landscape dominated by a majestic 300-metre-high rochy pinnacle. With the buildings overlooking the Aegean Sea and seemingly suspended in mid-air, this was a daring architectural feat for the late Byzantine period. Although the buildings have been enlarged and newer ones added over the seven centuries of the monastery's existence, a paradox still remains: because of their striking architecture the monastery buildings dominate the natural environment, but they are, nevertheless, fully integrated into the landscape and constitute one of its major elements, as well as being a diachronic source of inspiration for artists.

Well-tended vegetable garden terraces below the Monastery. Photo: Josep-Maria Mallarach.

Natural heritage

Simonopetra and its surroundings have a great variety of geomorphological features and ecosystems stretching from a purely Mediterranean coastal zone to the dense forests in the mountainous areas. Forests cover 70% of the area and can be classified in three zones, each with a high diversity of plant species and endemisms: the eumediterranean zone with broadleaf evergreen tree species, the thermobiotic zone with mixed forests of oak, chestnut, lime, maple, fir and black pine, and the psychrobiotic zone with broadleaf deciduous trees such as beech and mountain maple. Of particular interest are the xerothermic formations of the coastal rocky area with tree spurge *Euphorbia dendroides,* the mountain torrents with *Laurus nobilis* (and also in front of the monastery) and certain sites in the high mountain where ancient groups of trees have been left intact and which are now protected (Ganiatsas 2003).

Faunal biodiversity is also high and includes mammals such as wolves, foxes, hares, jackals, wild boars and roe deer, snakes, turtles and many insects. In addition, 105 bird species have been observed, of which 24 are protected in accordance with EU Directive 79/409 on the protection of wild birds. Monk seals (*Monachus monachus)* have been noted along the coastline in what is a symbolic symbiosis between the monastic community and a highly endangered species in the Mediterranean Basin. Further offshore, dolphins and various other cetaceans are seen.

Human activities

Throughout the ages human activities have had a decisive impact on the land, especially after the founding of the monastery. For example, priority in the forests has been given to the growth of chestnut trees whose timber can be exploited, while certain medium-sized patches of forest have been cleared or turned into terraces in order to grow food for the monastic fraternity. Fire has played a major role by directly damaging large parts of the monastery's forests and indirectly by the implementation of necessary fire protection measures. In recent years, these have included the construction of water reservoirs in the forests, the opening of roads, the acquisition of equipment (such as fire trucks) and the training of monks to fight fires.

On the other hand, the complete lack of nomadic herding in the area (especially of goats) has benefited floral diversity and has allowed rapid plant regeneration after each forest fire, as has happened since the catastrophic fires of August 1990.

Beyond the fortified walls of the monastery itself, auxiliary buildings have been erected to serve the needs of the monastic fraternity, the workers and the many pilgrims that visit Simonopetra. These include watermills, stores, workshops, barns, boat-sheds, cisterns and other facilities, some of which are of historical interest and are being carefully maintained. Scattered throughout the monastery area there are also sacred places such as the hermitage of St. Simon that have small churches and cells attached, all of which have been restored.

Agricultural activities covering just 50 ha are located both in the proximity of the monastery and in certain dependencies farther away, and include vegetable gardens, orchards, vineyards and olive groves. Due to the sloping terrain, many of these groves and gardens have to be terraced over the centuries and today their stone terrace walls are well maintained. Although today many tracks have been constructed for motorised vehicles, all these small plots of land were once accessible along a network of footpaths; indeed, most of the footpaths in Simonopetra were cobbled and constituted in themselves an important historical and landscape element. A characteristic example is the path leading from the *arsanas* to the main monastery buildings. Recent efforts have been made by the monastery to maintain and improve the footpaths and this work is still continuing.

In the past the Simonopetra monks fished close to the shore with simple nets, although this activity has been discontinued in recent years.

The landscapes of Simonopetra

Because of its morphology and location, Simonopetra is viewed as part of the general Athonite landscape dominated by the Holy Mountain. It ranges from the rocky seashore to the forested crest of the peninsula at almost 900 m a.s.l., with a mean gradient of approximately 30 per cent that becomes much steeper in places. When viewed from the sea, the only landmark is the monastery itself, with its striking architecture. On the difficult walk from the *arsanas* to the monastery along the steep footpath, it is possible to view the building complex and its surrounding landscape from a variety of angles. On the road from Daphne, the small harbour town on Athos, one sees only the natural forested slopes until –after a turn in the road– a magnificent view of the monastery becomes apparent.

It is not strange, therefore, that artists have always found inspiration in Simonopetra and its landscapes, and have depicted them over the centuries in engravings, paintings, photographs and the cinema. A characteristic example is the 1744 drawing by Brother Basil Barskij, which shows very descriptively (but, in terms of dimensions and perspective, somewhat inaccurately) a view of the Simonopetra landscape from the sea. Another highly attractive view is the watercolour painted in 1856 by Edward Lear.

In recent years, a considerable number of artists have depicted the monastery in various media, most of which focus on the main building. However, only a few have been able to show in a truly sensitive manner –and from various perspectives– the integration of the buildings into the natural environment and the resulting landscape.

Other cultural aspects

Aside from its cultural landscapes and the traditional architecture of its buildings, Simonopetra is a cultural centre of great importance. In spite of the fires and attacks that in past centuries destroyed a large part of its cultural wealth, the monastery still maintains a rich collection of artefacts, 25,000 documents (of which 100 are manuscripts), icons and holy relics, and other fine examples of religious art, as well as a great number of ethnological artefacts related to the life and activities of the monastery over the past seven centuries. Its library of theological texts is perhaps the most extensive and best organized on Mt. Athos.

Over the past two decades, with the support of the Hellenic State and the EC, most of this cultural wealth has been maintained, restored as needed and stored in appropriate facilities to keep it safe but accessible by visitors. Most of this work has been carried out or supervised by Simonopetra monks, who have acquired the necessary skills and expertise.

Watercolor by Edward Lear.

It should be noted here that almost all of this cultural wealth –besides its aesthetic and historical value– contains a great inherent spiritual significance and forms part of the living experience of the monastic fraternity. This is evident in the cultivation of the Byzantine musical tradition in the monastery, with results that are of both high aesthetic quality and of daily liturgical significance. Icon painting is still practiced, again in the Byzantine spirit, along with the restoration of icons. This is a spiritual and cultural activity that does not have economic significance for the major monasteries on Mt. Athos, except for some of the smaller dependencies.

Use and management of the natural and cultural heritage

The use of space and natural resources

Before Hosios Simeon decided to erect a monastery atop a rocky pinnacle, it is probable that hermits lived in caves or small cells in the area. It is not clear why he selected such a particularly wild location, although possibly it was for symbolic and spiritual reasons or for the security it provided, or even a combination of both. In any case, the monastery buildings were attached to a rocky crest and gradually encircled it from all sides during the various construction phases. Aesthetically, the main building complex of Simonopetra seems to both grow from the rocky earth and rise inexorably towards the sky.

Initially, the monastery was only accessible from the sea by boat, a fact explaining why the *arsanas* and its marvellous tower (1567) were built. This required a steep climb of about 40 minutes on foot or by donkeys and mule. The introduction of motorised traffic to Mt. Athos in the twentieth century has meant that this access has become less used for day-to-day purposes, although the footpath is well maintained and still provides visitors with magnificent views of the landscape. A good road was constructed between Daphne and Simonopetra to connect the monastery to its facilities in the harbour at Daphne. The road was widened recently and a number of undesirable scars were left on the landscape. However, there are remedial measures that can be taken to alleviate this aesthetic problem.

Secondary dirt roads were also opened in the twentieth century to connect the main building complex with dependencies such as the Dontas farm on the border with the Xiropotamou Monastery and to facilitate the transport of timber to Daphne. This road network may not be as dense as in other parts of Mt. Athos, but is still quite excessive. Its impact on the natural environment is not too serious, although parts of the road network have erased existing footpaths. In addition, this road network is difficult to main-

tain and needs certain improvements, although once a stretch of track is abandoned, it reverts rapidly to its natural state. That is why 'hard' infrastructures should only be contemplated very sparingly.

The monastery today owns and operates five motorised vehicles for the transport of people and materials, as well as a fire truck.

The provision of water to the main monastery and its other facilities and dependencies has been a major issue ever since its foundation. There are no rivers or lakes within its territory, just four torrents whose flow is intermittent and affected by hydrological works carried out in past centuries. The entire area contains numerous water management constructions, while in the monastery itself a number of cisterns have been discovered. The most characteristic architectural element of these constructions is the aqueduct, visible from the sea, whose upper two storeys were added during the early Ottoman years. In Simonopetra, water was once used as an energy source for oil presses and timber sawmills. Today, water is channelled from surface run-off and from springs into a 180 m^3 reservoir located high in the mountains and then piped to the main monastery building. Yearly consumption is approximately 8,000 m^3.

In terms of energy, Mt. Athos is not connected to Greece's main power networks, as per a consensus reached by the Holy Mountain Community. Its needs are covered in a decentralised manner mainly by petrol, which is provided tax-free and at a modest price by the state, a situation that is apt to change. Still, mainly for environmental reasons, some of the monasteries have experimented with renewable energy sources. Simonopetra has made considerable advances in this field and has constructed a small 33-kw hydroelectric plant and a 46-kw photovoltaic park, designed by a Simonopetra monk of German origin, who has published a scientific paper on the subject. These are interconnected by a small auxiliary electric power generator. Of the total yearly electrical energy consumption of 260,000 kwh, 50 per cent is produced by the hydroelectric plant, 40 per cent by the photovoltaic park and 10 per cent by the generator. The system automatically stores exact data regarding the mode of production and consumption.

Organising management

Simonopetra, like the other 19 monasteries on Mt. Athos, is coenobitic and is managed by the fraternity of monks in an organised and integrated manner. The core of the current monastic fraternity (approximately 25 monks) originate from the Meteora monastery of Metamorphosis on the edge of the Thessaly plain in central Greece, which they abandoned in 1973 due to pressure from tourism.

Head of the monastery is the Abbot (Hegumenos, or 'leader'). Elected for life by the fraternity in a secret ballot, his role is to act as both chief administrator and spiritual father to each monk. He is assisted by a small number of officials, who are also elected by the monks. Beyond their religious responsibilities, individual monks are assigned specific tasks for a given time period (*diakonima*).

The destructive fire of August 1990 –that threatened even the main building of the monastery and seriously damaged St. Simon's cell– gave an impetus to a systematic planning process, which has continued to be implemented and monitored with care over the following two decades. This process –under the guidance of the Simonopetra fraternity and with contributions from relevant experts– concerns not only the natural environment and, in particular, the forests, but also the restoration and extension of buildings and facilities (Working Group 1990).

Landscape management

Among the tasks assigned to selected monks are the responsibility for forest management and the care of the natural environment. The father appointed to this task, an individual who is highly experienced in this field, works closely with a forester in implementing a management plan covering the entire forested area of the monastery. This plan was developed in the early 1980s (Pantekis and Langas 1980)

The engraving by Brother Basil Barskij shows the landscape of the Simonopetra Monastery at 1744.

and was radically revised after the destructive forest fires of August 1990 by means of an EU-funded project for the ecological management of the Simonopetra forests (Dafis et al. 1992). The project includes already implemented actions providing guidelines for forest management in Simonopetra such as:

- active and passive protection against forest fires;
- the restoration of burnt forests mainly through natural regeneration and small-scale reforestation with native species that are today extinct (such as wild fruit and other trees that were considered as useless in the past and cleared to create a monoculture of chestnuts), thereby increasing biodiversity;
- the total protection of certain sensitive parts of the forest from timber exploitation, as well as an increase in the tree-cutting cycle (mainly chestnuts) from 20 to 40 years;
- the restoration and enhancement of all elements of human presence in the forests, from footpaths and small stone bridges to fountains, cisterns and terracing in order to reinforce the balance between nature and human beings.

The diet of the monastic fraternity is frugal and mainly vegetarian, based on bread, olives, olive oil, vegetables, pulses and wine; fish is only allowed on certain feast days. The consumption of meat is not allowed in the monastery, other than for strictly medicinal purposes. The production of vegetables, fruit, wine and other natural products in the monastery area is not fully organic, since certain mild fertilizers and pesticides are used in moderation. Composting is not performed and solid organic waste is thrown out.
Seeds of certain threatened local races of, for example, pears and apples have been collected in a seed bank, along with old varieties of olives, tomatoes and other vegetables. Aromatic plants are collected and used for medicinal purposes and for brewing excellent herbal infusions.

Cultural management

For the maintenance, restoration and extension of buildings, the monastery appoints knowledgeable and talented architects, assisted by expert engineers, to prepare the necessary studies and to supervise work carried out. In the execution of projects, however, the monks themselves are directly involved and monitor their progress on a daily basis. A similar approach has been adopted for infrastructure projects (road network, power, water supply, sewage, etc.).

As already noted, particular care is given to the safeguarding and restoration of the spiritual and cultural heritage of the monastery (artefacts, icons, music, manuscripts and books) and monks work with acknowledged experts in each field and have been trained and acquired considerable experience. These activities have expanded to cover

Simonopetra Monastery with Mount Athos at the background. Photo: Matthias Kutter

the broader cultural heritage of the Holy Mountain, with the establishment in Simonopetra of cultural forums on Athonite photography, painting, cinema, publications and other art forms.

Future perspectives

Changes and challenges

Fifteen years ago, Brother Elissaios explained[5] that Mt. Athos is not a museum, but a living entity taking from each historical period what it needs and adopting it to its own millenary traditions. In this sense, the Athonite monastic communities are not isolated from the real world and are in touch with contemporary realities and trends and, in addition, provide guidance through teaching, compassion and paradigm.

One of the changes that has occurred is that the majority of converts to Athonite monasticism are no longer uneducated people from rural areas, but are nowadays highly educated –many with university degrees– people from urban backgrounds. Thus, they lack the skills for managing the land and forests and the ability to face the hardships of climate and a lack of mobility, which they have to acquire through a difficult period of adaptation. Moreover, in rural areas of Greece farmers today have central heating and other modern amenities in their homes and use vehicular transport rather donkeys or their own two feet. On the other hand, the educated monk of today has the ability to handle the technological systems necessary for the protection of documents and artefacts, the management of alternative energy systems and contemporary communications. The challenge facing Simonopetra is to make good use of modern technology without becoming dependent on it and without letting it undermine essential monastic traditions.

Another challenge is the increase in the number of pilgrims and visitors, which has resulted from the fame of Simonopetra, its unique beauty and the genuine need for guidance felt by many human beings. This increase has been a constant drain on human and material resources and has at times affected the everyday running of the monastery. There have been efforts, however, from the Holy Community to put a daily limit on the number of pilgrims and to distribute them more evenly among the 20 monasteries. To the visitor numbers can be added the many workers and technicians that are required on an almost permanent basis, which amount to an average of 100 persons per day in Simonopetra.

5 During a lecture in the Goulandris-Horn Foundation in Athens on 14 March 1993.

In addition, a new problem with spiritual implications has arisen, related to an intensification of activities Mt. Athos: due to the restoration of buildings and the protection of the cultural heritage, noise, traffic of all vehicle types, pollution and interference has increased. This has resulted in a loss of the quiet atmosphere that is a basic prerequisite of monastic life.

Other related environmental problems on Mt. Athos have been intensifying, especially regarding the needs of motor vehicles, the transport of material and waste management. Measures have already been put in place to control the number of vehicles allowed in the area, while the possibility of exporting waste to treatment facilities outside of Mt. Athos is being considered, although currently this is only practiced in Caryes, the capital of Mt. Athos.

Forest exploitation has become less profitable due to labour and transport costs and has led in certain cases to unsustainable practices. The idea of limiting the extraction of timber to the needs of the monasteries and halting its export, whilst at the same time finding alternatives to compensate for lost income, is a possibility that has been gaining ground.

Some external impacts should also be taken into consideration. Climate change will have serious implications on the Athonite ecosystems and their biodiversity and will significantly decrease the availability of freshwater. These are developments that should be carefully studied and monitored so that any necessary measures aimed at mitigating water shortages and adapting to new water cycles can be planned well in advance. On a cultural level, the homogenisation resulting from globalisation may affect Mt. Athos, although its spiritual traditions are strong and can resist its pernicious effects. It is hoped that the slow changes occurring in Athos can be assimilated into its traditions whenever necessary.

Organised response and planning

Since the Byzantine era a basic tenet in Christian Orthodox monastic tradition has been the communion of human beings with nature seen as Divine Creation. The harmony between humanity and nature is still a characteristic of Athonite monasticism and has been preached especially in Simonopetra in accordance with the teachings and the activities of HAH The Ecumenical Patriarch Bartholomew, who has repeatedly proclaimed that destroying the natural environment is a sin against God.[6]

6 The views of HAH The Ecumenical Patriarch are clearly presented in the book: Fr. Chryssavgis, J. 2003. *Cosmic Grace, Humble Prayer. The Ecological Vision of the Green Patriarch Bartholomew I*. Wm. B. Eerdmans Publishing Co., Cambridge, UK.

As commented above, Simonopetra has been concerned about environmental matters for the past two decades as the various studies, projects and measures it has undertaken show (Lorimy 1996). Now is the time for a major new step forward, which should consist of an integrated and systematic approach to the management of the monastery's natural and cultural heritage.

Within the framework of the Special Environmental Study for Mt. Athos, Simonopetra has the possibility of developing its own management plan covering all aspects of land and cultivation, forests and vegetation, biodiversity, water, energy, waste, building and infrastructure. Such a management plan should also take into account the principles of sustainability, which include not only environmental but also social and economic dimensions. Its preparation should be facilitated by a team of experts; however, the energetic participation of the monastery is also necessary, as it will be in charge of its implementation and for reasons of sustainability and continuity. This step is perhaps the most difficult of all and will require time and persistence.

Within this framework, a number of specific questions should be addressed and discussed. One possibility is the establishment of a certification for the timber production from the monastery's forests in accordance with the FSC[7] or another credible system, which would ensure the sustainability of the practices used. Ecological methods of energy production and high economy in its use in a monastic environment would also be a key issue. The problem of waste management at source should also be considered.

On another level, there should be serious concern regarding the aesthetics of the entire territory of the monastery, which is an integral part of the 'Garden of the Virgin Mary'. This should address issues of landscapes, buildings, the integration of the necessary facilities into the natural environment, the maintenance of anthropic landscape elements and the management of vegetation wherever needed. In this context, the landscape study carried out in the early 1990s should be reviewed and updated, taking into account the new data and proposals that have been collected (Malamidis et al. 1993).

Wider contribution

Such a far-sighted and realistic programme will provide invaluable experience that may have consequences in a wider context. In Mt. Athos itself, the representatives of the monastery should continue to participate actively in the appropriate organs, facilitating the development and implementation of an integrated approach to the management of the natural and cultural heritage of the entire peninsula. This will be facilitated by the creative dissemination that is evident in the area.

In a broader context, Simonopetra should catalyse and take an active part in a dialogue on the ecological management of monastic lands, starting with its own dependencies in Ormylia (Halkidiki) and in France - the monasteries of St Antoine le Grand, located within the Parc Naturel Régional du Vercors, and of Solan, near Avignon. There are already other communities of monastic families and quite a few Orthodox monasteries in Greece, Romania and Russia, as well as in various Balkan countries (such as in the FYR of Macedonia, with which Simonopetra maintains strong links), that would be interested in exchanging views and experiences.

Thus, the Holy Monastery of Simonos Petras has potentially a double responsibility at the beginning of the third millennium: to achieve a living, harmonious co-existence between humanity and nature through a sensitive approach to the anthropic and natural environment in its territory and to disseminate its knowledge and experience for the benefit of all.

Acronyms

EC European Commission
EU European Union
IUCN The World Conservation Union
WHC World Heritage Convention

Glossary of local terms

Archimandrite
Title of the Abbot of a monastery.

arsanas
*S*torage and repair building for small boats.

Athonite
Pertaining to Mt. Athos, the Holy Mountain.

Coenobitic monasticism
Communal monastic life (from the Greek words for 'common life').

diakonima
*T*ask assigned for a given period to a monk.

Ephorate
A service or committee with a defined task.

Gerontas
Abbot of a monastery, a respected monk, or a monk with administrative duties.

Holy Community
Highest administrative body in Athos.

Holy Epistasia
Executive administrative body of the Holy Community.

7 Forest Stewardship Council at www.fsc.org

Hegumenos
The leader or Abbot of a monastery.
metochion
*B*uilding complex or farm at a distance from the monastery, a dependency.
Simonopetra
The Holy Monastery of Simonos Petras, literally the 'Rock of Simon'.

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Protecting Seascapes: Vitória Island, Ilhabela State Park, Brazil

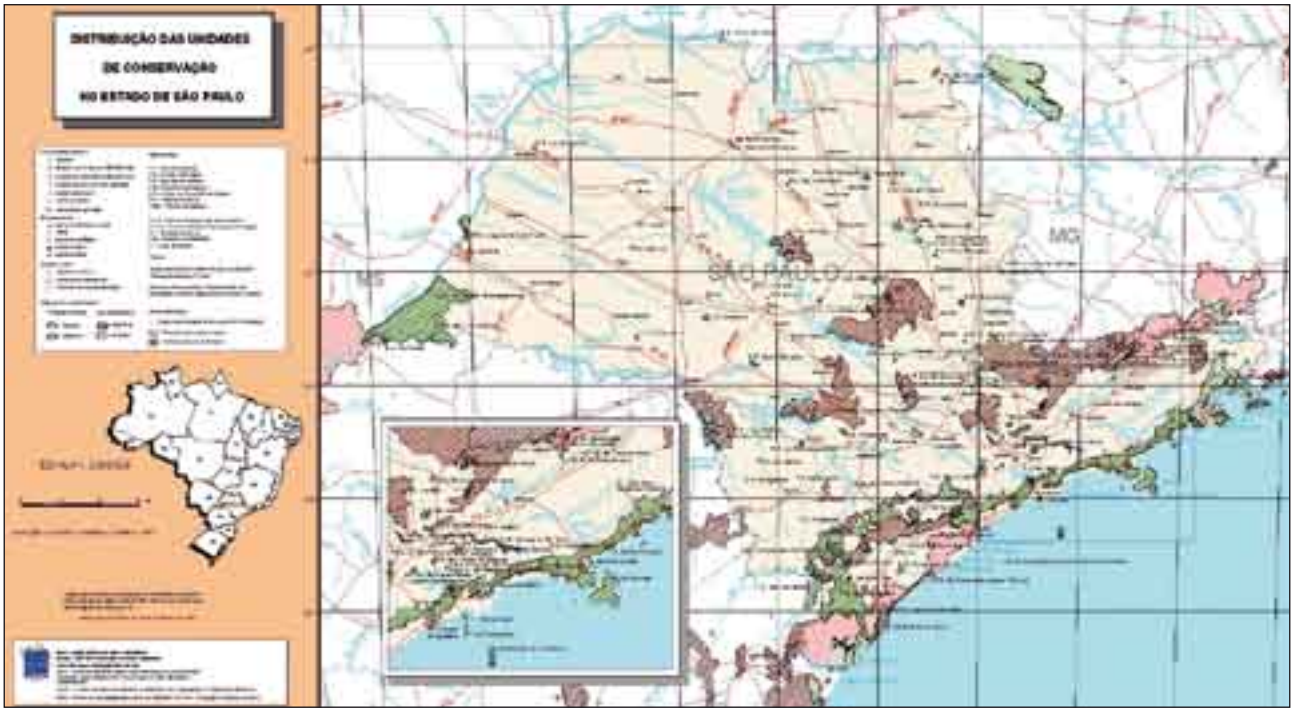
Marilia Britto de Moraes, Mariana Almeida Pirró, Roberto Costa and Alain Briatte Mantchev

Ilhabela is a coastal municipality in Sao Paulo State, Brazil, and includes an archipelago of 12 islands. Based on its the beautiful landscape and its insular qualities, about 83% of its surface area was declared a State Park in 1977 to conserve its natural and cultural heritage. Since the 1970s speculation has spread along the coastline and has negatively affected the landscape and local society. Local inhabitants from the traditional coastal communities -the Caiçaras- saw their lands along the coast suddenly increase tremendously in value. In the end, many were removed from their traditional homes and have had to work for the new landowners or migrate to urban centres. Thus, began the end of the Caiçara culture.

The Archipelago of Ilhabela. Satellite image.

Land speculation in the Ilhabela Archipelago began later than on the mainland and only really got underway in the 1990s. Known as Brazil's Polynesia, the Ilhabela Archipelago today is an urban myth.

The city of Ilhabela lies on a sea channel whose depth allows oil and goods such as cars and grain to be exported. Conflicts over local land tenure occurred here earlier than in more southern and eastern parts of the archipelago and the *caiçara* communities disappeared when migratory urban people came to the area. Nevertheless, isolated communities changed relatively little as access was only possible by sea. The arrival of millionaires and their boats, tourism, diving and fishing changed life and brought a new market with new values. Old traditional patterns of exchange in simple economics, beliefs and religious practices quickly became unsatisfactory: old people still want to resist, but young people want the change to come quickly. Nevertheless, the most serious impact –brought about by a few urban speculators- has been on land tenure. Once



Map 1. Ilhabela State Park.

their land, houses and boats had been sold and, motivated by a dream of an easier life in the city, many traditional inhabitants discovered a new and unexpected perspective on life.

This process is still continuing on the far side of the largest island and threatens the local communities that remain. This is occurring outside the limits of the protected area: paradoxically, what was once a negative impact on the lives of traditional people 30 years ago has now become a kind of blessing thanks to the Ppark. Land ownership ensured that many *caiçara* communities survived, although not without entering into conflicts with the park.

The Archipelago of Ilhabela. Photo: Paulo Nogara

Lying 21.6 miles offshore, culturally speaking Vitória Island probably holds the best preserved *caiçara* community in this part of the coast of São Paulo State. Their harmonious interaction with nature and significantly low needs and levels of consumption are remarkable. Important as an ecological land/seascape, a nearby small island is home to the nests of migratory marine birds and is a reproduction site for marine vertebrates, making it a target for both traditional and non-traditional fishing. A community of 17 families and a total of 50 people (15 houses, four houses for making flour, an elementary school and four boats) survives on the largest island of the three (2 km^2), characterized by steep slopes and an absence of beaches. The local insular Atlantic Forest has been altered over centuries by the introduction of exotic species and wood extraction for building houses and other facilities and for firewood. In terms of both quantity and quality, water supplies are irregular and there is no domestic sewage system (Pirro 2008).

The definition of the *caiçara* people –typical of the southern coastal region of Brazil- is directly related to their culture and is marked by a set of values, world visions, symbols and practices. Their relationship with nature and as members of a common society is based mostly on indigenous cultural values (Diegues 1983). This relationship is expressed in material products such as housing techniques, types of boats and work tools and non-tangible elements such as language, music, dance and religious rituals.

Caiçaras' home. Photo: Paulo Nogara

Centuries ago the largest island was called São Sebastião (or Maembipe to the Tupinamba, the indigenous coastal people) and the other islands were used by locals for hunting and fishing rather than for building houses. Tribes lived on the mainland and many wars and battles with pirates and corsairs were fought. The coastal zone was divided up under the colonial economy in the seventeenth and eighteenth centuries for sugar cane plantations, and then in the nineteenth century for coffee plantations. In the early twentieth century, the decline of coffee production in the region and its decreasing importance in the local economy pushed urban people towards other centres, leaving just those (like the Caiçaras) who were tied to the land. During those long years the Caiçaras became fishermen and boats from Santos came to buy fish. When urbanisation arrived in the 1950s, the Caiçaras had been isolated for decades. The caiçaras are the descendants of slaves, Europeans and indigenous people and have become mixed after centuries of convivial exchanges.

As a result of this isolation, island Caiçaras have peculiarities compared to those of the mainland that are related to their sense of insularity. These differences are manifested in symbolic representations and images and behaviour and can be attributed to geographical (the presence of the ocean, a finite space reinforcing events on the island and the small size of islands) and mythical factors in which collective memory relies on the surrounding sea, the land, water and travel.

Children playing. Photo: Paulo Nogara

The island is a defined territory and reinforces the sense of place, while new forms of solidarity and social relations evoke a legendary sacred and religious past (Diegues 1997). An island is both sea and land: the sea is a dangerous hostile environment, but it also offers protection. They can see the invisible, for example, the fish in the sea, guided by landscape features as references. Despite such a hard life, Roberto Costa says: “We are happy and have no needs other than fish”. Their relationship with the land/seascape is an important factor in its conservation, involving when and where to avoid fishing, difficulties in landing and unloading, with rules defined by the lunar cycle, seasons and other natural events.

‘Traditional people’ have been defined and protected by law in Brazil since 2007. Considering the low environmental impact of their ancient practices and knowledge of nature, and their sustainable management of resources, the Caiçaras’ way of life is desirable in terms of sustainability. Nevertheless, the basis of their lives is still fishing, although there is a serious problem in the form of industrial over-fishing causing a serious decline in fish stocks, as well as the impact of tourism, sport fishing and diving (Nogara 2005). A pledge has been made to control industrial fishing boats and other tourist-related activities and in response the government has proposed the creation of a Category V Protected Area in order to be able to deal with these use conflicts and to conserve cultural values. The Maembipe Environmental Protection Area (APA) embraces the whole archipelago and protects miles of coastline around Vitória and Buzios Islands from industrial trawlers.

Despite being officially categorized as a Category II Protected Area, the Ilhabela State Park enjoys a protected landscape approach and is managed through a participatory process. Thanks to this protection a measure of protection has been created, conserving both environmental and cultural values. Some changes are inexorable and need to be managed and just what is to remain the same and what has to be changed must be decided with the participation of the local traditional people, as part of a comprehensive process whose consequences for the lives of the Caiçaras still needs to be fully understood.

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Roberto Costa is a fishermen from the traditional community of Vitória Island, member of the Park´s Committee as a representative of his village. He drew the map of land-use and occupation around the island for a survey of the Caiçara inhabitants of the archipelago.

Seen from Buzios Island, Vitoria is behind at left. Photo: Paulo Nogara

Beyul Khumbu: the Sherpa and Sagarmatha (Mount Everest) National Park and Buffer Zone, Nepal

Jeremy Spoon and Lhakpa Norbu Sherpa

Summary

This case study focuses on the cultural and spiritual values of the indigenous Sherpa that live within the Buffer Zone of Sagarmatha (Mount Everest) National Park and how they have been influenced by the declaration of the protected area (1976), more than fifty years of tourism, increased wealth, and western-style education. The Sherpa consider the landscape a *beyul* – a sacred hidden valley set aside by the progenitor of Tibetan Buddhism, Guru Rinpoche, as a refuge for peoples in times of need. Inside a *beyul*, people must refrain from negative actions that are inconsistent with Buddhist philosophy, including the harming or killing of any living things, from humans to animals to plants. Under the *beyul* umbrella, there are numerous place-based spiritual perspectives and taboos that reflect environmentally sustainable practices. These embody protector deities and spirits that are associated with natural features such as mountains, trees, rocks, and water sources. Since the Park's inception, tourism has been steadily increasing, with more than 27,000 visitors in 2006/07. Tourism has afforded certain benefits to the local Sherpa population, including increasing economic capacity and development of local infrastructure. It also caused numerous changes in Sherpa cultural and spiritual values related to place, especially among younger generations. This paper concludes with recommendations for reinforcing cultural and spiritual values and highlights some of the proposed policies enshrined in the new Management Plan.

Map 1. Sagarmatha National Park and Buffer Zone courtesy of the Integrated Center for International Mountain Development (ICIMOD).

Sagarmatha National Park and Buffer Zone

The landscape of Sagarmatha National Park and Buffer Zone

Sagarmatha National Park and Buffer Zone (SNPBZ), which includes the Khumbu and Pharak regions is a spectacular landscape containing some of the highest mountains on Earth. Located along the border between Nepal and the Tibetan Autonomous Region of China in the Solukhumbu District of Nepal, the 1,389 km^2 SNPBZ contains numerous mountain peaks over 6,000 m a.s.l. (Map 1). Among these giants are three of the 10 highest peaks in the world, including Mount Everest (8,850 m), which is known as Jomolangma[1] to the local Sherpa people and their Tibetan neighbors to the north. At the southern slope of this mountain lies SNPBZ, encompassing a dramatic elevation range from 2,800 to 8,850 meters.

The vegetation of SNPBZ can be roughly divided into three zones determined by altitude, aspect, and to lesser extent, edaphic factors. The lowest area is found between 2,800 and 3,200 m and contains forests and shrubland of temperate species dominated by mixed broad-leaf, hemlock, and pine forests. Between 3,200 and 4,000 m lies the subalpine zone supporting forests of fir, juniper, birch, and rhododendron. Vegetation in the highest zones from 4,000 to 6,000 m and beyond consists mainly of slow-growing juniper and rhododendron species and a variety of herbs, forbs, sedges and grasses (Brower 1991). Importantly, the distribution patterns of vegetation in SNPBZ are heavily influenced by centuries of human activities including grazing, harvesting and burning (Sherpa 1999). The fauna of the area includes a diverse spectrum of forest birds, rodents, lagomorphs goat-antelopes and other ungulates, and predators such as snow leopards and wolves. The

1 The mountain is officially known as Sagarmatha by the Nepalese government.

larger mammals of the area live within a variety of elevation ranges. These include Himalayan tahr, musk deer, serow, black bear and red panda. The vividly flowering flora provides for many pollinator insects such as butterflies and bees. Additionally, many local residents believe that the yeti or abominable snowman, an embodiment of both physical and supernatural abilities, lives in these mountains (Brower 1991).

Park and Buffer Zone establishment, designation and administration

Sagarmatha National Park (SNP) was declared by the Nepalese government in 1976 with boundaries that encompass the entire 1,114 km^2 Khumbu area and follow the ridges of the surrounding mountains. UNESCO inscribed the park as a World Heritage Site in 1979 under its natural heritage category, highlighting the area's globally significant natural features that include the world's tallest mountains, glaciers, vegetation and wildlife. Within this boundary there were many settlements inhabited by local Sherpa people that practiced farming and herding. As the internationally accepted definition of a national park at that time was that of relatively natural areas not materially altered by human activity, the settlements within the park were legally excluded from the protected area. However, special access and traditional resource rights were conceded to local people and therefore the settlement and subsistence practices of the Sherpa people continued to influence the park's landscape. Although designated as an IUCN (1994) Category II National Park, SNP became one of the first national parks in Nepal in which indigenous settlements and resource use were recognized. Consequently, local landowners along the main tourist trails developed their properties as tourism enterprises. Park policy, outlined in the first Management Plan (1981), did not contain any mention of Sherpa cultural or spiritual values and how they potentially affect local subsistence activities; neither did it have any particular policy on tourism management (Garratt 1981).

Initially settlements within SNP were regarded as enclaves and people living within these village areas were given traditional resource use and access rights in the Park (albeit regulated). In 2002 these settlement along with an additional 275 km^2 in the Pharak area located south of the Park boundary along the Dudh Kosi river gorge, were declared as the park buffer zones. These areas best fall under the IUCN Category VI Managed Resource Protected Areas, defined as an "area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs" (IUCN 1994). *The National Park and Wildlife Conservation Act* of Nepal defines a buffer zone as a "peripheral area of a national park or a

Jomolangma or Mount Everest at sunset. October 2004. Photo: Jeremy Spoon.

reserve which may include village settlements and areas of forests and rangelands" (DNPWC 2007). Buffer zones are therefore contiguous to a park and influence the lands within it. The goal of the Sagarmatha National Park Buffer Zone is "to ensure sustained production and flow of resources through improved management of forests, wildlands, and agricultural areas, and ensure equitable sharing of Park revenue with the local communities" (DNPWC 1999).

The aim of this buffer zone program is to engender stronger local support for park conservation goals. The buffer zone concept allows people inside and at the boundary of parks to organize themselves into different Buffer Zone User Committees, a governance model based on the successful community forestry movement initiated in Nepal in the 1970s. The goal is to empower and involve the local people to govern their own resources. Through the buffer zone regulations, local user groups are eligible to receive 30 to 50 % of National Park revenue for local development and conservation. To clarify, the entire landscape, called Khumbu and Pharak by the Sherpa, includes both the park and buffer zone, with the local settlements categorized as the buffer zone (IUCN Category VI) and the remainder of the area as the park (IUCN Category II). The village enclaves within the park now fall under the jurisdiction of the Namche and Khumjung Buffer Zone Committees, whereas the newly integrated Pharak area falls under the Chaurikharka Zone Committee.

Buffer-zone governance has three levels: on the bottom tier are the 28 Buffer Zone User Groups (BZUG). Nine to ten BZUG jointly form the Buffer Zone User Committee (BZUC) and three BZUG jointly form the Buffer Zone Management Committee (BZMC), which includes the Chairpersons from the three BZUCs, the Park Chief Warden as the Executive Secretary, and a member from the District Development Committee (DDC) representing the Nepal Government.

Phortse Gunsa with a patchwork of potato and buckwheat fields. October 2004. Photo: Jeremy Spoon.

Beyul Khumbu

Origin and migration

The origin and migration of the Sherpa[2] to Khumbu and Pharak (SNPBZ) has been fairly well established and dated at around 1533 (Ortner 1989). Although a shortage of reliable data prevents a definitive chronology of events (L.N. Sherpa 1999), local oral history suggests that the Sherpa homeland was a region in eastern Tibetan in the province of Kham, 2,090 km away from their present home. Oral history states that the Khumbu region was known as a vacant land without human settlement prior to the arrival of the Sherpa people. Initially, it was used by hermits as a place for meditative retreats (Ortner 1989). There are currently about 6,000 people living inside SNPBZ, with around 90% of the population being Sherpa. Most settlers spend between nine and twelve months in the area each year, with Kathmandu serving as a retreat during the winters for more affluent households. In addition to the local Sherpa population, the area receives more than 25,000 tourists per year, as well as thousands of migrant workers who work in the tourism industry as porters and guides.

Importantly, many believe that Guru Rinpoche or Padmasambhava, the progenitor of Tibetan Buddhism, prophesied in the eighth century the finding of the hidden valleys in the Himalayas. These areas were envisioned as *beyul,* or sacred hidden valleys, set aside by Guru Rinpoche for people in times of hardship as places of refuge. Many Sherpa people consider Khumbu and its adjacent valleys of Khenpalung, Rowaling, Helambu, Langtang and Nubri to be *beyul* (L.N. Sherpa 2005). Aspects of the geography of both places are generally described in various texts that chronicle the life and teachings of Guru Rinpoche.

Nyingma Buddhism

The Sherpa are Tibetan Buddhists who follow the ancient Nyingma tradition. As Buddhists, they assume the basic Buddhist principle of sin and merit, and of the reincarnation of various states of being, both positive and negative, depending on the amounts of sin or merit accumulated in a course of a lifetime. Ample good deeds and the accumulation of merit is considered to improve one's chances of better rebirth, the ultimate aim being ceasing to lead a cyclic existence of a series of lives, deaths, and rebirths. The

2 Solu, Pharak and Khumbu Sherpa have the same migration history into Nepal. Solu and Pharak are areas south of Khumbu and include settlers of both Sherpa and non-Sherpa decent. Khumbu is almost entirely populated by Sherpa, with the exception of a few families of Tibetan refugees and other non-Sherpa Nepali ethnic groups. Both Pharak and Khumbu areas come under the jurisdiction of the National Park; however, management differs, as Khumbu includes both Park and Buffer Zone and Pharak only has Buffer Zone. The following discussion of cultural and spiritual values principally concerns the Khumbu Sherpa and some Pharak Sherpa and less so the other ethnic groups living in these areas.

Sherpa also believe in various gods and spirits who must not be offended if things are to go well during their lifetime. Nyingmapa place a great deal of emphasis on rituals that exorcize demons, a characteristic absent from the more recent reformed branches of Tibetan Buddhism (Ortner 1989). Furthermore, the Sherpa consider Guru Rinpoche or Padmasambhava as the founder of their faith and second to the Buddha.

The nature of Sherpa Buddhist practice views the world as a place occupied not only by humans, but also by a diversity of supernatural beings such as deities, spirits, and ghosts. These supernatural beings can be categorized into two groups. The first group are the enlightened Buddhas and Bodhisattvas that can help an individual achieve nirvana. The second group are considered to be the lords of the land, residing in mountains, water sources, and trees, whereas the other group assists with life after death. Under the appropriate conditions, the deities and spirits protect the land, the people, and their faith. In order to receive protection and support from these spirits and deities, the Sherpa regularly perform rituals and make offerings to beg forgiveness for offending actions they may have inadvertently performed. The essential focus of worship is to appease the spirits and to request that they continue their protection of humanity from the negative forces that exist in the world. Rituals aimed at pleasing the gods and spirits may be performed simply by ordinary people or through spiritual mediums such as lhawa or trained specialists. The Nyingmapa tradition of appeasing deities and spirits of the land is similar to pre-Buddhist Bon practices. Worship of these entities occurs in monasteries known as *gompa*, in homes, or in open spaces. There are a number of communally or privately owned *gompa* in Khumbu, each embodying its own protector deities. The first was built in Pangboche around 1667 and two additional major *gompa* were then added in Thame and Rimijung soon afterwards.

Place-based spirituality

The Khumbu Sherpa possess numerous place-based spiritual perspectives and taboos that are specific to the local landscape and to the peoples that practice them. The *beyul* spiritual perspective serves as an umbrella for the relationship between the Sherpa and the physical landscape, as well as between the Sherpa themselves. Many other place-based spiritual perspectives are connected to this larger concept. The origin of Beyul Khumbu begins when Guru Rinpoche was meditating in a cave south of Khumbu. From this cave, he flew to a cave above Khumjung settlement in Khumbu and spent three days there mediating and destroying or converting spirits hostile to Buddhism. Afterwards, he predicted that this valley would become a *beyul*, or a refuge for people in times of need.

In a *beyul,* the believers refrain from negative actions that are inconsistent with Buddhist philosophy. These rules include not harming or killing any living things (from humans to animals to plants), refraining from violence in any way, not stealing or cheating another person, and generally pleasing the local gods and spirits. Since many mountain deities are assigned the responsibility of making sure that Buddhism is protected within a *beyul*, human actions that are inconsistent with Buddhist principles may upset the deities and lead to unforeseen negative consequences for human communities. All *beyul* lands are the same; however, it is the observation of these codes of conduct by *beyul* residents that make them both sacred and powerful. *Beyul* have qualities in them that make them ideal places for ecosystem level conservation. Indeed, their large size, natural boundaries, relatively pristine conditions, low population density, and altitudinal and topographic variations promote biological diversity (L.N. Sherpa 2005). The *beyul* spiritual perspective affords environmentally sustainable attitudes towards flora and fauna, as it generally places taboos on hunting and the harvest of live wood from the temperate, subalpine, and alpine ecosystems. It does not extend to the collection of non-timber forest products (NTFP) from the forest or scrubland understorey or to grazing.

The concepts of kindness and compassion to all living things are an important feature of Sherpa spirituality. They are separated here to focus specifically on the taboo related to the hunting and killing of living things, which often includes vegetation. The strongest taboo seems to exist in relation to the hunting and killing of mammals, birds and, to a lesser extent, livestock (Spoon 2008). Some Khumbu Sherpa also believe that the felling and pruning of live trees is another way of losing merit. This may explain the Sherpa practice of collecting mostly dead wood for fuel. In some cases, such as home and bridge construction, the cutting of live trees is unavoidable. To atone for this action, the Sherpa perform special rituals to beg forgiveness.

Khumbu Yu-Lha mask being danced at the annual Dumji ceremony in Khumjung Gompa. June 2005. Photo: Jeremy Spoon.

The Sherpa also designate certain forests around their settlements as off-limits to tree felling and harvesting. The reasons for setting aside these areas include keeping villages safe from divine wrath or bad fortune and ensuring that households continue to have sources of forest resources nearby. Inside these forests, the felling of trees is considered inappropriate; however, as stated above, the gathering of NTFP and grazing is allowed. In forests protected for non-spiritual reasons, the general rules apply regarding the harvest of live wood, although exceptions for building may be allowed under certain circumstances (Stevens 1993). Consequently, this spiritual perspective applies only to the forest overstorey and not to the understorey, which in most protected forests is more disturbed.

There are two types of sacred groves. The first are forests that grow in areas considered sacred because certain spirits reside there. The second category includes two types of protected groves (*lama* and *gompa*) called *kekshing. Lama*-protected forests originated when a certain powerful *lama* sanctified or cursed a forest patch, where trees must not be used or felled by cutting implements. These forests were the earliest sacred groves, most strictly protected, and are the most enduring today. There are examples of such protected forests in Thame and Phortse settlements. *Gompa* forests are typically groves that surround or are nearby village *gompa*. It appears that the trees gained their sanctity as a result of the construction of the *gompa* and were not considered sacred before. There are currently multiple *gompa* forests in the Buffer Zone settlements, ranging in age from 350 years to less than a decade.

The oldest juniper gompa forest exists near the Pangboche Gompa, which is attributed to the sacred hair of Lama Sangwe Dorji, the holy founder of the monastery. These trees have not been cut for centuries and have now matured into an ancient grove. Tengboche Gompa has the largest privately owned forest in Khumbu, which was granted to the reincarnate *lama* by Khumbu leaders in 1919 (Stevens 1993: 197). Within this monastery's lands, a triangular hill on the opposite side of the *gompa* is regarded as the sacred home of the female protector deity or *lhamo* of the area. Consequently, the forest on this site is not disturbed out of respect for the protector deity.

Furthermore, throughout Khumbu exist deities and spirits that reside on mountains and hills, and in lakes and springs that afford protection to the land and its people. Mountain deities in general and local protector deities

Jomo Miyo Lang Sangma, the goddess that resides on Mount Everest. She is believed to provide wealth to the Sherpa people.

Khumbu Yul-Lha, the protector deity of the Khumbu Sherpa people. Photos: Jeremy Spoon.

in particular are characteristic of many Tibetan Buddhist peoples throughout the Tibetan Autonomous Region. Guru Rinpoche subdued many of the fierce protector deities that existed in pre-Buddhist Tibet and bound them by oath to remerge as protectors of Buddhism. The protector deities must be kept happy if the residents are to be protected. If displeased, they will not protect them against a range of calamities including avalanches, landslides, floods, war and even plane crashes. The protector deities also have their own associates or *khor* in the form of wildlife, livestock, and other mythical creatures. The Sherpa respect these associates and do not harm them, behavior that influences their attitude towards wildlife.

The central protector deity in Khumbu is Khumbi Yul-Lha, or the Khumbu country deity, (shortened to Khumbila), who is one of the deities appointed by Guru Rinpoche to be the protector of Khumbu. This deity currently lives in the mountain directly above the Khunde and Khumjung settlements inside the core area of the Park. The *khor* of Khumbila are yak, tahr, sheep, and for some the yeti. Worship of Khumbila includes the burning of aromatic incense made from subalpine and alpine plants, the placing of white flags over the house three times a year on specific days, and the annual ceremony of Dumji, whereby an entire dance is dedicated to the deity while onlookers throw rice as blessings and offer silk scarves called *khata*. In Khumjung and Khunde settlements as part of the Dumji ceremony, each household makes a flag for the deity, which male household members take to a small lookout place on the slopes of the sacred mountain.

Another protector deity in Khumbu that has gained increasing significance with the advent of trekking and mountaineering is the goddess Jomo Miyo Lang Sangma, who resides on the mountain Jomolangma or Mount Everest inside the park. This goddess is considered to be a provider of wealth, which she holds in her right hand while the mongoose in her left hand vomits *norbu* (a symbol of wealth). She rides a tiger and is considered one of the five long-life sisters (Tsering Che-Nga). Some local residents attribute the tourism and mountaineering boom in Khumbu as a gift from this deity. Additionally, numerous other mountains embody protector deities that are important to people of different clans and settlements.

Generally, the climbing of a mountain that is the home of a protector deity is prohibited; however, there is a tradition of circumambulating sacred mountains such as Mount Kailash in the Tibetan Autonomous Region of China. In Khumbu, some pious individuals make a pilgrimage around Pokalde (5,808 m a.s.l.) high in the Imja Khola Valley in the park. This mountain is sacred because it includes a historical hermitage site on its slopes, where Lama Sangwe Dorji meditated. Mountain climbing became more common with the advent of tourism and now Sherpa climb certain peaks for income and reputation. Nevertheless, despite the advent of mountaineering, Khumbi Yul-Lha has remained off-limits. To ensure safety when climbing other mountains, the climbers and their families offer the mountain deities incense and prayers before beginning a climb. These rituals are generally not considered mandatory, but are performed by many Sherpa climbers and their families. In the event that a natural disaster claims a human life on the mountains, it is common to attribute the misfortune to the deities being displeased. The behavior of foreign climbers can also affect the response of the deities.

Lu are another category of land protectors. They reside under trees, in water sources and rocks, and in constructed shrines and have both positive and negative consequences for the local residents that house them. These spirits often mirror human characteristics, such as good or bad, or smart or dumb. Lu provide wealth and ensure a family's longevity, although they can also cause hardship, often in the form of physical ailments that can only be treated by the shaman. The caretaking and pleasing of a Lu through offerings is conducted by women and is passed down through generations from mother to daughter. Pollution of many types can upset Lu, as does the breaking of boulders, digging of land, and cutting down of trees. Many buffer zone households contain Lu adjacent to their homes, often in the form of trees scattered throughout the patchwork fields or nearby houses.

Past and present land-use and tourism

Agro-pastoralism and forest use

Khumbu Sherpa subsistence is highly specialized and employs high-altitude varieties of crops and livestock. This specialization is possible thanks to the local ability to obtain agricultural and pastoral products from regions below 3,000 meters by trade and, more recently, from weekly markets, Tibetan vendors, and Kathmandu and elsewhere. The Khumbu Sherpa also make use of the micro-environmental variations caused by altitude, aspect, precipitation, and soil types. Primary crops include several varieties of potatoes, buckwheat and barley. Livestock holdings harbor various types of yak and nak, cattle (phalang) and yak/cow hybrids (male: *zopkio* and female: *zom*). Sheep and goats were also herded once in small numbers in the past. All of these animals require seasonal transhumance between the lower and higher common pastures: traditionally, the main settlements are the winter villages at lower elevation (*gunsa*), while the upper elevation pastoral settlements are known as *phu*; the privately owned grazing huts and grass fields are known as *yersa*. All *gunsa* and *yersa* settlements

are currently within the buffer zone; however, grazing occurs in both the park and buffer zone. Herding is on the decline, although every household maintains some buffer zone farmland.

Currently, the most important forest products are timber, firewood and leaf litter. Forests also provide various mushrooms, berries and other fruits, condiments, tea substitutes, medicines, aromatic leaves for incense and other wild products at a range of elevations. Branches of *shugpa* or juniper (*Juniperus recurva*) are an essential component of ritual, typically burned at the onset of most ceremonies to please the protector deities through the aromatic smell. Juniper is also the typical wood used in cremation (Brower 1991).

Sherpa resource management encompasses regulations on herding and interactions within nearby forests. The pastoral management system relies on the institutional regulation of grazing. Within the system there are few cultural or spiritual prescriptions that influence decisions about herd size and structure, aside from the encouragement to keep yak and cattle instead of smaller stock and the equating of large herds with a level of prestige. There are no spiritual perspectives forbidding grazing anywhere for more than a certain amount of time or controlling the number of animals that graze at a particular site. The family thus decides herd sizes and movements. In summer and early autumn the management system intervenes, dictating grazing areas. Village-appointed or rotationally selected individuals, called *nawa*, open and close pastures at different elevations and decide the timing of hay cutting. These seasonal restrictions are called *dee*: the *dee* opens when livestock has to shift from lower to higher pastures and when the hay has to be harvested, and closes when the livestock return and harvesting must cease (Stevens 1993). As of 2008, the *nawa* were supported by the buffer zone to enforce the *dee* only in roughly half of the area, which is generally along the tourist route. These individuals receive a small amount of compensation and conduct their roles as a family depending on who is available.

The current configuration of forest management is based on collaboration between the various Buffer zone settlements and the park. Buffer zone forests in close proximity to settlements are mostly off limits to harvesters, a prohibition that is enforced by local residents. The park regulates firewood collection within its boundaries: over the last three years collection has been limited to thirty days a year in two fifteen-day periods around May and December. During these times, the forests are patrolled by locally appointed forest guardians called *shinngi nawa* (in areas that enforce the *dee)* or BZUG members to ensure that only dead wood is harvested in permitted forests, reinforcing the spiritual taboo. Some settlements in areas that do not have *shinngi nawa* (the same areas that do not enforce the *dee*) have formed their own village *nawa* that basically fulfill the same duties as the officially appointed ones, but receive no compensation. The consequence for harvesting live wood or in a restricted area around the settlements is monetary, with repeated offenders in the worst cases being punished with incarceration.

Tourism development

Tourism development in Nepal is a relatively recent phenomenon, with the nation-state only opening up its borders to tourists in 1951. The initial driver for tourism was mountaineering: Nepal gained international recognition after Maurice Herzog's successful ascent of Annapurna I in 1950 and Tenzing Norgay and Sir Edmund Hillary's historic climb of Mount Everest in 1953. Aside from specific expeditions aimed at climbing Mount Everest, significant trekking and sightseeing activities in Khumbu did not begin until the late 1960s. This new tourism industry offered trekkers multi-day camping trips in the mountains, spawning today's so-called 'trekking tourism' (Stevens 1993). This tourism afforded market integration for the local Sherpa population, delivering off-farm employment and income generation opportunities to many subsistence farmers and herders. Tourism

Flags being offered to Khumbu Yul-Lha on the slopes of the sacred mountain during the annual Dumji ceremony. June 2005. Photo: Jeremy Spoon.

jumped significantly with the building of Lhukla airport in 1964. For instance, numbers of trekkers grew from 4,254 in 1975/76, to 7,834 in 1986/87, 17,412 in 1996/97, and slightly more than 27,000 in 2006/07 (DNPWC 2007). The number of visitors continues to increase with most tourists visiting the main routes towards Tengboche Monastery and Kala Patar in the Imja Khola Valley, with rather fewer visitors frequenting the Dudh Kosi and Nangpa Valleys.

One of the positive aspects of tourism development is that local people have retained a considerable amount of control over the tourist industry. The fact that an indigenous population inside and around a protected area is able to control some of the tourism infrastructure and facilities, increasing their economic capacity, is rare in other countries. Every family in Khumbu is currently involved in tourism, either directly or indirectly. Although the Khumbu Sherpa as a whole receive significant benefit from tourism, profits are not distributed equally. The households who live on the tourist route benefit more from their increased market integration in the form of lodges, tea-shop, shops, tourism services, trekking agencies, and so on. Local lodges, tea-shops, and shops all exist within the buffer zone in both gunsa and yersa settlements. The households living in the areas that are off the tourist route are generally less strongly integrated into the tourism economy and only provide people as seasonal porters and guides. The remainder of the year these households engage more actively in farming and livestock herding.

Tourism is now dictating land-use, as local lodges and tea-shops require resources to meet the thousands who visit the area each year. Some Sherpa land-use traditions have had to change, and in some cases this has influenced settlement development and expansion patterns, the timing of the resource collection, and grazing systems in order to accommodate tourism activities. Holdings of yak and yak-cow hybrids have grown in recent years in relation to other livestock types because of their demand for moving trekkers' and mountaineers' luggage. Agriculture is also affected, with more and more family members living off tourism as their fields lie fallow. The most vital resource to tourism is the use of firewood at lower elevations and dung at higher locations to cook and heat the family-run lodges and tea-shops. Although used in the buffer zone lodges and tea-shops, firewood is harvested from the park forests. This resource use is supplemented by micro-hydroelectric power and more sustainable architecture; however, many families continue to harvest or to hire harvesters during the permitted times. Additionally, tourist visits are mainly concentrated in two seasons in the spring and fall, which causes overcrowding and possible erosion of trails, intensified consumption of local and non-local food products, increased human waste, an abundance of non-biodegradable litter, and local inflation.

Key challenges, threats and response

Political economic drivers of change

Sherpa cultural and spiritual values have been continually changing and adapting to the circumstances affecting the people and the land. The most recent and far-reaching driver of change has been market integration through tourism. As the scale of tourism has continued to increase, Sherpa relations with place continue to change. For instance, market integration has caused major shifts in consumption behavior, which is compounded by an increase in foreign goods and media through globalization. Market integration is also causing some Sherpa to spend more and more time away in Kathmandu or elsewhere and is fomenting a growing transnational population in the United States, Europe, and Japan.

The establishment of schools with assistance from Sir Edmund Hillary in the 1960s allowed most Sherpa under the age of thirty to have some western-style education and to work more effectively in the tourism industry. However, these schools use Nepali and English as the medium for instruction and not the local language. There is also a lack of place-based curriculums. Cultural exchanges with international tourists and the dominant Hindu culture also appear to be influencing the attitude of the local population towards each other and the landscape, as well as causing shifts in consumption patterns. Schools in Nepal's remote mountain regions are also less adequately equipped and staffed, leading some Sherpa people who have the resources to send their children to boarding schools in Kathmandu and elsewhere. This process is taking youth out of the area during formative years, where they would otherwise be walking and playing on the many trails of Khumbu, participating in local ceremonial rituals, and learning about their culture and language.

The mountain home of Khumbu Yul-Lha above Khunde and Khumjung settlements. Photo: Jeremy Spoon.

Additionally, with increased economic prosperity many households are hiring outside laborers to farm, herd, collect fuelwood, and gather leaf litter in Buffer Zone and Park areas. These hired helpers come mostly from neighboring non-Sherpa indigenous communities such as the Rai ethnic group, often from some of Nepal's most economically marginalized areas. It is more common for households on the tourist route to hire, whereas off-route households continue to gather their own harvests or work alongside hired laborers. Outsourcing potentially threatens natural resources, as the outsiders do not have the same relationship with the Khumbu landscape. There have been numerous cases where outside laborers have been caught harvesting live wood and littering in the Park's forests and rivers (Spoon 2008).

The influence of change on cultural and spiritual values and responses

Before the advent of tourism, Sherpa developed their own resource sharing and management regimes based on their cultural and spiritual values; however, political economic changes through market integration (including the declaration of the Khumbu region as a government managed protected areas) have caused an apparent weakening of indigenous management. The younger generations, especially those living along the main tourist route, are rapidly losing Sherpa knowledge and traditions. In other cases, certain cultural and spiritual values persist or have been reformulated to reflect contemporary circumstances: nowadays protector deities provide safe passage to the summits of peaks, thus providing wealth in the form of mountaineering income.

Research on Khumbu Sherpa place-based spiritual perspectives and taboos have revealed that cultural and spiritual values are currently being reconfigured in the Buffer Zone settlements, especially among the younger generations and along the tourist route. The concept of viewing Khumbu as a sacred hidden valley appears to be experiencing the most rapid decline, with far fewer people under the age of forty aware of it. Most knowledge has been retained about the principles of kindness and compassion towards animals and the protector deity Khumbi Yul-Lha. Comprehension of the *gompa* and other protected forests and Lu spirits appear to be on the decline, although not as severely as the understanding of the *beyul* concept. Knowledge of species with attached spiritual connotations (for example, the Himalayan tahr as the associate of Khumbi Yul-Lha) also appears to be waning amongst these people. In all cases, younger individuals and residents on the tourist routes have less appreciation of these

Gompa forest above Tengboche Monastery. The triangular shaped forest overlooking the Monastery is the sacred home of its female protector deity. Photo: Jeremy Spoon.

values than before. Additional results from research on the Khumbu Sherpa's familiarity with species also corroborate this trend. Younger cohorts and individuals from the tourist routes have less awareness of plants, mammals, and birds, although subalpine overstorey and mushroom knowledge appear to be stable (Spoon 2008).

Overall, results suggest that younger generations are starting to view themselves and the land as non-relational, compared to older generations who view them as relational entities. In the most extreme cases, these differences are evident between grandparents and grandchildren, even within the same household. Western-style education may be contributing to this process because it is taught by non-Sherpa, it is not place-based, and it is conducted in non-local languages. The outsourcing of labor and the process of sending youth out of the area to boarding schools, a trend among wealthier families, especially on the tourist route, may also be driving these changes in perceptions of place. Finally, shifts are occurring because some families with increased wealth are emigrating from Khumbu completely (Spoon 2008).

A project developed to respond to changes in Sherpa cultural and spiritual values and the loss of language is currently being implemented by The Mountain Institute's (TMI) Asian Regional Program, generously supported by the Ford Foundation Asia. This project aims to reinforce and integrate the *beyul* concept to bring about greater respect for the land and natural resources. To this end, the project has made a documentary on *beyul* to raise awareness among local people and outsiders, which will be made available at park visitor centers, lodges, schools, and homes. A traditional gate or *kani* is also being built at the entrance of the park to welcome tourists into Beyul Khumbu and exhibits at the park entrance station are being designed to interpret the relationship between local culture and the environment. Working with local monasteries, the project is also piloting an income-generation program for sustainable cultural sites and collaborating with the BZMC and other organizations in the building of a community training facility.

Additionally, -in collaboration with school management committees- the project is creating a school curriculum that teaches local script and the local mother tongue at primary level. At the same time, it is supporting the development of the first comprehensive Sherpa-English-Nepali-Tibetan lexicon and illustrated books to document the local language. Finally, work is underway to develop a model for culturally and environmentally sustainable tourism in off-route villages by integrating home-stays and experiential learning. Overall, the project attempts to maintain the Sherpa sense of place under the umbrella of the more environmentally sustainable *beyul* concept, while continuing the process of development through trekking and mountaineering inside the protected area.

Future plans and recommendations

New Park Management Plan

Significantly, the Management Plan was revised for the first time between 2003 and 2006 and ratified in 2007. Most importantly, the new Plan places stronger emphasis on the integration of local cultural and spiritual values and practices into management. The Plan empowers the Sherpa inside the buffer zone to take a stronger role in resource management, which is intended to enhance the cultural and spiritual values of the entire SNPBZ. It also recommends the drafting of a regulation that legalizes their new strategies and suggests steps that could be taken to reclassify the park as a UNESCO mixed heritage site, providing a stronger emphasis on the cultural and spiritual values of the local people. Finally, it recommends the partitioning of the park and the buffer zone area into different management zones to accommodate and manage various demands and use pressures (DNPWC 2007).

These new recommendations that take into account Sherpa land-use and management have great potential for engendering local support for the protected area, while maintaining a level of indigenous governance. If applied in their entirety through the proposed participatory processes, they could usher in a new era in SNPBZ management, augmenting what is already an important global example, whereby indigenous people retain their lands and collaborate with a protected area institution. Despite the extensive consultation and support from different stakeholders, the most critical factor that will affect implementation is pressure from tourism businesses. Whether or not individual commercial interests associated with tourism, inside and out, will affect the successful realization of the Plan remains to be seen.

Recommendations

General suggestions to augment changes in Sherpa cultural and spiritual values of Beyul Khumbu/SNPBZ include developing a place-based environmental education curriculum in the schools that can be integrated into the existing natural science curriculum. Modules tackling the Sherpa relation with place could be taught each year or bi-annually. Curriculums could be supplemented by Sherpa language instruction in schools, ensuring that ecological knowledge coded in language is not diluted by Nepali language instruction. Young monks that the youth relate to could also be brought in to teach Sherpa spirituality. Opening a quality boarding school in the area may stop the outflow of young students to Kathmandu schools.

Revegetation programs could be conducted with certain species that have associated spiritual connotations, thereby promoting conservation and the accumulation of merit in local Buddhist ideology. The *beyul* concept contains a strong potential for transmitting Sherpa spirituality regarding the landscape, thereby reinforcing the relationship between people and land. Interpretive programs for tourists may also reinforce the traditions within the Sherpa themselves. The mother tongue language program, tourist interpretation, and other components of the Livelihoods along Beyul Trails Project address some of these suggestions. Most importantly, the Sherpa themselves have the resources, if they so desire, to influence changes in the cultural and spiritual values that link people to place. The outcome could be the reinforcement of environmentally sustainable decision-making inside the park and buffer zone and place-based indigenous identity, which is especially relevant in Nepal's contemporary political economic context.

Glossary

beyul
The concept of sacred hidden valleys in Tibetan Buddhism attributed to Padmasambhava.

chhaam nyingje
Principles of kindness and compassion towards living things.

Chomolangma
Sherpa and Tibetan name for Mount Everest (8,848 m), the highest mountain in the world.

dee
The system of moving livestock from place to place to protect crops and encourage rotational rangeland use.

gompa
Monastery or places for monks to pursue spiritual studies and ways of life.

Guru Rinpoche
The founder of Mahayana Buddhism who introduced Buddhism to Tibet during the early eighth century. He is also attributed with hiding *beyul* for his followers to discover in times of trouble. Guru Rinpoche is also known as Padmasambhava.

Jomo Miyo Lang Sangma
The goddess who resides on Mt. Everest. She is believed by the Sherpa people to be the goddess of wealth and sustenance. The name Jomolangma originates from the name of the goddess.

khor
Assortment of wildlife and animals that are associated with the guardian deities.

Khumbi Yul-Lha
Literally Khumbu country god, he is the central protector deity of the Khumbu area residing on a mountain above the Khunde and Khumjung settlements. He wears a turban of white shrouds and rides on a red horse.

Lu
Spirits that live under trees and in rocks and water sources that influence humans positively or negatively depending on their actions and behavior.

nawa
Locally appointed individuals responsible for enforcing forest and crop protection through regulations, principally by controlling livestock movement in the Park and Buffer Zone.

shingi nawa
Locally selected forest guardians who enforce the ban on harvesting live wood in locally protected forests in the Park and Buffer Zone.

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The monastic landscape of Poblet: a place where spirituality, culture and nature join hands

Lluc M. Torcal and Josep Maria Mallarach

Summary

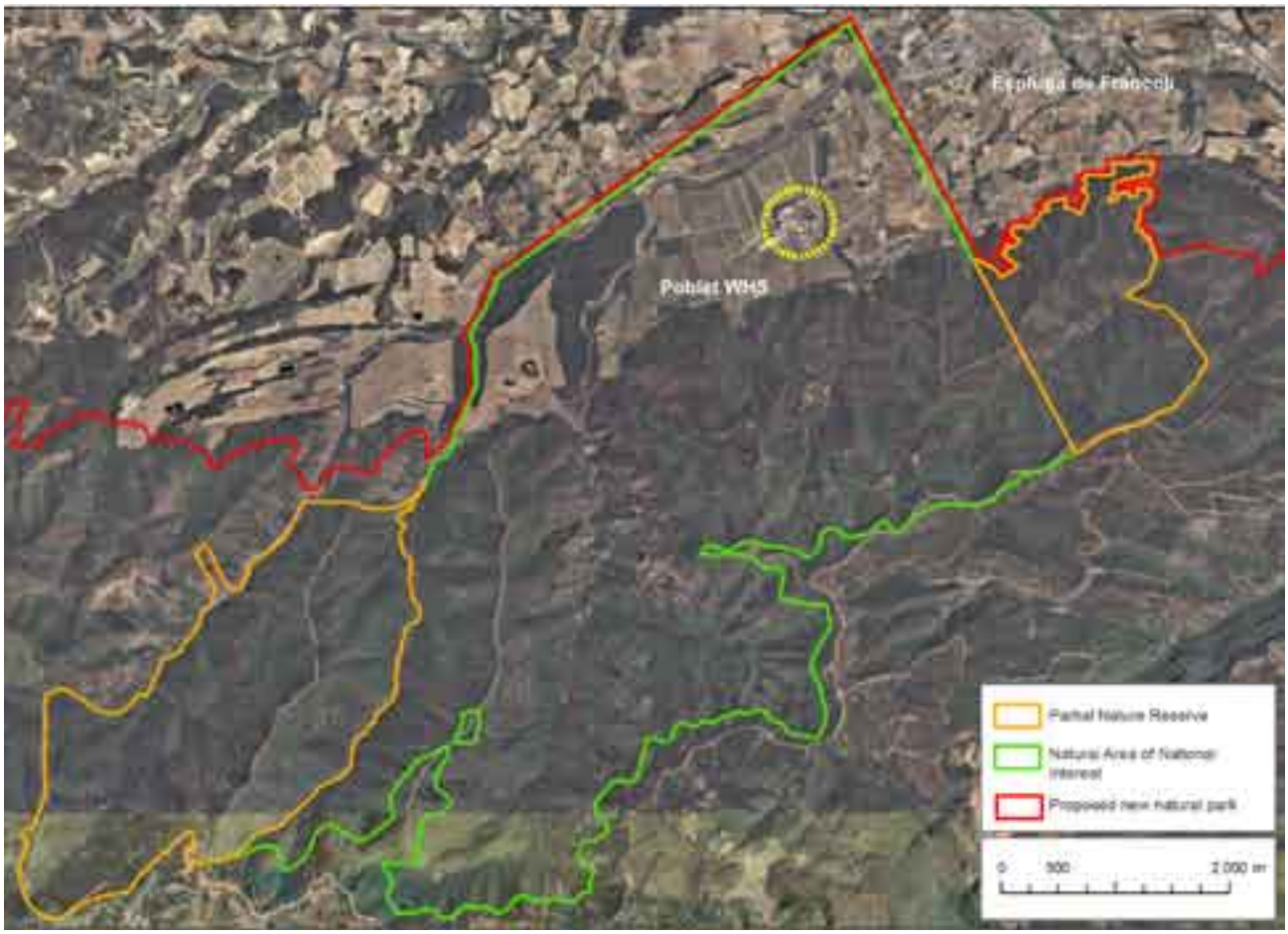
Cistercian monks have always believed that forests, pasturelands, croplands, water and wetlands, and, in general, all of Creation is a gift that they are responsible for passing on to future generations in the best possible condition. For centuries Cistercian monasteries have carried out some of the most efficient and sustainable forest and agro-pastoral practices in Western Europe.

From between the twelfth and nineteenth centuries, mainly as a result of donations, the monastic community of Poblet came to own and/or manage vast areas of land in the eastern Iberian Peninsula. Their holdings ranged from alpine meadows in the Pyrenees, where sheep spent the summer, productive croplands and forestlands in central Catalonia, to the lagoons of the Mediterranean coast they farmed for fish. The basic productive and organizational unit was the Cistercian farm.

This paper discusses this historical process with its harmonic integration of spiritual, cultural and natural values that over time has produced a distinctive monastic landscape. This background helps to explain why during recent years, the monastic community has undertaken a process of ecological conversion -coherent with its spiritual principles- in an attempt to resolve the challenges that both the global environment and the local landscape are currently facing.

Overview of the site

The royal monastery of Santa Maria of Poblet (henceforth, the monastery) is the largest Cistercian complex in Europe



Location of the Poblet Monastery in relation to the main land uses and the protected areas established around it.

and was the burial site of the kings of the Crown of Aragon (now mostly part of Spain) during the thirteenth and fourteenth centuries. The Cistercian order is known for its promotion of advanced sustainable agricultural and farming practices in Western Europe during the Middle Ages, as well as for its ascetic life style.

The monastery has been greatly restored over the last sixty years, in part thanks to the presence of a community of 32 monks, who strive to live coherently according to Cistercian rules. In 1988 the entire monastic complex was declared a World Heritage by UNESCO (1991), which has contributed to an increase in visitor numbers.

The monastery, located at about 500 m a.s.l., lies in the heart of the Natural Site of National Interest of Poblet Valley (henceforth, the park), a protected area of ca. 2,500 ha that was established in 1984 by the Catalan Parliament to protect the landscape around the monastery. The park is 46 km from Tarragona and 110 km from Barcelona and includes many different types of Mediterranean forests, as well as a mosaic of croplands dominated by vineyards in the lowlands.

The Poblet forest is the fruit of a donation by the count-king of Barcelona Ramon Berenguer IV to the Cistercian Order in the twelfth century. The lands had been inhabited since prehistoric times, as is shown by the existence of a number of flint workshops, and also during Roman times, of which the best example is the Iberian-Roman villa at Granja Mitjana, less than a kilometre from the monastery. The area was also inhabited before the Reconquest, a reminder of which is a watchtower dating probably from the eleventh century (Altisent, 1974). With the founding of Poblet, the monks began to consciously manage these lands in accordance with their lifestyle. To do so, they built a number of farms, both in the mountains and the plains, some of which still exist today.

Documentation about natural resource management at the monastery spans seven centuries from the twelfth century onwards and is extremely rich and detailed. In fact the entire documentary legacy includes over 30,000 parchments and thousands of other documents that survived the plunder of the monastery at the beginning of the nineteenth century. Aside from a number in the monastery's library, most documents are kept in the National Archive (Madrid) and the Archive of the Crown of Aragon (Barcelona). Most have never been properly studied and so it is not possible to appreciate the environmental information they may provide. Of particular significance are the documents related to the legal disputes between the monastery and the surrounding villages over the management and protection of the Poblet forest. These documents show how the forest maintained its high quality over several centuries of forest management by the monastic community, despite the negative impact of the illegal actions carried out by the population of the surrounding villages (Gual 2007).

At the beginning of the nineteenth century, the first so-called liberal government of Spain banned most of the country's religious orders and took over almost all of their landholdings. Mendizàbal's 1835 Dissolution meant the end of monastic life and the disintegration of the Cistercian Community of Poblet. The lands of the monastery were passed into the hands of the Spanish Government, many were sold off, and the once wonderful forest was razed to the ground in a few decades through its irrational exploitation by the surrounding villages.

Subsequently, the Poblet forest was included in the Catalogue of Public Forests of Spain and was exempted from dissolution. By 1871 most of Poblet's forest had become state property and a successful restoration process was set in motion by the Spanish Forestry Service. In 1903 the demarcation and reforestation of deforested areas began and by the end of the twentieth century the forest had largely recovered its former aspect.

Cultural, spiritual and natural features

From the point of view of cultural and spiritual values the indisputable centre of the protected area is the Monastery of Poblet and its community. In order to understand the importance of these values it is worth first casting an eye over some historical facts.

At about the turn of the eleventh century, the monks Robert (1028?-1111), Alberic (?-1109) and Stephen (1060?-1134) founded what they called the 'New Monastery' at Cîteaux (modern-day France). This rather different monastic experience was essentially Benedictine, but with the passing of time developed into a distinctly structured and organised monastic order, the Cistercian. The pioneers who initiated this adventure wanted to live the rules of St. Benedict[1] more radically and to discard certain features such as an exaggerated tendency to prolixity and solemnity in the celebration of the Benedictine liturgy, and a tendency to luxury and meddling in worldly affairs. Their new monasteries were populated not only by numerous anonymous monks and nuns, but also by a number of outstanding Christian personalities. Bernard of Clairvaux (1090-1155) was, beyond all doubt, the most prominent of all, although

1 Benedict of Nursia (sixth century A.D.), a man of Roman upbringing who, after an intense monastic life, first in solitude and later with his brethren, wrote the so-called Rule of the Monks (Regula monachorum), later known as the Rule of St. Benedict, a synthesis of both Eastern and Western monastic traditions. The secret of the vitality of this short text lies in its humble style.

one should not forget William of Saint-Thierry (1085-1148), Guerric of Igny (1070-1157), Elred of Rievaulx (1110-1167), Isaac of Stella (1100-1169), Gertrude of Helfta (1256-1301/2), Matilde of Hackeborn (1241-1299), Hildegard of Bingen (1098-1179) and many more.

Poblet owes its existence to the success of the Cistercian adventure. The Cistercian order was founded in 1098 and Poblet in 1150 and both the twelfth and thirteenth centuries are essential to the history of the monastery. Most buildings were constructed during these two centuries and formed an ensemble of spaces that was both beautiful and functional, where the monks could seek God. The large walled monastic complex includes several masterpieces of sacred art such as the main church and cloister, which are virtually intact today.

The abundant historical records referring to the private life of the community of Poblet reveal no noticeable deviations from the original ideals of the founders. Thus, one can explain the continuity of the same life style for centuries, while adapting some outward practices to the requirements of the time. Poblet, the institution, the community and its monks, was the external face of what the monks lived intimately in their hearts. Nevertheless, it was not always possible to live with the transparency and vigour of the early days. In the nineteenth century in a society undergoing radical changes the seeds of a future recovery were sown, despite the abandonment and subsequent plunder of the Monastery. This recovery and the return of the monks in 1940 brought back an old way of life, purer, truer and more deeply Benedictine and, therefore, more evangelical. Today, the monks, the heirs to the monastery's founders, are deeply grateful for this legacy, as authenticity is possibly one of the most important values that can be offered to the people of our time.

The spiritual values of the Cistercians, such as inwardness, sobriety and simplicity, have forged a very particular lifestyle, with a truly characteristic culture, art and architecture. As has been said: "the white monks, instead of aiming at a synthesis between earthly reality and faith, chose explicitly to abandon the world. However, since they were mortal they had to take something of this world with them, which they had to reduce, to turn it into almost nothing, and after to dispose of it so as to give themselves to God. This is what they sought. And how many among them succeeded? This heroic will begot their architecture, one of the greatest the world has ever seen.» (Van Der Meer, 1965).

Other cultural values include the former Abbot's Palace, built during the seventeen-eighteenth centuries outside the monastery's perimeter walls, which houses the important archives of Montserrat Tarradellas i Macià and the Casa Ducal de medinaceli. The monastery's museums offer a virtual tour of the Monastery's past and explain how the monastery operates today; it also boasts a large number of recovered exhibits and bequests of great historical and artistic value. The monastery's archives, which encom-

Mosaic landscape around the monastic complex. Photo: Archives of the Monastery of Poblet.

pass almost eight centuries of history, are almost intact, although most of the original documents are kept in the National Archive in Madrid. They include extremely interesting documents relating to all aspects of community life and details of how natural resources were managed by the Cistercian monks.

The monastery currently receives over 150,000 visitors a year, the majority attracted by its cultural heritage and only a small minority by its spiritual life. The monks usually only have contact with the people that come to the monastery as pilgrims, be it for a single day or to stay a few days in the guest house and share the life of the monks. In fact, the number of people willing to carry out retreats in the monastery is growing and the two existing male guest houses inside the walls cannot cover the demand; thus, a new larger guest house outside the walls is being built that will provide accommodation for around 50 people, including families.

The park takes up most of the northern slopes of the Prades mountain range. Its geographical features, coupled with its geological characteristics, climatic factors and anthropic activities, have produced a landscape with a wide diversity of flora and fauna. The biological singularity of the Prades mountains lies in their transitional climate between typically Mediterranean and more northern climates. The Monastery is located on a gentle slope at the foot of the mountain range with to the north, the valley of the River Francolí, whose waters flow down from the Forest of Poblet and Titllar by means of karstic infiltration. From a geological standpoint the area is formed of two distinctive units: one of Mesozoic limestone, in which the most important aquifer in the area is found, and the other of Quaternary materials including mudstones and marls that gives rise to several streams and springs.

The water resources in the area depend on these aquifers and so they must be used with great care. The average rainfall is only 550 mm/year, typical of Mediterranean regions and with alternating wet and dry periods, a characteristic that makes it more difficult to draw water from the area's small and shallow aquifers.

The vegetation of the park is quite rich, due to the diversity of orientation and altitudes found in a relatively small area. Well-constituted plant communities exist, with the floral wealth that this implies, and include forests of coastal holm oak (*Quercus ilex*), Pyrenean oak (*Quercus pyrenaica*), the only such forest in Catalonia, Scots pine (*Pinus sylvestris)*, stone pine *(P. pinea*), Aleppo pine (*P. halepensis*) and black pine (*P. nigra ssp. salzmannii).* Other tree species

The monastery is surrounded by vineyards and lis close to the forests. Photo: Archives of the Monastery

found include a range of deciduous oaks (*Quercus faginea, Q. x. cerrioides, Q. canariensis and Q. petraea),* sweet chestnut (Castanea sativa), elm (*Ulmus minor*), black poplar (*Populus nigra)*, aspen *(Populus tremula*), large-leaved lime (Tilia platyphyllos), hazel (*Corylus avellana)*, common juniper (*Juniperus communis*) and true service tree (*Sorbus domestica).*

The park is home to a number of endemic animal species, including a population of pygmy shrew *(Sorex minutus)* that is isolated from the rest of its distribution area. The largest mammals are the wild boar and the roe deer: the latter has recently been reintroduced into the park and now has a stable breeding population. Most of the species that are considered 'rare' or that avoid human presence need a well-preserved and quiet environment; some of these species have maintained their numbers in the park, thanks partly to the restrictions on motorized access to most parts.

The park includes several substrata, such as slates, quartz-like clays, sulphurs and conglomerates, some of which were mined before the Park was established. The granite landscapes of the Castellfollit Valley have been included in the Inventory of Areas of Geologic Interest of Catalonia, above all for their morphological evolution and as an example of the shaping of a granite terrain, and for their scenic and didactic interest.

Nevertheless, perhaps the greatest wonder of this site is the fact that the spiritual and cultural values combine and blend with the natural values to create a single, harmonic whole.

Legal and administrative status

Legislation regarding the protected area is laid out in the 22/1984 law that created the Natural Site of National Interest, the 279/1998 Decree that executes the 1984 law, and in the Catalan government's regulations for protected areas (the 12/1985 law and subsequent regulations). Moreover, in 2006 the park was included by the Catalan Government in the Natura 2000 network of Catalonia, an indication that the natural heritage of this site is also relevant on a European level.

The eastern walls of the monastic complex are the oldest. Photo: Archives of the Monastery of Poblet.

The aim of the 22/1984 law protecting the landscape around the Monastery and part of the Poblet forest is made clear in its first article: "(…) to preserve and defend its environment and landscape, to protect, preserve and restore its natural heritage and to protect the current farming activities within its boundaries at the moment of this declaration". The Law's second article defines the geographical boundaries of the park. Articles 3 and 4 state that these areas may not be developed and call for a catalogue of existing buildings to be drafted to regulate its restoration. Article 5 bans the practice of activities that would alter the geomorphology; the dumping of waste material, the installation of artificial elements of a permanent nature that might have a visual impact, the felling of trees (with justifiable exceptions), the planting of allochthonous plant species, the installation of billboards and commercial signs and, finally, the presence of motor vehicles outside authorised areas (again with some justified exceptions). The final article refers to the enforcement of this regulation. In 1988, an additional 900 ha in the form of the Trinitat and Titllar Nature Reserves were added to the existing protected area, thereby helping to preserve the only Pyrenean oak forest in Catalonia.

Exceptionally amongst Catalonia's protected areas, almost 70% of the park's surface area, including most of the forests, is publicly owned. Although the park has been included in the WDPA as category IV, current management corresponds mostly to category V, both in the farm and the forest landscape, where forestry activities -although regulated in order to improve the structure and diversity of the forest- are practiced.

In 1991, at the request of the Spanish government, UNESCO designated the entire monastic complex of Poblet, with its surrounding gardens, courtyards and walls, as a Cultural World Heritage Site. As well, according to Catalan legislation, the monastery is a National onument of Cultural Interest.

The management of the park is overseen by a Board with links of the Environment and Housing. One member the Monastery sits on this Board, and his voice is important and usually heeded. Active management of the park did not begin until 1999, but since then, a small staff of four people plus four rangers with an annual budget of some 772,000€ (2007) has managed and taken care of the protected area. The park's guiding service is used by around 1,000 people a year.

In 1991 the Catalan Ministry of Education created a Workshop for the Cistercian Monasteries at a youth hostel near the monastery. This facility receives annually around 5,000 eight- to 18-year-old students from all over Catalonia, who stay for three-five days to learn in situ about the cultural, spiritual and -in recent years- natural heritage associated with the Cistercian monasteries. They follow a very thorough educational programme that includes reinforcement activities to be done before and after their stays. This workshop is staffed by six teachers, four of whom work on cultural heritage and two on natural heritage[2].

In summer 2007, the Catalan Ministry of the Environment and Housing presented a long-awaited plan aimed at establishing a new, much larger natural park, to be named 'Muntanyes de Prades i de Poblet', which would include all of the existing Natural Site of National Interest of Poblet. During the consultation process, the monastic community presented a number of contributions that are discussed below.

Past and current land and water-uses

When Bernard of Clairvaux died in 1153 there were 351 Cistercian abbeys spread across Europe and another hundred or so were in the process of being built. The guidelines that regulated their construction are found in chapter 66 of the Rule of Saint Benedict –the theoretical framework by which Cistercian communities lived- which states: "If it is possible, the monastery will be built so that it has all that is necessary, that is, water, mill and orchard, and the different crafts and professions will be exercised within the monastery so that the monks have no need to venture outside, for this is not advisable for them at all". In addition, in the general chapters of that period one can find other recommendations along the lines that monasteries shouldl not be built in cities, villages or in castles, that is, away from farm lands in order to find the necessary solitude required for prayer (Capitula, IX. 2).

Cistercian monks settled in many uninhabited valleys and lowlands of medieval Europe and developed strategies for natural resource management that allowed them to make the most of forests, woodlands, pasturelands and croplands, thereby ensuring their preservation and the creation of a distinctive monastic landscape. "Marked out by the abbey's blason inscribed on stones, the Forest of Poblet is a perfect model of efficient management" (Leroux-Dhuys, 1999). The autarkic lifestyle propounded in St Benedict's rule has been the main influence of many generations of monks who have strived and laboured to make both their monasteries and the monastic landscapes around them a better and decent place to live. This implies a systematic search for well-irrigated areas, normally in valley bottoms, that allow for a direct and far more efficient use of this scarce resource.

Poblet was founded after the concession of lands by Ramon Berenguer IV to the abbot of Fontfroide in 1150 or 1151. "Most probably in early 1151 Abbot Sanç (of Fontfroide) sent a handful of monks to explore the terrain and start to prepare an inhabitable lodging for the first community" (Altisent, 1974). [Some time] "before 30 November 1152 a full Cistercian community sent by Fontfroide -and including the abbot- arrived at the *hortus Populeti*" (Altisent, 1974). The monastery was named after hortus Populeti, an orchard or vegetable garden found in the midst of a grove of white poplars (*Populus alba),* whence the Catalan name Poblet, which also means 'little village'. The irrigated lands or hortus were probably found near a stream (Riera de Pruners) that divides the present-day community's estate into two, south and north. The monastic lands soon began to grow and became during the fourteenth century one of Catalonia's most important religious, cultural, artistic, economic and social centres.

Like all Cistercian communities, Poblet was founded on fertile land near streams that were wisely used, mainly for domestic and liturgical purposes, but also for powering mills. Cistercian monasteries were tidy and well looked after. The water channels had to move the millstones to grind the wheat and olives, to power the forges, to allow the monks to wash, and to flush the latrines and the kitchen. Water was also used to provide fresh fish, a basic source of food for their diet, to bless their household and, naturally, to drink.

In the refrectory of the monastery monks and hosts eat together. Photo: Archives of the Monastery of Poblet

2 Camp d'Aprenentatge dels Monestirs del Cister. Alberg de Joventut l'Espluga de Francolí. http://www.xtec.es/serveis/cda/e3900035/

Water availability and management was thus the determining factor that decided what sort of monastery could be planned, even to the extent of breaching one of the chief rules of Cistercian architecture -that the church should be built on high ground with the altar facing east, as was becoming of a people who devoted their lives to prayer. The width of the valley where the monastery was intended to be built, the orientation of the river and the abundance of water were elements of utmost importance. It is impossible to live without water, but constant floods cannot be tolerated either! (Kinder, 1997). Once the area was thoroughly examined they began the construction of the monastery employing all their water engineering skills and building complex networks of channels, dikes and barrages.

Both water and monastic life coalesced to such an extent that the former played a part in the place names of countless monasteries such as Fontfroide, which literally means 'cold spring'. Besides, one must not forget either that water was strongly symbolic for Cistercian monks: in the Book of Genesis water exists at the outset of Creation and brings life to the world. Later, this very water turned into the baptism water that washes away the original sin and brings about grace; the water that gushed out of the fountain built in the middle of a cloister thus became the symbol of spiritual life. Water came from a spring upstream that was channelled into the monastery. The purity of that water coupled with the purity of what it symbolized accounts for the beauty of the fountain in the cloister, covered with a dome and a shrine. "Nothing gives you such a feeling of peace, abundance and freshness as the murmur of a fountain" (Kinder, 1997). From the spiritual point of view, the image of water as the source of life and instrument of renewal is present in all Christian imagery. All one has to do is read the Book of Psalms to become aware of the omnipresence of water. However, the fountain in the cloister is not only an earthly image of the *fons vitae* and an instrument for spiritual renewal, for it was also used for a rather more practical purpose: the monks needed it for their daily hygiene (*lavatorium)* and to wash their hands and faces before entering into the refectory.

In the rest of the monastery outside the cloisters, and, as always, true to the autarkic spirit of St Benedict's rule, there were gardens and orchards that had to be watered profusely. There was also a small herb garden -*the herbularius*- close to the sickbay where medicinal plants were grown.

Fountain in the main cloister of the Monastery. Photo: Archives of the Monastery of Poblet.

Mariona Ibars (unpub.) describes the life of the first Cistercian monks:

The first monks devoted themselves exclusively to the organization of farming activities within their domain. They planted the first grapevines brought from Languedoc (…). Besides their spiritual and intellectual obligations, the monks also had to do physical work: they laboured in the orchards and fields shoulder to shoulder with the lay brothers, with ploughs, draught animals and exerted their bodies to the full. Also, they worked on the building of the first farms. (…). First, they devoted their time to ploughing and sowing as much barren land as possible and, having assured their food supply, they moved on to the construction of the abbey. The forest became after a very short time their best supplier. Apart from salt (…), the remaining staple items were obtained from the forest. Their activity was frenetic. Inside the forest they built trails and shortcuts, and thrift was their motto. Most natural resources were used. They searched all habitats, from the rivers to the most inaccessible ravines and cliffs of La Pena or Castellfollit, where they were building a farm.

From the Còdols stone quarry, located in a wood near the Muslim settlement of Vimbodí (…), they extracted the much needed stones for building. From the beehives in Riudabella there came honey and wax, which they used for lighting in general and for the altar. This is why apiculture was so quickly developed.

The monks made the most of the trees. Apart from the edible fruits, seeds, roots and leaves were used as medicine. They made paper from tree bark and charcoal from the holm oak woods of La Pena ravine. They made ink from oak galls. Ink was essential for the community's accountants and administrators, who had to process all sorts of donations, contracts and transactions.

Apart from the household chores, firewood was used for furnaces. In the forges a wide range of tools was produced: tools for the farm, for lumbering, for the stone quarry and for construction work itself. With wood planks they built fences, barns, stables and workshops. Transport was also a challenge from the start and as a response to the demands of the farms and the quarry, they soon built a small fleet of carts to transport produce and stones around the domain.

The forest of Poblet was managed by monks for over seven centuries. View of Castellfollit Valley. Photo: Josep-Maria Mallarach.

(…) Their flocks and herds thrived in the meadows. The imperative necessity for rope, essential, for example, for animal harnessing, made them grow fibre-rich plants such as hemp and flax in the ploughed fields by the stone quarry".

Current challenges and practices

One of the main challenges facing the monastic community today is how to adapt this secular tradition of respectful and efficient management of natural resources and the beautiful scenery around the monastery to contemporary circumstances. It was with this idea in mind that the former Abbot of Poblet, Father Maur Esteva, encouraged the declaration of the Natural Site of National Interest as a way of avoiding the deterioration of the beauty and peace of the landscape around the monastery, which was already beginning to be threatened by urban encroachment.

For the past few years the monastery has become fully involved in the Delos Initiative, born out of the Task Force on Cultural and Spiritual Values of Protected Areas of the IUCN World Commission on Protected Areas. In November 2006 a monk from Poblet took part in the first Delos workshop at Montserrat and since then the monastery has been active in promoting a number of projects aimed at improving its relationship with the environment and the landscape.

The strategies that the monastery is developing aim to tackle three main issues:

- Improve the management of all the monastery facilities and lands by gradually applying criteria of environmental and social justice. Currently, the community is carrying out a project concerning the use of natural energy resources in the monastery. This strategy, an adapted version of the local Agenda 21, is supported both by secular sustainability criteria and by Christian Cistercian principles. Only when every possible effort has been made to define, develop and implement these criteria, will the monastery have the moral authority to try and persuade others how to go about changing their life styles.
- Promote the effective protection of the rural landscape around the monastery and also the quality of the forest management in order to improve ecological integrity, silence and beauty. In this case the powers of the monastery are limited, although its representatives may be able to influence the Park's Board and other governmental bodies.
- Prepare and develop wherever feasible an outreach

strategy aimed at educating and communicating environmental values related to spiritual principles to interested visitors. This will include improved coordination with the existing Workshop of the Cistercian Monasteries and the park's educational services, as well as the development of the monastery's own facilities and programmes. Two interpretation centres are planned.

To seek support for these projects, a number of meetings have been held with the Board, the Natural Heritage Directorate, the management director of the Park, the Diputació de Tarragona (provincial council), the staff in charge of the environmental education facilities, a research team from Barcelona University and the Catalan Institute of Energy. These meetings have opened up new ways in which the monastery will be able to collaborate in the promotion of most of the actions discussed below. The main actions that have been agreed upon at this point are as follows:

- Request the Park Board that Poblet become a case study of the Delos initiative, and to cooperate in its preparation.
- Find a solution to the long-standing problem of wastewater spilling into a nearby ravine downstream from the monastery. Since summer 2007 wastewater has been piped to the nearby municipal sewage treatment plant.
- A Memorandum of Understanding between the monastery and the Diputació de Tarragona has been drafted as part of the preparations for an environmental audit of the monastery, which will combine the usual local Agenda 21 approaches with Cistercian principles. The draft includes a detailed methodology especially adapted for the monastic community, the first of its kind in Spain.
- An agreement with the Institute of Water Research from Barcelona University was signed to study the history of the monastery's water systems, both surface and underground, and water resources. The final report will include a proposal for improving water management by means of the reuse of treated wastewater and the collection of rain water.
- In 2006, at the monastery's request, the Catalan Institute of Energy (ICAEN) prepared two proposals for the

Beauty and silence are two management objectives proposed by the monastery. Photo: Archives of the Monastery of Poblet.

implementation of solar energy in the monastery:
- A solar photo-voltaic park for the production of electricity will be located discreetly in the bus park, outside the monastery walls, and will also provide shade for vehicles. About 2,000 m^2 of photovoltaic panels will produce 250 kW, the excess to the needs of the monastery, which will be sold.
- Different modules of thermal solar panels to produce hot water will be located in selected areas of the monastery's facilities (for example, the guest houses and the monks' dormitory) and will satisfy most of the monastery's hot-water needs. Since spring 2008 a solar panel facility for heating water has been opperating and the monastery con go without fossil fuel for long stretches during the year.
• A collaboration agreement was drafted between the monastery and the Vimbodí Town Council, by which the monastery agrees to build and use a solar panel facility at the municipal sports centre.
• Implementation of a recycling programme including the use of organic waste as compost and the increased use of more environmentally friendly cleaning products.
• Talks have started with the company that runs the vineyards around the Monastery to encourage the use of more organic methods.
• Restoration of the riparian forest along the Sant Bernat ravine using a variety of tree species such as white poplar, narrow-leaved ash (*Fraxinus angustifolia)*, southern nettle tree (*Celtis australis)*, bay (*Laurus nobilis*), various oaks and elder (*Sambucus nigra*).
• Collaboration with park managers in drafting the future guidelines for forest management. In addition to the integrity and biological diversity of the forests, two intangible values -beauty and silence- proposed by the monastery have been included as goals of these guidelines.
• Contributions to the Catalan Ministry for the Environment and Housing's Draft Plan for the new Muntanyes de Prades i de Poblet Natural Park, including comments and suggestions related to the following subjects: the park's concept and name; park boundaries; composition of the Park's Board and Steering Committee; the scope of the concept of cultural heritage as an intangible value; park management goals and criteria related to spiritual values; and park facilities and forest management. The monastery has proposed an enlarged protected area based on the visual protection of three elements: the monastery, the overall landscape and certain easily identifiable physical features (Mallarach and Albertí 2007).
• The monastery was able to include in the abovementioned Draft Plan a report prepared by the Silene Association (Associació Silene, 2007) on the inclusion of intangible cultural and spiritual values. It covers four main themes:

- A new definition of natural heritage, including all significant intangible cultural values and, in particular, religious and spiritual values. These values have been the basis of the existence of the monastery and the life of its community (and of a number of other shrines and hermitages found within the boundaries of the proposed natural park) for seven centuries.
- Specific proposals aimed at incorporating spiritual and intangible cultural values into the park's Draft Plan at all relevant levels: diagnosis, goals and objectives, management, facilities, educational programmes, public use and signposting.
- A set of proposals taking into account the new scope of the definition of cultural heritage in all the legal and planning instruments that will be used to develop the natural park.
- Guidelines related to the spiritual values of nature in areas such as the surroundings of the monastery, the old Cistercian farmhouse at Castellfollit and the surroundings of the old hermitage-cave of Fray Pere Marginet and other hermitages and sanctuaries found within the future park's boundaries. The aim is to guarantee an atmosphere of peace and quiet that is in harmony with a contemplative relation with and deep respect for nature.
• Natural spaces such as this new park that are home to monastic communities can contribute to making contemporary societies aware that other ways of relating to nature, based on intrinsic and spiritual values, also exist.
• The task of raising environmental awareness has been undertaken by the monastic community and other Cistercian monasteries in Catalonia and the south of France, thus strengthening the bonds of brotherhood between monasteries and allowing them to live together within the rich Cistercian tradition of sustainability and respect for Creation.
• The monastic community owns an old Cistercian farm in the heart of the Park. It was returned to the monks after restoration and it has been remodelled and made compatible with its use for retreats. It is isolated in the middle of the forest and is self-sustainable: energy comes from solar panels and water from the nearby river.

Future actions and plans relating to cultural and spiritual values.

The main actions underway include:

• The preparation of a strategic proposal for improving the integration of spiritual, cultural and natural values in the environmental education and information provided at the monastery. In addition, the Father Abbot has asked the Silene Association to draw up proposals

for a new interpretation centre to be located at the entrance to the monastery.
• Include a new section in the Abbey's web-page (www.poblet.cat) on nature, environmental conservation and sustainability.

The main actions to be undertaken in the next five years include:

• Implement gradualy all the projects and actions included in the environmental audit, ranging from solar energy plants, wastewater recycling and the creation of an organic vegetable garden as soon as funds and other constraints allow.
- The monastery is committed to satisfying within two or three years all its hot water needs by solar energy,
- Geothermal central heating is planned above all in new buildings.
- If circumstances allow, the Community will try to extend the photo-voltaic facilities to produce at least as much energy as is consumed.
- Low-consumption bulbs and solar lamps are being installed.
- The monks are building tanks to collect and store rain water and treating sewage water for use in orchards and gardens.
• Once the water shortages are solved, establish an organic vegetable garden with local organic seed and local varieties of fruit trees as part of a plan to conserve agrobiodiversity, produce healthy food for the monks and guests and provide a potential activity for interested guests.
• Promote the recovery of the riparian forest in the ravine by planting local species of tree. Above all, white poplars will be planted in humid areas within the monastery compound since the monastery (and therefore the park) was named after this species of tree.
• Prepare a forest management plan aimed at the restoration of the integrity of the forest that has been overexploited in the past, and to gradually encourage the growth of tall trees, thereby improving the forest's structure, biodiversity and beauty.
• Build two interpretation centres, one within the outer walls and the other inside the monastery itself. The first will be devoted to the long history of the monastery and the management of its extensive natural resources up to the nineteenth century, while the other will be devoted to explaining the meaning and significance of monastic life and its related values (silence, beauty, serenity, interiority) in a context of current society.

Conclusions

The Delos Initiative's case study of Poblet is an example of the willingness of a monastic community to undertake a series of actions relating to nature conservation and sustainability in support of an international initiative aimed at integrating intangible values into nature conservation.

The main reason that the monastery authorities and the monks are so sensitive to the conservation of the natural and cultural heritage is their Christian beliefs. The Monastery of Poblet is an example of the historical coherence of a community of monks with Christian, Benedictine and Cistercian origins that possess a clear will to work for the respect of Creation and towards an understanding of the surroundings of the Monastery, not as a resource to be exploited, however carefully, but as a gift to be passed on in its entirety to future generations of monks.

The monastery's actions -both already implemented or still only planned- aim to encompass all areas of interaction of the monastery and its facilities with the natural world, from water to energy, from forest protection to waste reduction and treatment. To implement these actions agreements have been signed with the Park Board, its managers and related public authorities, as well as with the team of educators in charge of the environmental education facilities, a research team from Barcelona University and a number of private firms.

The implementation of these actions is a response to the recommendations originating from the Durban Congress and Europarc-Spain and to the commitment of the monastic community to promote the intangible cultural and spiritual values, not only in the existing Park, but also in the future Muntanyes de Prades i de Poblet Natural Park. This integration must be holistic and include the concepts, goals and objectives, as well as the management areas, guidelines and facilities the Monastery wants to develop. The most relevant of these activities is probably the education of future visitors to the Monastery to respect nature, a process that stems from spiritual criteria and values that seek to be coherent with the deeply held beliefs that give

The weekly walk of the monks in Poblet forest. Photo: Archives of the Monastery of Poblet.

life its ultimate purpose. We think that this mission, silent but always present, may be one of the greatest contributions that monastic life can offer the men and women of our times.

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Integrating traditional values and management regimes into Madagascar's expanded protected area system: the case of Ankodida

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Summary

Ankodida is a newly established, community-managed Category V protected area in south-eastern Madagascar that protects a sacred forest, the former home of a pre-colonial Tandroy king. The forest also shelters spirits that play an important role in the spiritual life of the Tandroy tribe and provides the bulk of household income for local populations, thereby making it of great cultural, spiritual and material importance. Six of the protected area's seven zones are composed of traditional village territories managed under devolved management contracts, and, in addition, there is a priority conservation zone covering the sacred forest managed by local communities according to traditional regulations.

Management of Ankodida is focussed on the reinforcement of management through the legal empowerment of its traditional guardians. Following guidelines established for Madagascar's expanding system of protected areas, the promoters of the protected areas seek to avoid all negative impacts on local communities. The sustainable use of forest resources is therefore permitted throughout most of the protected area in zones where such activities have traditionally been practised. The cultural and spiritual values of the site ensure that local communities maintain a strong interest in conservation that can be harnessed for the conservation of biodiversity.

Introduction

The Ankodida Community Protected Area is situated in the extreme south-east of Madagascar, 58 km from the regional capital of Tolagnaro (Fort Dauphin). The hill around which it is based was once the home of a pre-colonial king and is considered highly sacred by the Tandroy, the dominant tribe of the region. The forests are also considered to be inhabited by revered spirits or genies known as Kokolampo, which play an important role in the belief system and healing ceremonies of the Tandroy people. Ankodida lies in the transition zone (ecotone) between the spiny forest ecoregion of the south and south-west and the humid forest ecoregion of the eastern escarpment. Lying in the rain shadow of the Anosyennes Mountains, the site receives 400 – 500mm of rainfall per annum (Battistini 1964) and is characterised by spiny thicket vegetation typical of the south, dominated by diverse species of Didiereaceae and Euphorbiaceae. The sacred crest of the hill, however, receives significantly higher rainfall than the surrounding plains (Eboroke and Rakotomalaza 2007) and consequently supports a high canopy dry/humid transitional forest of great biological importance that is little represented within the Madagascar Protected Area System (SAPM).

The spiny thicket ecoregion of south and south-western Madagascar is widely recognised as a global conservation priority, with approximately 53% of all plant species

Scientific Name	English Name	Conservation Status (IUCN 2007)	Notes
Lemur catta	Ring-tailed lemur	Vulnerable	South-easternmost populations in Madagascar.
Propithecus verreauxi	Verreaux's sifaka	Vulnerable	
Lepilemur leucopus	White-footed sportive lemur	Vulnerable	
Astrochelys radiata	Radiated tortoise	Critically Endangered	Heavily hunted throughout most of its range.
Aloe helenae	N/A (Aloe)	Critically Endangered	Probably the two rarest aloes in the world.
Aloe suzannae	N/A (Aloe)	Critically Endangered	
Ravenea xerophila	N/A (Palm)	Endangered	Ankodida protects approximately 10% of the world population[1].
Dypsis decaryi	Triangle palm	Vulnerable	Ankodida protects approximately 30-40% of the world population[2].

Table 1. Species of conservation importance in Ankodida **1** Ferguson, own estimate. **2** Ferguson, own estimate

endemic to the ecoregion and a further 36% endemic to Madagascar (Phillipson 1996). Numerous reptile (Glaw and Vences 2007) and bird (Stattersfield et al. 1998) species are also locally endemic. This ecoregion was until recently the least represented within the national protected area system (Fenn 2003) and still suffers the highest rates of forest loss in the country (Conservation International et al. 2007). Ankodida shelters a number of species of conservation importance that are characteristic of the ecoregion, as shown in Table 1.

The inhabitants of Ankodida and the surrounding micro-region primarily belong to the Tandroy tribe and to the more recently arrived Tatsimo tribe, an ethnic group descended from a mix of Tandroy and Tanosy (a tribe inhabiting the lands to the east of the Tandroy). Both groups are agro-pastoralists for whom the raising of goats, sheep and especially zebu cattle (*Bos primigenius indicus*) is of prime importance from both economic and cultural standpoints. The accumulation of zebu not only allows Tandroy men to gain status, but also permits the costs of rites of passage and cultural responsibilities such as healing ceremonies, marriage and funerals to be met.

The Androy region is semi-arid and amongst the poorest in Madagascar, and is characterised by harsh climatic conditions, droughts and famines. Access to social services such as healthcare and education in the Ankodida area is deficient, and children generally leave school at the age of only seven-eight years. Local communities are heavily dependent upon the natural resources of Ankodida for most of their subsistence and commercial needs and the forests are therefore of immense material as well as cultural value. Forest products extracted include fuelwood and charcoal, wood for construction -primarily *Alluaudia procera* (Didiereaceae), *Cedrelopsis grevei* (Rutaceae), *Neobeguea mahafaliensis* (Meliaceae), *Tetrapterocarpon geayi* (Fabaceae) and *Commiphora* spp. (Burseraceae)-, comestible items such as fruit, wild yams (Dioscorea spp., Dioscoreaceae), honey, game (for example, the common tenrec (*Tenrec ecaudatus*) and birds such as *Coua* spp. and the Madagascar buttonquail (*Turnix nigricollis*)), medicinal plants and plants used in the fabrication of baskets and mats. Forests are also hugely important in providing year-round fodder and shelter for livestock.

Cultural and spiritual importance

Madagascar is thought to have been first colonised by a people, probably Austranesians, as little as 2,000 years ago (Burney 1997, Wright and Rakotoarisoa 2003). Southern Madagascar was characterised by conflict and continual movement of peoples until the French colonial powers 'stabilised' the region in the early part of the twentieth century and was the last region of the island to fall under their control (Middleton 1999). The peoples of the deep south of Madagascar (such as the Tandroy and the Mahafaly) are now sedentary, although a segment of society continues to be engaged in seasonal northward transhumant migrations in search of pastures for their cattle. This seasonal migration is dictated by the semi-arid conditions experienced in the south that limit available fodder for livestock grazing.

Ankodida lies on the eastern boundary of Androy, the homeland of the Tandroy people (literally, 'people of the thorns'). This area is of great cultural and spiritual importance to the Tandroy people due to a number of interrelated factors. According to local oral history, the Ankodida region was originally settled by Rekodida, king of the Telangy clan (one of the approximately 50 main clans of the Tandroy), and his brothers Remanoly and Takefa. The Telangy are a noble clan (Roandria) whose status as the original settlers of the Ankodida region is key to the cultural protection of the forest. Rekodida is said to have made his home on the crest of the central hill of the protected area, an area of forest since considered sacred (known as Tanan-taolo, or 'village of the ancestors') where human access and use has been strictly controlled for centuries by local rules and traditions. This sacred forest is uninhabited and cattle are rarely grazed within it; according to local tradition, the only resource use permitted within this area is the occasional extraction of certain tree species used in the fabrication of coffins.

The spiritual importance of the Ankodida forests is centred on the presence of Kokolampo, revered spirits or genies that live in particularly dense or diverse areas of the forest, in caves or in water sources. Such areas are considered sacred and are often the site of traditional ceremonies and of offerings to the spirits. Kokolampo often intervene in human affairs and are highly feared by local people, with the result that some refuse to en-

Spiny forest at Ranomainty, Ankodida, dominated by fantiolotse (Alluaudia procera). *Photo: Barry Ferguson.*

ter the forests they inhabit, while others use the forest only for grazing, the collection of medicinal plants and the harvesting of certain wild foods. The traditional healers of the Tandroy (as well as of other western tribes), known as Ombiasy (literally meaning 'to work for cattle'), play a central role within a society whose belief systems centre on the respect for ancestors and the prescription and respect of taboos (*fady*) that an Ombiasy may invoke as part of a healing process. The role of the Ombiasy is principally spiritual and includes divination with seeds (*sikidy*) and the prescription of plant-based remedies in healing ceremonies. During these ceremonies the Ombiasy enters into a trance known as a *tromba* and communicates with the Kokolampo; this communication permits the Ombiasy to diagnose an affliction, which may be due to an illness, possession by spirits or a curse. The Ombiasy may also communicate with the Kokolampo in matters not related to health and medicine and is able to determine and affect people's destiny and wealth, as well as natural phenomena such as the weather (Anon. 2000). The role of forests within Tandroy spiritual life is therefore highly important; forests not only shelter the spirits that are so important in determining health and fortune, but also provide the plants that are such an integral part of communicating with the spirits and spiritual healing.

Other features of cultural importance within Ankodida include the existence of ancestral tombs within the forest that render that part of the forest sacred (these are designated as Strict Protection Zones within the protected area; and the presence of a number of species such as the radiated tortoise (*Astrochelys radiata*) and Verreaux's sifaka (*Propithecus verreauxi*) that it is considered taboo (*fady*) to eat or kill. *Fady* are important features of Malagasy culture throughout the island and are usually highly localised, differing from one village (or Ombiasy) to another. Plants or, more usually, animals may be considered *fady* for health or ecological reasons (important keystone species may be protected in some cases), although most are granted their status through a positive or negative interaction with ancestors in the past (see e.g. Lingard et al. 2003). Because they often only apply locally, *fady* are vulnerable to erosion through immigration and other factors, as immigrants are not always bound by locally held *fady.*

Legal designation and institutional context

In order to contextualize the establishment of the Ankodida protected area, it is necessary to briefly review the recent

Local house in Ranomainty, Ankodida, constructed with planks of fantiolotse (Alluaudia procera). *The sacred forest is visible in the background. Photo Barry Ferguson.*

history of Malagasy environmental policy. Two policy developments have been of particular importance in shaping the management and governance of the country's forests in recent years – the development of community forestry policies and the expansion of the system of protected areas. During the first two phases of the National Environmental Action Plan (PEI and PEII) from 1990-2002/3, legislation was passed to enable management rights of forests outside protected areas to be transferred to local communities. Such forests had up to this point been managed by the state, although active state intervention in rural areas was minimal and local communities were and always had been the de *facto* stewards.

The second major development followed in 2003 when, at the Vth World Parks Congress held in Durban, South Africa, the President of Madagascar declared his government's intention to more than triple the coverage of the country's protected areas to six million hectares (approximately 10% of the country's surface area) by 2012 (Mittermeier et al. 2005, GoM 2007). This 'Durban Vision' is enshrined in the national development policy, Madagascar Naturally, and the blueprint for its implementation, the Madagascar Action Plan, MAP (GoM, 2007). Commitment Seven of the MAP commits the Malagasy Ministry of Environment, Water, Forests and Tourism (MEEFT) to develop and implement various forms of devolved management and co-management for human inhabited forests to attain the targeted protected area coverage (Ferguson 2008).

Madagascar's first generation of protected areas (many of which were created during the colonial period prior to independence in 1960) were established mainly in wilderness areas with small human populations and as such were managed primarily for biodiversity conservation and research in accordance with IUCN categories I, II and IV. All these protected areas were state managed by a parastatal agency, PNM-ANGAP. Following the launch of the Durban Vision, several steering committees were established to provide guidance on how the ambitious target of new protected areas could be effectively implemented, given that PNM-ANGAP recognised that it did not have the capacity to create and manage the bulk of additional sites. Furthermore, few wilderness areas remained in which new protected areas could be established. New models of protected area management and governance were therefore adopted (including IUCN categories III, V and VI) and legislation was passed permitting community management, state management (MEEFT), co-management between the community and state or NGO, delegated management by NGOs and private management.

Ankodida is amongst the first of the new generation of protected areas to be created and legally recognised as part of the Durban Vision and enjoys legal protection both under devolved community forestry management legislation and legislation passed to allow the expansion of SAPM. Granted temporary protection status in March 2006, definitive protected status is expected to be granted by the end of 2008. It is recognised as a community-managed Category V protected landscape within Madagascar's expanded protected area system (SAPM). The protected area consists of seven broad zones, six of which (totalling 8,725 ha) are traditional village territories managed under a devolved community forestry management contract (Gestion Contractulisée des Forêts or Contractual Forest Management, GCF). GCF management transfers represent a form of co-management between the state and local communities, whereby ownership of the land and its resources ultimately remain with the state, while restricted use and management rights are transferred on the basis of a renewable, time-bound contract (Ferguson 2008). The GCF management committees, composed of community members, are answerable to the forest service of the MEEFT when it comes to fulfilling their contractual obligations.

The seventh zone of the protected area is a Priority Conservation Zone of 2,019 ha managed jointly by the management committees of the six GCF areas (see below). This zone corresponds to the sacred forest area, which has been effectively managed by local guardians according to local rules and customs right up to the present day. In

Zebu cattle in the forest between Elomaka and Ankodida. Photo Barry Ferguson.

establishing a legally recognised protected area, the promoters of the protected area have sought to reinforce this cultural protection, by recognising traditional rules relating to resource use and empowering the traditional guardians. The priority conservation zone is classed as a Category III natural monument, while the protected area as a whole is classed as a Category V protected landscape.

It should be noted that the process of transferring management rights to the six village territories now under GCF contracts predates the establishment of the protected area and that the associated regulations cannot be overruled by regulations associated with the protected area. The six GCF territories therefore retain their management autonomy within the protected area. Both the management transfer process and the establishment of the protected area were catalysed and facilitated by the World Wide Fund for Nature (WWF) and the Libanona Ecology Centre (CEL).

Management and governance structures

Ankodida is a community-managed protected area whose governance and management is based on three structures – a participatory management committee, a steering committee (SC) and a body of supporting organisations. The participatory management committee is composed of the management committees (Comité de Gestion, COGE) of the six GCF areas within the protected area, each of which is responsible for the management of natural resources within their territory under the terms of their GCF contract. The six COGE are regrouped into a Union, which is responsible for the management of the Priority Conservation Zone as well as the resolution of conflicts arising between territories. The primary management tools of the participatory management committee are locally applicable but legally recognised agreements known as *dina*, which describe the permissible activities within the applicable area, are equivalent to laws. Two *dina* are governed by the participatory management committee: one is applied within the GCF and is regulated by the respective COGE, while the other regulates resource use within the priority conservation zone and is governed by the Union.

The steering committee is composed of members of the Region, the Forestry Service and the inter-communal organisation that encompasses the four communes in which Ankodida lies (the commune is the lowest administrative unit in Madagascar). The steering committee is principally concerned with the strategic orientation of the protected area, although its role includes the application of the law, the resolution of conflicts and capacity building. The SC is a structure of governance rather than a management

Tandroy Children warming up around the fire, Ankodida village. The sacred hill is visible in the background. Photo: Barry Ferguson.

body; it represents the executive power of the protected area and also serves to formalise decisions proposed by the participatory management committee.

The third structure implicated in the governance and management of Ankodida is a body of supporting organisations (primarily WWF, CEL and the Forest Service at this stage). Their role consists primarily of providing technical (for example, in the implementation of development and conservation programmes) and administrative support, and fundraising for the steering committee and, specifically, the participatory management committee. They also encourage capacity and constituency building and provide support to the steering committee in applying the law.

It is important to note that the organisational structures described above represent an important first step for Madagascar in the development of community-managed protected areas and as such must be considered as still experimental. The process of refining the roles, responsibilities and relationships between the three levels of the structure is ongoing.

Land-use, cultural and spiritual values and conservation

Ankodida is a landscape of critical importance in the maintenance of local livelihoods, with most families heavily dependent on natural resources for the bulk of their household income. The principal traditional livelihood strategy for the majority of the Tandroy population is the raising of sheep, goats and, especially, zebu cattle, supplemented by agriculture along watercourses during the rainy season. Transhumance is a prominent feature of Tandroy pastoralism and men follow their herds in search of pasture throughout the dry season, which may last as long as ten months. Other traditional uses of the forest include the collection of firewood, the production of charcoal, the extraction of timber for use in construction (local houses are made from planks of *Alluaudia procera*, Didiereaceae), the collection of medicinal, artisanal and edible plants and the hunting of game. The continued presence of high quality forest in Ankodida indicates that these activities have until recently been carried out sustainably, due both to the cultural protection afforded to the site and the relatively low population pressure.

Economic, social and demographic changes in recent decades have, however, led to changes in livelihood patterns and resource use and have had a serious impact on the forest of Ankodida and its associated cultural, spiritual and biodiversity values. Commercial plantations of sisal (*Agave* spp.), a fibre crop, have reduced the availability of cultivable and pastoral land along the Mandrare River since the 1930s (Gladstone 1999); in addition, more land has been lost in the south due to advancing coastal dunes (linked to vegetation loss) and has accelerated immigration into the Ankodida area. These factors, coupled with demographic growth, have vastly increased the population pressure on remaining natural habitats and led to changes in patterns of land and resource use that have negatively affected the site. Changes include an increase in transhumance in Ankodida by pastoralists originating from outside the area, a process that has increased the impact of grazing on the forest, and an increase in upland slash and burn (swidden) agriculture. This type of agriculture, in which the principal crops are maize (*Zea mays*) and tobacco (*Nicotiana tabacum*), is highly destructive as the poor quality soils are unable to support crops for more than three growing seasons and thus new land must continually be cleared. A further change in recent years has been a switch from subsistence to commercial use of forest products, facilitated by the proximity of Ankodida to the provincial capital of Tolagnaro and district capital of Amboasary Sud. Ankodida now supplies both construction wood and charcoal to satisfy the increasing demands of these urban centres, which remain heavily dependent on charcoal for the cooking needs of their populations. It is worth noting that demand for fuel and construction wood in Tolagnaro has increased significantly since 2007 due to the mass migration of labourers from throughout the country seeking employment at a heavy mineral sands mine operated by QIT Madagascar Minerals.

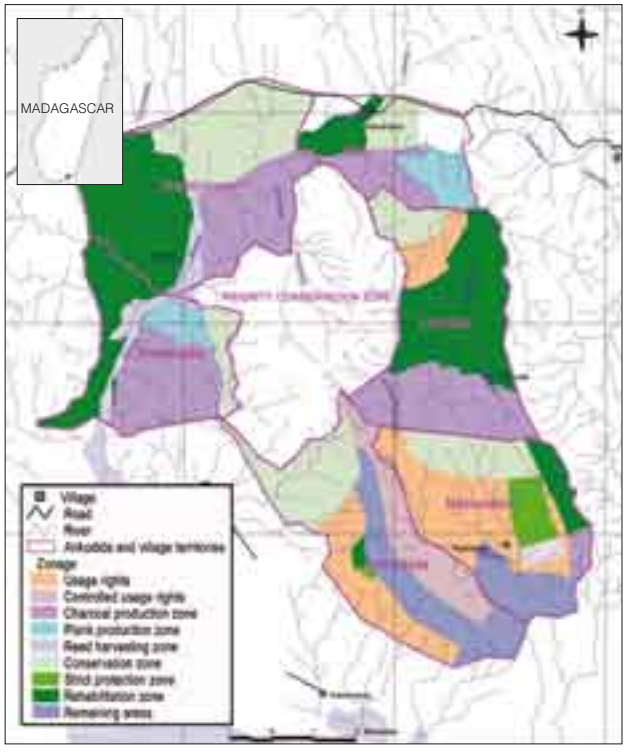
To summarise, land- and resource-use in Ankodida has in the past been constrained by the cultural protection of the site, especially its sacred forest, and has consequently been practiced sustainably and in a way that is compatible with the maintenance of cultural and spiritual values. Population pressure fuelled by immigration has, more recently, led to an increase in levels of exploitation, which

*Verreaux's sifaka (*Propithecus verreauxi*), a charismatic lemur that is locally culturally protected through taboo (*fady*). Photo: Louise Jasper.*

have resulted in widespread degradation of natural habitats surrounding the sacred forest and increasing pressure on the sacred forest itself. Immigration in particular has had a negative impact on the preservation of cultural and spiritual values as immigrants, despite sharing a common basis in their belief systems, are less likely to respect the locally specific customs and *fady*. In response to these changes, the challenge for the promoters and managers of the protected area is and has been to devise landscape-scale management strategies and spatial partitioning of resource use that promote the maintenance of cultural and spiritual values and the conservation of biodiversity without affecting negatively the ability of local communities to continue to satisfy their material needs from forest resources.

Management policies

Ankodida is amongst the first of the new generation of protected areas established under the Durban Vision and as such has been at the forefront of the development of new management models and governance regimes for Category V protected areas in Madagascar. Given that the sacred nature of the site provides some cultural protection (indeed, this is the main reason why the forest is still there), the principal objective of the promoters has been to empower and strengthen the capacity of local communities to effectively manage what is considered to be their forest (although ownership in fact remains, ultimately, with the state). The cultural and spiritual values of the forest and the resulting willingness of local people to conserve it render Ankodida a "low-hanging fruit" for the implementation of a new protected area.



Map 1. Zonage map of Ankodida showing GCF areas and Priority Conservation Zone (sacred forest). The Strict Protection Zones are additional sacred areas containing ancestral tombs. (Inset: Location of Ankodida within Madagascar)

The four principle objectives of Madagascar's expanded protected area system are:

- conserve Madagascar's unique biodiversity (ecosystems, species and genetic diversity)
- conserve Madagascar's cultural heritage
- maintain ecosystem services and promote the sustainable use of natural resources for sustainable development and poverty reduction
- maintain the ecological potential of established protected areas.

These objectives recognise that the cultural heritage of the Malagasy people is often closely linked to forests and wild places and that the conservation of this heritage, while highly desirable in its own right, may also be an important tool in the conservation of biodiversity. The management model developed for Ankodida closely parallels the principal objectives of SAPM and focuses on three highly interlinked objectives aimed at 1) ensuring the sustainability of the protected area, 2) safeguarding local livelihoods (ensuring no net negative impact on local communities) and 3) ensuring the viability of its representative biodiversity. The sustainability of the protected area involves a number of elements (which can be grouped in terms of financial, social and institutional sustainability) that are essential for ensuring the ecological sustainability of the protected areas. As such, planned management activities include the development of a range of strategies aimed at ensuring long-term financial support and a number of capacity-building initiatives (including the promotion of international standards of good governance; see, for example, Borrini-Feyerabend et al. 2004, Graham et al. 2003) based on the members of the participatory management committee that seek to build a robust, viable and legitimate institutional basis for the management of the PA. Perhaps the most vital element of protected area sustainability, however, is social; the PA, if it is to be viable in the long term, must be appreciated and appropriated by the communities that live within and around it. In order to ensure such social sustainability, the SAPM commission responsible for the implementation of the Durban Vision has placed great emphasis on the development of safeguards designed to ensure that the creation of protected areas has no net negative impact on the ability of local communities to meet their material, cultural and spiritual needs, and that they are suitably and justly compensated whenever such impacts are unavoidable.

An emphasis on developing such safeguards has underpinned the development of the Ankodida management plan and several mechanisms and strategies have been built into the development process to guarantee that the establishment of the protected area does not impact negatively on local communities. The delimitation and zoning of the protected areas were carried out with the participation of local communities and based on traditional village and household land boundaries, thereby minimising the potential for conflict and ensuring that traditional livelihood strategies could be maintained. In addition, the governance model put in place contains mechanisms that give all community members a voice in management decisions and provide a forum for the independent arbitration of conflicts (although this is not yet operational). Furthermore, as described below, the promoters of the site have sought to develop conservation strategies that favour biodiversity through the continued sustainable use of natural ecosystems, rather than through outlawing such activities. In this way the willingness of local communities to conserve the site for cultural, spiritual and material reasons can be harnessed for the conservation of biodiversity, and the legitimacy and social sustainability of the protected area is simultaneously promoted.

To date, the need to create safeguards in the establishment and management of the protected area has been very important and management structures and policies have been planned with this principle in mind. Because the whole process is so recent, it is not yet clear how this principle will operate in the reality of management. It is anticipated that socio-economic monitoring, as well as the open and inclusive nature of the co-management structures (which give a voice to all community members) will permit the early identification of any negative impacts on livelihoods and appropriate mitigation policies or compensation will then be decided by the co-management structures.

The cultural, spiritual and material values of Ankodida are closely aligned with its biodiversity; all stem from and are dependent on the maintenance of viable forest ecosystems. The values such as the role played by forests in cultural and spiritual life that are of importance to local communities, as well as the material resources that they provide, can be maintained and enhanced by the same set of broad strategies designed and catalysed by external stakeholders (such as conservation NGOs) aimed at conserving the values of interest to them, that is, the area's unique biodiversity. It is this coincidence in objectives that allows the managers and promoters of the protected area to adopt a holistic management approach that does not simply focus on biodiversity and strengthens the rationale for community management of the site. By focusing on capacity building and technical support, the promoters hope to create the conditions necessary for local communities to successfully manage their cultural heritage, whilst simultaneously conserving their, and the world's, natural heritage.

Management strategies relating to biodiversity and natural resource use within the protected area are centred on the promotion of sustainable use; all activities with the exception of slash-and-burn agriculture are permitted within the park boundaries, but are zoned both to minimise their potential impacts and to favour traditional land-use patterns (see map, Figure 1). Each village territory contains zones where the production of charcoal, the extraction of timber and the collection of non-timber forest products is permitted. In addition, various programmes have or will be established to increase the sustainability of the most damaging activities, including the promotion of improved charcoal production techniques, the implementation of a permit system for charcoal production and timber extraction, and the plantation of the most heavily utilised tree species. Community plantations of *Alluaudia procera*, a tree used for plank making, were successfully initiated by the Japanese NGO La Croix du Sud in 1994 and expanded by WWF in 2007. Under the latter project, 20 cuttings are planted per household per year throughout the protected area and 7,500 trees have been planted to date. The project is expected to eventually relieve pressure on the forest ecosystem without affecting negatively household incomes. Agricultural improvement and soil management programmes will also be catalysed in the near future to reduce demand for new agricultural land.

While the cultural and spiritual values of Ankodida are generally closely linked to its biodiversity value, one type of forest use where the desires of local communities and conservation organisations may clash is the grazing of livestock. Cattle, as has been seen, are hugely important in the Tandroy culture, but may have a negative impact on the regeneration of natural habitats. (Goats, incidentally, are *fady* to the Tatsimo, but not the Tandroy). The protected area managers and promoters have sought to minimise possible conflicts by permitting the grazing of cattle throughout the park (although the sacred forest is tradicionally little grazed) and instigating a research and monitoring programme to evaluate the impact and highlight the need for management intervention should this be required in future. In this case, the maintenance of cultural values was deemed to be more important than potential biodiversity issues and the security of both local communities and that of the protected area itself have been enhanced.

The transfer of forest management rights to local communities through GCF contracts and the subsequent designation of a community-managed protected area can be seen as highly beneficial to the maintenance of Ankodida's

cultural and, particularly, spiritual values. Both processes have legally empowered the communities involved to manage their natural resources, giving them the right (although constrained by national legislation) to devise and police resource management regimes for their own benefit. This includes the right to refuse settlement and resource-use rights to immigrants, a key tool for the protection of the sacred forest in the face of regional demographic trends. In addition, associated programmes catalysed by WWF, CEL, La Croix du Sud and others have built and will continue to build capacity amongst community management associations to ensure that management is effective and meets the requirements of both local communities (maintenance of cultural and spiritual values and sustainability of resource use) and of external stakeholders (biodiversity conservation and development).

Despite the benefits arising from the maintenance of the spiritual values of Ankodida's forests, some incompatibility remains between the legal status of the GCF areas and the cultural connection of the Tandroy people to the land. The Tandroy conception of land as belonging to the ancestors (*tanindraza*) is not legally recognised by the short-term GCF management transfers, under which land remains in the hands of the state. Given that this land had always been state managed, however, it can be argued that the current situation is nevertheless an improvement, as the *de facto* rights of local communities have at least been formalised. Another rights-related issue is that local people have been disempowered from doing what they might do through choice, since slash-and-burn agriculture is forbidden by law in all protected areas. This type of activity is, however, incompatible with the maintenance of cultural and spiritual values as it is one of the prime motors of forest destruction and the issue can therefore be seen as a conflict between short-term economic benefits and the conservation of cultural and spiritual values, rather than a conflict between these values and biodiversity conservation.

Challenges, threats and opportunities

The long-term viability of the Ankodida protected area and the cultural and spiritual values and biodiversity that it was established to protect is threatened by a number of social and economic trends, as well as by the common challenges associated with protected area management. In

Sacred transitional forest at the summit of Ankodida featuring the endangered palm, Ravenea xerophila. *Photo: Barry Ferguson.*

addition to the challenges of ensuring financial security and controlling illegal threats, the biggest challenge facing Ankodida from a management perspective lies in the evolving process of establishing viable, locally legitimate (as opposed to just legal) and well-governed management structures. This challenge will not be elaborated on here, except to say that capacity building within these structures is one of the key elements of the protected area promoters' programme over the next four years.

Of the threats beyond the immediate control of the promoters and managers of the protected area, socio-economic trends such as demographic growth, immigration, poverty, agricultural expansion and the continued growth of urban demand for fuel and construction wood all pose serious long-term challenges to natural resource management within the protected area. Each of these trends is likely to contribute to increasing pressure on the natural resources of the protected area, with subsequent negative impacts on both biodiversity and the cultural and spiritual values of the forests. In response to these challenges, WWF is collaborating with partners across the region on a number of programmes such as agricultural improvement, healthcare and family planning, and fuelwood plantations. In addition, the promoters of the protected area have worked closely with the regional administration to ensure that the protected area is integrated into the Regional Development Plan.

Due to the fact that they are difficult to slow or to reverse, a suite of factors that may contribute to the erosion of cultural and spiritual values are of great concern. Such factors include the influence of the Christian church, modern healthcare and the attraction of 'modernity'. Christianity and modern healthcare both serve to usurp the role of the Ombiasy in Tandroy life and provide alternative avenues for the spiritual and healthcare needs of the people. Cultural influences from overseas (particularly from Europe and the U.S.A.) also pull people away from their own culture and encourage the use, for example, of western clothing and music. This influence is particularly prevalent among young men who have the opportunity to spend time in urban centres and, as elsewhere throughout the world, contributes to the erosion and homogenisation of culture. While addressing these trends is, for both practical and ethical reasons, beyond the scope of the managers and promoters of the protected area, they remain a concern because the cultural and spiritual importance of Ankodida contributes greatly to both the value of the protected area and to the justification of its protection.

While the threats to Ankodida are many and certainly challenging, the social and cultural situation provides a great opportunity for the development of a viable model for community-managed conservation areas. Key to this expectation are the cultural and spiritual values of the site, which provide local communities with a strong interest in the designation and maintenance of the protected area as a tool and vehicle for conservation of their sacred forests. Evidence of the willingness of local communities to support the protected area initiative can be seen in the encouraging degree of local participation at every stage of the establishment process, the success of the community reforestation activities and the voluntary propagation and replanting by some members of the community of the two Critically Endangered aloe species found in the park. The challenge for the promoters and managers of the protected area is to capitalise on this local willingness and appropriation of the process to develop a workable management regime for the protected area so that it may continue to satisfy the cultural, spiritual and material needs of its inhabitants and neighbours while at the same time contributing to the conservation of Madagascar's unique biodiversity.

Acronyms

CEL	Centre Ecologique de Libanona
COGE	Comité de Gestion
GCF	Gestion Contractualisée des Forêts
MAP	Madagascar Action Plan
MEEFT	Ministère de l'Environnement, des Eaux et Forêts et Tourisme
PNM-ANGAP	Parcs Nationaux de Madagascar - Association National pour la Gestion des Aires Protégées
SAPM	Système des Aires Protégées de Madagascar

Glossary

dina
A locally developed and applicable social agreement equivalent to law, usually governing resource use

fady
Locally specific taboos

Kokolampo
Spirits or genies inhabiting the forest that play an important role in Tandroy spiritual life

Ombiasy
Traditional healers of the Tandroy and other western tribes

Roandria
Noble clan

sikidy
Divination with seeds

Tanan-taolo
Village of the ancestors (name given to the sacred forest)

Tandroy
The dominant tribe of the Androy region within which Ankodida lies.

Tanindraza
The land of the ancestors

tromba
A trance entered into by an Ombiasy during healing ceremonies

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Dancing the Ramayana in the sacred landscape of Angkor

Liza Higgins-Zogib

Summary

Cambodia's Angkor Archaeological Park, which includes the Angkor Wat Protected Landscape, is a sacred place. Its world-famous temples pay homage to Hinduism and Buddhism and its outstanding architecture serves as a reminder of the cultural and spiritual richness of a country recovering from years of conflict. Managing such a large ancient site is not without challenges and this paper suggests that if it is not managed as a sacred landscape, then its very essence -which is spiritual- will be buried under the influx of tourism and economic growth. This paper explores the spiritual elements of Angkor's increasingly threatened 'protected landscape' and considers the growing challenge of tourism and 'development', as well as putting forward some recommendations on how to improve the management of the landscape in order to take into full consideration its religious, spiritual and related artistic dimensions.

Introduction

A lone dancer walks on to one of the world's most incredible stages, her ankle bells resounding with each step, inviting the audience to prepare for an elevating experience. As she assumes the position of Lord Rama, poised with bow and arrow, she breathes life and movement into the immobile bas-reliefs that adorn the temple walls. The intricate sculptures of the Angkor temples that depict the advent of Lord Rama provide a perfectly celestial setting for the International Ramayana Festival[1], where dance troupes from all over Asia come together to perform stories from the epic in their individual styles. This awe-inspiring event and the continued pilgrimage to the site are proof that the Angkor landscape is home to a living, thriving and varied cultural heritage.

In many ways the landscape of Angkor, Cambodia, defies description. It is a landscape where natural, cultural, social and spiritual dimensions meet and interact at every turn; a place where the infinite possibilities of humankind become real; and where the line between the secular and the divine is unclear. But as this ancient place of worship moves into the twenty-first century, the practical challenges involved in managing the site without losing any of its spiritual integrity are intensifying. This paper explores the spiritual elements of Angkor's increasingly threatened 'protected landscape', considers the growing challenge posed by tourism and 'development' and puts forward some recommendations on how to improve the management of the landscape in order to take into full consideration its religious, spiritual and related artistic dimensions.

An archaeological landscape with many different values

Two landscapes (that is, a landscape within a landscape) with two management entities are dealt with in this paper as shown in table 1.

In December 1992, Angkor's 42,000 ha of natural, cultural and spiritual opulence was designated a World Heritage Site[2]. It is located in north-western Cambodia, south of the Kulen Hills and north of Tonle Sap, the Great Lake. Known as Angkor Archaeological Park, its fifty or so ki-

Name	Designation	Management authority	Landscape
Angkor Archaeological Park	UNESCO World Heritage Site	APSARA Authority	Covers a much broader landscape (42,000 ha)
Angkor Wat Protected Landscape	Category V, Protected Landscape	Ministry of Environment	A more restricted area around Angkor Wat, part of the country's national protected area system (10,800 ha)

Table 1. Description of the two management entities at Angkor.

1 The International Ramayana Festival is an event that brings together a number of countries to dance the Ramayana in their variety of styles. It was held at Angkor from 29 December 1995 to 2 January 1996.

2 It is a World Heritage 'Site' as opposed to 'Landscape' simply because it was designated before UNESCO used the term 'World Heritage Landscape'. This has not yet been rectified.

lometres from east to west comprise a landscape of forests, rice paddies, lakes, waterways, towns and villages, among which are scattered hundreds of temples and other buildings (Freeman and Jacques 2003). These range from small piles of rubble to the most magnificent specimens of Khmer architecture, including the internationally celebrated Angkor Wat. Reputed to be the world's largest single religious monument, Angkor Wat is undoubtedly the main attraction of this landscape and Cambodia's most valuable landmark, drawing between one and two million visitors to the country each year. In 1993 the area surrounding Angkor Wat was designated a category V 'Protected Landscape'. [3]

The designations of these areas are deceptive. The Archaeological Park and World Heritage Site actually encompasses a broad cultural and historical landscape, whereas the Protected Landscape is part of the formal protected area system, more often identified with specific sites. These are rather confusing appellations, but in reality both areas together form one spiritual landscape.

It is safe to say that the Archaeological Park and, in particular, the Angkor Wat landscape, provides more national and local economic benefits than any other site in Cambodia. It would indeed be difficult to find many other Category V protected landscapes in the world of such economic importance. An evaluation of the country's national protected area system in 2005 stated:

"Angkor (Protected Landscape) is one of the most emblematic cases of a protected area whose tourism value has spurred very rapid and intense development –one of the highest and most sustained in Cambodia– and it has become a major source of income for tour operators, the hotel and transportation industries, and other associated businesses not only locally, but elsewhere in the country and even abroad" (Lacerda et al. 2004).

In addition to its significant economic importance, the larger Angkor landscape is critical from an ecological point of view. Despite increasing fragmentation, the area still contains extensive and predominantly mature, natural forests (Dudley et al. 2005). The forests of Angkor are intricately entwined with the site's spiritual heritage, having protected it for centuries after the decline of the ancient city, Yasodharapura. This is perfectly illustrated in temples such as Ta Prohm and Ta Som, where the trees and temples seem to spring from the very same source and it is difficult to say whether the trees hold the temples up or vice versa. A recent survey of Angkor's trees identified no less than 154 species belonging to 116 genera and 46 families (APSARA 2006). These include Krolanh (*Dialium cochinchinense*

Monk at Angkor Wat. Photo: Stephanie Mansourain

3 UNEP-WCMC World Database on Protected Areas.

Apsara dancers in Angkor bas reliefs. Photo: P.J. Stephenson.

Leguminosae-Caesalpinioideae), Lngeang (*Cratoxylum cochinchinense* Guttiferae) Semean (*Nephelium hypoleucum* Sapindaceae) and Bampenh Reach (*Sandoricum koetjape* Meliaceae). Pressure from deforestation is prevalent and restoration efforts are underway. While its species diversity has diminished substantially due to hunting, illegal logging and other pressures, the forests still provide safe-haven for flocks of Red-breasted parakeets (*Psittacula alexandri*), Hainan Blue Flycatchers (*Cyornis hainanus*), Pied Hornbills (*Anthracoceros albirostris)*, flying-foxes (*Pteropus lylei)*, long-tailed Macaques (*Macaca fascicularis*) and much more. On the temple walls beautifully accurate carvings of the surrounding environment remain as proof of the biological richness of the Angkorian period: landscapes, plants, birds, mammals, reptiles and fish -so accurate that they can be identified to species level- are commonly depicted amongst the battle scenes.

Architecturally, Angkor is the most important site in Southeast Asia, having fascinated the world since its 'rediscovery' in 1863 by French naturalist, Henri Mouhot. The Khmers themselves never forgot the existence of the Angkor monuments and, although many fell into disrepair, Angkor Wat, for example, was continually used for worship (Freeman and Jacques 2003). There are a variety of architectural styles in the landscape reflecting the differing religious tendencies and royal reigns of the time. These range from the Preah Ko Style (877-886 A.D.), through the classical or Angkor Wat Style (1080-1175), to the Post Bayon Style (1243-1431).

Kathakali version of Ramayana Dance. Kerala, India. Photo: Pavel Aleymikov

Culturally, as will become apparent in the course of this paper, Angkor is of undeniable importance to Cambodia as a whole. An image of Angkor Wat appears proudly on the country's flag and its spirit underpins the dance, drama, music and art of the entire nation.

But more than anything else, Angkor is a sacred landscape that exudes spiritual value and demands reverence from even the most hardened of visitor. Its sacredness permeates all of its other values (economic, architectural, cultural and natural). Unfortunately, however, its sacred status is often neglected.

The sacred landscape of Angkor

To understand the sacred landscape of Angkor we must first understand a little of the ancient Khmer civilisation that was responsible for its existence. The word Angkor comes from the Sanskrit word 'nagara' or city. The Angkorian period spanned from the ninth to the fifteenth centuries (Higham 2001) and emerged from the 'Sanskritisation' or general 'Indianisation' of thoughts and practices. More precisely the period spans from 802 AD, when the Khmer king, Jayavarman II, declared himself devaraja or 'god-king' of Cambodia, until 1431 AD when the Khmer capital fell under the weight of Siamese invaders. During that period, Yasodharapura, the mightiest of the southeast Asian empires, was constructed. In 2007 it was revealed that Angkor (Yasodharapura) had been the largest pre-industrial city ever, over twenty times bigger than its closest known contender for the title, the ancient Mayan city of Tikal in Guatemala[4].

The religious complexity of the place is well apparent. Earlier temples are dedicated to the Gods of the Sanatana Dharma[5] (Hinduism) and reflect the mighty Hindu *itihasas* (epics), the Mahabharata and Ramayana. Later, Mahayana Buddhist (Great Vehicle) influences crept in and subsequently gave way to Theravada Buddhism (Lesser Vehicle) – a move that was reflected to some extent by the language shift from Sanskrit to Pali (Zéphir 2004). There have even been examples of Tantric Yoga texts found here that prove the extent to which the Khmer civilisation also believed in the possibility of spiritual liberation through meditation and other physical and energetic practices (Bhattacharya 2005). These possibilities are fully reflected in the immenseness and the detail of the architecture at Angkor. All this, alongside the indige-

4 "Map reveals ancient urban sprawl," BBC News, 14 August 2007.
5 The eternal path or Hinduism, as it is commonly referred to.

nous Khmer deities and protectors, and the god-like status of the monarchy, makes for a complex but somehow harmonious mix.

The temples venerate Lords Shiva and Vishnu of the Hindu Trinity[6] (Lord Brahma, as elsewhere in the Hindu world, is much less depicted). Lord Shiva, the mighty destroyer, is most commonly depicted with the use of the Shiva Lingam, the sacred phallus, but also in his other common forms as ascetic (Yogi), cosmic dancer or riding his *vahana*, Nandi the bull, alongside his consort, Uma (Parvati). Lord Vishnu, the sustainer, is most commonly depicted in one of his ten avatar forms, particularly as Krishna or Rama, who take worldly existence to restore the Dharma, or the righteous way.

The Hindu temple is a place of transcendence. It is where the physical world can be surpassed and divine knowledge accessed. The Vastushastras (treatises on sacred architecture) explain the art of temple building in detail and this tradition was adopted wholeheartedly by the Khmer priest-architects. The cosmology of the temple architecture is both complex and intricate, with each element astronomically aligned and therefore in harmony with the entire cosmos -both outer and inner.
Many studies have been undertaken on the cosmology and astronomy of Angkor Wat (Mannikka 1996) and the details are quite astounding. The following is a description of some of the numerical/cosmological intricacies of the site.

"… the west-east axis represents the periods of the yugas[7]. The width of the moat is 439.78 cubits; the distance from the first step of the western entrance gateway to balustrade wall at the end of causeway is 867.03 cubits; the distance from the first step of the western entrance gateway to the first step of the central tower is 1,296.07 cubits; and the distance from the first step of the bridge to the geographic centre of the temple is 1,734.41 cubits. These correspond to the periods of 432,000, 864,000, 1,296,000 and 1,728,000 years for the Kali, Dvapara, Treta and Krita yuga, respectively. It has been suggested that the very slight discrepancy in the equations might be due to human error or erosion or sinking of the structure" (Kak 2002).

As a microcosm of the Hindu Universe Angkor Wat is a pure expression of Hindu symbolism. The mountain-temple represents Mount Meru, the celestial abode of the Gods, with its towers representing the mountain peaks and its moat the mythical oceans. It was originally dedicated to Lord

6 Lord Brahma, the Creator, Lord Vishnu, the sustainer and Lord Shiva, the destroyer.

7 Cosmological eras according to the Hindu tradition.

Trees taking over Ta Prohm. Photo: P.J. Stephenson.

Vishnu, although later many standing and seated Buddhas were introduced and the temple was worshipped by Theravada Buddhists (Zéphir 2004) and remains today one of the most significant Buddhist monuments in the country. The bas-reliefs are outstanding and most portray scenes from either the Mahabharata or the Ramayana (Freeman and Jacques 2003).

The Ramayana at Angkor

In terms of popular culture, the Ramayana is the best-known and most-loved epic of Hindu literature. Its influence is palpable not only in the entire Indian subcontinent, but also throughout the whole of south-east Asia. It takes on many differing names and forms: in Thailand it is the Ramakien, in Indonesia it is Kakawin Ramayana, in Laos it is Palak Palang and in Cambodia it is the Reamker or Ramakerti. In these countries -along with many others- the Ramayana is represented in theatre and dance, thus allowing the advents of the noble Lord Rama to remain fully integrated into daily life and worship.

Attributed to the poet-sage, Valmiki, in the Treta Yuga, the original epic tells the story of Lord Rama, symbol of good and righteousness, from before birth until after death. During his fourteen-year exile in the forest, his wife, Sita, is abducted by the demon, Ravana, king of Lanka. Rama, with the help of an army of monkeys and, in particular, his beloved friend, Hanuman, rescues Sita and returns to his kingdom of Ayodhya. It is a tale that depicts all aspects of the Dharma and as such has penetrated into the cultural consciousness not only of its native India but also the many south-Asian countries that have adopted it as their own.

In the temples of Angkor the Ramayana plays a major role. Scenes from the epic are depicted in the bas-reliefs of many of the temples, including Angkor Wat, where, for example, powerful images of the Battle of Lanka[8] are portrayed. Just as the Ramayana has enriched the architecture, so the architecture has immortalised the moral tales of the Ramayana, inculcating them into the minds of the temple-goers. Nevertheless, it is through dance that these tales have fully entered into their hearts. Dancing the Ramayana has for centuries been the main form of transmission of the epic's moral story throughout south and south-east Asia. Most who know of Rama, Sita, Hanuman, Lakshmana and the others have not read about them in books, but have experienced them through dance. All Indian classical dance forms, for example Katha Kali, Bharata Natyam, Kuchipudi and Kathak, include episodes from the Ramayana in their repertoires.

8 Where Rama, Hanuman, Lakshmana and others fought to rescue Sita from the demon, Ravana.

The dance of the Apsaras – stamping life into Angkor's spiritual heritage

The Apsaras, or celestial dancers, are omnipresent in Cambodia. Their beautifully sculpted postures adorn the entrances to houses, temple roofs and the walls of buildings. They are also depicted everywhere at Angkor and there are around 2,000 at Angkor Wat alone.

In Ta Prohm temple, the 'Hall of Dancers', still stands and bears testimony to the important part that dancers played in the life and practices of the temple. This trend can be seen throughout the Indian subcontinent, where the temple dancers or Devadasis[9] performed in worship of the divine until they became socially unacceptable and fell into disrepute. Up to then they had played a critical role in the temples, not only by dancing, but also by preparing for ceremonies and cleaning the *sancta sanctorum* – activities that no others were permitted to perform (Sahai 2003).

In Angkorian times when dance was ritually performed in the temples, the dancers came to be known as Apsaras. They were both entertainers for the general public and for the divine. When Angkor collapsed many of the dancers were taken to the Siamese kingdom of Ayutthay. Many of the dance traditions that obviously flourished at Angkor were lost, although some survived in their traditional, orally-transmitted forms. During the years of terror of the Khmer Rouge (1975-1979), however, many dancers were killed and only an estimated ten per cent survived. The death of so many dancers meant that much of this art form was lost completely (Chhieng 2008).

The general storyline of the Ramayana has been maintained in Cambodia, although some modifications and additions make it even more relevant in a local context. For example, an encounter between Hanuman (the monkey general and an important Hindu god) and Sovann Maccha (the mermaid) has been added, the latter being a favourite of Cambodian audiences. Naturally, the names are changed: for example, Rama becomes Preah Ream, Sita becomes Neang Seda and Ravana becomes Reap (Shapiro-Phim, undated)[10].

Despite the conflict and the instability, the Ramayana has never stopped being danced at Angkor, thereby ensuring an unbroken cultural and spiritual link with the grandeur of the Angkorean past. Today, the Preah Khan temple (north-east of Angkor) provides another inspiring stage for the performances of Cambodia's Royal Ballet. (H.R.H. Princess Norodom Buppha Devi 2002). The International Ramayana Festival held at Angkor Wat in 1995-96 was a significant

9 Female servants of God.

10 http://www.asiasource.org/cambodia/reamker.htm, accessed 30/05/08.

message to the international community that Angkor is still very much alive, both culturally and spiritually.

Proeung Chhieng, Artistic Director of Dance, the Spirit of Cambodia and the Vice Rector and Dean of Choreographic Arts at the Royal University of Fine Arts (RUFA) in Phnom Penh, said in a recent interview:

"Many countries, including Cambodia, value the economy over the arts, but once that happens, the nation is broken. Without dance, people may be rich and prospering, but they've lost compassion. They've lost what it means to be sympathetic with other people. In society there is a social aspect and a cultural aspect and if the cultural aspect is not addressed, society is not whole. Dance creates and builds a strong conscience." (Chhieng 2008)

Dance has always been part of the Angkor landscape and so it is fitting that as the country moves into the future, the dance of the Apsara remains part of its cultural core.

Managing Angkor's sacred landscape

After twenty years of civil war that wreaked havoc not only on Cambodia's people, but also on her culture and spiritual heritage, an intergovernmental conference was held in Tokyo (1993) to safeguard Angkor. In 1992 it was designated a World Heritage Site and, given the country's post-conflict situation, an International Coordination Committee was set up to ensure its management and to encourage international aid. In 1995, the Cambodian Authority for the Protection of the Site and Development of the Angkor Region (APSARA) was established to provide coordination and coherence between and within government ministries, international governmental institutions and NGOs to ensure that work was undertaken on the ground[11].

A variety of international organisations are at work under the auspices of the International Coordination Committee: for example, a German team is restoring the Apsaras of Angkor Wat and a French team is working on the Terraces of the Leper King and of the Elephants, while at Bapuon, the Japanese are working on Bayon, Angkor Wat and Banteay Kdei (Freeman and Jacques 2003).

The Khmer-established APSARA is responsible for implementing the management plan for Angkor Archaeological Park. Some of its successes include safeguarding a number of the major temples, creating a heritage protection police force to combat looting and other forms of destruction, clearing landmines and providing general training

11 http://portal.unesco.org/en/ev.php-URL_ID=17157&URL_DO=DO_TOPIC&URL_SECTION=201.html, accessed 30/05/08.

Apsara dancers today. Photo: Riccardo Montarani.

and coordination. It has also been encouraged to think about sustainable development and poverty alleviation in the area of Siem Reap-Angkor. The legal texts make specific mention of involving local communities in the conservation of the cultural zones in Siem Reap and underline the importance of local arts and crafts (Schultz 2002).

APSARA is administered by a board comprising of:

The First Prime Minister
The Second Prime Minister
The Minister of State for Culture and Fine Arts, Territorial Management, Urban Planning and Construction
The Minister of Public Works and Transport
The Minister of the Economy and Finance
The Minister of Culture and Fine Arts
The Minister of Foreign Affairs and International Cooperation
The Minister of Tourism
The Minister of the Environment
The Minister of Planning
The Secretary-General of the Cambodian Development Council
The Governor of the province of Siem Reap
A Representative of the Presidency of the Council of Ministers[12]

12 Taken from the Decree establishing APSARA, http://autoriteapsara.org

As such, in theory all of the different sectors have a say in how the landscape is managed and developed.

The smaller Angkor Wat Protected Landscape is part of the national protected area system and as such is managed by the Ministry of the Environment (also on the board of APSARA). The remit of the Protected Landscape is much more focussed on forest protection and water management, which is also of utmost importance to the sacredness of the site. Restoration efforts have been carried out to enhance watershed services and to reverse the damage done by illegal logging activities.

Interestingly, in 1995, a project entitled 'Community Participation in Protected Areas' was established with the assistance of UN volunteers. During the project, the communities of the Siem Reap region were given the opportunity to enhance their cultural practices, including dance and song: for instance, children were exposed to the traditional arts and crafts of their communities and the elderly were encouraged to recall pre-Khmer Rouge folk music. From one village a traditional dance group was organised that eventually gave performances in neighbouring villages and at various temple sites. The project recognised the challenge of encouraging this cultural renaissance with the soul of local communities in mind, rather than simply pleasing the growing number of tourists visiting the area (Schultz 2002).

Tourists at Angkor Wat. Photo: P.J. Stephenson.

The APSARA authority, supported by the numerous international organisations working in the Angkor landscape, is doing an admirable job and has recognised to a certain extent the many different intrinsic values of the landscape (particularly economic, environmental and archaeological). Nevertheless, the spiritual element has largely been ignored. The challenge now is to introduce the spiritual dimension into the management policies and practices of APSARA and other entities working to safeguard the landscape. Given the mounting pressures from tourism and hasty development, taking the spiritual element of the landscape into account becomes all the more necessary.

Tourism in the Kali Yuga

A 2003 investment report (UN 2003) listed Cambodia as one of only four developing countries that boasts an income from tourism that exceeds $100 million per year. Angkor is undoubtedly the primary reason for such a figure, which has certainly risen substantially since then.

Although the Angkor Archaeological Park was officially removed from the World Heritage In Danger list two years ago, it is not yet out of danger. In March 2008 it made headlines in The Independent: "Heritage site in peril: Angkor Wat is falling down" (Sharp 2008). The report stated that the site has simply become "too popular for its own good" and that bad planning, management and practices are contributing to the literal downfall of the site.

Tourism figures vary from source to source but, on average, Angkor has seen a increase from 7,600 tourists in 1993 to well over a million in 2007. Admittedly, this huge rise in paying visitors brings economic benefits for the country as a whole. But who is really benefiting? Who will end up footing the bill? For one, the temples themselves are suffering and the Phnom Bakheng hilltop temple has to bear the weight of the feet of around 3,000 tourists on its steps every evening, as enthusiasts make their way up to watch the sun set over Angkor Wat. Busloads of tourists queue at the temple entrances and many inevitably do not follow the rules of conduct during their visits.

In Siem Reap and surrounding area the frenzied building continues, with luxurious hotels, spas, swimming pools and golf courses all vying for the attention of a wealthier class of visitor. Unfortunately, this strain on the area's water supply may be having disastrous consequences for the town itself and for the very temples people are coming to see. The current representative of UNESCO, Mr Delanghe, has warned that the Angkor Wat complex, standing on a delicate balance of sand and water, may collapse if that balance is disturbed (Sharp 2008).

The local populations may benefit in the short term from better jobs, some training programmes and trade with tourists, although in the long term the benefits are unclear. In reality, the real beneficiaries are the large investors (often from neighbouring Asian countries) and hotel owners, who often do not give back much to the community or the archaeological site itself. Ever more people are moving to Siem Reap to enjoy the benefits of the continuing boom and more hotels and restaurants are springing up as increasing numbers of tourists include Angkor on their list of Asian 'must-sees'. As a result the ground water level in Siem Reap has fallen, infrastructure problems have increased and, according to a 2005 World Bank report, "energy, water, sewage and waste are all significant problems… Most guesthouses reportedly dump used water directly into the river, causing noticeable river pollution" (World Bank 2005). The APSARA Authority, aware of these reports and the potential damage being exerted on the foundation of the temples, seems to be torn between the urge for development and poverty reduction and the safeguarding of the site.

Where does all this leave the sacredness of the landscape? Unfortunately the safeguarding of 'sanctity' does not seem to be high on anyone's list of priorities. This is not surprising from a Hindu worldview since we are currently in the time of the Kali Yuga (the Dark Age or Age of Strife). The Kali Yuga began in 3102 BC with the Mahabharata[13] war and is set to last for a total of 432,000 years[14] (just as indicated in the measurements at Angkor Wat) (Klostermaier 2003). It is a time of spiritual decline, when the Dharma is challenged on all fronts. At Angkor the will to grow and develop at any cost outweighs any intentions to manage the landscape appropriately for all the different values it possesses. But all is not lost for Angkor. If the right management response is put in place, one that takes into consideration the landscape's spiritual values, as well as its needs for development, then a much better balance will be established.

Conclusions

Just as Apsara balances on the toes of one foot, the Angkor landscape is also balanced on a narrow ledge of hasty development. The spirit of Angkor resounds in the steps of Cambodia's dancers and in the future it is to be hoped that the dances will not only be performed for the benefit of tourists.

The following are a number of general conclusions:

- Angkor Archaeological Park (including Angkor Wat Protected Landscape) is a sacred landscape, but has

13 India's other great monumental epic.
14 The number of years of each of the Yugas varies according to different sources, e.g. Guénon in *The Crisis of the Modern World* (1927).

never formally been recognised as such.
• The sacred heritage of the Angkor landscape is intimately linked with the culture of the local communities and the nation as a whole. This is clearly illustrated in the field of classical (sacred) dance.
• It remains an important pilgrimage site for Hindus and Buddhists the world over (particularly of the Theravada lineage).
• It remains a place of worship for Hindus and Buddhists alike.
• The sanctity of the most visited temples is in danger from uncontrolled visitor numbers (as are the monuments themselves).
• Unplanned development in the Siem Reap region is causing damage to the temples (pollution, visitor numbers, water drainage, etc).
• The real economic benefits of growth in Siem Reap are often not felt by the local communities, but by foreign investors.
• Forgetting the sacred nature of the place in favour of economic growth may be the cause of the ruin of this landscape. A better balance must be found.

Recommendations

The following are some recommendations that may help the current authorities and decision-makes to maintain and enhance the sanctity of Angkor's sacred landscape:

• Formally recognise the entire landscape as a 'sacred landscape' with important religious and spiritual values for millions of Buddhists and Hindus the world over.
• Recognise that the religious and spiritual values also need to be managed for appropriately.
• Increase the capacity of management staff to incorporate spiritual/religious considerations into decision-making.
• Seek advice from local religious authorities, particularly with regard to visitor management.
• Endeavour to inform visitors more adequately of the sanctity of the landscape.
• Ensure that appropriate visitor guidelines are in place and fully implemented.
• Further involve local communities and religious groups in decision-making and management of the landscape.
• Encourage and support cultural and spiritual traditions, including dance and theatre, and sustainable development in the Siem Reap region.
• Encourage and support cultural exchange events with other countries (such as the International Ramayana Festival).

Glossary

Angkor
Khmer term meaning 'city.' It comes from the Sanskrit *nagara*.
Apsaras
The celestial dancers
Ayodhya
The kingdom of Lord Rama
Banteay
Khmer term meaning 'citadel' or 'fortress,' which is also applied to walled temples.
Kali Yuga
Current era of the world's existence according to Hindu texts
Khmer
Predominant ethnic group of Cambodia
Mahabharata
Name of another great Hindu epic (along with the Ramayana)
Mahayana
Great Vehicle school of Buddhism
Rama
The eighth avatar of Lord Vishnu
Ramayana
Hindu epic that recounts the tales of Lord Rama
Reamker
Name of the Ramayana in Cambodia
Ta
Khmer term meaning 'ancestor' or 'grandfather.' (Ta Prohm means 'Ancestor Brahma.')
Varman
Suffix meaning 'shield' or 'protector'
Theravada
Lesser Vehicle school of Buddhism
Vishnu
One of the Hindu Trinity (along with Lord Shiva and Lord Brahma). Angkor Wat is dedicated to Lord Vishnu.
Wat
Khmer term meaning temple (Angkor Wat means 'temple city')
Yasodharapura
Name of the ancient city of Angkor
Yugas
Four ages of the world according to Hindu texts

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Sacred Imbakucha: Intangibles in the Conservation of Cultural Landscapes in Ecuador

Fausto O. Sarmiento, César Cotacachi and Lee Ellen Carter

Summary

We describe here the qualities of a cultural landscape kept within modernity by the local people of the Utawalu valley in Imbabura, northern Ecuador. Conservation efforts to incorporate cultural diversity alongside the biological diversity of the largest conservation area in Western Ecuador are needed in order to improve protection of the traditional ancestral farmscape of the Imbakucha Basin. The different characteristics of the protected landscape present in the site should lead to a successful initiation of a new wave of conservation in which Andean cultures are priority. A plea is presented to invigorate the conservation of sacred sites as a necessary step towards the Imbakucha Basin being declared the first candidate in a list of several prospective category V sites in Ecuador.

Introduction

On the equator in the northern Andes (hereafter referred as the Equatorial Andes), live a unique collective of people strongly linked to their ancestral culture, but fervently immersed in the contemporary handicraft market economy. This original people identify their ethnicity with a shared history of resistance, similar environmental quality, and an indigenous communitarian livelihood that is characteristic of Andean cultures. Populating the inter-Andean valley just north of the equator, some 50 thousand Kichwa[1]

1 *Kichwa* is the phonetic writing of 'Quechua' (in Peru) or 'Quichua' (in Ecuador, Bolivia, Chile, and Argentina), the language of the Andean people (*runa simi*). We avoid the hegemony of Castilianized words, as we support the recovery of local identity and the invigoration of vernacular culture, including the use of the non-written language of the *Inka*. In this text, we use *italics* to highlight the phonetic *Kichwa* alphabet, while Spanish terms appear inside quotation marks for emphasis.

Location of the Imbakucha watershed within the province of Imbabura in Ecuador, South America. The main topographic features are shown as part of the description of the sacred sites in the Otavalo region. Source: Carter 2008.

Utawalu (known in Spanish as 'Otavalo') make their living in limbo between tradition and modernity. Despite a lack of confirmed data from population censuses in rural areas, it is thought that these people represent almost one third of the inhabitants of Imbabura province, with a growth trend of around 4% in the last census period. About 70% reside in rural areas around the town of Otavalo in a young population with 48% of inhabitants under 20 years of age (INEC 2001).

Like many original people worldwide, 'Otavaleño' identity has been threatened over past decades by 1) increasing western influences challenging indigenous values; 2) global marketing trends weakening their ancestral customs; and 3) the destruction of unique landscape features linked to traditional livelihoods (Whitten 2003). We should be aware of these people's ethnicity amidst the hierarchies of modernity (Appadurai 1988, Knapp 1991) and in light of the ever-growing homogenization of material monetary values and market-oriented societies (De la Torre 2006).

The Kichwa Utawalu have received more attention from anthropologists (e.g. Instituto Otavaleño de Antropología) and the international community (e.g. UNESCO, FAO and UNDP) than any other ethnic group in Ecuador since they are regarded as a perfect example of the 'good image' of indigenous groups from the Equatorial Andes that can be presented to the world. Foreign assistance and governmental plans for boosting tourism in Imbabura has catapulted the Utawalu to the forefront of entrepreneurship and they have become known as the 'weavers of South America'. The Utawalu, thus, accept the consequences of the westernized models that have had such negative effects on the environment in the Imbakucha Basin. This lake and its surrounding bucolic landscape have been known since antiquity as the 'Valley of Dawn' and was the birthplace of the last *sapa inka* emperor, Utawalpa (sometimes known as Atabalipa or 'Atahualpa'); today, nonetheless, this site is striving to maintain its identity amidst increasing modernization.

However, many development stresses are currently altering the power relationships that exist between the cultural elements present in this Andean farmscape (Carter and Sarmiento, in press) and several different categories of protected areas will be required to conserve the rich biodiversity of the Equatorial Andes and the vivid culture of the original people[2] of this tropical Andean ecoregion. Furthermore, the determination of 'otherness' in Imbakucha must recognize the essence of place shared by groups of the same ethnic background that is hidden behind political boundaries and accesses (Whitten 2003); this is the case of the Utawalu (in the northwest), the Kayampi (southeastern zone), the Kutakachi (around Lake Tsuikucha) and others such as the Imbala, Atuntaqui, and Caranqui (Rosales 2003).

It is because of this rich mixture of cultures, still maintaining their traditional livelihoods, that efforts to turn the 'Valley of Dawn' into the 'Switzerland of Ecuador' have succeeded and have led to a boom in ethnotourism, agrotourism and ecotourism in Imbabura province. A mere 110 km north of Quito, the capital of Ecuador, visitors are surprised to find lakes, mountains, farmlands, and small Andean towns, interspersed with a matrix of different shades of green. Weekend tourism is very high, as some 50,000 potential buyers flock to the Saturday market -considered to be the largest outdoor market in South America- and actually double the town's population. Here, the ninety concrete parasols designed in 1973 by female Dutch architect Tonny Zwollo are converted into a colorful showcase of ponchos and other handicrafts. This open area -or 'Ponchos Plaza'- is considered by many travelers as 'the mother of all markets', since the colorful market stalls have spilled over into the streets of the central district of the city of Otavalo.

Otavalo receives many tourists from all over the world. The most represented American countries of origin are USA (227,056 visitors), Colombia (178,621), Peru (130,566) and Chile (21,125), while the most represented European countries are Spain (32,772), United Kingdom (24,344), Germany (21,870) and France (16,327) These are figures from a census in 2006 (MINTUR 2008). In fact, Otavalo is one

The Imbabura volcano overlooking the Imbakucha watershed. Note the presence of the 'lechero' tree on top of Pukara Reyloma in the foreground. In the background, several communities located around the area of the San Pablo lake are to be found. Photo: Cesar Cotacachi.

2 To avoid political debate, a consensus exists amongst indigenous nationalities throughout Latin America to use the term 'original people' instead of terms such as 'indian', 'native', 'indigenous', 'aboriginal' or 'primitive', which are at best condescending if not simply wrong. We also describe most geographical places using the vernacular language where possible in order to reaffirm the need to understand cultural dimensions of spirituality in conservation: 'Chimborazo' hence becomes *Chimpurasu* and 'Otavalo' *Utawalu*.

of the top three tourist destinations in Ecuador (including the Galapagos); in the first quarter of 2008 some 230,400 tourists visited Ecuador, a 9.58% increase over the same period in 2007. It is calculated that about one third of these visitors went to Otavalo (MINTUR 2008)

The tourist sector in Imbabura province is managed by a provincial directorate that is dependent on the national Ministery of Tourism. Each county, including Otavalo, has a tourism office where operators can obtain licenses, permits, promotional materials and advice. The private sector is also very active and most tourism companies that cater for foreign visitors to Ecuador have subsidiaries specializing in tours to Otavalo. However, recently a new trend for cheaper accommodation such as hostals or family apartments has appeared. This so-called 'ethnotourism' involves several original families who provide an experience "from the indigenous point of view". It is this segment of the market that emphasizes the sacred sites as a destination with educational potential. Nevertheless, the Otavalo market is not the only tourist attraction in the area and many young people use ethnotourism operators to get to know ethnic group perspectives regarding conservation and development scenarios. Some of the most popular tourism operators of the area are Runa Tupari Native Travel, Diceny Viajes, All About Ecuador and Ecomontes. Smaller groups are managed by Zulaytur, Leytons Tours and Urkutours. Nearby Cotacachi, where mining activities and other extractive and contaminating industries have been closed down, has been declared the most ecologically oriented county in Ecuador. Cotacachi has won several international awards for activities relating to good practices in public participation, peace, conservation, public budgeting and on-line resources.

As this use of ethnotourism destinations is an important element in the contestation of conservation territories (Zimmerer 2006), the building of identity based on iconic indigenous features, language descriptors, ecological taboo and sacredness, extreme care should be exhibited when incorporating the spiritual domain within ecotourism to revalue local culture (Posey 1999), maintaining strong traditions within the Kichwa Utawalu (Cotacachi 2002), instead of making Otavalo a market-oriented traditional tourism destination. We agree with Oviedo et al. (2005) in cautioning that sacred sites in the Imbakucha Basin should be seen as areas of special significance, enhanced by the natural elements of the cultural landscape. Thus, we feel that the protected landscape approach (Sarmiento et al. 2005) of Category V is the most appropriate conservation category for this Andean locus of the Imbabura province in northern Ecuador and the best way of promoting biodiversity conservation and cultural invigoration within this cultural landscape (Sarmiento 2003).

The sacred dimension and natural landscape attributes

Instilled in their lifestyle and spirituality, the Utawalu have close links with the natural environment: work on the land and their sacred sites, interconnected by the spirituality shared by the members of the communities that live in the valley, are important components of their lives (Cotacachi 2002). They not only analyze the practices employed for conserving environmental resources, but also incorporate environmental conservation and protection into their lives, since environmental and religious practices are seen to be indistinguishable. Conservation practices in this area are maintained through the observance of ancestral whispers that reveal the ecological soul, spiritual sympathy, and energy emanating from the Imbakucha Basin, all of which provide a basis for their cosmological worldview. Furthermore, adults work the land everyday, tending gardens, livestock, and farms and pass on to their children concern and care for the environment, along with the notion of respect for natural resources. This education, transferred from one generation to another well into adolescence, is an important intergenerational legacy of these original people and a way of conserving the Imbakucha Basin.

The majority of 'Otavaleños' (Utawalukuna) and 'Cotacacheños' (Kutakachikuna) are either Roman Catholics or Evangelical Christians due to the colonization of the area in the early 1500s by the Kingdom of Castile, the subsequent colonial alignment with Spain and the Vatican, and the presence in recent years of US missionaries from other Christian denominations. Nevertheless, religious affiliation has generally remained separate from spirituality in local people. This important feature of Andean culture has been described as syncretism and allows both Western and original beliefs to coexist in the area (Rodríguez 1999). However, important anachronisms have also been singled out by fundamentalists -in

The Cotacachi volcano as seen from the community of La Calera in Cotacachi, Ecuador.. Photo: Cesar Cotacachi.

most cases racists- who cannot admit to the sacredness of a tree or a waterfall; thus, conservation work should be devoted to protecting the remnants of these enduring sacred sites (Vásquez-Fuller 1995). Today, though, the co-existence of Christian faiths (Catholic and Evangelic) is now being tested by the active and energetic recruitment by the Evangelical church, although some 78% of the population are still referred to as Catholics. Both Christian churches see the spirituality of Utawalukuna as being beneficial for their own purposes since the preaching of the veneration of sanctity, the celebration of rites, and the observation of the wisdom of the elders and wisemen *(yacha)* are also important elements in their religions. Despite the western origin of their religions, both Catholics and Envangelists Utawalu trace their ancestral lineage to the mystical Andean worldview and respect for the sacred sites of their lifescapes; both groups also see themselves as unique in Kichwa Utawalu.

This syncretic informal education, coupled with the presence of environmental non-profit organizations (NGOs) working in Otavalo in reforestation, education, and conflict resolution and the Cotacachi-Cayapas Ecological Reserve (henceforth CCER) in Imbabura Province, allow communities to lead environmentally friendly lives. The Utawalu, for who place is not merely a collection of spatial features, but a spiritually holistic place (Carter 2008) with more meaning than the simple tangible surroundings, possess a deep understanding of the intangible values of the cultural landscape.

The Kichwa Utawalu, therefore, revere the natural resources of the valley, above all water, which is one of the most important energies of the mountain landscape. Their esteem for water is derived from their own spirituality and the significance of the sacred sites in the ancient rituals they perpetuate. The importance of this sacred dimension is derived from the Runa Utawalu ancestors, grandparents, and parents, and is passed down through oral history; it includes the essential rituals of initiation and purification associated with the heightened spirituality observed at sacred sites (Sarmiento et al. 2005).

Indeed, sacred loci connected to spirituality in Imbakucha are mostly found in locations where water emanates: they may be where succulent plants or a tree (e.g. the *pinllu* or pinkul, or 'lechero' tree *Euphorbia laurifolia*) grow or where water bodies such as streams (*wayku*), rivers (*yacu*), seepage coves (*pukyu*), waterfalls (*phakcha*), lakes (*kucha*), ice (*rasu*) or snow (*kasay*) are found, or anywhere in which a form of water can exist with its purifying essence. The very presence of imposing volcanoes and life-giving lakes creates a well-respected observance of cycles of plant production and a concentration of fauna and flora in certain areas of the Andean lifescape. As one of us (Cotacachi 2002) has stated, "there are also many sites that are sa-

Otavalo's traditional attire exhibited by Utawalukuna on their way to the Panamerican highway. The corn plantation alongside of the exotic Eucalyptus trees and mixed architecture of the houses exemplifies the encroachment of globalization, as depicted by the man carrying the load the traditional way, but carrying a back-pack with his left arm. Mother and daughter walk behind him, following age-oldpatriarical rules. Photo: Cesar Cotacachi.

cred, based on their relationship with the natural environment in their inherited territory".

Andean lifescapes encompass the physical setting (landscape), human constructions and cultural practices (livelihood), and psychological and spiritual connections (mindscape) that create a complex, holistic worldview linking the traditional knowledge, myths and praxis of rural lifestyle in a syncretic, yet anachronistic existence in the midst of globalization.

For the initiated, the objective elements of the Imbakucha Basin become sacred with the repetitive use of original mythology in local festivals or communitarian landmarks that belong to people's ethnic heritage. Colorful attire, pulchritude in appearance and iconic heirloom markers are often displayed in the many patriarchal communities in the Imbakucha basin (Hansen 2004). Their typical clothing, easily identifiable as uniquely Utawalu, is considered to be close to the traditional Inka attire[3]. Festivals and ceremonial rituals have retained observance of mountain landmarks, including the sun *(inti*), the nearby mountain (*urku*), the special tree (*yura*), and the large rock (*jatun rumi*). Along with purification rituals, there are also festivals, myths, rites, and ceremonial practices that are associated with sacred sites, most of which are kept alive by oral tradition, ethno-ecology, dress code and specific celebratory rituals. Because of the importance of water and its association with sacred sites, the protection of water bodies is important to these communities, particularly in the higher reaches of Andean forests (*sacha allpa*) and 'páramos' (*ugsha allpa*) located on the mountains bordering on the Imbakucha Basin of the Utawalu homeland.

3 Female dress includes blue flat skirts (*anaku*), ornate white blouses (*kamisa*), boldly decorated wide belts (*mama chumpi*), colorful shawls (*chalina*), layered gold-beaded necklaces (*wallka*), and red coral bracelets (*maqui watucuna*). Males wear blue 'ponchos' *(punchu*), white calf-length pants, and fedoras, and have distinctive long plaited hair (*chimpa*), which is such an important ethnic marker that young recruits do not have to cut it off when serving in the Ecuadorian army.

De jure conservation in government-run protected areas

Taking into account its small size, its density of biota and its varied topography, Ecuador is generally regarded as having the richest biodiversity per surface area in the whole world. For instance, Ecuador harbors 124 species of hummingbirds, which is equivalent to 35% of known hummingbird species; Ecuador is 33 times smaller than the United States of America, yet it is home to twice the number of bird species; although it occupies only 0.19%

The Imbabura volcano as seen from the rim of Cuikucha crater lake. Photo: Cesar Cotacachi.

of the surface area of the planet, it hosts 10.7% of all vertebrate species (MINAMBIENTE 2008).

According to government officials interviewed in the city of Otavalo, "21% of the land in Ecuador is protected; the percentage conserved and protected nationally is 18%; 4% of the land is privately protected" (Carter 2008). This view is, of course, highly debatable, since most Ecuadorian protected areas are known to be 'paper parks', in which actual conservation effectiveness is very low, rendering some reserves all but useless and requiring serious environmental education campaigns to make them meaningful to users (Pugh and Sarmiento 2004). Stronger measures are necessary if management is to be successful in established protected areas since biodiversity conservation goals often collide with cultural activities. Controversy still exists, for instance, on whether the páramos or high grasslands of most Ecuadorian mountains is a natural ecosystem or whether it has evolved as a result of serious human-initiated perturbations such as fire, grazing and agriculture (Sarmiento 2002).

The creation in 1968 of the large Cotacahi-Cayapas Ecological Reserve (CCER) reflected a reality that included the risk of species extinction and the need for biodiversity protection. It covers several altitudinal belts on the Kutakachi volcano, stretching towards the Pacific Ocean and the Chocó ecoregion in the west and areas adjacent to Imbakucha in the east. Its conservation goal is the "preservation of examples of pristine ecosystems for future generations" (Sarmiento 1992), a declaration which mimics the Yellowstone model in which the prioritization of the conservation of 'wilderness' and wildlife forced evacuations of original people in order to keep the borders of the prospective park intact. This design worked well in Ecuador initially, although small communities within the park boundaries were present and hard to relocate.

Archaeological studies of the history of human presence in the reserve have been conducted into the region's formative period several thousand years ago when, for example, people settled on the western flank of the Chocó ecoregion (e.g. 'La Tolita'), and into the settlements in more recent centuries of now extinct groups (e.g. Yumbu).

Ancestral use of this territory by Afro-Ecuadorians and Awas (or Cayapas, hence the reserve's name) in the lowlands and by the Cara people in the highlands have left a plethora of archaeological sites in which the past usage of natural resources in Imbakucha can be investigated. After the Spanish Conquest, the Kichwa culture from the highlands was established in the area, which has been maintained throughout the colonial and republican periods until the present day. Therefore, having protected areas that conserve the spiritual value of the landscape is a priority in the highly politicized and publicized indigenous "revival" of Latin America, making it indispensable to find alternative conservation models that will allow for interaction between ancestral, historical, and current sacred sites and protected landscapes of category V in this region of the Andes

Changing governance in Cotacachi and Otavalo townships

The counties of Otavalo and Cotacachi belong to the province of Imbabura, in which some 43.7% of the population is original and 11.70% is Afro-Ecuadorian. Otavalo has the largest indigenous concentration and also the lowest unemployment rate in the province. On the other hand, Cotacachi is the most densely occupied county (26.6% of settlements are overcrowded) and, at the same time, has the highest malnutrition rate (41.6% of children under five are diagnosed as suffering from malnourishment) (INNFA 2008). Auki Tituaña, the original mayor of Cotacachi township upholds his standards of spirituality in relation to sacred sites and maintains his belief in preserving the

The 'Peguche' waterfall is one of the most revered sites in the Imbakucha watershed and a major initiation rite takes place every Summer Solstice there. The adolescent Utawallu that are coming of age must bathe in the cold waterfall, thereby receiving the power of the Itambi river as it pours out of the lake. Photo: Cesar Cotacachi.

environment by being a steward (*mindu*) of these sacred places. This is a demonstration of his ecologically minded administration, which opposes the mining of nearby mountains and revitalizes towns through a promotion of artisan handicrafts.

Cotacachi's population consists of 37,215 adults of 18,773 men and 18,442 women. Given that the views of the original people are important in this heavily indigenous-populated area, the ideas of the Kutakachicuna are held in high esteem and government and public support for the sanctity of these concepts is and will continue to be provided, whether or not the national government includes them as part of its mandate for the conservation of protected areas (for instance, see Ramakrishnan 2008). Presumably, ecotourism helps the local economy in such a way that Imbabura residents will continue to preserve their sacred sites for as long as they have a degree of privacy that allows them to respect their ancestors according to their spiritual traditions; this will create the type of *de facto* conservation that currently occurs around the sacred sites of the Imbakucha Basin.

In Otavalo county there are 90,188 adults, 43,368 males and 46,820 females. The city's outdoor markets provide a vibrant atmosphere that enlivens the streets and squares of the town, especially on Saturdays, and serve as the basis of the local economy; not only monetary transactions occur here, since animal/goods exchanges and bartering are also frequent (Meisch 2002). Mario Conejo, the original mayor of Otavalo, emphasizes that the trading and traditional tourism practices of this market have been the foundation of the local identity since antiquity. The Utawalukuna have always produced and sold valuable handcrafts throughout the Andes through relocated, sedentary or expatriated members of the Kichwa Kayampi (Mitima) ethnic group and traveling entrepreneur merchants of the Kichwa Utawalu (Mindala) ethnic group. Even today, it is not uncommon to find 'Otavaleños' traveling to faraway countries and they are today one of the most recognizable original people on the global scene, with established stores in New York, Tokyo and London. Often mixing their selling with music performances in streets and squares, the Otavalo traveling merchants are ambassadors for Andean culture abroad.

Because of this handicraft market, hotels and a variety of services including restaurants, souvenir stores, cyber cafes, music clubs, beer holes and language schools exist for the tourists that come to the town of Otavalo; this attracts even more young people and visitors, exerting strong pressure in favor of Spanish or English to the det-

The pinllu *or 'lechero' tree is considered sacred by the many communities around the Imbakucha lake. Youngsters and vandals have been visiting the site at night and lighting camp-fires that have severely damaged the main trunk of the old tree. Photo: Cesar Cotacachi.*

riment of Kichwa writing[4]. Foreign fashions are quickly becoming *de rigueur*, making it even more imperative to enact Category V conservation units to formalize Imbakucha's sacred sites as protected areas and to facilitate the invigoration of its vernacular culture.

The CCER is managed by a Park superintendent who is often located in the city of Cotacachi. The administration is based on a management plan that classifies the area in different zones (e.g. protection, cultural, socio-economic, recreation and buffer zones). Imbakucha is part of the buffer zone in the east, where the cultural zone and the socio-economic zones are also located. Down in the valley, there are two private reserves that cater for ecotourism activities and two community forests that protect the Peguche waterfall and its headwaters.

The Imbakucha Basin as a case study

The Imbakucha Basin contains the largest Andean lake in Ecuador and is located in the province of Imbabura in northern Ecuador. Here, the Kichwa ethnicity is the most prevalent of the two Utawalu groups, which are separated by the administrative boundaries of the modern cantonal divisions: the 'Cotacacheños' (Kutakachikuna) live to the northwest and the 'Otavaleños' (Utawalukuna) to the southeast of the lake. Further differentiation is also possible within the Kichwa groups, which creates a spectrum of ethnographic and epistemographical oddities that makes Ecuador such a rich, pluri-cultural multilingual nation (Moya 2000, Whitten 2003). A good example is found where the Atawalu live in the Imbakucha Basin: the Kutakachikuna dwell near Mother Cotacachi around the city of Cotacachi, while the Atawalukuna dwell near Father Imbabura, around the city of Otavalo. Cotacachi and Otavalo are within 48 km of each other and share many environmental traits and similar administrative histories (Keating 2007). For many conservationists the two areas are located within the same type of ecosystem. Otavalo's sacred sites include Taita Imbabura (the Imbabura Volcano or Yaya Imbabura; Imbakucha or the Lake 'San Pablo', the 'Lechero' Tree on the *pukara* of 'Reyloma', and the Peguche Waterfall (Phakchayacu). Cotacachi's sacred sites include Mama Cotacachi (Kutakachi Volcano), the CCER- and Kuykucha crater lake.

Taita Imbabura, located near Otavalo, is an inactive stratovolcano. It stands 4,630 m a.s.l. and at its base lies the Lake 'San Pablo'. Due to the volcanic ash, the steep slopes of Imbabura are fertile and are covered by cloud forests, farmland and, in the 'páramo', rangelands. The local Utawalu do not export their produce or animals and either consume them themselves or sell them at the local market.

Across the valley, Mama Kutakachi, located near Cotacachi, is a dormant volcano that stands 4,939 m a.s.l. It was once the only snow-capped peak in Imbabura Province; however, "according to French scientists from the Institute of Meteorology and Hydrology (INAMHI), aerial photos and personal interviews with Ecuadorian and French climbers, Cotacachi's glaciers might have disappeared at the end of the 1990s…although a glacier with an area of 0.6 km^2 was documented by U. S. Geological Survey in 1998 (it is not clear whether the measurement occurred in seasonal snow or was an actual glacier)" (Rhoades et al. 2006).

The crater lake Tsuikucha or Kuykucha, one of the deepest crater lake in the tropics. Wildlife differs from the pristine Humboldt dome at the left to the adjacent, burnt and modified island to the right, an example of the tenuous balance between conservation and destruction. Sacred site conservation is imperative here to incorporate intangible values of the Kutakachikuna and their respect for water. Photo: Jorge Anhalzer.

4 Despite current efforts to maintain Kichwa in the Otavalo market, the language of trade in the Imbabura province is now Spanish, with most schools providing hegemonic monolingual education. Young people may learn Kichwa at home, but they will rarely use it outside their home range, only so sporadically when they go to Otavalo and almost never when visiting the capital city of Quito.

As a result of glaciation, the nearly vertical sides of the summit are highly eroded. There are many streams and ponds located in higher areas that are used as water sources for irrigation, electricity production, and domestic uses by many of the surrounding communities in the active 'buffer zone' of the CCER. Below 3,000 m and outside the CCER, human introduction of eucalyptus and pines, croplands, and exotic weeds has influenced the area's vegetation; native forests are only present above 3,000 m (Ruiz-Córdova et al. 2008) and many are concentrated in the protected area.

Recent investigations into the retreat of the Mama Cotacachi glacier provide evidence of local ethno-ecological knowledge of global climate (Rhoades et al. 2008) and the changes associated with the transformation of original lifescapes. As documented by Nazarea and Guitarra (2004), the anthropomorphic idea of the mountain landscape, with male/female figures and paternal roles, reflects the conviction of the Utawalu that they are connected to the land through sacred sites (see textbox 2). The 'Peguche' waterfall is located in a small private reserve and serves as the main purification site for the Kichwa Utawalu during the Festival of the Sun *(inti raymi)*, a weeklong celebration held during the summer solstice. The 'Peguche' waterfall appears in the same mythological story in textbox 2.

The 'Lechero' or *yayitu* or *taitiku* (little grandfather) tree (*Euphorbia laurifolia*) is an embodiment of Mount Imbabura as a majestic landmark in local communal lifestyle; the tree of eternal life is a medicine tree that symbolizes life and death (Wibbelsman 2005a) It is located on top of 'Reyloma' *pukara*, the highest point of the Imbakucha valley (Vásquez-Fuller 1995). Planted on ancient terraces, the almost 200 year-old tree stands as a symbol of fertility for newly-weds, who must visit the tree and take along offerings to insert into its bark. In addition to burying food near the tree, drink is poured onto its base and music and dancing take place so that the newly-weds' presence will be felt by mother Earth (Pachamama). Prayers and offerings to the 'Lechero' express the "mutual dependency" between the original people and their environment (Wibbelsman 2005a). Clones of the 'Lechero' tree are found in most households because it is highly respected and sacred; as well, it has practical importance in ethno-medicine and good sprouting potential as living fences. The Utawalukuna believe that the tree protects their fields and homes: "the milky sap of the tree is a natural acid that burns the skin…[and is used] for warts, curing deafness, toothaches, eye problems, liver cirrhosis, nerves, bacteria, fungi, viral infections and abortions" (Wibbelsman 2005b).

As a public protected area, the 341,925 ha CCER and the small private protected forests around its western buffer zones is the largest conservation unit in northwest Ecuador. It contains the high Andean and montane zones of the Equatorial Andes, extending down to the western edge of the rainforest in the Esmeraldas coastal region (Young and Keating 2001) in the Chocó biogeographic domain. Considerable biodiversity exists within the reserve, including a number of endangered species (see Table 1 for examples). The biodiversity is rich and in the CCER over 2,000 species of flora including a variety of shrubs, trees, vines and ferns have been identified. There are also 500 known species of birds, countless anteaters, deer, fox, ocelots, raccoons and sloths, as well as many amphibian species, mainly concentrated on the verdant western slopes.

At the edge of the reserve on the eastern inter-Andean slopes in Imbabura Province lies Lake Kuykucha ('Lago del Cuy' or 'Guinea Pig Lake', recently more accurately translated as Tsui-kucha or 'Lagoon of the God'), a 200 meter-deep uncontaminated crater lake at the southern base of Mama Cotacachi (Peñafiel et al. 2006). Two volcanic domes emerge from the center of the crater lake (Coloma-Santos 2007). During Inti Raymi, the Kutakachikuna use the water of Kuykucha for ritual cleansing and purification.

Lake 'San Pablo' lies at 2,660 m a.s.l. and has a maximum depth of 35.2 m (Gunket 2000). Imbakucha, the largest tectonic lake in Ecuador, is nearly circular and is situated at the base of Tayta Imbabura; there is some shoreline development, ranging from tourist resorts and villages, to farmland. The lake plays an important role in the Utawalu community: its water is used "for irrigation, [to] take animals there to drink, [to] remove drinking water for themselves, [to] wash clothes [to] fish, and for 'totora' reeds used to make sleeping mats and to build boats" (Gunket 2000). It is also used for recreation, including boating, and tourist activities (Willis and Seward 2006). However, because of "the intensive cultivation, steep slope of the fields and high precipitation rate that results in much erosion…[as well as the] high input of nutrients into the lake", Imbakucha is an eutrophic lacustrine system. Furthermore, sewage from the main settlement in this area flows through a pipe directly into the lake and into the Itampi river (which is the main water source for the lake) from the rural dwellings and flower greenhouses upstream (Gunket 2000).

Although development has affected Imbakucha Lake, its waters are still sacred among Kichwa Utawalu communities, as documented by Nazarea and Guitarra (2004) (textbox 3) and reveal the relationship between the Castilian conquistadors and the original people, as well as the importance of water to the Kichwa culture.

To a backdrop of two tall mountains and their spirits (*urku apucuna*), both 'Cotacacheños' and 'Otavaleños' refer

to the Imbakucha Basin in terms of the cultivation of the area's different environments and the use of altitudinally defined zones that include the lacustrine (*wampu allpa*), the piedmont (*ura allpa*), the steep mountain slopes (*jawa allpa*), the Andean forests (*sacha allpa*), the high grasslands or 'pajonal' (ugsha allpa), and the screes of periglacial assemblage (*rumi allpa*).

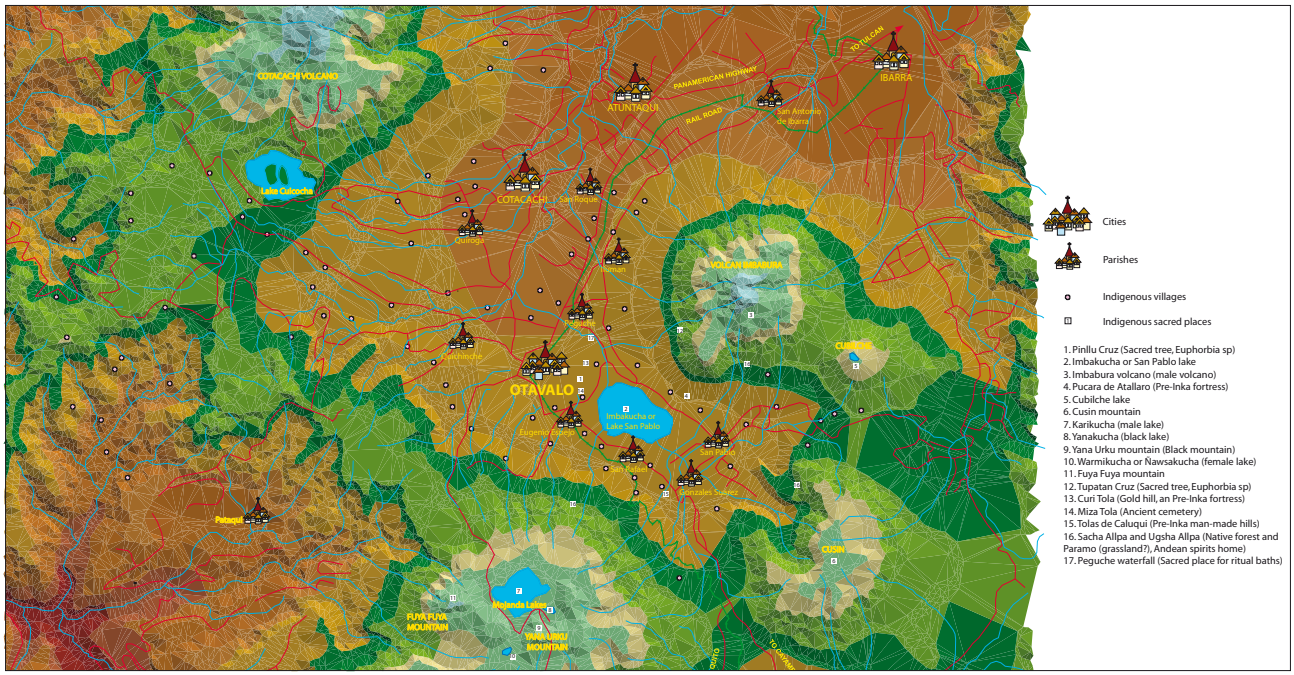
Prospective scenarios for Category V

For a number of reasons, no alternative scenarios to the implementation of Category V conservation seem to exist. Firstly, the Utawalukuna are probably more knowledgeable about conservation, given that Otavalo has a market visited by thousands of tourists, is more built-up and populated, and has an existing conservation-orientated NGO. In contrast, the Kutakachikuna of Cotacachi, without a well-known market, fewer 'market' tourists, and no NGO, are probably less knowledgeable about Ecuador's conservationism and gender issues, despite the presence of the CCER (Piñiero 2006). This differential perception of the conservation needs of the region should encourage local communities to become involved in the maintenance of the spiritual parks and sacred sites in the Basin.

Secondly, the existence of ecotourism in Cotacachi and its absence in Otavalo has likely had a positive influence on where funding for conservationism is allocated, how ecotourism is perceived and subsequent investment in the community-level environmentally friendly activities needed in a Category V conservation area. Indeed, all interviewees from Cotacachi (like those from Quito) knew that funding for conservation comes from a variety of sources, whereas 50% of Otavaleños thought that funding came only from local government. Similarly, Cotacacheños overwhelmingly perceived ecotourism as a positive influence (92%), in contrast to the Otavaleños, who either looked upon it negatively (33%) or gave no response (25%).

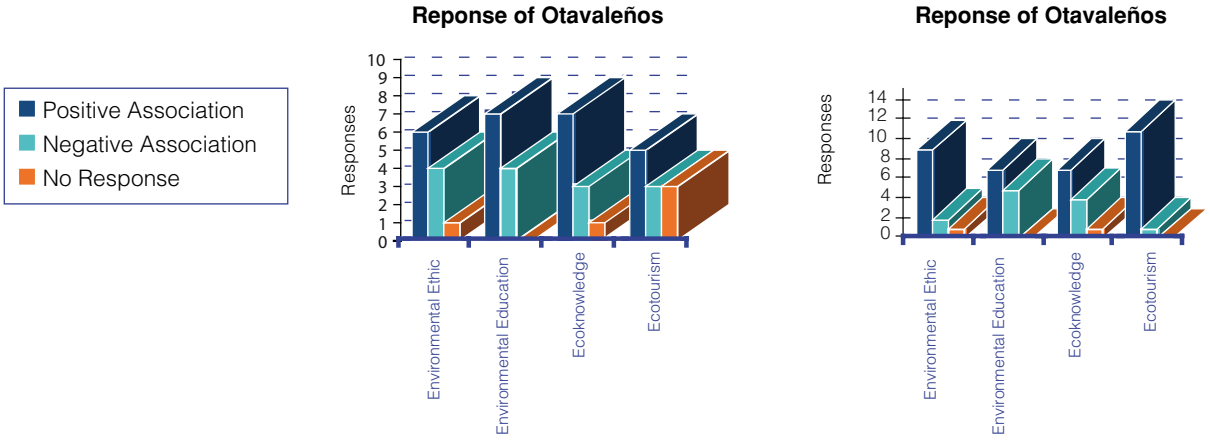
Thirdly, the presence of the CCER has probably affected the relationship between conservation and the government. All interviewees from Cotacachi felt that there was a positive relationship between the government and conservation practices; on the other hand, far fewer Otavaleños (33%) felt this way, most likely because of the current lack of protection of their sacred sites. A divorce between the top-down approach of the imposed CCER and the required bottom-up approach of the category V area is evident and should be resolved. Thus, a separate question was asked about sacred sites: of the 25 interviewees who lived in either Cotacachi or Otavalo, a clear majority (76%) knew either all the sacred sites or the water-sacred sites near their towns. Only six interviewees knew only tourist sites or knew no sacred sites. These answers reveal that the people living in the two communities are knowledgeable about sacred sites and would like to see them formally recognized and protected.

It is curious to see how Category V has been resisted in Ecuador to date, despite several petitions and recommen-



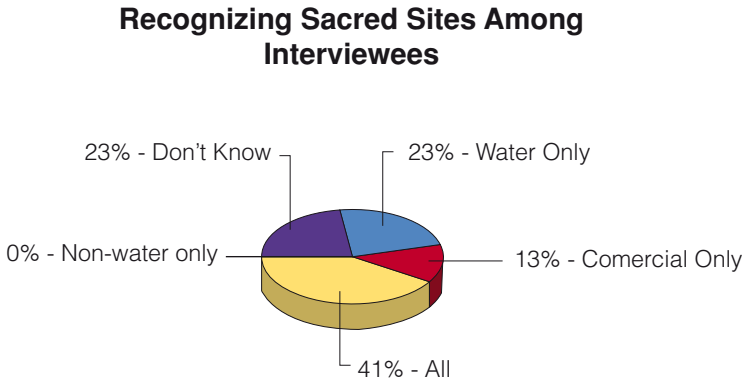
Schematic representation of the sacred sites in the Imbakucha Basin. The position of major features in the reified landscape of the Utawallu is presented cartographically to sustantiate the notion of a unified conservation category needed as a Protected Landscape to encompass all the sacred attributes of the Otavalo farmscapes.

Table 2. Responses received during interviews with residents of Otavalo.



The responses in the Environmental Ethic topic include: positive – an environmental ethic does exist among indigenous people – and negative – no environmental ethic exists among indigenous people. The responses for the presence of Environmental Education include: positive – there is enough education – and negative – there is not enough education. Responses for Ecoknowledge include: positive – ecoknowledge is prevalent among communities – and negative – ecoknowledge is not prevalent among communities. Responses concerning Ecotourism include: positive – ecotourism has a positive impact on indigenous communities – and negative – ecotourism has a negative impact on indigenous communities.

Table 3. Distribution of the perceptions of sacred sites among the interviewees



dations originating from regional workshops and Andean scholars. In Europe, on the other hand, the conservation of cultural landscapes is very popular and Category V areas abound. This reluctance to establish Category V areas may well respond to the dominant funding stream from international organizations and donor agencies that insist on the old biologically based paradigm and promote 'fortress conservation' instead of landscape stewardship.

One of us (Sarmiento 2003) has argued that sacred sites in the Andes need to be conserved because of their connection with cultural and religious traditions, since this will in turn protect resources that are located in the same areas as the sacred sites (Barrow and Pathak 2005). While many original peoples respect sacred sites, there are many who do not (Rhoades 2006a). In the event of the recognition of an officially declared conservation category, the sacred sites of the Otavalo will be protected for posterity, in the same way that its rich agro-biodiversity will be safeguarded. One way to ensure that sacred sites are protected is to place these sites under the protection of Category V of IUCN and the detailed set of voluntary guidelines as edited by Robert Wild and Toby McLead (2008).

These guidelines are aimed at "improving the management of sacred natural sites in formally designated protected areas, as well as supporting those that lie outside protected area boundaries" (Wild and McLead 2008). In

best-case scenarios, sacred natural sites are supported by the managers of governments' protected areas; however, in many cases around the world, sacred sites are ignored by governments. Therefore, these guidelines were formulated for managers and planners, including "natural resource ministries, state planning departments and private protected area managers," of potential and existing protected areas. It is "hoped that…indigenous [peoples] and traditional communities…along with their support organizations, will find the guidelines useful to improve interaction with protected area managers and to better integrate ecological concerns into sacred site management" (Wild and McLead 2008).

Similarly, the Delos Initiative of the IUCN's World Commission of Protected Areas (WCPA) Task Force on the Cultural and Spiritual Values of Protected Areas aims to "identify the relevance and significance of sacred natural sites in technologically developed countries". The Delos Initiative also looks at "how spiritual values can contribute to conservation and the maintenance of cultural and spiritual heritage, attempting to resolve eventual conflicts between the spiritual character and uses of sacred sites and conservation and management requirements, establishing instead synergies, where possible" (Mallarach and Papayannis 2007).

In addition to the research conducted in Cotacachi and Otavalo, a literature review shows a need for a guided and accountable approach to conserving sacred areas. The IUCN-WCPA provides these guidelines and principles. Through the use of managed tourism and decontamination and educational programs, a multi-disciplined, managed program could be specifically created for use in Cotacachi and Otavalo aimed at emphasizing the need to conserve the cultural, spiritual and natural values of the sacred sites in Kichwa Utawalu communities (Rhoades 2006b). Prospective 'nature rights' and the new array of ministerial responsibilities have brought cultural landscape conservation to the forefront of governmental policy (Viteri pers. com) and is currently being debated in the Ecuadorian Constitutional Assembly.

View of the Kutakachi volcano from the south-east. This cultural landscape includes the highly modified 'paramo' area at the upper limits of the grazing and cultivation boundaries, with a fire regime that can easily be seen as patches of different tones dotting the slopes. Also, introduced tree species such as pine and eucalyptus are ubiquitous in the large agrobusiness holdings and create a changing farmscape that risks losing its spiritual essence. Photo: Cesar Cotacachi.

Nevertheless, a number of potentially detrimental pressures that may negatively affect sacred natural site conservation exist; these include an excessive number of market-oriented tourists, non-original government officials (aside from the original mayors), non-original businesses, factories and polluting industries, a rise in both original and mestizo populations and modernization as a result of the influence of television and technology.

These negative factors are already noticeable in Otavalo: it is more urban than Cotacachi and its inhabitants are more distant from their environment (with the exception of the 'Lechero' trees in the majority of indigenous homes and gardens). Cotacachi, on the other hand, is less affected by these negative factors: it is less built up and its inhabitants are much closer to their environment. For example, many Utawalukuna buy their groceries from local stores and live in neighborhoods similar to those found in some western nations, while the majority of Kutakachikuna have their own private gardens that they tend on a daily basis. These gardens are not only for growing vegetables, but are also used to keep animals. However, the 'Cotacacheños' are beginning to follow the same urban trends as the 'Otavaleños' and so there is concern that the Kutachikuna may become more distant from their environment. Even though Cotacachi has more of a mountain feel about it (given that it is located higher in the valley between Mt. Cotacachi and Mt. Imbabura), the respect for the sacred is being lost (Rhoades and Zapata 2006).

In order to minimize this separation in the two communities, sacred sites in Cotacachi and Otavalo must be considered for IUCN's Category V and the principles for protected landscapes (Brown et al. 2005) must be instilled into everyday lives to allow the preservation of the Kichwa Utawalu ancestral beliefs and values, while also providing economic income from ethnotourism.

Forewarning

Because of the enduring relationship between the Kichwa Utawalu and their natural environment, it is likely that environmental and natural resource education will continue to improve in future generations. However, this education may not be good enough to prevent both Otavaleños and

Cotacacheños from contaminating and harming their environment through, in particular, the secularization of sites and the substitution of the Kichwa language by Spanish. Furthermore, the government and the NGOs will need to continue to increase their bilingual and bicultural work on environmental conservation in Imbabura Province. This work is already being accomplished by transforming Cotacachi into the ecotourism capital in the 'Valley of Dawn'. However, more could be done to preserve the land that is already in the National System of Protected Areas and more candidate sites could be added to the list of protected areas, both public and private.

Biodiversity is threatened, since the settled area of Imbakucha has become overgrown with introduced species, most of them weeds and fast-growing invaders such as the grass *Kikuyo elephantopus*, Monterrey pine *Pinus radiata* and the blue gum tree *Eucalyptus globulus*. Towards the outer boundaries of the Imbakucha Basin, protected areas have been established with the purpose of maintaining examples of pristine natural habitats, including the 'páramo' grasslands and the remnants of the Andean forests. The lack of understanding of the landscape archaeology of the area and of the true 'natural' history of the elements of the cultural landscapes of the Kichwa Utawalu has exacerbated a divorce between the goals of preservation (i.e. nature protection) and of conservation (i.e. nature management). By continuing to consider Andean forests and 'páramo' grasslands as 'natural' ecosystems, conservationists and government agencies are hindering the reaffirmation of the cultural identity of the 'Otavaleños'; instead, they are bolstering the hegemony of a foreign concept of conservation and a forced conceptual framework that separates the human dimension from everything else, rather than observing the ancestral cosmological vision of the Utawalukuna.

Lifestyles and governance in Otavalo is different to that in Cotacachi and while their market industry has created a sustainable economic influx for the Utawalukuna, health, environmental and educational, concerns are still brought up frequently by interviewees. Many feel that their fellow citizens contaminate the environment by their too frequent use of automobiles. This contamination will create negative impacts on public health, preservation and the conservation of sacred sites. The reduction or eradication of this contamination will not only improve the local quality of life, but also many of the sacred sites will be cleaner for the purification rituals.

Although educational programs are already in place, thanks to both the government and local NGOs, it is still important that a widespread, bilingual education program regarding natural resources and conservation be expanded to the nearby cities in order to highlight the role of natural resources in Otavalo's culture and spirituality. This program should include specifically relevant aspects created for indigenous people and their lifestyles, such as petitions to the gods of the mountains (*wakcha karay)*, homage to the Earth (*karana pachamama*), single prayers with presents (*wanlla*) and the cleansing of purposes (*ñawi maillay*). To promote change, these programs must include ethno-tourism packages in the Kichwa language that communities can understand *(runa simi*), rather than westernized definitions of conservation and preservation. These comprehensive programs should include activities for children, youths, adults and elderly citizens, so that multi-generational citizens can realize the importance of protecting natural resources and the environment and vote in favor of these new approaches.

More research must be conducted into sacred site conservation and its relation to spirituality, as well as into the objectification of landscape features, ecological knowledge, ecotourism, environmental education and environmental ethics. Additionally, future studies in Imbakucha should include investigations of the adaptations of Utawalu communities to the ever-changing cultural environment surrounding them. These studies should index the reification of landscape attributes and formal protected area status should be given to the main features of the landscape with appropriate designations such as 'Reserva Paisajística', 'Sitio Sagrado', Spiritual Park, Protected Landscape, Religious Monument and/or a designation within the UNESCO program for Sacred Site Conservation. Ecuador will benefit greatly from including Category V conservation in its National Strategy for the Conservation of Protected Areas; President Correa's administration has already stated that protected cultural landscapes will be a goal of the new Ministery of Cultural and Natural Heritage. The sacred sites we have discussed must be protected not only for their environmental value, but also out of respect for the significant intangibles present in the different sacred sites of the Kichwa Utawalu around the Imbakucha Basin that contribute greatly to the Ecuadorian identity in Latin America and the world.

Acronyms

CCER Cotacahi-Cayapas Ecological Reserve

Glossary

aya

Ancestral whispers that come as epiphanies to the Runa Utawalu in the sacred sites of the Imbakucha Basin.

Imbakucha

The fault lake formed at the foot of the Imbabura volcano, also known

as Lake 'San Pablo', which has traditionally been associated with the 'Otavaleños'.

Kawsay Sapi

A state of harmony between the natural elements of the landscape and the metaphysical entities that guard the valley.

Katekil Samay

The purifying power of the water used for spiritual purposes

Llakta

The inherited territory that encompasses the physical setting and the ancestral character of the landscape, the so-called 'essence of place'.

Llacta Kawsay

Conservation practices that put the mother land and its ancestral character as the first recipient of labor and ensure its appropriate use rather than abuse.

Llaktakunatapac inshima

The environment of Imbakucha, considered to be an Andean lifescape.

Puchuchina

Practice of stewardship that helps the conservation of natural resources through environmentally friendly approaches.

Runa Kawsay

The invigoration of Otavaleño culture by incorporating elements of its sacred mythology and spirituality into everyday practices and community cohesion.

Runa Rimay

The promotion of an environmental awareness through oral history and traditional knowledge that links spirituality and physical labor.

Runa Utawalu

An adult person of this indigenous nation.

Runa Yachay

Attention and care for the environment as instilled intergenerationally by traditional knowledge and word of mouth.

Shina Nin

Non-official education, oral history, stories and folk knowledge passed down from parents to children or between siblings.

Tinkuy Rimay

The practice of intergenerational oral traditions, a form of traditional knowledge passed down from parents to children, ensuring the transmission of cultural cohesion and heirlooms.

Urku Ayakuna

Energies that emanate in mountain environments providing epiphany for the people that populate nearby slopes, caves, remnants of forests and lacustrine environments.

Utawalu

Proper name of the collective of original people of the Kichwa nation that occupies the northeast Imbakucha lacustrine basin, known by the Castillianized terms 'Otavalos' or 'Otavaleños' (Utawalukuna).

Wakaychina

Practices that maintain spirituality during the mundane labor of using natural resources with respect, veneration and awe.

Wampra

An adolescent Utawalu, when he/she is no longer a wawa.

Watuna Samay

Utawalu initiation and purification rites associated with water springs that guide the spirituality of sacred sites in the Imbakucha Basin.

Wawakuna

Children of this indigenous nation.

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Table 1 - Resident avian diversity in the CCER (based on BirdLife International 2003 data)

Berlepsch's Tinamou	*Crypturellus berlepschi*
Baudo Guan	*Penelope ortoni*
Wattled Guan	*Aburria aburri*
Dark-backed quail	*Odontophorus melanonotus*
Plumbeous Forest-falcon	*Micrastur plumbeus*
Plumbeous Hawk	*Leucopternis plumbeus*
Imperial Snipe	*Gallinago imperialis*
Dusky Pigeon	*Patagioenas goodsoni*
Yellow-eared Parrot	*Ognorhynchus icterotis*
Rose-faced Parrot	*Gypopsitta pulchra*
Bronze-winged Parrot	*Pionus chalcopterus*
Banded ground-cuckoo	*Neomorphus radiolosus*
Choco Poorwill	*Nyctiphrynus rosenbergi*
White-whiskered Hermit	*Phaethornis yaruqui*
Purple-chested Amazilia	*Amazilia rosenbergi*
Velvet-purple Coronet	*Boissonneaua jardini*
Brown Inca	*Coeligena wilsoni*
Buff-winged Starfrontlet	*Coeligena lutetiae*
Gorgeted Sunangel	*Heliangelus strophianus*
Purple-bibbed Whitetip	*Urosticte benjamini*
Violet-tailed Sylph	*Aglaiocercus coelestis*
White-eyed Trogon	*Trogon comptus*
Crimson toucan	*Aulacorhynchus haematopygus*
Plate-billed toucan	*Andigena laminirostris*
Choco Toucan	*Ramphastos brevis*
Orange-fronted Barbet	*Capito squamatus*
Five-coloured Barbet	*Capito quinticolor*
Toucan Barbet	*Semnornis ramphastinus*
Choco Woodpecker	*Veniliornis chocoensis*
Lita Woodpecker	*Piculus litae*
Guayas Woodpecker	*Campephilus gayaquilensis*
Club-winged Manakin	*Machaeropterus deliciosus*
Orange-breasted Fruiteater	*Pipreola jucunda*
Wattled Umbrellabird	*Cephalopterus penduliger*
Agile Tit-tyrant	*Anairetes agilis*
Stub-tailed Antbird	*Myrmeciza berlepschi*
Spillmann's Tapaculo	*Scytalopus spillmanni*
Rufous Antpitta	*Pittasoma rufopileatum*
Chestnut-naped Antpitta	*Grallaria nuchalis*
Yellow-breasted Antpitta	*Grallaria flavotincta*
Uniform Treehunter	*Thripadectes ignobilis*
Flammul Treehunter	*Thripadectes flammulatus*
Turquoise Jay	*Cyanolyca turcosa*
Rufous Wren	*Cinnycerthia unirufa*
Tanager Finch	*Oreothraupis arremonops*
Golden-chested Tanager	*Bangsia rothschildi*
Moss-backed Tanager	*Bangsia edwardsi*
Black-chested Mt tanager	*Buthraupis eximia*
Glisten green Tanager	*Chlorochrysa phoenicotis*
Blue-whiskered Tanager	*Tangara johannae*
Rufous-throated Tanager	*Tangara rufigula*
Scarlet-breasted Dacnis	*Dacnis berlepschi*
Scarlet-and-white Tanager	*Chrysothlypis salmoni*
Glossy Flowerpiercer	*Diglossa lafresnayii*
Black Flowerpiercer	*Diglossa humeralis*
Yellow-green tanager	*Chlorospingus flavovirens*
Yellow Chlorophonia	*Chlorophonia flavirostris*
Black-winged Saltator	*Saltator atripennis*

Textbox 1

Importance and future of the Kichwa language

The language of the original peoples of the Andes is not a monolithic entity shared by surviving ethnic groups; rather, it is a collection of dialects, concentrated heavily in northwestern Argentina, northern Chile, western Bolivia and throughout Peru and Ecuador. Kichwa (also known as Quechua or Quichua), originally from the Guarani family of languages, was the mother tongue of the Inka. Their imperial dominance extended quickly and formed the empire or 'Incario' (Tawantinsuyu), sharing the same language. Despite massive displacement of many groups due to forced assimilation (Mitimay), a few of the original people -for example, the Aymara, the Mapuche, the Shuar and the Cañari- withstood the pressure and preserved their language. At the time of the Conquest by the Spaniards, due to generalized political turmoil and upheaval, many people were forced to utilize Kichwa as a language of trade, which is how the language is maintained today.

In Ecuador, local dialects can be heard in the south of the country, where the seat of an Inka emperor exerted control for some 50 years in what today is Azuay province (Tumipampa). Central Ecuador has a different dialect that identifies the particularities of the Puruwa and Salasaca people. Greater differences are found between the Kichwa spoken in the highlands -the 'sierra'- and in the lowlands – the 'oriente' of the Amazon headwaters. This paper, however, relates to Kichwa usage among the Otavalo (Atawallu), one of the best-known ethnic groups in the Andes, who have maintained their indigenous identity and pride, making them one of the most successful indigenous groups in this age of globalization. Known as merchants (*mindala*) since prior to Spaniard rule, Otavalo people (Runakuna) today are active in the world market, selling handicrafts in streets and squares of major cities around the world.

The Otavalo concept of nature

No noun describing nature exists in Kichwa Otavalo. No single concept resembling our western understanding of wilderness can be found in this language. In order to convey the idea of wildlife or a place without human influence, the Otavalo *runakuna* use adjectives to qualify descriptors. For instance, the word *sacha* can be understood as an adjective that qualifies concepts such as 'grown', 'old growth', or 'forest-like'. The second word will be given a meaning related to what we would call 'wild' or 'natural'. For instance, *sacha wayku* is a wild stream, *sacha wagra* is a wild cow or tapir, *sacha runa* is an inhabitant of forest areas with no sedentary culture, a mythological being, and *sacha allpa* is the territory where Andean forests are located within the Imbakucha Basin. A similar difficulty is present (Sarmiento 2001) when discussing the epistemography of mountains in the Andes and the usefulness of the word 'montaña' as a synonym of wilderness. In the Kichwa cosmological vision, the here and now is the interplay of whatever happens in space -above (Jawa Pacha) and below (Uku Pacha)- and in time -the future (Jipa Pacha), which is located behind since you cannot see it, and the past (Ñawpa Pacha), which is in front and where you can see the results of your ancestors' works. You remember them well and you do what they did so you can progress or move forward.

Application of natural versus cultural descriptors

Unlike traditional Western views of altitudinal zonation in the tropical Andes that separate vegetation belts according to the temperature and elevation of a given site, Otavalo coordinates (*pachakuna*) not only connect places in space, but also project them in time (both to the past and the future). The different zones that make up the cultural landscape of the Imbakucha Basin, for instance, are conceived as a mosaic of different uses in different times: waterlogged areas (*wampu allpa*) can be found around the lake in the valley or in high mountain crater lakes and bogs, but can also be found when Otavalo runakuna flood the plains. The piedmont (*ura allpa*) is where the majority of the population resides with their parochial subdivisions. The slopes (*jawal allpa*) are often terraced for cultivation and also harbor forests (*sacha allpa*) with animals and mythical creatures; grasslands (*ugsha allpa*) are used for pastoral activities and associated management techniques for the tussock grass (*ichu*), such as burning the grown tillers to bring the rains (*para*) back to the mountain (*urku*) and their territory (*llacta*).

This body of knowledge is transmitted by the ritual of the word (*tinkuy rimay*) that has to respect the teachings of the elderly and assimilates the knowledge of the young. Ancestral knowledge is thus reinforced by conversational practices (*shina nin*) that give 'natural elements' human and even god-like characteristics. The Andean condor (*Vultur gryphus*) or Kundur is an example of a 'natural' element of biodiversity considered by Otavalo runakuna to be a telluric force with mystical powers that retains the power of leadership of the elderly *(tayta kuraka*), and is linked to the path of fate of the Otavalo. Mostly present in the rocky outcrops of the high mountains (*rumi allpa*), condors are important elements of their worldview, but are not referred to as 'natural', 'supernatural', or 'cultural' elements. It seems that due to their detailed knowledge of the cultural landscape, a distinctive definition of 'natural' is unnecessary in Otavalo ecological understanding (*runa yachay*).

Textbox 2

The love story of Mama Kutakachi and Taita Imbabura

"Cotacachi Mountain as a young girl was very beautiful and had a large 'hacienda' with a lot of cattle and workers. Imbabura Mountain, when mature, fell in love with the young girl. But since Imbabura was a playboy, he used to court other women such as Mountain Tungurahua. He aged very quickly. Already tired of women, Mountain Imbabura decided to stay with Cotacachi Mountain and they married. As a result of their marriage, they had a child, a mountain called Yana Urcu (White Mountain). Imbabura, already old and feeling very sick, wrapped his head in a white cloth."

Imbabura Mountain and Cotacachi Mountain in Love

"Two very big men from Cotacachi and … from Imbabura started throwing enormous rocks to demonstrate their strength. The man from Imbabura threw his rock past Cotacachi, while the man from Cotacachi only reached Pinasquí (the road to Cotacachi). From this rock water gushed out and a spring was born."

Textbox 3 - A mystical worldview in relation to Andean lakes

"They say that…the 'hacienda' [landed estate from the Spanish colonial days] was very stingy and miserly. Then, they say, God came [and] appeared as a beggar and asked for alms from the owner of the 'hacienda'. Then the owner said, "You are a stinking old dirty man! What do you want?" and he sent the young servant girl to release the dogs on him. Then, the beggar, feeling mistreated, said to the girl, "Daughter, you should leave the 'hacienda' immediately tonight because something very grave is going to happen." The girl obeyed and went to the house of a neighbor. The next day she returned and saw that the 'hacienda' was full of water and had been turned into a lake. All the 'hacienda' [owners] … mistreated the poor people. That is why they say there are several lakes such as Lake Cuicocha [and] San Pablo in this province of Imbabura."

"They say that there was once a very big man whose name was Sansún. He measured the depths of lakes such as Cuicocha and San Pablo. First, he went to San Pablo. …He walked down until he reached the bottom of the lake…and the water covered his entire body; only his ears were left above water. He then went to Cuicocha to measure its depth. …He went down little by little searching for the bottom. The more he advanced, the more he sunk, until his body was completely covered with water. But sadly he was not able to find the bottom of the lake. …Hence people say that San Pablo has a bottom but Cuicocha does not."

How protection took the beauty from the land; conflicting values and meanings of Lake Mburo National Park, Uganda.

Mark Infield, Eunice Mahoro Duli, Arthur R. Mugisha and Patrick Rubagyema

Summary

Uganda's Lake Mburo National Park protects the last remaining unenclosed rangeland known historically to the Banyankole Bahima pastoralists who once grazed it as 'The Beautiful Land' - Karo Karungi. For centuries Karo Karungi supported herds of long-horned Ankole cows, bred by the Bahima for their beauty, as well as for subsistence, a choice that entailed a sacrifice in terms of food production. This focus on beauty, backed up by taboos that further restricted access to food, established a powerful ethnic identity for the Bahima based on adherence to and pursuit of an idealised pastoralism that linked them and their cows to the landscape of their ancestors. The strength and exclusivity of this identity prevented other peoples with other values, most notably members of the Banyankole farming class, from turning Karo Karungi into a production landscape of farms and fences.

Economic development and cultural change over the past 100 years has led to the steady loss of the exclusively pastoral landscape. Though the establishment of the National Park in 1983 protected what remained of the open rangeland, the exclusion of Ankole cows rendered this last relict of the ancestral landscape meaningless to the Bahima. The result has been conflict between them and conservation authorities. In 1983, pastoralists were forcibly evicted, in 1985 pastoralists invaded and all but destroyed the park, and in 1986, 60% of the park was degazetted. Conflict continues to undermine the management of the remaining 40 percent. An innovative project is working to resolve this conflict by sharing the determination of meaning and value of the park. A values-based approach to park planning and management allows for the integration of 'cultural cows' into the park, recreating the cultural landscape of the Bahima.

A history of Lake Mburo National Park

Lake Mburo National Park (LMNP) straddles the equator in southern Uganda. The park's 260 km^2 cover a mosaic of habitat types including permanent swamps and rivers, gallery forests, seasonally inundated valleys supporting open grasslands, open woodlands and closed thickets. Though small, the park conserves a representative example of a biologically diverse interlacustrine ecosystem, supports Uganda's only population of impala as well as eland, topi, zebra and other 'plains game' (Muhweezi 1994), and harbours several bird species of regional or international conservation significance (Pomeroy and Kasoma 1992). Importantly, the park protects the last remaining unenclosed area of rangeland known historically to the Banyankole Bahima pastoralists who grazed it for centuries as 'The Beautiful Land' – Karo Karungi. Outside the park the land has been largely sub-divided to create small ranches and, increasingly, subsistence farming plots.

In 1933 the Lake Mburo area was gazetted as a controlled hunting area. In 1962 it became a game reserve. The decision to create a national park was taken in 1983 based

Lake Mburo National Park and surrounding areas. Photo: Mark Infield.

Mosaic of rangelands and woodlands. Photo: Mark Infield.

on conservation values and was supported by the international conservation community (Kingdon 1984). There were, however, also political motivations (Kamugisha et al. 1997, Mugisha 1993). The park disadvantaged the Banyankole people, especially the Bahima pastoralists, who were believed by the Obote II government[1] to support the anti-government rebels. All residents were evicted, though many held government permits to reside there, and the exclusion of cattle was strictly enforced. No effort was made to compensate dispossessed families, which, unsurprisingly, produced strong antipathy towards the new park (Kamugisha and Stahl 1993).

When the Obote II government fell following a long civil war, evicted families, especially pastoralists, re-occupied the park. Park staff were driven off, infrastructure was destroyed, the eradication of large mammals was attempted and returning evictees invited others to occupy the 'free land' in an effort to make the park unmanageable. In 1986, however, a government commission recommended that 40% of the area be retained as a national park.

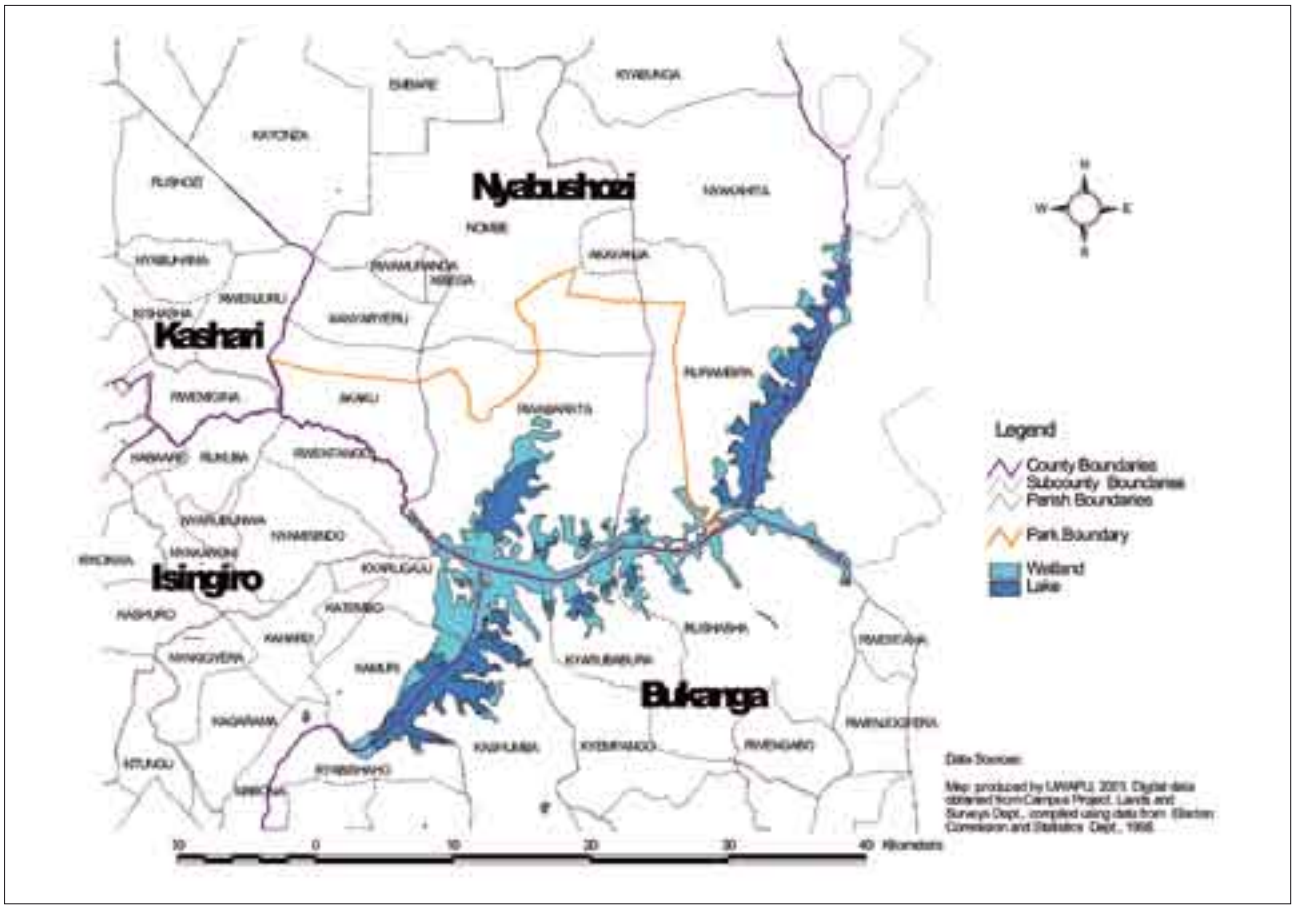
LMNP is managed by the Uganda Wildlife Authority, which employs wardens and rangers who manage the park on the ground. Formal communications between park authorities and neighbouring communities are carried out through the Community Protected Area Institution drawn from and operating under the local government structure.

Living in a cultural landscape

Constructions of the landscape amongst the Banyankole Bahima descend from myth and history. The mythological ancestors of the Banyankole, the Bachwezi, god-like figures who grazed their beautiful cows across this land, were a real people. Archaeological remains found some 50 kilometres north of Lake Mburo indicate that the site was the centre of a large and powerful empire founded on pastoralism that ruled most of southern and western Uganda (Schoenbrun 1993). Its rapid collapse and disappearance gave rise to a number of separate kingdoms including Nkore[2]. Mythology draws a direct line between the Bachwezi and the present day. Both Bahima and Bachwezi occupied the same landscape and each loved

1 President Obote held office twice. He was removed from government by Amin in 1971 and by the current president, Museveni, in 1985.

2 The Bachwezi gave rise to the creation myths of many interlacustrine peoples including the Batoro, the Buganda and the Banyarwanda, who retain many cultural and socio-politcal features in common.



Map 1. Lake Mburo National Park and surrounding areas

their long horned cattle and for as long as beautiful cows continue to graze the rich pastures of Nkore the mythologized landscape will persist.

Physical features of the landscape are believed to have been formed by Bachwezi heroes. The Bachwezi king, Mihingo, for example, shot an arrow from his bow and where the arrow landed a spring began to flow, turning a valley into the Kyansimbi swamp (Babiiha 1958).

Many other sites are associated with mythological events. Ruroko, for example, a stone outcrop lying within LMNP, is named after an ancient cobra with a yellowish neck that resembles the white patch on the neck of an Ekiroko[3] cow.

The history of Nkore and its people is also remembered through the landscape. The days may be gone when the king of Nkore, the Omugabe, and his chiefs raided cows from their neighbours and celebrated their deeds with heroic recitations; nevertheless, the sites of these events are known. Numerous hills, valleys and lakes bear names associated with historical events. The forest in which the kings of Nkore were buried lies just south of the park. The site where the Omugabe Ntare Kitabanyoro sacrificed the famous Ngabo[4] calf before defeating the Bunyoro for the first time, marking the decline of the Bunyoro Kingdom and the rise of Nkore, is known and named. Nshaara, which lies within the park and is remembered as the grazing area of the king's herds, was won back from the Bunyoro and incorporated into the kingdom (Morris 1957). The Bahima spend their days, therefore, in a landscape that reverberates with memories of their origins and history, confirming a historical continuity of place and people.

Banyankole mythology establishes both the separateness and union of the Bahima and Bairu classes of society (Lukyn William 1936, Kanyamunyu 1951, Morris 1953, Oliver 1953, Morris 1955, Mungonya 1958, Wrigley 1958, Posnansky 1966, Crazzolara 1969, Mushanga 1970). The myth of the creation of the Nkore nation is fundamental to an understanding of the separate identities of the three classes within the traditional social and authority structure of Nkore – the Abakama (the ruling class), the Abahima (pastoralists) and the Abairu (cultivators).

3 The names given to Ankole cows describe their appearance, including details of the patterns and locations of white patches (Infield 2003).

4 The name given to a cow with many large white patches (Infield 2003).

Tending the beautiful cows. Photo: Mark Infield

"In the beginning [Nkore] had no kings. The first king was Ruhanga (the Creator) who they also called their god (Nyamuhanga). Ruhanga came from heaven to earth and when he arrived, three sons were born to him. When he wished to choose an heir he put his three sons, Kakama, Kahima and Kairu, to a test to keep a milk pot filled for one whole night. Kakama won and was charged with the rule of the country. Kahima, who had given some milk to Kakama, was made to look after the cattle, while Kairu, who had spilled his milk, was to till the soil." [Adapted from Lazaro Kamugungunu's Abagabe B'Ankole (The Kings of Ankole) published in 1955, in Muvumba (1982) and from Doornbos (1978)].

The belief that the Bahima were charged with the care of cattle provides a powerful basis for their attachment to their cattle, while the divine origins of the separation of Bahima and Bairu underpins the concept of an exclusive pastoral landscape.

The myths also record the love of the Bachwezi for their beautiful cows, a love that the Bahima emulate. Two stories presented here demonstrate this.

"The Bachwezi owned many cattle, amongst which was a cow named Bihogo bya Mpuga, regarded as the most beautiful of their cows. Mugyenyi loved this cow greatly and swore that should it die, he would himself die. When Bihogo bya Mpuga suddenly died, Mugyenyi was determined to kill himself. Though the other Bachwezi scoffed at him for wishing to cast away his life -the life of a god- for that of a cow, an old aunt mocked him for failing in his promise. Her words pierced Mugyenyi and he swore, "I am despised and jeered at, therefore I will leave the world: it is corrupt and no place for the gods." The other Bachwezi agreed. They collected their herds, wives and goods and departed, and were never seen again. But Ruhinda, who had shown interest in the affairs of the people of the Earth remained, becoming the first king." [Adapted from Mungonya (1958)].

"Nyamiyonga, ruler of the land of ghosts, invites Omugabe Isaza to make blood-brothership. Isaza is afraid and sends his Chief Minister instead. Nyamiyonga is angry and decides to lure Isaza to his kingdom. He sends his beautiful daughter to Isaza who falls in love with her. But when she returns to her father to give birth to a child, Isaza does not follow. But she has discovered where Isaza's heart lies. He had told her, bluntly, that he loved his cattle more than her. This time Nyamiyonga sends a pair of his finest cows. When they escape from his kraal and return to the land of ghosts to calf, Isaza follows them and is trapped forever." [Adapted from *Twilight Tales of the Black Baganda* by A. B. Fisher 1911, quoted by Wrigley (1958)].

Legal status of LMNP

LMNP is protected under Uganda's National Park Statute and is listed under the World Database of Protected Areas as a Category II site. Though the statute actually allows for considerable flexibility, its status as a national park and the history of conservation in Uganda means that LMNP is managed as an exclusive wildlife area.

Human agency has, however, had a profound impact on the area for several hundred years (Schoenbrun 1993) and an intimate relationship persists between the area covered by the park and the Banyankole Bahima pastoralists. Though managed as a Category II national park, it is arguable that the area is best understood and managed as a Category VI protected landscape.

Beautiful cows, cultural exclusion and creating a pastoral landscape

Landscapes are social constructions as much as they are physical terrain (Schama 1996). The influence of the Bahima and their pastoral lifestyle on the physical landscape is discussed below. Nevertheless, in order to discuss LMNP as a protected landscape, it is necessary to understand the relationship between the Bahima and the land of Nkore in social and economic terms and examine how this has contributed to the creation and maintenance of both the physical and cultural landscape.

Banyankole society was stratified socially, politically and economically through the separation of pastoral and agricultural economies (Mungonya 1958, Kiwanuka 1968, Crazzolara 1969, Karugire 1971, Doornbos 1978, Muvumba 1982, Bonte 1991). Three classes, Bahinda, Bahima and Bairu, united by a common creation myth and a common language, were ruled within the centralised state of Nkore by a single king.

Though rare elsewhere, this structure of multiple classes ruled by a single king was common to the peoples of the interlacustrine region (Doornbos 1978, Bonte 1991). The degree to which the classes were separated, however, and the mechanisms that enforced it, were not the same. Amongst the Banyankole, separation was almost complete. The Bairu were entirely agriculturalists and the Bahima entirely pastoralists (Karugire 1971, Doornbos 1987).

Cultivators occupied higher, more humid places, while pastoralists occupied drier, flatter areas. However, most of Nkore is suitable for farming (Elam 1974). The annual precipitation of 750 to 875 mm is sufficient to support rainfed agriculture (Macdonald 1967), as the steady spread of farming into pastoral areas in recent decades demon-

strates. Though populations were low with little competition for land, it is surprising that farmers did not infiltrate pastoral areas over time given their historical and numerical advantage (McMaster 1966, Karugire 1971, Doornbos 1978). The social dominance of the pastoralist ideology over farming maintained the separation of Bahima and Bairu and ensured that the rich pastoral lands were kept for the cows.

The core identifier of being a *muhima* is the breeding of *enyemebwa*, beautiful cows. Derived from and enriching this core pastoral ethic is a tradition of poetry, dance and design, and a strongly defined aesthetic and reverence of beauty linked to the cows. Together, these form a powerful mechanism of social exclusion.

Food taboos reinforce Bahima identity and social exclusion. Though many pastoralists claim to follow diets based entirely on milk, meat and blood, most commentators suggest that the vagaries of pastoral production make this impossible (Spear 1993). Traditionally, however, the Bahima did seem to stick to such a diet and avoided all agricultural produce and most wild foods. Food avoidances were explained in terms of the health of the cows (Elam 1974). If food mixed with milk in the stomach it was believed the cows would become sick. Anyone who ate agricultural produce had to be purged before milk could be taken.

Other restrictions also regulated milk consumption. The ancestry of a cow, its dedication to spirits, its relationship to individuals or its association with specific clans meant its milk could only be drunk by certain people. Menstruating women were not permitted to drink milk. Meat and milk were not taken together. These avoidances and restrictions, widely followed until relatively recently, reduced the availability of food to the Bahima, thereby focusing their attention on their herds and strengthening the ethnic, social and spatial separation of Bahima and Bairu. A complex set of dietary rules is a powerful mechanism for establishing and reinforcing ethnic identify – it is difficult to mix socially if people cannot eat together and such a limitation makes spatial integration less likely.

Ankole cows watering. Photo: Mark Infield

The pursuit of beautiful cows is the ultimate signifier of Bahima identity. *Enyemebwa* is defined as the height of beauty in a cow and results from *okubikyirira*, the practice of breeding beautiful cows. The preferred colour is a dark red brown (*bihogo*), while the horns must be large, shapely and white. As well, the cow must be large, tall and long-legged.

The characteristics the Bahima use to select cows demonstrate that it is the pursuit of *enyemebwa* that determines breeding decisions. Infield (2002) asked herders to identify their 10 most-prized animals and explain their selection. Almost 80% of the characteristics mentioned referred to appearance and only 15% referred to production. The top three characteristics used to select cows were horn shape (17%), horn whiteness (13%) and skin colour (16%).

That the Ankole cow is a sanga breed derived from taurine long-horned cattle further demonstrates the pursuit of bovine beauty over production. Zebu or indicine breeds are better adapted to survival and production in semi-arid environments than the more ancient, less efficient humpless taurine breeds (Galaty 1993, Lamphear 1993, Spear 1993), a fact that led to zebu cattle rapidly replacing taurine and *sanga* breeds throughout most of the continent (Hanotte et al. 2000).

Type of charactheristic	Frequency	Percentatge
Appearance	558	79.7
Production	106	15.1
Behaviour	6	0.9
Other	30	4.3
Totals	700	100.0

Table 1. Characteristics of prized cows selected by owners (n=700).

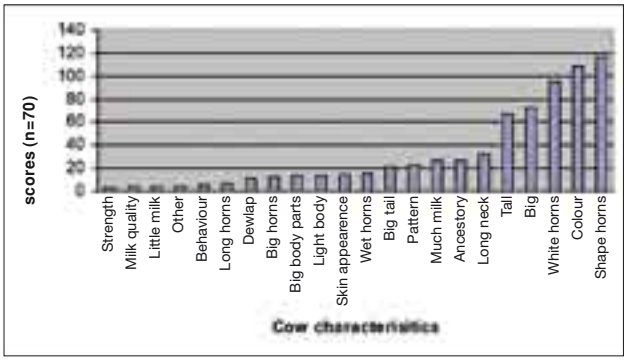


Figure 1. Characteristics used by their owners to select prized cows.

The retention of the Ankole cow by the Bahima was possible because of the richness of the pasture lands of Nkore. High rainfall correlates directly with plant production and high carrying capacity for herbivores (Coe et al. 1979), which made it possible for the Bahima to retain a less productive breed and still compete with zebu-owning pastoralists. It also made the 'defence' of these pastoral resources against encroaching farmers necessary.

The immediate result of the pursuit of beautiful cows is that Ankole herds have a distinctive appearance, dominated by the deep red brown of *bihogo* and the graceful white curves of their horns. The ultimate result is that Bahima are set aside from their Bairu countrymen and other neighbouring tribes.

This was necessary to retain the pastoral way of life. Rangelands with erratic and uncertain rainfall are described as systems at disequilibrium (Behnke et al. 1993). Pastoral production is possible in such areas only when cattle can be moved freely to the best locations at any particular time. Despite its high rainfall, this also applies to the Nkore rangeland. The patchy distribution of pastoral resources such as permanent water, salt grasses or shade also requires herds to move. Fallow periods, when herds move away, allow the recovery of grazing and prevent the encroachment of woody vegetation as part of a long-term cycle of sustainable pastoral production in an extensive system (Behnke and Scoones 1993). Periodic movement of herds also helped control tick-borne diseases. The Bahima way of life was threatened, therefore, by anything that restricted the free movement of their herds or converted key pastoral resources to other uses.

The glorification of the Ankole cow and the idealisation of a pastoral ethic was a passive mechanism aimed at defending the land against farmers and peoples with other breeds of cattle. Lamphear (1993), discussing the now vanished Sirikwa people, referred to their long-horned black cattle as an "oral shorthand" for their identification as Sirikwa. The same can be said of the Bahima and their *enyemebwa.*

The attachment of the Bahima to their cattle achieved two things. Firstly, it reinforced the physical separation of Bahima and Bairu communities, effectively blocking the spread of agriculture into pastoral areas. As the Bahima were nomadic, the agricultural Bairu, who were relatively settled, could easily exclude nomadic pastoralists by converting the land for farming (Karugire 1971). Mechanisms that excluded Bairu from Bahima society by reinforcing their separation prevent this. Positive attitudes towards cattle and negative attitudes towards farming were so effective that even in the 1960s Elam (1974) found only four Bairu farmers living in 30 Bahima camps totalling 1,004 people.

Secondly, enshrining the love of cattle as the defining principle of Bahima identity was critical to the maintenance of the class system. The economic system produced and exchanged goods and services in relation to the strict separation of the two groups. For the Bahima, this system was constructed around Ankole cows and the religious, historical and cultural values associated with them.

Three elements combined to form a mechanism that linked the rangeland of Nkore to the Bahima and protected it from agricultural encroachment: beautiful but unproductive cows, the stratified social system and the richness of the rangelands. Together, they provided a passive mechanism for creating an exclusive pastoral landscape. The richness of the rangeland would have encouraged encroachment by farmers, threatening pastoral production. Farming and farmers, therefore, had to be resisted. Nevertheless, the rich, high-rainfall rangeland meant that the Bahima did not have to worry excessively about food shortages and thus could be less concerned about the productivity of their herds. This allowed them to retain an unproductive breed and ensured that the pursuit of beauty could become the dominant expression of the pastoral ideal.

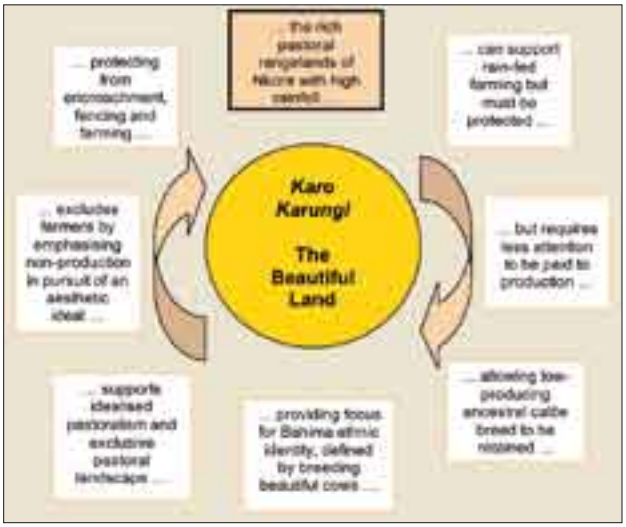


Figure 2. How breeding beautiful cows protected the landscape from farming.

Reduced production entails a sacrifice exemplified by the retention of a less productive breed and the selective breeding of more beautiful rather than more productive cows. The Ankole cow therefore provides the basis for the ethnic identity of the Bahima. The pastoral ideal requires the exclusion of other ideals and also excludes people unable to make or uninterested in making the sacrifice. The ethnic identity of the Bahima and their love of their beautiful cows allowed them to resist demands to manage land for agricultural purposes, thus closing the land to competing uses emphasizing production. This refusal protected

the land of their ancestors and enabled the perpetuation of the Bahima pastoral ideal.

Land of milk and honey[5]: understanding the idealised pastoral landscape

For the Bahima, there is no place suitable for cows where cows should not go. They followed the pasture, rains and water. During the dry seasons, they grazed their herds close to the permanent sources of water, the Katonga and Rwizi Rivers and the permanent lakes and swamps of Katchera and Mburo. During the wet season the herds would disperse across the landscape. If water and grazing were present, a Muhima would graze his cows there. The land was held by the king, but individuals had the right to use any piece of it (Mackintosh 1938). An *eka* or household established temporary rights to nearby grazing, but these expired when the eka moved on.

Even sites of religious or historical significance are freely grazed. Bigo bya Mugyenyi, for example, remains an important site for the Bahima and is used for religious rites associated with the Bachwezi cult, as well as for Christian worship. Nonetheless, the entire area of the site is grazed (Infield 2002).

Figure 3 shows the Bahima terms for land outside the *eka.* All categories are described by their use by cattle. The terms refer to increasing distances of grazing areas from home, but all refer to the grazing.

Specific terms are used to describe the movement of cattle through the environment from one space to another: for example, *okusetura* refers to the moving of cows to grazing in the morning and *okutsyora* to the moving of cows to water. The divisions of the Bahima day exist in terms of where the cattle will be and what they will be doing (Lukyn Williams 1936). If there is grazing and water, the land is perceived in terms of cows, but if there are neither, Bahima have little interest in it. Land with pastoral resources and no cows has no meaning within Bahima cosmology. Infield (2002) reports a respondent saying "How would people conceive of an area of land with water and grazing, but no cows? That would not be land. How can I put it? It would not be anything."

Before it was named Nkore in the eighteenth century, the homeland of the Banyankole was called Karo-Karungi, the 'Beautiful Land'. It is, however, the cows that govern responses to the landscape, which is perceived in terms of pastoral resources. Karo-Karungi is commonly translated by the English idiom, "land of milk and honey". Talking about the park, a Muhima said "[We] really want to go back and graze in it. Because of its special beauty, the grass, the trees, the nature. You know, it is flat. We really love it" (Infield 2002).

The flat land consists of the seasonally flooded valleys, open grasslands favoured for grazing because the pastures are good; cows can move freely, there are sufficient big trees to provide shade and dams for water can be constructed easily. Beauty and utility are linked. Poetic recitations praise the land, but describe it in terms of its pastures, water and locale for cows. A recitation describing cattle grazing in Nshaara within the park provides a wonderful example.

"The grass of Rwanyakizhu is burnt.
Bwaitimba is bare.
The fire has gone to the shores of Lake Katchera,
and burnt Ruragara.
And the cows stand still at Rukukuru,
as the ripened fruit of enyonza."
[Adapted from Mackintosh (1938)].

The poem is more than a catalogue of production characteristics. The cows are likened to the fruit of *enyonza, Carissa edulis*, a shrub with deep red edible berries. This

5 A biblical reference, this phrase is in common usage and reflects the conversion of most Bahima to Christianity.

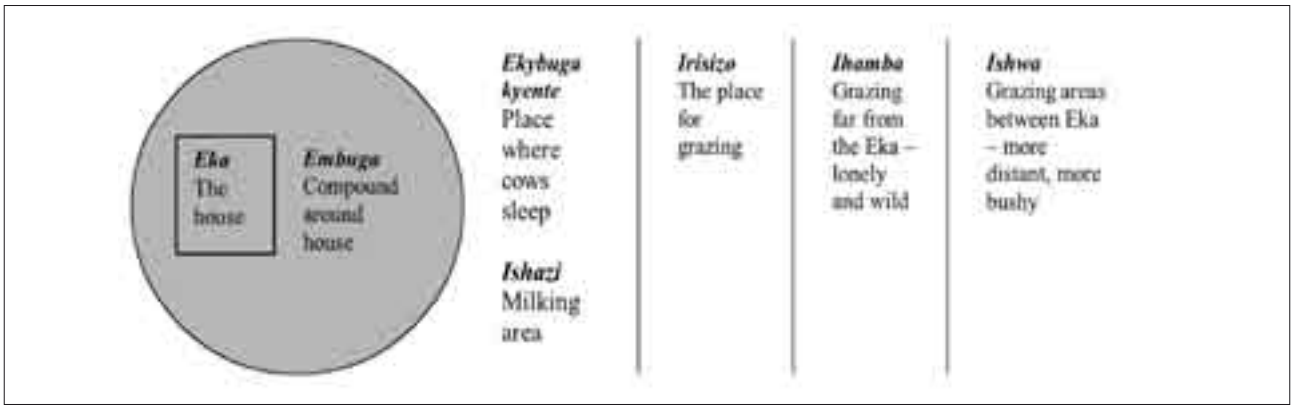


Figure 3. Bahima labels for the landscape outside the household compound.

produces a powerful sense of place and captures the Bahima aesthetic perfectly. The poet sees the rich red cows standing against the black burnt grass, like sweet *enyonza* berries hanging on the bushes. Unusually, the cows are still. Perhaps they are weak, as the burnt grazing indicates the end of a dry season and perhaps drought. The image also refers to a great drought in the eighteenth century, when *enyonza* fruit were collected as food and used instead of cows to pay bride prices. The state of the land, the condition of the cows and the plight of the people are thus all contained within this short description.

The sight of a herd of Ankole cows confirms the power of the Bahima construction of landscape. The Ankole cows are part of the environment. Their red brown colour matches the red soils. Their curved white horns resemble the long white thorns of *Acacia siebiriana*, a locally common tree. They move across the hills and valleys, raising dust, grazing the grasses, existing within, changing and completing the landscape.

The idea of penning Ankole cows is disliked by Bahima, who believe the cows are not 'happy' when penned in. A happy cow runs and jumps, is energetic and animated. A cow is happy when it has good grass and water and, importantly, space to move in. The desire to move long distances is seen as a defining characteristic of Ankole cows.

"[The Ankole cow] has its nature … It moves. It can move miles and feed and move miles and water … When confined in small areas, it is not the same" (Infield 2002).
Ankole cows should not be constrained by fences (and therefore by concepts of private ownership of land), but should be able to walk and graze freely.

"Ankole cows like to move into the wind. This wind, then, makes the man happy. A fence will stop the cows following the wind" (Infield 2002).

The perception of a happy cow is rooted in the landscape itself and is represented by an image of a herd moving. In this image, the Muhima herdsman follows the long line of his red cattle, singing. The happiness of the cow and the happiness of the Muhima are linked and both result from movement within and through the landscape. The Bachwezi are remembered too in this way, moving with their cows though the land. This sense of the mutual well-being of the Bahima and their cows is important to the way the landscape, the cows and the people interact.

Critical to this construction of landscape is its exclusive nature. In the same way that the Bahima have preserved an image of the ancestral cow of the Bachwezi, remembered as the ultimate pastoralists, the landscape remains that of the Bachwezi too. The mechanisms that prevented encroachment of rangeland by farming supported the re-

The beautiful land of the Bahima. Photo: Mark Infield

tention of a mythologized landscape. By its nature, this landscape is an exclusive one given meaning by the presence of Ankole cows and the absence of all other human agency.

The acts of grazing and watering locate the Muhima and his herd in the landscape. The act of grazing is a solitary act, made exclusive by ritual and tradition and idealised through music and poetry. Today, elite Bahima, whose lives are increasingly urban, associate grazing the cows with relaxation, meditation and traditional values.

The mechanisms that excluded competing land-uses and create the exclusive pastoral landscape now conserved within LMNP (ironically as an exclusive wildlife landscape) were also associated with the day-to-day practices of nomadic pastoralism that directly affected the landscape.

Cattle grazing affected the appearance of the physical terrain by reducing the height and thickness of the grassland vegetation through grazing and trampling, which opened out the landscape. These open landscapes were preferred by pastoralists as they allowed the cattle to graze freely. This also modified the relative abundance and distribution of pasture species, although not to a significant extent (Infield 2002)

The movement of large numbers of cattle to important watering sites established marked trails, very different in appearance to wildlife tracks.

The extensive cutting of the bush, largely the small acacia species, to construct the traditional huts of the Bahima and the extensive protective walls to protect the herds from lions and other carnivores had a particular influence on the appearance of the landscape and created a mosaic of different age classes of woodland vegetation. Bahima homesteads were often located towards the top of hills and the typical open hilltops in the park seem to be the result of their repeated clearing.

The landscape was affected by factors associated with grazing patterns. The relationship between grazing, burning and bush encroachment is complex, but is generally understood to maintain open rangeland in disequilibrium (Behnke and Scoones 1993). The open grasslands of the park's valleys are believed to have been created and maintained by a combination of grazing and burning. The Bahima will regularly burn the pastures in order to stimulate a flush of fresh grazing at the end of the dry seasons. Traditionally, the pastures would be burned before an eka moved away, helping to control ticks and allowing a fallow period for grazing to recover. In the absence of burning, the climax vegetation of Nkore is closed thicket (Langdale-Brown et al. 1964; Lind & Morrison 1974). Currently, there is significant bush encroachment in the park, although it is hard to demonstrate a direct relationship between this and the decline in grazing.

How conservation threatened the cultural landscape

A historical process set in train by British imperial interests in the late nineteenth century undermined the pastoral landscape and replaced it with, first, a production landscape[6] and then with an exclusive conservation landscape. The Nkore rangeland was steadily enclosed and taken into individual ownership for farming or ranching, or placed under wildlife-protected areas. The exclusive pastoral landscape of the Bahima was replaced by landscapes reflecting very different constructions of nature. The Bahima responded to these changes, first by withdrawing from society and avoiding authority, then by relocating and, finally, by active resistance.

Concepts of wildlife in Uganda have changed over time. Under the British protectorate attitudes were nakedly utilitarian: wildlife was seen either as a source of revenue (via hunting and trade) or a threat to revenue generation and economic development. Nevertheless, more complex and less utilitarian perspectives of wildlife began to influence policy in later decades and continued until economics returned to the forefront as plans were laid for Uganda's independence (Willock 1964, Kinloch 1972).

Perhaps surprisingly, following independence in 1962 the values of wildlife were increasingly explained by the authorities in national, aesthetic and scientific terms. This emphasis, however, disguised a struggle for control over land and resources in the newly independent country. In the 1970s and 1980s, arguments that the national parks were economic assets, when it was clear they were not, helped conservation professionals retain control over the lands that were irreversibly linked to their social, cultural and economic capital.

Despite game reserve regulations severely limiting their use, there was little enforcement in the first decade of LMGR's existence. The determination to exclude farmers and pastoralists strengthened in the 1970s as concern grew over the increasing level of use. Officials explained their pursuit of an exclusive conservation landscape by invoking scientific, economic and aesthetic arguments, and by championing national over local or individual in-

6 The British started this process by requiring the Bahima to produce and sell ghee to pay taxes, before proceeding to settle immigrant farming communities in the area, open the lakes to commercial fishing and establish beef ranching and dairy production schemes.

terests. Whatever the justifications, it was inevitable that exclusion of the Ankole cows would create conflict.

The Bahima landscape, designed to exclude farmers, inevitably excluded any other use. Removing cows from the land removed meaning from the landscape. Lake Mburo National Park as a cow-free zone, like the game reserve before, undermined Bahima constructions of landscape and threatened their identity and culture. Important as competition for control over the economic resources of the park might have been, the underlying cause of the conflict was -and remains- the clash of two highly developed, mutually exclusive socially constructed landscapes.

The National Resistance Army made the injustice of the park's creation one of its causes when fighting against the Obote II regime. On assuming power, however, President Museveni[7] pleaded with the Bahima to leave the park. A Muhima retorted that the president must have been bewitched as nothing else could explain his order (Mugisha, pers. com).

7 President Yowori Museveni of Uganda is himself a Muhima.

The recreation of a cultural landscape within the National Park

Relationships between landscape and culture are expressed or symbolised in many ways (Croll and Parkin 1992). The strength of Bahima 'attachment to place' stems from their attachment to Ankole cows and the values associated with them. It is the relationship between the Bahima and Ankole cows, therefore, which drives the conflict with the park authorities.

The Bahima still drive their cows into the park, despite the risks[8], even when there is adequate grazing and water outside. The existence of cow-free rangeland is impossible for pastoral Bahima to accept. It represents a vacuum devoid of meaning. There is therefore a cultural imperative to fill the park with cows. Park managers hold that the exclusion of cattle is based on scientific assessments of the impact of grazing on biodiversity. However, Infield (2002) found few if any impacts. Preconceptions and narrow ex-

8 Risks include arrest, fines and confiscation of cattle, and exposure to ticks and predators.

Inside the Enidi ranch. Photo: Mark Infield

pectations rather than empirical observations seem to be responsible for reports of degradation and damage.

Meanwhile, social, economic and land-use change is rapidly altering the landscape and Bahima culture outside the park. Initially, the land was enclosed by members of the Bahima elite and emigrants. A second wave of enclosures occurred in the 1960s and 1970s with the establishment of commercial ranches funded by the World Bank. Finally, as traditional nomadic pastoralism became unsustainable, further subdivision of the land occurred when Bahima households were allocated small ranches in the 1990s.

The open rangelands of Nkore remain only in LMNP and government ranches. As an inevitable consequence, the breeding of Ankole cows for beauty has declined. Until recently the male line of the Ankole breed was kept pure. Infield (2002) found only taurine genetic markers on the Y chromosome. Despite centuries of cross-breeding, only cows were introduced into herds, never bulls. Today, in order to increase production quickly, exotic bulls are being imported. This will result in the rapid loss of the Ankole breed and is already leading to the loss of *enyemebwa* and with it the hallmark of Bahima culture.

Recognizing the conflict between the Bahima and the park authorities as a conflict between opposing sets of cultural values presents an opportunity to defuse the conflict and conserve Bahima culture and their cows. Infield (2002) proposed that broadening the values represented by the park to include those of the Bahima would achieve this. By returning Ankole cows to the landscape, sharing the right to define the meaning of the landscape, the park can become a mechanism for conserving Bahima culture and values, ensuring the survival of a unique breed of cattle and increasing the park's sustainability by building a bridge to the community. Three key recommendations were:

- The exclusion of cows and the history of conflict that stemmed from this must be understood and responded to as a conflict between cultural constructions of nature and landscape.
- LMNP should be made responsible for the conservation of the Ankole cow and be presented to the Bahima as an entity that conserves values of importance to them.
- Appropriate institutional and management structures that will allow for the integration of Ankole cow conservation into existing values and functions of the park must be investigated and developed.

With financial and moral support from the Macarthur Foundation, the Uganda Wildlife Authority and Fauna and Flora International have initiated the Culture, Values and Conservation Project to implement these recommendations.

The project is demonstrating how local interest in and support for protected areas can be built by designing and managing parks to reflect the cultural values that underlie local social constructions of nature and landscape. This entails integrating herds of 'cultural cows' into the landscape of the park and integrating their associated values into the management framework of the park. A range of activities are being undertaken to achieve this.

The management plan of the park has been modified to contain explicit recognition of Bahima cultural values and to include practical measures that allow for the day-to-day management of Ankole cows within the park. Implementing these measures is proving more difficult than anticipated for both cultural and practical reasons. The strength of the tradition of conservation makes it hard for managers to support the introduction of cows into the park, while replicating extensive management of Ankole cows in the park requires new infrastructure, staff and management skills. Agreement on the number of animals to be allowed, where they should graze, how the question of ownership should be dealt with, what to do with the natural increase in the herds, and many other issues still need to be resolved. A key but difficult concept for all partners is that the cows must be 'cultural cows', not 'economic cows'. This is necessary to distinguish their presence in the park from privately owned cattle that continue to be grazed in the park and to ensure that the conservation objectives of the concept are not overwhelmed by commercial considerations.

A real concern for park managers is how tourism might be affected by the presence of the cows in the park. That many tourists do not expect to see cows and may complain if they do has led park management to suggest concealing the 'cultural cows' in little visited corners of

Ankole cows and zebras. Photo: Mark Infield

the park. This demonstrates a continuing difficulty with appreciating the concept underlying the integration of the cows. It also underestimates the potential tourism value of these magnificent animals. The project is addressing these issues by working with the tourism industry to develop materials explaining the historical relationship between the Bahima and the park's landscape and the very unique nature of the cows themselves.

Finally, the project has also helped establish an institution to champion the cultural values of the Bahima, support the process of integrating Bahima values into the fabric of the park and help translate the Bahima construction of nature and landscape into practical action. The Ankole Cow Conservation Association negotiates with the park authorities. This institution will also support the selection of animals to ensure their 'beauty', advise on the management of the herds and share in the ownership of the cows by employing traditional institutions associated with the giving and loaning of cows amongst the Bahima. In the future it is expected that this group will also provide education and awareness about the beautiful cows and the park amongst the local community.

Positive impacts on the conservation status of the park are already resulting in changes in the relationship and interactions between the park authorities and the Bahima community. This approach is already beginning to influence policy and practice of protected area design and management nationally. Whether or not this approach to the management of Lake Mburo National Park results in its re-gazettement as a Protected Landscape, the exposure of the complex and rich interactions between culture and landscape will positively influence the thinking that underpins protected area theory and practice, the experience of visitors to protected areas and the interactions between protected areas and their neighbours.

Acronyms

UWA Uganda Wildlife Authority
LBGR Lake Mburo Game Reserve
LMNP Lake Mburo National Park

Glossary

Bachwezi
Semi-mythical ancestors of the Banyankole people
Banyankole/Muyankole
People of the Banyankole
Bahima/Muhima
Pastoralist members of the Banyankole
Bairu/Muiru
Farming members of the Banyankole
Bihogo
Name of Ankole cow that refers to its red-brown colour, the most favoured colour
eka
Household
enyemebwa
Beautiful cows, more beautiful than others, derived from the verb okwema, 'to be mated and bred for beauty'
ghee
Rancid butter
Karo Karungi
The Beautiful Land - the original territory of the Banyankole
Nkore
The expanded kingdom of the Banyankole
Omugabe
The king of the Banyankole
Sanga cattle
Cattle breeds derived from crosses between taurine humpless breeds and long-horned indicine or zebu breeds
Taurine cattle
Cattle originating from *Bos taurus*, humpless cattle
Indicine cattle
Cattle originating from *Bos indicus* humped or zebu cattle

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The monastic area of Vanatori Neamt Nature Park, Romania

Benedict Sauciuc and Sebastian Catanoiu

Lying on the north-eastern side of the Romanian Carpathians at altitudes ranging between 400 and 1200 m a.s.l. Vanatori Neamt Nature Park (VNNP) covers 30,818 ha. In all, 1,053 plant species, including many rare, endangered and endemic species, have been recorded, while, amongst the fauna, all the large Carpathian predators and herbivores are well represented (Deju and Iorgu 2003). According to the game inventory carried out in 2007, five brown bears, seven lynx and twelve wolves live within the boundaries of VNNP and the presence of these top predators is directly linked to the park's well-preserved natural forest habitats. In 1475 the area was declared a hunting reserve for use by the Moldavian princes (*vanatori* means 'hunters'); today, the predominant land-use is forests (85%), hayfields and pasturelands (10%), traditional woodland-shrubs (2%) and built-up areas (2%).

From the fourteenth century onwards, every new Moldavian prince would donate agricultural lands or forests to the monasteries and thus large areas of land were owned or administered by the Orthodox Church for long periods of time. The communist regime nationalized church properties in 1948 and so in 1999, when the park was declared an IUCN Category V designated protected area, all the land was already in the hands by the Romanian state. Nevertheless, with the restitution of lands to former owners, the situation has changed and today part of the park's land belongs to local councils and private owners, although still more than half is owned by the Romanian state and more than a third by the Orthodox Church.

There are only two villages in the southern part of the park (around 2,000 inhabitants), while the monastic communities, which are concentrated in the northern and central part of the park, are home to about 1,100 monks and nuns. Thus, the area represents the second largest Christian monastic concentration in Europe, after that of Mt. Athos, Greece.

The VNNP is very famous for the 16 Romanian Orthodox monasteries and hermitages that are scattered throughout this protected area. The Neamt Monastery, the oldest and most famous, was first built between 1375 and 1391 and reflects the maturity of the Moldavian Gothic architectural style. It is known as the 'Big Lavra' or the 'Romanian Jerusalem'. The Agapia and Varatec convents are the largest in the Orthodox world (300-400 nuns each) and are famous for the paintings they house and for their miraculous icons of great beauty. Even today, it is traditional that all Romanians visit this area at least once in their lifetimes and hundred of thousands of pilgrims still flock to the monasteries every year, above all on Orthodox feast days in the summer.

Map 1. Vanatori Neamt Nature Park. Courtesy of the Vanatori Neamt Nature Park

Monks of Sihastria monastery. Photo: Sebastian Catanoiu.

From both a spiritual and cultural point of view, these monasteries have been highly important for many years. The Neamt Monastery owns the largest monastic library in Romania, consisting of 18,000 volumes and around 600 extremely valuable manuscripts dating from the fourteenth to nineteenth centuries. In the eighteenth century, under Abbot Paisie, Neamt was inhabited by 1,000 monks from all over the Orthodox world. It was also a cultural centre for the European Orthodox religion and was very influential in Russia and Ukraine: Paisie's Russian translation of the Greek Philocalia influenced modern Russian authors such as Dostoyevsky and Tolstoy. The cultural significance of the area is also reflected in the number of important Romanian artists who were attracted by its natural beauty and historical and spiritual sites. Eminescu, the Romanian national poet, Creanga, a story-teller and, Sadoveanu, the most famous Romanian novelist, all lived and worked in this area. The astonishing paintings in the monastery of Agapia are by the great Romanian painter Grigorescu.

Centuries of monastic land ownership and the long-standing continuous presence of large monastic communities have shaped the landscape in a particular way and today the entire area is a unique expression of monastic settlements within a forested area. The first official law controlling the monastic forests was not promulgated until 1843 (the first management plan for these forests was written in 1853) and traditional methods of exploitation were based on the cutting of small stands of resinous trees (silver fir and spruce) for construction and wood shingles and deciduous trees (especially beech) for heating and cooking. The rudimentary means of transportation and labour in the forest were insufficient for extracting large or far-distant trees and so logging was concentrated near the main roads and usually involved small-diameter trees. This explains the venerable age of many of the stands of trees in the park (around half of the stands in the forest are over 100 years old) and the presence of all the main species of Carpathian fauna.

The harsh conditions of life in the forested areas necessarily led to a common and efficient use of pasturelands, hayfields and forest clearings. An important characteristic of the area are the monastic villages, developed with the aims of self-sufficiency in mind. These villages own post-offices, dispensaries, flour mills, stores, saw-mills and other facilities, and are able to survive without significant external support. Even today, each monastic community

View of the new Skitul Sihla from the hermitage. Photo: Josep-Maria Mallarach.

still indulges in traditional activities such as cattle-farming, woodcraft, fruit production, mushroom and wild berry collection, apiculture, weaving, the making of traditional fruit drinks, baking and fish-farming in ponds that have no significant negative impact on the environment. This model, characterized by sustainable consumption and production, does not produce a large volume of food and any surplus is sold in the monastic stores or is used as alms on Orthodox feast days.

Life in the monastic area, with its hopes and fears, has gone unchanged for centuries and continues in close contact with nature, using locally adapted crops and livestock. The close connection between the ancient monastic model of land-use and current landscapes and biodiversity was one of the reasons that -for the first time ever in Romania- the concept of a Sacred Natural Site was included in the revised Management Plan of the VNNP, in the two chapters on evaluation and management plans for religious and cultural/historical heritage based on spiritual and nature conservation (Mallarach and Papayannis 2007).

Given that the main threat to this symbiosis comes from contemporary materialistic society, which encourages behaviour patterns based on over-consumption and a throwaway culture (Kang and Wimmer 2007), the current monastic model of production/consumption must be supported by the creation of monastic trade marks and by encouraging people to move away from material consumption. Visitors must be provided with more durable, more environmental and better quality products. Affirming the sacred values of sites and species -through common (environmental and religious) public awareness and education emphasizing the astounding mixture of natural and spiritual features in the VNNP- is a necessary step towards the protection of the park's biodiversity.

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Farm landscape around the monastery of Sihastria. Photo: Josep-Maria Mallarach

The Dzibilchaltún Cultural Park, México

María de Jesús Ordóñez, Mercedes Otegui Acha, Celia López and Paloma Rodríguez

Summary

This paper provides a bio-cultural tour of the Dzibilchaltún National Park, located in the north of the Yucatan Peninsula, Mexico. It begins by looking back at the first settlements in the region and then continues on to examine the flowering of one of the oldest cities of the Classic Period of the Maya culture. Next, it visits the region during the Spanish conquest in the sixteenth century and describes the flourishing of the *haciendas* dedicated to the cultivation of *henequén* in the nineteenth century, before moving on to the archaeological discoveries and explorations of the mid-twentieth century and the recent recognition of the historical importance of the area and its subsequent declaration as a Natural Protected Area. This tour finishes with a look at the current situation of this cultural landscape, today mute witness to and the historical result of many different types of land-uses and the spontaneous naturalization of many plant species following the abandonment of the land-uses prevalent in previous centuries.

The growth of the Mérida conurbation has converted Dzibilchaltún into an important natural refuge for both flora and fauna, which co-exist with many local cultural and spiritual treasures: the tropical dry forest, for example, is home to a number of threatened endemic species, associated in local people's minds with legends and traditions that are thus by the same token equally under threat.

A combined cultural and natural landscape

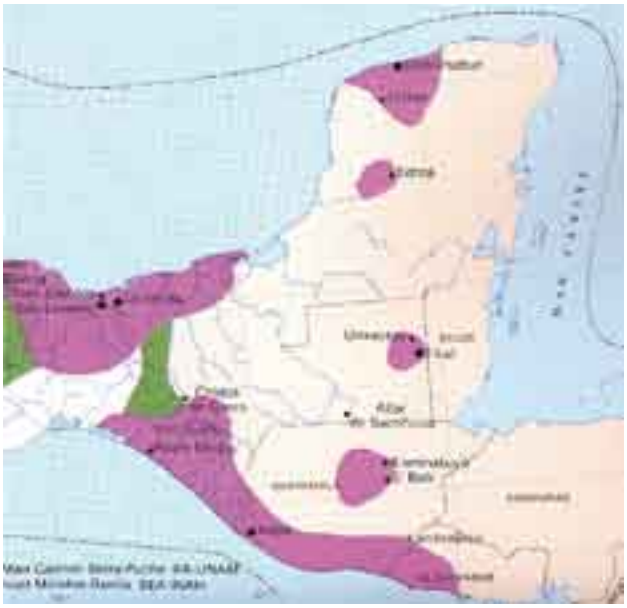
The vast reaches of the Yucatán Peninsula, stretching to the borders of the neighbouring countries of Guatemala, Honduras and Nicaragua, was once inhabited by the Maya, a people who made important scientific and artistic advances in the context of a complex political, social, economic and religious structure. They actively traded all over the Yucatán, extract the resources of different natural environments and developed two types of agricultural systems – temporary slash-and-burn and intensive cultivation using advanced irrigation and slope-management techniques.

The Preclassic Period (2000 - 100 BC) saw the formation of the Maya agricultural villages in which Dzibilchaltún (600 BC), one of the oldest cities in the north of the Yucatán Peninsula, became home to groups of hunter-gatherer nomads who lived off the hunting of small animals, the collection of wild fruits and seeds and the products of their incipient agricultural systems. In the Classic Period (100 BC - 800 AD) Dzibilchaltún grew substantially and boasted public monuments such as the Palenque, Copán and Tikal. Political, social, economic and religious structures became more complex and trade between different regions flourished. Nevertheless, by the sixteenth century the arts and science were decadent and the city of Dzibilchaltún was partially abandoned.

Political and demographic situation

The Dzibilchaltún National Park is located 15 km north of the city of Mérida, the capital of the state of Yucatán, and 20 km south of Puerto de Progreso. Its highest point is no more than 5 m a.s.l. and, in all, it covers 539.43 ha.

The park borders on three localities: the *fraccionamiento* of La Ceiba and the *ejidos* of Chablekal and Dzibilchaltún. Statistics show that local built-up areas –above



Map 1. Regions where the first ceremonial centres with advanced agriculture and monumental architecture appeared in 1200 BC - 300 AD. Source: Atlas Nacional de México. *1990. Instituto de Geografía-UNAM. History; pre-hispanic epoch; origins and pre-hispanic world.*

all, Chablekal and La Ceiba- are growing fast. Between 1990 and 2000, the indigenous population of Dzibilchaltún and La Ceiba grew by 45 and 62 per cent, respectively, although it dropped in Chablekal. The percentage of the population active in the primary sector (agriculture, animal husbandry, fishing and collection) has fallen in recent years in Dzibilchaltún by over 17%, whilst that of Chablekal (7.5 %) and La Ceiba (1.6 %) has grown.

La Ceiba has a predominantly mestizo population, university educated and with high levels of school attendance and education. Development and the quality of life in La Ceiba contrast with those in Chablekal and Dzibilchaltún. Of the three localities, Chablekal has the largest number of indigenous inhabitants and is the worst off in terms of poverty and basic infrastructures. Dzibilchaltún has similar problems with poverty and a lack of basic infrastructures, although to a somewhat lesser degree.

Land-holding and other legal questions

In Pre-Columbian times private property did not exist in Maya culture. Large areas of land were known to belong to a certain community and in between communities neutral land existed that anybody could till. Kurjack (1974) identified concentric circles of settlement in Dzibilchaltún: the most important buildings including the houses of the governing class, priests and soldiers were located in the smallest, inner-most circle; the houses in the intermediate circle belonged to artisans, traders and the richest citizens; finally, the outer-most circle was where peasants lived and cultivated their plots.

In the sixteenth century the administrative divisions imposed by the Spanish greatly modified Maya territories. Their *haciendas* reached their apogee in the nineteenth century on the basis of the industrial production of *henequén*. In the twentieth century the government expropriated the land of the Chablekal *hacienda* and awarded it to the Chablekal and Dzibilchaltún *ejidos*. In 1960 the *ejidatarios* of Chablekal voluntarily donated 110 ha of their land to the National Institute of Anthropology and History (INAH)[1] containing the most important and emblematic archaeological remains of Dzibilchaltún: the buildings in the main square grouped around the Xlacah *cenote,* the Temple of the Seven Dolls and another temple (Templo Parado), the Open Chapel, structures 36 and 38 and Sacbe 1 and part of Sacbe 2.

1 The INAH is a federal government organisation that coordinates investigation, conservation, protection and dissemination of Mexico's prehistoric archaeological, anthropological, historical and palaeontological heritage. Under the federal law on *Archaeological, Artistic and Historical Monuments and Zones* (1972) it is empowered with the conservation and preservation of archaeological sites throughout Mexico.

In all, 99% of the Dzibilchaltún National Park lies within the Chablekal *ejido,* the rest being part of Dzibilchaltún *ejido.* Nevertheless, the central part of the prehistoric city is almost completely within the park limits and the Dzibilchaltún archaeological zone. Kurjack (1974) has calculated that at its height, Dzibilchaltún may well have had a surface area of 20 km^2 (corresponding to the limit of the outermost of the concentric circles), the same as that of present-day Mérida.

No expropriations have been carried out in the Dzibilchantún archaeological zone or in the National Park; it is hoped that the area will soon be promoted as a Protected Cultural Landscape in accordance with the IUCN guidelines for Category V Protected Landscapes.

Legal and administrative status of the protected landscape

The Dzibilchaltún archaeological zone was declared a National Park in 1987 and covers an area of 539 ha donated by the Chablekal *ejido.* The park is administrated by three bodies: the National Institute of Anthropology and History (INAH), the State Patronate of Cultural and Tourist Service Units (CULTUR) and the Secretariat for Urban Development and the Environment of the State of Yucatán (SEDUMA) through the Directorate of Natural Protected Areas.

The INAH employs an administrator and investigator in the archaeological zone, as well as six custodians, a head of

Plumeria tree and henequen (Agave fourcroydes). Photo: Maria de Jesús Ordoñez.

security, a watchman and a ticket-seller. The total annual budget for the zone is 560,000 pesos, which covers staff salaries. Running costs and finance for archaeological work is covered by projects awarded to the archaeologists who work on the site. Dzibilchaltún is the third most-visited archaeological site (100,000 visitors annually) in the Yucatan Peninsula, after Chichen Itzá and Uxmal. The INAH decides which activities can be carried out in the park and maintains close contacts with both CULTUR and SEDUMA.

CULTUR has opened a Museum of the Maya People, which houses an important exhibition on the cultural development of the region. As well, it has constructed a building with restaurant, toilets and handicraft shops for which it grants concessions to local people and traders established in the region. CULTUR employs an administrator, a watchman and a ticket-seller.

SEDUMA employs a person to take care of the maintenance of the interpretation path and to provide guided visits for schools and other visitors. INAH-accredited guides also offer visits to the archaeological zone.

In Mexico, national parks and natural protected areas of federal interest are administrated by the National Commission for Protected Natural Areas (CONANP), a federal organisation dependent on the Secretariat of the Environment and Natural Resources (SEMARNAT). Elsewhere in Mexico, various other parks and reserves have been declared after expropriations by the government. However, in most cases no compensation was ever paid and serious conflicts still exist between the administration of these protected areas and local land-owners, subject to the rules and restrictions that have been imposed on these protected areas.

Physical aspects

Dzibilchantún lies on the Yucateca Platform, a compact mass of Cretaceous limestone that is unbroken by any tectonic faults and rests on underlying Tertiary strata. Limestone outcrops and former raised beaches and coastlines are characteristic and overall the relief is flat to undulating and only broken by shallow depressions (Butterlin and Bonet, 1963).

National Park of Dzibilchaltún.

The climate of the area is hot and can be classified as the driest of the world's sub-humid climate types. The average annual temperature is 26º C and average annual rainfall is between 700 and 900 mm. The prevailing winds come from the north-west and south-east; in winter strong northerly winds blow and hurricanes arrive from the Caribbean laden with humidity.

Despite the lack of surface water courses, there are over 100 natural *cenote* and artificial wells in Dzibilchaltún. Xlacah is the largest natural well in the area (approximately 60 m^2) and varies in depth between 50 cm and 54 m. Its waters have large amounts of dissolved calcium and on its eastern side floating aquatic vegetation is present.

Dzibilchaltún has three soil- types: *ek´lu´um, k'ankab* and *hailu'um*, Maya names that describe their colour, texture, organic material content, stoniness and drainage (Stegg-erda 1941). *Ek´lu´um* soils are deep mature black rendzinas, with few surface stones and are found in the *monte alto. K'ankab* soils are dark red as a result of agricultural use and are less deep and not as stony as the previous soil. Finally, *hailu'um* soils are thin and cover the limestone outcrops that are of little or no agricultural use.

Originally, low deciduous forest dominated by Leguminosae such as *Lysiloma bahamense* and *Piscidia piscipula* covered the northern parts of the Peninsula (Miranda, 1958). Today, only relicts of this forest exist due to the urban growth of Mérida and other human activities.

The following plant formations have been identified:

- tropical dry forests or *noh k'aax*: trees between 10-12 m tall, with thick trunks and appearing on black soils (*ek´lu´um*).
- *acahual* or *tankelen húche:* secondary vegetation with shrubs and trees 3-5 m tall growing on former *henequén* and *milpas* plantations and in areas affected by hurricane Isidoro. The dominant tree species are *Acacia gaumeri, Leucaena glauca, Mimosa hemiendyta, Pithecellobium unguis-cacti, Bursera simaruba* and *Piscidia piscipula.*
- young *acahual* or *hu'che'e*: herbaceous vegetation that appears during the first stages of succession; open vegetation growing on stony soils and dominated by grasses such as *Andropogon glomeratus, Chloris inflata muul* and *Cynodon dactylon.* The *henequén* plantations of *Agave fourcroydes* can be included as part of this formation.

Temple of seven dolls . Photo: María de Jesús Ordoñez.

In all, some 282 species of plants have been recorded in the area, of which 209 are well-known in the region and have Maya names. Of these, 20 species are endemic to the Yucatán Peninsula and one, *Cordia dodecandra,* is in danger of extinction (UICN 1978).

Wing and Steadman (1980) identified the archaeological remains of 54 species of vertebrate, 20 mammals, 16 birds, one amphibian, nine reptiles and eight fish. Up to 50 per cent of the mammal remains belonged to white-tailed deer *(Odocoileus virginianus),* 20 per cent to domestic dogs *(Canis familiaris)*, 12 per cent to two species of rabbit *(Sylvilagus floridanus and S. brasilensis),* 14 per cent to two species of peccary -collared (*Tayassu tajacu*) and white-lipped (*Tayassu pecari*)- and 11 per cent to a deer, the gray brocket (*Mazama gouazoubira*). Amongst fossil bird remains it is worth highlighting the plain chachalaca (Ortalis vetula) and ocellated turkey (*Meleagris ocellata*), while reptile remains are dominated by iguanas (*Ctenosaura similis*). The commonest fish is a marine specie of the genus *Dasyatis*, whose spines were used in human sacrifices (bleeding of the tongue or ear-lobes).

Cobb (1973, 1976) and Harting (1979) report 53 species of bird belonging to 16 families in the park, including species such as the endemic Yucatan Flycatcher (*xtacay*) (*Myarchus yucatanensis)*, as well as Aztec Parakeet (*Aratinga aztec*), Cinnamon Hummingbird (*Amazilia rutila*), Green-breasted Mango (*Anthracothorax prevosti*), Northern Cardinal (*tzitzib*) (*Richmondia cardinalis*) and Lesser Roadrunner (*Geoccocyx velox)*.

Zamacona (1983) identified three species of fish as endemic to the Xlacah cenote: *Ciclasoma urophthalmus, Poecilla velifera* and *Astynax fasciatus altior.*

The Dzibilchaltún forests have become a natural refuge for birds, mammals, amphibians and reptiles from the north of the Yucatán Peninsula and in recent years there have been reports of jaguars and an increase in the numbers of white-tailed deer and birds.

Patterns of land- and water-use

The strategic position of Dzibilchaltún, between the coast and the tropical dry forests, allowed its population to cultivate the land and harvest the fruits of the nearby sea. In the Preclassic Period, groups of hunter-gathers placed little pressure on the ecosystem, although, subsequently, slash-and-burn techniques increased pressure on the forests. In the Classic Period, the growth of the city led to a need for more raw materials such as wood and stone to construct the buildings and avenues (*sacbeob*). Population densities grew, more areas of forest were opened up and recovery periods for the land became shorter. This fact, linked to the prolonged droughts and the impacts of hurricanes, may have led to social unrest and the partial abandoning of the city during the post-Classic Period.

View of the Sacbe 1 from the seven dolls Temple. Photo: Maria de Jesús Ordoñez.

Owing to its scarcity, water is considered as sacred in Yucatán. The Maya developed water-storing technology such as *chultunes* or cisterns and *sartenejas,* smaller water containers where rainwater was collected. The presence of numerous natural wells guaranteed water supplies and was key to the founding of Dzibilchaltún. However, in the sixteenth century, vast areas were converted into *haciendas* in which the Spanish introduced new technology and productive systems (including the use of the Egyptian plough in agriculture, the raising of fowl, cows, sheep, horses, donkeys and pigs and apiculture with European bees) that changed the face of the local landscape.

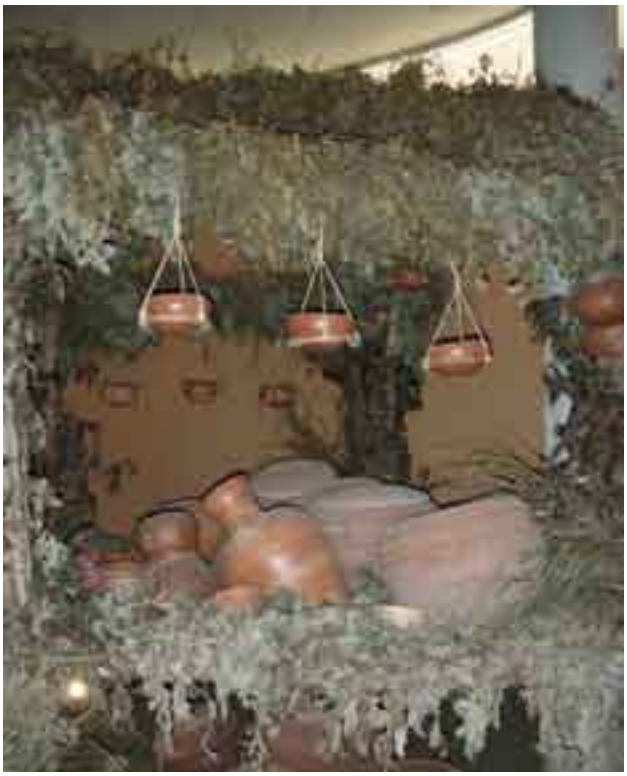
Ancient and current practices in natural resource management

Milpa cultivation is an important productive system that combines tradition and culture and illustrates the close relationship existing between Maya society and the natural world. It began with the preparation of the land by slash-and-burn: beforehand, however, the Maya traditionally performed ceremonies to ask permission of the land owners. They then made a careful selection of the seeds, which were sown with a sowing stick. Throughout the year, the *milpa* was carefully tended and every intervention was accompanied by a ceremony requesting water and a good harvest, or protection against drought and plagues. Today, nonetheless, these types of ceremonies are becoming increasingly infrequent.

The *henequén* plantations (*henequenales*) gave rise to a very particular landscape: first of all, the forest was cleared to provide room for the planting of the agaves. When the plants were seven years old, the leaves were cut, washed and processed to obtain the henequen fibre used for making rope and cords, carpets and cloth. Production continued until the plant was 25-30 years old, at which point the plants were renewed by *lapach*, a technique that consisted of cutting and burning the plantation in order to start the cycle all over again. The *henequenales* flourished from the nineteenth century until the end of the twentieth century, when prices fell and the plantations were abandoned. Today, there are still a few *milpas* areas with *henequén* plants; as well, local people collect firewood and other products from the forests and cultivate their own plots of land and gardens.

Between 1995 and 2005 the dynamics of the vegetation cover changed and tropical dry forest cover dropped from 52 to just 24% as well, in 2002 hurricane Isidoro felled many trees. As a result, the surface area of the *acahual* grew from 13% in 1995 to 48% in 2005 and the area of young acahual fell from eight to 0.6% of the surface area of the park. The cover of abandoned *henequén* plantations fell from 21 to 17 per cent and new plantation cover grew from 1.39 to 3 per cent, whilst that of the milpa fell by 0.2%. The area of the park occupied by museum infrastructure and administrative installations increased from 8.3 to 11.65 ha (two of the park). In 2005, the first human settlements

Maya women in traditional dress. Photo: María de Jesús Ordoñez.



Chac Chak Altar in the Museum of the Mayan people. Photo: María de Jesús Ordoñez.

were registered in the park and 13 ha of forest were cut down.

State policy is currently aimed at promoting the incorporation of the park's productive activities into the tertiary sector. In Chablekal and Dzibilchaltún there has been a decrease in the economically active population working in the primary sector and local people have become incorporated into the economy of the city of Mérida as service providers. The INAH, however, is carrying out a programme with the inhabitants of Dzibilchaltún and Chablekal aimed at promoting the conservation of local traditions and customs.

Natural heritage and economy

The Maya managed their forests and selected, tolerated, encouraged and domesticated numerous plant species for cultivation in their gardens and plots of land whose survival has enabled the forests to regenerate. Two of the most important species were the breadnut (*Brosimum alicastrum),* an evergreen tree that provided more than 20 products, from fruits much appreciated in times of drought to seeds used to make tortillas, bread and coffee substitute, and the *chaya* or tree-spinach (*Cnidoscolus chayamansa*), a bush that in a wild state is urticant, but which once domesticated lost its best means of defence and was eaten as an excellent source of vitamins. Maya horticultural plots also produced numerous varieties of fruit such as sapodilla (*Manilkara zapota*), from where they obtained latex, star-apple or caimito (*Pouteria caimito*), guaya (*Melliccocus bijigatus*), siricote (*Cordia dodecandra*), mango and citrus fruits including the bitter oranges, lemons and mandarins introduced by the Spanish and incorporated into the Maya diet. Likewise, a great variety of herbs brought by the Spanish such as coriander, parsley, chamomile and spearmint were mixed with local species including achiote, hierba santa and other native American plants.

The Maya also domesticated species such as pochote (Ceiba dodecandra), cotton (Gossypium sp.) and henequén (Agave fourcroydes), which were used to make items such as pillows, cushions, lifesavers, cloths, ropes, ropes for boats and carpets until this material was rendered obsolete by the introduction of synthetic fibres.

Cultural and spiritual values

Maya life was closely linked to astronomical observation. The movement of the sun during the year controlled the agricultural calendar, which in turn dictated the celebration of the ceremonies that, with the arrival of the Spanish conquerors, fused with Christian forms of worship. Today, traditional values are the result of a syncretism in which Judeo-Christian elements blend with traditional Maya customs. This mix is observable in traditional Maya settlements in aspects of everyday life such as traditional communal organisation, dress, food, traditional medicine and ceremonies celebrating births, deaths, marriages, funerals, the Day of the Dead, Christmas and New Year, all alive today as in Maya times.

The name 'Dzibilchantún' means 'the place with writing on flat stones' (from the Maya *dzibil* – 'written' and *chaltún* – 'flat stone'). Local culture contained important astronomical knowledge, as well as deep-seated environmental awareness, all linked to the movement of the stars and planets. The Maya developed a sophisticated lunar calendar that even today still controls many local agricultural, forestry and fishing activities.

For the Maya, the forest is sacred and its flora and fauna connect the *inframundo* -the underworld- to the *supramundo* -overworld. On the back of a mythical crocodiles grows the *kapok* tree (*Ceiba pentandra*), the mother tree and centre of the universe, which represents the heavens (overworld). Mammiform fruit hang from its branches and feed children yet to be born. The crocodile represents the Earth inhabited by human beings: with its jaws open

cenote Xlacah, a natural well.
Photo: Maria de Jesús Ordoñez.

Nimphacea flower floating on the cenote water. Photo: Maria de Jesús Ordoñez.

and feet buried in the mud, it devours the sins of men and guides them to the underworld, the destination of those that break the law.

The Maya believed that the forests belonged to the gods and so asked permission before extracting anything from the jungle, performing special ceremonies before the forests were cut. Today in both Chablekal and Dzibilchaltún, no more than a few local people ever perform the ancient ceremonies such as the Chac Chak, dedicated to Chac the rain-god, that were performed before sowing to guarantee rain and an abundant harvest.

According to the Maya, the forests are inhabited by the Xtabay, long-haired magical beings with the body of a woman. They seduce men and take them into the forest, where they disorientate and beat them, leaving them tied up to *nopales*, spiny plants that irritate the skin. The Aluxes, on the other hand, are mischievous child-like creatures that play tricks on humans, getting them lost, hiding their tools, clothes and food.

The Canto de la Luna (Song of the Moon) is a ceremony for women who have lost their lovers: these women bathe in the ***cenote*** at full moon and are covered in flowers whilst the other women prey for the return of their loved ones and the pair's fertility.

Challenges, threats and responses

One of the most important threats hanging over the park is the change in land-use resulting from urban growth, above all in Chablekal; however, it is hoped that landowners will renew the agreements by which land was donated to the archaeological zone and the park. Likewise, the presence in the park of many tourist routes may also become a threat. Local inhabitants must become more involved with park maintenance, management and conservation programmes and be encouraged to preserve their cultural traditions in a globalised world that tends towards the homogenisation of food, dress, consumption and worldviews.

sarteneja traditional maya cointainer to catch rain water. Photo: Maria de Jesús Ordoñez.

It is vital to strengthen the identity of the local population and foment the conservation of its traditions and customs. INAH, SEDUMA and CULTUR must improve their communication with local people in order to negotiate and agree on subjects such as park administration, wardening and maintenance and to solve conflicts arising out of land-use. The park needs a larger annual budget for infrastructure maintenance and to satisfy the needs for park services that can provide park staff with the powers to carry out their jobs. As well, it would be useful if the entry fees that currently end up with the federal administration were to remain with the park to help in its self-financing.

Conclusions

One of the many obstacles that indigenous people are having to face up to on a world scale is the lack of recognition of their rights regarding their cultural heritage. Whilst in the United States numerous laws exist that regulate the collection, excavation and recovery of indigenous cultural heritage and archaeological remains (for example, the *Native American Graves Protection and Repatriation Act*, 1990), in Mexico indigenous people have little or no say in relation to their cultural heritage. According to Mexican law, a landowner only possesses that which lies on the surface of the land; whatever is underneath belongs to the State. Consequently, almost all aspects of the cultural heritage –palaeontological, archaeological and historical- are the responsibility of the federal government (*Federal Law on Monuments and Archaeological, Artistic and Historical Zones*, 1972). This method of managing cultural resources leaves indigenous people with little control over their own history or over the management of their own cultural heritage.

One of the most relevant aspects of the management of cultural resources in Mexico (Corbett and Robles 1994) is the exceptional complexity of the country's cultural heritage. Some of the numerous factors that complicate the management of the country's cultural heritage include: (i) the sheer diversity within the indigenous population -62 indigenous groups and more than 230 endemic indigenous languages- that is reflected in an extraordinary variety and abundance of monumental archaeological sites; (ii) the colonial legacy and three centuries of colonial domination that left a significant impression on the architecture, religion, art and language of the country; (iii) the emergence of a mestizo society with unique intangible cultural values; (iv) an astounding degree of religious diversity reflected in cultural and linguistic differences between the north and south of the country, with most of the indigenous popula-

tion found in the south-east of Mexico; and, finally, (v) the existence of at least five different types of landowning systems, each with its own special characteristics.

Acronyms

CONANP (Comisión Nacional de Áreas Naturales Protegidas): National Commission for Protected Natural Areas
CULTUR (Patronato de las Unidades de Servicio Cultural y Turístico del Estado): State Patronate of Cultural and Tourist Service Units
INAH (Instituto Nacional de Antropología e Historia): National Institute of Anthropology and History
SEDUE (Secretaria de Desarrollo Urbano y Ecología): Secretariat of Urban Development and Ecology, Mexican Government
SEDUMA (Secretaria de Desarrollo Urbano y Medio Ambiente del Gobierno de Yucatán): Secretariat for Urban Development and the Environment of the State of Yucatán
SEMARNAT (Secretaría del Medio Ambiente y Recursos Naturales): Secretariat of the Environment and Natural Resources

Glossary

aluxe
A playful child-like mythological being who plays jokes on the peasants as they work in the fields.
cenote, from the Maya *Dzonot*
A natural water-filled sink-hole formed by the collapse of caverns as a result of erosion of the limestone bedrock by underground rivers.
ejido
An organised group of peasants. At the end of the Mexican revolution (1920), the Federal Government carried out sweeping agricultural reforms via the expropriation of the large landed estates (*latifundios*) and the redistribution of land to the *ejidos*. The land awarded to the *ejidos* was public, but after the constitutional reform of 1992 it could be privatised and sold. These lands included land for human settlements and common lands (legal fund). They were used for agriculture, animal husbandry or left as jungle or forest as a reserve from which the *ejidatorios* could extract firewood and other products. The use the land was put to was decided by the *ejido*.
ejidatario
Owner of ejido land.
fraccionamiento
Urban area designed for people with higher incomes. The land is divided up into blocks and lots, delimited by one or more public streets, that are developed with urban infrastructures and services as defined by the Urban Code.
henequenal
A plantation of a type of agave whose leaves are used to produce a natural fibre employed in the manufacture of ropes, bags and many other products.
milpa
A traditional form of cultivation combining maize, beans, squash and peppers.
monte
Spanish name given by the Maya to the areas of vegetation dominated by trees and shrubs. The monte bajo is dominated by shrubs and the monte alto by trees. The former corresponds to an intermediate stage in the regeneration of the forest and the latter to a more advanced stage.
sacbe
A white paved Maya roadway, part of their urban developments, which connected buildings and cities and allowed the free movement of trade and people.
sarteneja
A structure sculpted from the rock in the form of a basin used for collecting rain water.
Xtabay
A magical being taking the form of a beautiful white woman who punishes people for their sins.

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Demojong: a sacred landscape within the Sikkimese Himalaya, India

Palayanoor Sivaswamy Ramakrishnan

Summary

Demojong is a sacred landscape that in one sense has given the state of Sikkim, India, a cultural identity. Dedicated to the ruling deity Padmasambhava, an incarnate of Lord Buddha, this landscape is part of the Kanchendzonga Biosphere Reserve. Demojong extends from the peak of Kanchendzonga, the second tallest in the Himalayas, down to areas of lush tropical rainforest. Sikkim has many forested areas recognized as 'sacred groves' that are associated with the monasteries managed by the Lamas. With a diverse eco-cultural heritage, the Sikkimese have a rich base of traditional ecological knowledge and the landscape provides intangible values and tangible economic benefits with implications at society level. Self-imposed restrictions permit only small-scale alterations of the landscape. However, when a large-scale perturbation (a government-sponsored HEP project) that would have disturbed the peace of the region was mooted, the project eventually had to be abandoned. It is argued that all sustainable conservation and management of natural resources that takes into account the sustainable livelihood of local people must be based on community participation. It is further argued that this kind of developmental land-use has to be built upon validated traditional ecological knowledge and the use of formal knowledge-based technologies should only occur to the extent that the society in question be willing to accept them.

Map 1. State of Sikkim, India.

Introduction

Humans possess an intrinsic desire to be close to nature that is expressed through the natural cultural landscape that they perceive around them (Ramakrishnan 2000a). Very traditional societies wish to conserve their surroundings as a natural cultural landscape, whilst modern urban societies tend to recreate green corridors and green islands within urban landscapes or concrete jungles (Shutkin 2000). An expression of the effort of traditional societies (those already living close to nature and the natural resources that surround them) to conserve their natural cultural landscape(s) is to be found in Sikkim in the eastern Himalayas. Sikkimese are dependent upon biodiversity, both natural and human-managed (over a whole range of levels, from sub-specific, specific to ecosystem), within the landscape for their livelihoods (Ramakrishnan 2008c). Nature and natural resources are valued not only for the tangible economic benefits they bring, but also for the larger intangible values that are equally significant for human well-being.

'Sacred' in the context of ancient Hindu traditions

Nature worship has been embedded in the Indian psyche since antiquity and dates back more than 5000 years to the very early Hindu scriptures; Buddhism shares these values as it has its roots in Hinduism. Thus, people of the Vedic period in India talked about the 'Cosmic Tree' (also called the 'Tree of Life'), which embraces the entire Universe. The mythological axis Mundi was conceptualized as the eternal Fig Tree, with its roots spreading across the universe. This tree is depicted as the Goddess of Nature, who nourishes all life, and is seen as rooted in the Kathopanishad, the ancient Vedic literature (Saraswati 1988).

Moving on from the awe-inspiring symbolism of the 'Cosmic Tree', it is not difficult to visualize the sacredness asso-

Box 1. Natural formations: 'Tangibles' viewed as part of the 'intangibles' in Hindu/Buddhist traditions (Ramakrishnan et al. 1998)

• Standing out very prominently from its surroundings and worshipped by the Hindus and Buddhists of the Asian region, symmetrical Mount Kailas forms part of the Himalayas as it rises above the Tibetan plateau; this mountain is the legendary Mount Meru or Sumeru, the 'Mandala' of the Buddhists (the cosmic axis around which the axis of the Universe is organized for both Buddhists and Hindus). Ancient seers regard the rivers originating from here as sacred and view all these rivers as spokes of an eternal wheel. Buddhists see Kailas as the abode of divine wisdom.
• For Hindus in Bali, Indonesia, the mountain Gunung Agung represents the axis around which the Universe is organized.
• Tibetan Buddhists reverentially address Mount Everest as Chomolungma, the mother Goddess of the Earth, while for Hindus it is the 'Mother of the Universe'.
• Mount Kanchendzonga, after Mount Everest the second tallest peak in the Himalayas, is part of Demojong, as discussed below. It possesses hidden spiritual treasures (*ter*) embedded within the land and water bodies that will be discovered by the enlightened sages of the future.
• Nanda Devi, encompassing a peak in the central Himalayas and the entire basin below that includes the sacred Hemkund lake, is a sacred site for both Sikh and Hindu communities. Due to all the fairs and festivals that take place within the Nanda Devi Biosphere Reserve, this cultural landscape has been declared a UNESCO World Heritage Site.

ciated with the Buddhist *stupas* of the Sikkim region or that of the Borobudur in Indonesia. Likewise, sacred buildings such as the Buddhist *stupas* symbolise transient matter and energy when expressed in material forms and constructions (Hay-Edie and Hadley 1998). Defining natural cultural landscape units as 'sacred' is the next logical step and has implications for the conservation of biological diversity linked to cultural diversity (Ramakrishnan 2008b). Awe-inspiring as they are, mountain landscapes for the ancients are sacred and seen to personify power and wisdom.

The situation described here in an Asian context is equally relevant to many other places. For example, the Maoris of New Zealand believe that all life forms came from the sky and the earth, and that humans are linked to the mountains. The Kikuyu tribe of Kenya believes in burying the dead facing the sacred peaks of Kilimanjaro and Mount Kenya, a symbolic act of worship of the creator of all things on Earth. Mount Olympus, the highest peak in Greece, is a European Cultural Heritage Site and repeated attempts to 'develop' the area as a tourist resort and pollute its surroundings have been resisted by Europeans from all walks of life. These universal values linked with 'sacred landscapes' are to be found in the sacred land of Sikkim too.

Sikkim: The land and the people

Sikkim is a land-locked Indian state in the eastern Himalayas (lying between 27°20'N 88°37'E and 27º33'N, 88º62'E) that borders on West Bengal to the south, Nepal to the west, Bhutan to the south-east and Tibet to the north and east. It is sparsely populated (76.17 inhabitants per km^2) and has a total population of about 600,000 people. The Lepchas were the earliest inhabitants of Sikkim: traditional hunter-gatherers, they claim to originate from the legendary kingdom of Mayel on the slopes of Khangchendzonga. About 28% of Tibetan Buddhists (Lepchas and the Bhutias) belong to the Vajrayana Buddhist tradition. Limbus, a small native group scattered throughout the East and West Districts of Sikkim, refer to themselves as Rong Pa in their own language and worship the spirits of mountains, forests and rivers. The Nepalese, a *mélange* of various castes and a highly stratified society, constitute over 70 % of Sikkim's population; they migrated into this region during the last two decades of the nineteenth century. The many

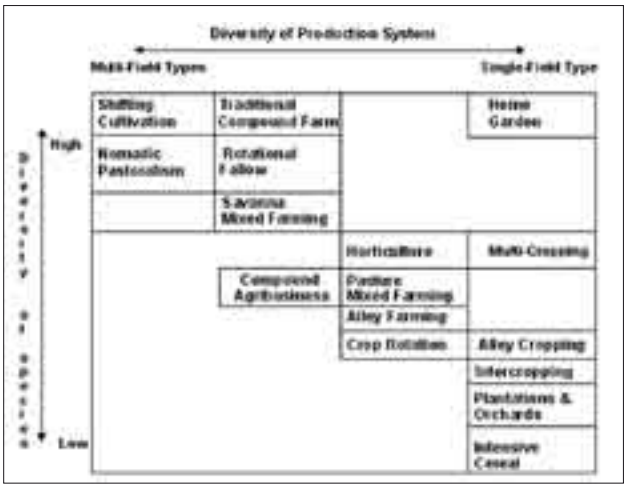

Figure 1. Production systems and field types related to altitude.

sub-groups such as Bahuns, Chettris, Newars, Mangers, Murmis, Rais, Limbus, Tamangs, Gurungs, Kamis, Damais and Sarkis brought with them their own cultural values rooted in Hinduism. The very small Christian and Muslim populations are of still more recent origin. The four main spoken languages are Nepali, Limbu, Bhutia and Lepcha.

At lower elevations, the locals are involved in a whole range of traditional agricultural systems that are managed casually and/or at low intensities (Figure 1). Although the traditional ecological knowledge that forms the basis of these systems has been refined both in space and time, highly productive agroforestry based on cardamom plantations has arisen and is linked with the settled terrace farming that was brought to the region by the Nepalis (Sharma et al. 2003).

The sacred land of Sikkim

To the majority of Hindus, this land is known as Indrakil, the 'Garden of Indra', the heavenly ruler. For Buddhists, this is a 'sacred' land blessed by the most revered Buddhist saint, Guru Rimpoche, who introduced Buddhism to Sikkim in the eighth century. Since the first *chogyal* (king) of Sikkim was crowned in 1642 in Norbugang in Yuksom, Buddhist traditions have been deeply ingrained in the psyche of the Sikkimese people. With shamanistic and animistic traditions probably prevailing in the region prior to Buddhism's rise to prominence in the seventh century AD, today's eco-cultural heritage in Sikkim is indeed a blend of traditions emerging from Shamanism, Buddhism and Hinduism, as is evident in these Sikkimese symbols (Fig. 2). Having always lived in harmony with nature and natural resources, these traditions are increasingly under threat in a contemporary context from modern-day industrial culture.

Eco-cultural heritage

Whilst Sikkim as a whole is considered to be sacred by Sikkimese Buddhists, there is so much socio-cultural overlap between the majority Hindu (75%) and the original (although now minority) Tibetean Buddhist populations of Sikkim (25%) that it is often difficult to draw a line between these two major religious groups. Indeed, within this large sacred land of Sikkim smaller units with differential values attached to them are embedded. A good example is the Demojong sacred landscape, which is one of the most revered of all landscapes and also the abode of Sikkim's deities. According to the sacred text Nay Sol, the area below Mount Khangchendzonga in west Sikkim, referred to as Demojong, is the most sacred of all. Of the four Buddhist sects in Sikkim (Nyngmepa, Kagupa, Gelugpa and Sakyapa), the Nyngmepa, initiated by the Buddha incarnate, Maha-guru Padmasambhava, is the most significant.

The majestic peak of Kangchendzonga, located in northwest Sikkim on its boundary with Nepal, is a sacred peak for all Sikkimese ethnic groups and is believed to have been blessed by Guru Padmasabhava when he placed his foot on its summit as he came looking for this sacred land. Another major landmark is the statue of Guru Rinpoche (36-m tall), the patron saint of Sikkim, who is said to have brought Buddhism to the area in the eighth century AD. This mixed cultural heritage is evident from the rich tapestries woven with Buddhist symbolisms, legends, myths, rituals and festivals, and the typical Sikkimese architectural designs in the many monasteries and *stupas* dotting the state. This heritage is reflected in the ritualistic traditions of the Buddhism of the Lepchas and the Bhutias, and in the Hinduism of the majority of Nepalis, the emphasis being on worshipping nature and natural formations such as mountain peaks, lakes and rivers rooted in Bön Po traditions.

According to Sikkimese cultural and religious history contained in old anecdotal accounts, Buddhism was introduced into Sikkim around the eighth century AD. The land was blessed by Maha Guru Padmasambhava (locally known as Guru Padma Jungne), who consecrated many of the established holy shrines, of which the most sacred, Dakkar Tashiding (locally known as Gompa), stands out from all the others that are scattered around Sikkim. Indeed,

	**DUG (PARASOL)** Signifies the shade under which one can have the fortune of escaping from the scorching heat of all sorts miseries of the world.
	**BHUMPA (VASE)** Like vase of inexhausting treasure, this signifies the fortune of having an inexhausting luxurious wealth of good healt, long life and material wealth.
	**DHUNGKAR (WHITE CONCH)** Signifies the awakening of sentient beings from the sleeping state of their ignorance and persuading them towards the path of noble deeds that are beneficial to self and others.
	**GYALTSEN (VICTURIEOUS BANNER)** Signifies the fortune of having victory of good over the evil forces which obstructs the success of noble goals and also the victory of the Dharma preached by the Buddha.
	**SERNYA (GOLDEN FISH)** Signifies the ability to swim ease whithout any hindrance in the ocean of samsricworld and from happines to happiness into the water of blissfulness. This also signifies the two truths – plain and the transcendental truth.
	**PEMA (LOTUS)** Like lotus which though grown in the mud remains free from the muddy dirt, this signifies the purity of one's mind and deeds which are free from dirt of sins. Symbols of non-attachments.
	**PALBHEU (ENDLESS KNOT)** Signifies the fortune of complementing every aspect of the life harmoniously to each other such as religion and politics, wisdom and means and of knowledge and compassion.
	**CHOEKYI KHORLO (WHEEL OF DHARMA)** Signifies the fortune of passing the time of all the sentient beings under the Blessings of Buddha's Wheel of Dharma being turned eternally without coming to an end.

Figure 2. Sikkimese sacred symbols.

all Sikkimese hope to die and be cremated at Tashiding. Equally important is the Pemayangtse Monastery, which is associated with the royal family. Many other monasteries dot the landscape and, of these, Dubdi, is the oldest; other well-known sites include the monasteries of Rumtek, Tshukla Khang, Rinchinpong, Tholung, Enchey, Lingtam, Gangtok and Namchi. Indeed, in Sikkim a good mix of the tantric Buddhism blended with the local Bön religion exists and forms the Nyingma school of Buddhism. Arising from this mixed origin, Sikkimese Buddhist traditions contain the belief that there are a number of important scriptures, some of which are still lying hidden within the sacred land mass, waiting to be discovered sometime in the future by enlightened souls (*tertons*). Many symbolic chhortens, displayed along with rows of prayer flags, are dedicated to the enlightened departed souls and represent the five different-shaped elements into which the body is transformed after death. Of these, water is the medium used to drive the prayer wheel and air the medium to propagate 'goodness' (*dharma*).

Sacred groves and landscapes

Sikkim is largely covered by forest (82% of the land area) and can be broadly categorized as Reserve Forest, Khasmal Forest or Gurucharan Forest, areas that are all under the control of the Government Forest Department, although with some restrictive rights for users. However, the Kazis, Gumpa and Private Forests are directly or indirectly under community control. Sikkim, a land of *gumpas* (monasteries) has many forested areas recognized as 'sacred groves' that are attached to the monasteries and managed by the *gumpa* authorities or Lamas. Many are stand-alone ecosystems, while others are parts of a larger cultural landscape conserved for cultural/religious reasons (Higgins and Chatterji 2005). There are about 14,000 sacred groves found across India and the small state of Sikkim contains about 35, along with 11 sacred lakes (Dash 2005). Sacred groves, sometimes also referred to as *gynas* (an ethnic Bhotia word meaning 'forest garden'), may be either stand-alone entities or part of a larger 'sacred landscape', as is the case of the entire forested region of the 'sacred' cultural landscape of Demojong (Fig. 3) discussed below in more detail. Indeed, the fact that many such areas are over-exploited due to the value of their rich biodiversity to humans (food and medicinal plants) suggests that there is an urgent need to rediscover some of these rapidly eroding value systems.

Of the many cultural landscapes scattered across Sikkim that epitomize Sikkimese heritage, Tholung in northern Sikkim and Demojong in western Sikkim are two of the most important. Whilst the latter is revered both within and outside Sikkim in the Himalayan region, the Tholung sacred landscape is the nerve-centre of Lepcha social life and contains a large sacred grove of trees of about 14 km^2 (Arora 2006). During times of crisis, the monasteries linked with these sacred landscapes often provide moral and spiritual support for the local population. Thus, for example, the eminent Dzogchen master, regarded as the promoter of Nyingma Buddhism in Sikkim, is said to have used the

Figure 3. The sacred landscape of Sikkim.

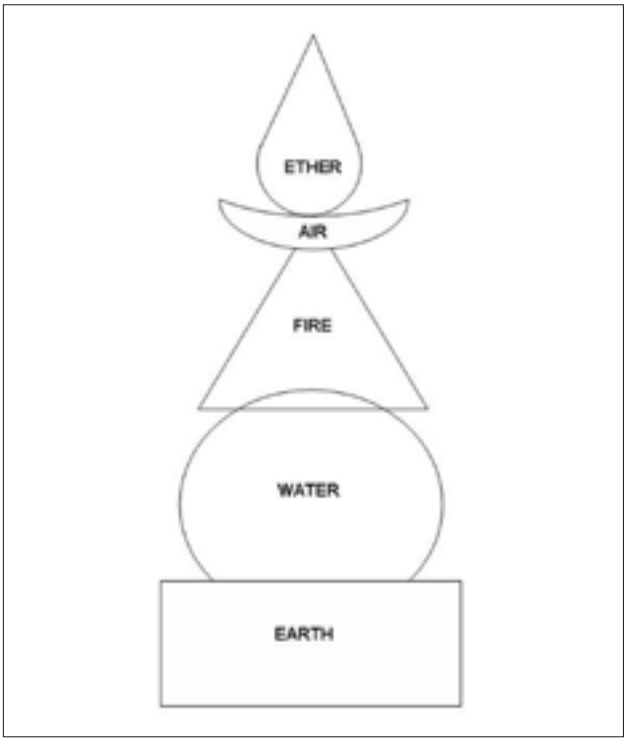

Figure 4. Components of the cosmos: symbols and relationship.

Tholung temple as a sanctuary for many sacred Sikkimese Buddhist and national relics during the infamous Gorkha invasions that plundered the area in the seventeenth century (Dolma and Namgyal 1908, Pradhan 1991).

It is important to recognize at this stage that the concept of sacred groves and sacred landscapes -which often have sacred groves embedded within- is part of the eco-cultural heritage that is common to Hinduism and the Buddhist offshoot that emerged from it. It is therefore not surprising to find stand-alone sacred groves (ecosystems), as well as sacred groves embedded within sacred landscapes, as is the case of the Ganga River System sacred landscape in the central Himalayan Garhwal region (Ramakrishnan 2003). Indeed, these conservation sites are also traditional ways of conserving and managing the rich biodiversity they harbour and are precursors of the more modern concepts of protected area and/or biosphere reserves (Ramakrihnan et al. 2002). No wonder, with such a rich eco-cultural heritage, that Sikkim is becoming a more and more popular tourist destination.

Demojong: a sacred cultural landscape in Sikkim

Demojong is a sacred landscape in a sense that it gives the state of Sikkim a cultural identity of its own, so much so that a major adverse reaction, largely emanating from the local population, occurred when a HEP project was proposed for the sacred Rothang Chu river. The project eventually had to be abandoned as this was a Bhutia-Lepcha heritage site with shared associated ceremonies, rituals and festivals. This is the context in which Demojong has to be seen – a site that illustrates the role of culture as a bulwark for the conservation of biological diversity (Ramakrishnan 2008a,c).

Pemayangtse monastery, a major landmark in the Demojong landscape. In the background, the mountain peak, K (Source: www.panoramio.com/photo/5516930)

Of the total catchment area of 328,000 ha of the mythical Demojong, 28,510 ha lies under snow. The vegetation is varied, ranging from alpine rhododendron scrub vegetation at altitude to moist sub-tropical evergreen forests in the valleys, all within a distance of about 15 km. Such plant biodiversity (including many valuable medicinal plants) provides raw material for the traditional Tibetan pharmacopoeia. Over a dozen ethnic groups living in the landscape practice traditional agriculture, non-timber forest-product extractions (NTFP) and nomadic cattle grazing as a means of satisfying their livelihood needs. While this small scale extraction is permissible in the landscape, larger perturbations are not.

Khangchendzonga Biosphere Reserve

The sacred Demojong landscape is now part of a national biosphere reserve covering a much larger land area (Chief Wildlife Warden 2002). This biosphere reserve is formally recognized as such by the Indian Government's Ministry of the Environment and Forests and is under the general management control of a reserve director, a nominated forestry officer from the Government's forestry service.

Khangchendzonga Biosphere Reserve (BR), established by the Government of India in 2000, covers 36% of the geographical area of Sikkim (2,619.92 km^2) and occupies about 70% of North District and about 30% of Western District. With a core zone of 1,784 km^2 and four buffer zones covering an area of 835.92 km^2, the reserve lies at altitudes ranging between 1,220 and 1,880 m a.s.l. To the north lies Khangchendzonga National Park and Lungnakla Ridge (5,537 m a.s.l.), to the east the BR is bordered by the Teesta river, to the south there are various reserve forests, and to the west lie forested areas and also the international boundary between Sikkim and Nepal. As well, the BR touches a short stretch of the frontier with the Tibet Autonomous Region of China. Due to differences in altitude and orientation, macro- and microclimatic conditions vary, ranging from the warmer foothills to the colder climes of the higher mountains, with three distinct seasons – rainy monsoon, warmer summer and colder winter months.

The BR (i) is a 'hot-spot' zone of biodiversity within the Eastern Himalaya; (ii) is part of the trans-Himalayan Cold Desert zone adjoining the Tibetan plateau; (iii) has many glacial and high-altitude lakes within an altitudinal range of 1,220-8,550 m a.s.l., many trans-boundary watersheds and is the catchment area for the tributaries of two large rivers, the Teesta and Rangit; (iv) has a wide variety of ecosystems ranging from broad-leaved oak-Castanopsis forest, temperate conifer-rhododendron forests to dry alpine meadows akin to the cold deserts of Asia; and (v) is rich in Himalayan endemic fauna and flora, with floral and

faunal elements akin to the north, south, east and west of the subcontinent.

Floral diversity: Temperate broad-leaved forests are dominated by species such as *Quercus lineata, Q. lamellose, Q. pachyphylla, Schima wallichi, Castonopsis spp., Acer campbelli, Engelhardia spicata, Juglans regia, Michelia cathcarti, Magnolia campbelli* and *Cinammomum obtusifolium.* Mixed coniferous forests occur at higher altitudes and harbour a range of species including Abies densa, Acer spp., *Picea moriandoides* and *Juniperus* spp., all associated with *Rhododendron* spp. and *Arundinaria* spp. The alpine vegetation boasts many shrubs and herbs such as *Meconopsis* spp., *Primula* spp., dwarf rhododendrons, *Rheum* spp., prostrate junipers, *Iris genetiana*, *Anemone* spp. and *Delphinium* spp. There are also many medicinal herbs such as *Aconitium* spp., *Picoorhiza kuroaoa, Orchis latifolia, Nardostachys jatamansi, Rheum emodi* and *Pana pseudoginseng.*

Faunal diversity: The faunal wealth of the BR is equally rich. Perennial streams and the multi-storied canopy of the rich vegetation provide a variety of ecological niches with adequate food and water supply for wildlife. The high altitude alpine region harbours many rare and endangered species of mammals. The snow leopard of the alpine zone occupies a key position in the food chain, while the Himalayan red panda (which is the Sikkim state animal), musk

Box 2. Bom Chu festival, an important spiritual/cultural bastion of Sikkimese culture as a whole and for Buddhists in adjoining Bhutan and Arunachal Pradesh.

• The Rathong Chu river is the focus of religious rituals. During the Bom Chu ritual, held annually at Tashiding and considered the holiest of all festivals, the waters of the Rathong Chu are said to turn white and start singing. During the ritual, sacred water is collected from the point where the Rathong Chu meets the Ringnya Chu.
• Attracting thousands of devotees from around Sikkim and neighbouring regions, the Bom Chu ritual is thought to be indicative of coming events, including possible calamities or prosperity. This festival and the festival of Pang-Lhabsol, performed throughout Sikkim, aims to appease the ruling deities of Khangchendzonga and promote Sikkim's general peace and happiness.
• The festival of the 'Holy Water Vase' has its origin in the time of Gur Padmasambhava. The original vase is thought to be made of various kinds of sacred soil and water and embellished with five kinds of precious jewels collected from different holy places in India and elsewhere. The vase is preserved in the Tashding monastery as a sacred item (Dokhampa 1992).
• During Bom Chu, the vase is filled with the holy river water and kept in a miniature house (*cho-sham*) locked and sealed by the *chogyal* of Sikkim.
• Every year on the fourteenth night of the first month of the Tibetan almanac, after a series of special holy chants, the seal of the holy vase is checked by the Lamas and the vase is taken out and opened. Three cups of the water are removed: the first is for the royal family and the second for the Lamas, while the third is distributed among the devotees on the day of the full moon to ward off evil spirits. Fresh water from the holy Rathong Chu is brought to replace the three cupfuls. Depending on the year, the amount of holy water in the vase may increase, may remain the same or it may even turn muddy. These are seen to be indications of auspicious or inauspicious occurrences. Rising water level is a sign of prosperity, a decrease in level is a sign of calamities such as drought and diseases and muddy water is indicative of conflicts and unrest.

Cultural restrictions

• Activities at village level on land and water are permitted. Large-scale human-induced perturbations are thought to destroy the hidden treasures (*ters*) on land and water. These lost treasures will be discovered by enlightened visionaries: the last such treasure found was the sacred landscape map of Demojong, discovered about 500 years ago.
• Any major perturbation to the river system will disturb the ruling deities of the 109 hidden lakes and cause calamities. Indeed, the very cultural fabric of Sikkimese society is obviously dependent upon the conservation of the whole sacred landscape.
• Large-scale perturbations of the land such as deforestation or industrial activities are also forbidden. However, activities such as small-scale agricultural production and the gathering of fodder, fuel wood and non-timber forest products from adjoining forested areas are permissible.

deer, *nayan* or Tinetan sheep, *bharal* or blue sheep, Himalayan tahr, Marco Polo sheep, marmots and monkeys are a few of the other important animals found in the reserve.

The BR also harbours a variety of beautiful and rare bird life that includes the flamboyant high altitude pheasants (Himalayan monal, tragopans and blood pheasant, the Sikkim state bird), Tibetan and Himalayan snow cocks, snow and hill partridges, lammergeier, Tibetan and forest eagle owls, eagles, falcons, hawks and snow and rock pigeons.

Eco-cultural attributes

The immediate land mass below Mount Khangchendzonga in West Sikkim is the Demojong, the core of the sacred landscape and perceived to have been blessed by the great spiritual leader and incarnate of Lord Buddha, Maha Guru Padmasambhava (a god-incarnate for Hindus too) when he came in search of the hidden sacred land. This landscape, the symbol of Sikkimese cultural identity, is a land of pilgrimage not only for Sikkimese, but also for many other people from the adjoining eastern Himalayan region. According to mythology, Guru Padmasambhava set foot first on top of the peak Khangchendzonga when he came in search of the sacred land of Sikkim and this explains why this is the sacred peak for the Buddhists of the region. He trekked all the way down from this mountain peak to the sub-tropical region below and this landscape became clearly defined as Demojong. It is viewed as the land of happiness and, according to the sacred text Neysol, the abode of an assemblage of female divinities known as Mamo Khandos.

As already indicated, the temple and monastery of Dakkar Tashiding, consecrated by the Guru, is the most sacred site in Demojong. It stands out along with the monastery of Pemayangtse against a background of Mount Khangchendzonga. The holiest natural sites here are the river Rathong Chu, which runs through the holy site, and Lake Khecheopalri, the most sacred of all lakes in Sikkim and set amidst dense forest cover; it is believed that wishes are fulfilled through prayers offered to the deities of this lake. The Khecheopalri Lake Festival, which normally falls in the month of March, is a major attraction. As well, the lake attracts many migratory birds during the winter.

The seventeenth century is often seen as a golden era for Sikkim, when the first *chogyal*, Phuntshop Namgyal, was enthroned in the Yuksum region of sacred Demojong by the three most revered Tibetan Lamas. It was during this period under the patronage of Phuntshog Namgyal that Buddhism was proclaimed as the state religion; many monasteries, hermitages for meditation and sacred *stupas* (pillars) were built all over Sikkim. With a variety of religious rituals such as the very important Bum Chu festival (Box 2) and belief systems and eco-cultural values that permit small but not major perturbations in the landscape, the diverse communities living within and outside the landscape have always tried to ensure the eco-cultural integrity of this landscape.

The uniqueness of this heritage site lies in its holism and the interconnection between the soil, water, biota and visible water bodies (rivers and lake systems) and physical monuments such as the Buddhist monasteries. In spite of these intangible rich cultural and spiritual traditions that have been conserved by local communities, a 30 MW HEP project was conceived by the government during the mid-1990s on the Rathong Chu. For obvious reasons, this proposal wounded the cultural sensibilities of the people of the region and thanks to the strong adverse reactions to this large-scale industrial project, the idea of a dam was eventually scrapped in 1997.

Interestingly enough, for a long time ecologists had been on the lookout for so-called 'pristine ecosystems', untouched by humans. However, it is only in more recent times, however, that the existence of such ecosystems has been seen to be a myth, since perturbation is now realised to be integral to ecosystem functioning. Indeed, that traditional societies living in biodiversity-rich forested landscapes such as Demojong are aware of a fine distinction between 'small' and 'large' perturbations is indicative of the ecological wisdom and sustainability with which these people have used the natural resources surrounding them! It is therefore not surprising that a major perturbation in the guise of a small HEP project was looked upon as adversely affecting the cultural integrity of the landscape and of the people living there. However, recent economic initiatives such as the promotion of tourism without addressing sustainability may now pose a threat to this heritage site. The message that can be derived from the Demojong

Three major ethnic groups of Sikkim – Napali couple (extreme left); Lepcha couple (middle); Bhutia couple (extreme right).

case study is that effective conservation of 'intangible' values' has implications for sustaining 'tangible' benefits. In other words, strategies for the sustainable development of the landscape have to be stakeholder-participatory.

Knowledge systems, societal learning and sustainability

To have a community-participatory approach towards conserving cultural landscapes, one has to look beyond textbook-based formal knowledge and put meanings into traditional contexts of local practices, evaluate traditional ecological knowledge available to local communities and make efforts to arrive at generalizations that cut across socio-ecological systems. The ultimate objective of such efforts should be towards converting knowledge-system-based understanding into conservation-linked sustainable management of natural resources at a landscape level (or even at a regional scale) – this is exactly what policy planners and developmental agencies are searching for (Ramakrishnan 2008c). Such an effort to establish a broad base for traditional ecological knowledge was initiated with the largely shifting agricultural landscape of the north-eastern hill region of India, where very traditional societies still live (Ramakrishnan 1992a) and has helped this author arrive at broad regional-scale generalizations of the value of regional developmental planning and its implementation (NEPED and IIRR 1999).

Traditional knowledge: the conceptual framework

On the basis of what we now know, traditional ecological knowledge can be broadly classified into three categories: (i) ethnobiology, that is, species of direct economic value such as medicinal plants and still poorly known species with food value; (ii) aspects that connect ecological processes (e.g. soil water, fertility management and nutrient cycling patterns) at species, ecosystem and landscape levels that can be linked with social processes from family and village levels to a regional scale; (iii) ethical/cultural, analyzing intangible values with tangible implications at various scales (sacred species, ecosystems and landscapes). The final step in such an approach is to give meanings to the intangible values that traditional societies cherish and to the tangible benefits accruing to the people living in the given cultural landscape.

Since the age of the hunter-gatherers, humans have been dependent upon the natural resources around them for satisfying their livelihood needs and therefore it is natural that patches of forested ecosystems were conserved as 'sacred groves' (representative ecosystem samples regarded as sacred). Indeed, such socially valued sites that we have discussed here have an important role to play in the field of community-centred biodiversity conservation, with all that this implies for the rehabilitation/restoration of degraded landscapes. From the concept of 'sacred groves' (Plate 3), the concept of socio-ecological systems may evolve in one of either two directions:

- Evolution to encompass the concept of 'cultural landscapes' – a set of interconnected ecological systems that are valued by communities (e.g. Demojong, as discussed here).
- Reductionism leading to the concept of 'socio-culturally valued species' that often also have an ecological keystone value (Ramakrishnan 2008c). After scientifically deciphering ecological keystone values within an ecosystem by means of time-consuming experimental analysis, we have shown that community-participatory species selection will invariably lead to the identification of species of ecological keystone value (Ramakrishnan et al. 1998, Ramakrishnan 2008c). Such a selection process will obviously ensure community participation in any landscape restoration/rehabilitation initiative.

Sustainable agriculture and food security

As elsewhere, traditional human-managed systems in this part of the Himalayas include a whole range of agricultural systems (Fig. 1). Building upon these traditional systems in an incremental fashion using traditional ecological knowledge (but without making drastic departures from traditional practices) is a positive step on the road to an incremental increase in improved agriculture (Swift et al. 1996). Being based on a value system to which local communities can relate, participation in such a developmental process will contribute towards food security in the region. Directing intangible community values towards tangible benefits is thus the key message here.

Sustainable forest resource management

Foresters have always depended on textbook-based sylvicultural knowledge for forest management, although in recent years community-participatory approaches are being emphasized due to an increase in concerns relating to sustainability (Ramakrishnan 1992b, 2008c). New initiatives from the International Union of Forest Research Organizations (IUFRO), associated with traditional forest knowledge and the emerging International Human Dimensions Programme (IHDP) initiative on 'Knowledge systems, societal learning and sustainability', are indicative of efforts to link community-participatory conservation to

sustainable development in light of rapidly emerging environmental uncertainties in a context of ecological 'global change' (Walker et al. 1999) and the economic 'globalization' of economies (Dragun and Tisdell 1999).

Understanding tree growth strategies and the emerging architectural design of trees over a successional gradient is as important (Ramakrishnan 1992a) as the use of traditional ecological knowledge associated with forestry at all its scales dimensions (species, ecosystems and landscapes). I believe that we need to take a broader view of sustainable forestry, in which we should integrate sylvicultural issues with socio-ecological considerations in an effective way.

Sustainable landscape management

In other words, we need to integrate our conceptions of natural and human-managed ecosystems, of terrestrial and water bodies such as rivers and lakes as a way of addressing concerns regarding landscape sustainability. The sustainable management of natural systems must go hand-in-hand with that of human-managed systems: for example, ensuring the health of water bodies in the landscape is as much a pre-requisite of the sustainable management of a landscape as the sustainable management of the tree components of a landscape is part of forestry and agro-forestry practices. Equally important is the issue of conserving the overall cultural integrity of the landscape: cultural diversity and biological diversity are mutually supportive (Ramakrishnan 2008a) and both concepts must be linked. In the context of Sikkim in general and Demojong in particular, we should be concerned with the humans living within this cultural landscape as close to nature as possible, a strategy that at this stage will not demand any drastic departures from current policy. The ultimate objective should be to conserve cultural and biological diversity as an integrated whole.

Final considerations

In the context of Sikkim, increasing emphasis on industrial activities poses a threat to biodiversity in general and to the eco-cultural integrity of the landscape. A series of enormous HEP projects planned on the Teesta river, for example, is a matter of concern and will lead to a large-scale destruction of natural resources, the drowning of land and the displacement of the traditional societies living in the region, with all the problems that this implies for human safety. The example of the HEP project on the sacred river Rotham Chu that was initiated by government agencies (see above) caused a vertical divide amongst the Sikkimese population and caused the government to back down. This is illustrative of human-safety issues and, indeed, the events of the Teesta river are becoming more and more controversial.

Although it is still in its early stages, controlled tourism poses a threat to the conservation of biological diversity and associated cultural diversity, which is the basis of the above discussion. In the absence of well-developed guidelines for sustainable tourism, which should involve

Mt Khangchendzonga, the sacred mountain for Sikkimese people. Photo: Nakul Chettri

local communities and aim to improve their quality of life, sustainable conservation and management of natural resources still remain a distant dream.

Putting it in simple terms, what do the ideas discussed above imply? The desire of humans to be as close to nature as possible is intrinsic to all human societies, be they part of the developing world or the developed world. Traditional societies living in the developing world want to conserve what they have as 'nature' (Ramakrishnan 2008 a,c), as discussed here. On the other hand, people in the developed world are also making efforts to rediscover 'nature', as can be seen from major non-governmental initiatives aimed at constructing urban cultural landscapes through urban forestry and urban agricultural initiatives as the best way of moving away from the 'concrete jungle' (Shutkin 2000). At another level, having homogenized much more diverse 'natural cultural landscapes' as once existed in the European Alps, the desire to rediscover and reconstruct lost diversity in socio-ecological systems is becoming more and more evident in recent years (Maurer and Holl 2003, Parrotta and Agnoletti 2007). In all these cases, people are seeking to move away from 'top-down' landscape management and to replace it with community-participatory 'bottom-up' landscape management. With the vast majority of traditional human societies now part of the developing world, as much as a third of India's total human population comes under this category. As this author has argued elsewhere (Ramakrishnan 2008d), knowledge systems have a key role to play in ensuring human security at a global level. Here we have discussed in the context of Sikkim as part of the larger Himalayan zone the idea of conservation linked to sustainable development: essentially, the conservation of cultural diversity is supportive (and vice versa) of the conservation of biological diversity.

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Caring for the 'Heart of the World', Colombia

Danilo Villafañe

The Sierra Nevada de Santa Marta is a sacred place for us, the Kogi, Wiwa, Arhuaco and Kankuamo people. We are the descendents of the Tayrona civilisation and still live in this region in accordance with traditions that date back to pre-colonial days.

"The essential sacred dimension of our planet is watched over and cared for in the Sierra Nevada; it is the base and nexus of the spiritual dimension of the planet, the umbilical cord that unites the origins and the present, where spiritual concerns and material things meet; this is where we join with Mother Earth. Our inheritance of the lands of this territory and the knowledge of their significance has bestowed on us the title of Hermanos Mayores ('Older Brothers')"

(Mama Kuncha, indigenous authority on traditions)

Situated on the north-west coast of Colombia, the Sierra Nevada is the highest isolated coastal mountain in the world. This region of 17,000 km^2 rises up from the coast to snow-covered peaks of 5,755 m a.s.l. and is home to diverse ecosystems that include mangrove swamps, dry and humid tropical forests and *páramos* (high grasslands). According to scientists, almost all the climatic zones found in tropical America are present here and are refuge to many endemic species. Around 35 rivers rise here and provide freshwater for our population of 53,520 indigenous people, as well as for the 1.5 million non-indigenous inhabitants that live on the lower slopes of this mountain range and the extensive agricultural areas occupying the surrounding plains. The region was declared a Biosphere Reserve by UESCO in 1979.

Our ancestral territory is defined by our sacred sites. Each site has a specific function and provides knowledge that our traditional authorities, the Mamas, employ to administrate and guide the use of our territory. These sites guarantee what is going to happen, and ensure that all animal and plant life, the water, the rain, the air and the soil is

Two typical Kogi settlements, Pueblo Viejo and Nuvwiyaka in the background, situated in traditional territory that was recovered in the 1980s. Photo: Danilo Villafañe

cared for. Here, we make offerings and requests to ensure that all our human activities are compatible with the Law of Origins (Ley Sé). Here too we bring our sick to be healed, celebrate the Earth's vital cycle and resolve our conflicts.

This region is a sacred space in which thought and nature are joined, a space full of the life needed for the survival of our territory. It is known as Umukunu or Senunulang, which means a 'place where the rules and laws that guarantee the equilibrium of the Universe, that all must obey, are to be found.' According to our beliefs, this place is the centre of the Universe and the origin of the energy that permits all the beings of the Universe and their guardians to exist. This is the 'Heart of the World', for the health of the Sierra Nevada controls the health of the whole planet.

"The fathers and mothers of everything on this planet are to be found in the Sierra. Knowledge of and respect for its rules allows it to act and to exist. There resides the life and spirit of all the elements that, when they come together, extol the Universe. We see this manifested in the water of the sea and the rivers, the moon, the stars, the sun, the plants, the animals and us humans, the morning dew, the rainbows, the thunder, the air, blood and our ideas".

(Mama Kuncha).

The Mamas are the custodians of our ancestral knowledge. They meet to talk at the ceremonial and sacred sites and consult the Mother by divination in order to interpret and transmit the Law of Origins.

"In order to guarantee the balances of the Earth, to preserve life and ensure that there is harmony between cold and hot, day and night, winter and summer, life and death, humans and nature, we must fulfil and respect the Law of Origin, the source and base of all living beings". (Mama Kuncha).

The whole of our social organisation and spiritual foundations are based on sacred practices that are respected throughout these lands. The Mamas live in the cold uplands near the sacred lakes. A little below we find the ceremonial villages where the ceremonies of the life cycle are carried out. Here we grow our potatoes, beans, peas, arracacha and onions. Our villages are located in warmer areas; here the authorities meet with local people, surrounded by the lands where we produce most of the food for our communities. These are the most productive lands. And, finally, there is the coast and the sea, where the rivers that rise in our sacred lakes deliver up all the seeds of all the species that inhabit the Sierra Nevada. This is also where we collect the sea-shells that we use as a base for

An Arhuaco Mama climbs the ancestral path to Teyuna, the 'Lost City', conscious of the steps taken by our ancestors. Photo: Danilo Villafañe.

Mama Valencio Zarabata, the eldest Kogi Mama, who lives in Seiyúa in the upper Makotama River basin.
Photo: Danilo Villafañe.

Arhuaca girl, hand-spinning wool to make a 'mochila' (traditional woven bag).

chewing coca leaves and gather the natural materials we use as offerings at the sacred sites and lakes in the cold uplands that revitalise and ensure the continuation of the natural cycle.

As a complement to our traditional economies and in order to acquire necessary products such as salt, oil, cotton thread for making clothes, tools and certain social services, we are also involved in a number of productive activities linked to the local market economy. These activities are mainly concentrated on the primary production of crops such as organic coffee, cacao, cassava, bananas, maize and sugar-cane, which we sell to non-indigenous traders.

Being able to implement our traditional land-use practices has allowed us carry out environmental restoration in vast areas of environmentally and socially degraded land in the Sierra Nevada. Nevertheless, this territory has been fragmented by political-administrative divisions and numerous institutions with no knowledge of our mountains or of our cultural vision that have jurisdiction over our territory. Access to many of our sacred sites is restricted and, as in the case of the port built at Jukulwa on the coast, has even been destroyed.

"Jukulwa is the foundation of all the mountain ranges of the Sierra; it is the base of the water and all the animals that we know. For this reason, Mulkwaba said that we should not touch or destroy it, because everything that gives life is there, everything that exists depends on this place, which is the foundation of all order." (Message from Mama of Nawugwizhy to the judges of the Colombian Republic).

Only a small part of our traditional territory is protected as an 'indigenous reservation'[1] and, in all, the three existing reservations cover a total of 605,000 ha. Two other protected areas exist: the Tayrona (30,000 ha) and Sierra Nevada National Natural Parks (400,000 ha)[2]. Given that Colombian conservation policy in these areas is defined as "Parks with People", should can be classified as IUCN Category V protected areas.

The indigenous people have initiated their own independent programme in cooperation with the Friends of the Sierra Nevada aimed at restoring their traditional territory in certain priority areas and river basins. More can be found out about this Programme to Help the 'Heart of the World' at www.corazondelmundo.org

1 An area classified as of collective or community property, legally recognised by the state and governed by local peoples' own cultural traditions.

2 The administrative body in charge of the Tayrona and Sierra Nevada National Natural Parks and all of Colombia's protected areas is the Unidad Administrativa Especial del Sistema de Parques Nacionales Naturales (UAESPNN), dependent on Colombia's Ministry of the Environment, Housing and Territorial Development (Ministerio de Ambiente Vivienda y Desarrollo Territorial).

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Jabal La'lâm, a sacred mountain in northern Morocco

Zakia Zouanat

Jabal La'lâm (the Mountain of the Banner or the Signal) rises to around 1200 m a.s.l. and has a unique blend of outstanding natural, cultural and spiritual values. It is situated in the heart of Jabal Bouhachem, a large Site of Biological and Ecological Interest, which is one of the core zones of the recently established Intercontinental Biosphere Reserve linking Andalusia (Spain) and the Northern Region of Morocco.

Jabal Bouhachem belongs to the Rif Mountains biogeographical region and is home to one of the most significant forest formations in Morocco. The natural values of this site include a rich forest flora and fauna, as well as a cultural landscape consisting of patches of agricultural and pasture lands. The whole area is dotted with small villages lying within an extensive forest matrix dominated by cork oak formations with a good proportion of old trees. However, Jabal La'lâm is not only famous for its natural values and beauty, but also for its perennial spiritual value and its rich cultural heritage of religious traditions, language and songs.

Since ancient times many dramatic natural features of Mediterranean mountains such as conspicuous rocks, forests, monumental trees, springs and caves have been accorded sacred status. This is the case of Jabal La'lâm. The most ancient written reference to the holiness of the site goes back 12 centuries to when Ibn 'Arabî, the famous sufi master, relates in his biography of the sufi Dhû-l-Nûn al-Misrî how al-Misrî encountered groups of holy men who lived near water sources and slept under oak trees in this region.

The spiritual importance of the site today is due to the presence at the summit of the sacred mountain of the famous sanctuary of the holy man 'Abd al-Salâm ibn Mashîsh, who lived eight centuries ago. He was the spiritual founder of the Shâdhiliyya sufi path, one of the largest and most widespread sufi orders in the Islamic world.

The mountain is inhabited today by the Banî 'Arous tribe and by other Arab and Berber groups who have strong spiritual connections -including cultural roots and local

Along the road to the shrine large divine names like al-Hafiz (the Preserver) have been painted in white. Photo: Josep-Maria Mallarach.

beliefs- with the mountain where their ancestors have long lived. The descendants of the saint are referred to as the 'Alamî, in reference to the mountain's name La'lâm. Below the shrine, near the summit, a village was built during the last century, which is inhabited by a group of these descendants.

Jabal La'lâm was instituted as a *hurm* (protected sacred place) five centuries ago by a decree (Dahîr) issued by king al-Mansûr of the Saadid dynasty. Today, it belongs to the community of the descendants of 'Abd al-Salâm ibn Mashîsh, who are the custodians of this holy place. In Moroccan culture and history a *hurm* is an inviolable space where no kind of violence or exploitation may take place that is usually linked to a temple. The temple normally contains the tomb of a holy person and the *hurm* encircles this tomb. Consequently, according to local ancient beliefs the holiness could be transferred from the exceptional human being to nature. Nevertheless, the fact that "the saint chose a natural site as a retreat or *khalwa* shrine with the remains of honoured local figures located in forest groves" (Basset, 2004), suggests that nature is a central component of this site of religious significance.

For five centuries the summit of Jabal La'lâm has been an important pilgrimage site -known as 'the pilgrimage of the poor' (*hajj al fuqarah*)- and a place of leisure due to the natural quality of the mountain and the possibilities it offers - impressive cork oak forests, pure air and water, plants with medicinal and culinary properties, a very healthy environment, a place for those seeking solitude and rugged scenery with excellent views. The title of the main manuscript concerning this site dates from four centuries ago and can be translated as "Healing illnesses by tasting the traces of the Master of al-'Alam", a title that explains the function of the pilgrimage and the main motivations which attract visitors to the site.

In fact, the traces and relics of the saint are all natural: the sanctuary itself is a tree -an old oak- and the carpet around it is made out of cork. Moreover, there are several stones, rocks and springs related to his life, as well as an open-air mosque that, according to tradition, was built by angels. This collection of elements creates a sacred landscape, recognized as such by both its custodians and the pilgrims that come to visit.

The flow of pilgrims to the shrine of Jabal La'lâm has been steadily increasing in recent years and becomes intense in summer. Nevertheless, the environmental pressures the pilgrims create, coupled with some extremist religious interpretations, poverty and ignorance, are currently threatening this precious natural spiritual site. As Regato and Salman (2007) have pointed out "while the spiritual value of sacred sites in mountain areas is generally well recognised by people, the environmental value which sometimes

The tomb of the saint is sheltered by a majestic oak tree. Photo: Josep-Maria Mallarach.

goes with the spiritual character of the sites is often ignored, or damaged".

The preservation of this natural site is guaranteed by forest laws promulgated during the days of the former French Protectorate with recent modifications. Legislation provides protection for the vegetation, flora and fauna. Staff from the Haut Commissariat aux Eaux et Forêts et à la Lutte contre la Désertification manage the entire area. Environmental education and awareness programmes are used to reinforce the connections and links between natural heritage, traditional culture and spiritual heritage, and to promote the unique values of this sacred mountain. This is done too by developing good communication and educational activities aimed at helping the local population and, above all, the custodians of the site to learn about the ancestral historical/cultural context of their traditions. As well, work is done to reduce the conflict between nature protection and spiritual/cultural traditions by means of planning and effective participatory processes.

In describing his vision for the Lake District, the poet Wordsworth talked of its being "…a sort of national property, in which every man has a right and interest who has an eye to perceive and a heart to enjoy". One of the less known but most important functions of sacred natural sites such as Jabal La'lâm is to help people to open the eye of te heart.

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Landscape mosaic at the foot of Jabal La'lâm. Photo: Josep-Maria Mallarach.

Landscape aesthetics in British National Parks

Shelagh Hourahane, Sue Stolton, Charlie Falzon and Nigel Dudley, with boxes by Adrian Phillips and Graham Lee

Summary

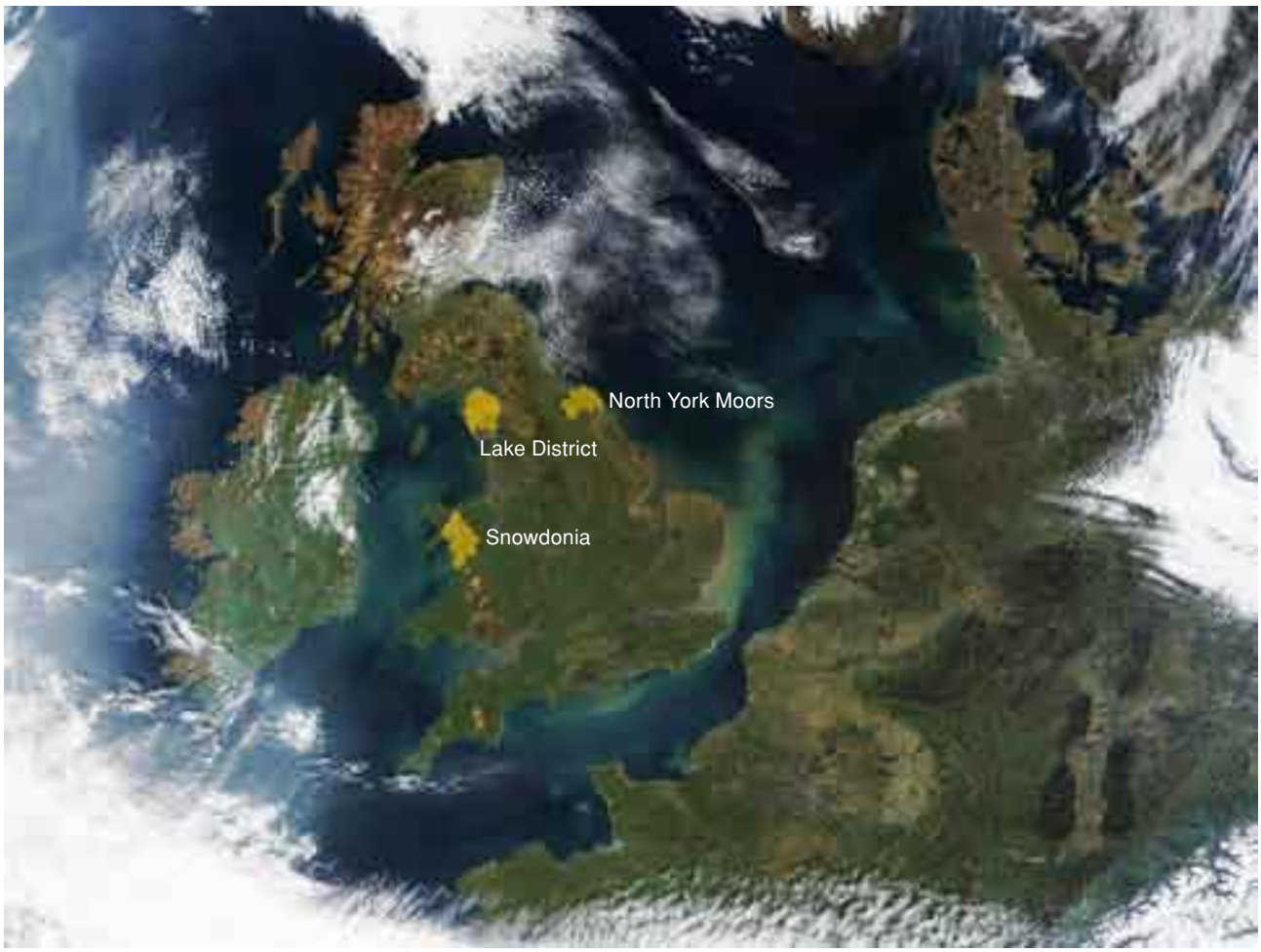
All national parks in the United Kingdom -which are Category V protected areas- were initially protected for their landscape qualities, particularly their mountain peaks, valleys and extensive moorlands[1], which combine to create a feeling of wilderness within a cultural landscape that has evolved over thousands of years.

This chapter concentrates on changing perceptions of this landscape over the last three hundred years, charting the growing appreciation of these areas' special qualities. The process of designation as a national park is examined, along with management structures and current initiatives in place to preserve not only the landscape, but also the appreciation of these unique values. By way of example, the chapter focuses mainly on Snowdonia National Park in Wales, but also looks briefly at the Lake District and North York Moors National Parks in England.

1 i.e. habitat found in upland areas characterised by low growing vegetation on acidic soils.

Introduction

In Britain, appreciation of landscape and of its representation in visual art and literature has played a significant part in the history of why certain places are considered to be of particular value. The story of this artistic representation is



This true-color MODIS image showcases Northern Europe. Shown are the location of the three case studies. This image was acquired April 6, 2002. © NASA. http://visibleearth.nasa.gov/

relevant to why and how most of our national parks came to be designated. This chapter concentrates on these aesthetic links primarily in Snowdonia National Park in Wales, but includes boxes on two English national parks: one on influence of the Lake District in the arts, and the other on how the humanised landscape of the North York Moors landscape has evolved.

All national parks in the UK are designated as Category V on the World Database on Protected Areas. According to the 1995 Environment Act, National Park Authorities' main purposes are to:

- Conserve and enhance the natural beauty, wildlife and cultural heritage of the area.
- Promote opportunities for the understanding and enjoyment of the special qualities of the park by the public.

Where these two purposes are in conflict, the duty to conserve takes precedence. The Authorities also have a responsibility to foster the economic and social well-being of local communities within the parks.

Eryri fynyddig i mi' Mountain-wild Snowdon for me![2]

"The mountainous heartland of Snowdonia has long been recognised as being special to Welsh people because of its spectacular scenery and strong cultural traditions. This dramatic beauty however is not completely natural. The mountains, woodlands, river valleys, lakes and coast have all been sculptured by centuries of human habitation and landuse and the landscape of Snowdonia today reflects this long and ever changing relationship between man and nature."

The Eryri Local Plan,
Snowdonia National Park Authority (1999)

2 From a poem by Eis Bradwen in the late nineteenth century quoted in Rees (1992).

Wales (or in Welsh Cymru) in one of the four countries that makes up the United Kingdom of Great Britain and Northern Ireland (UK); it lies on the west of the island of Great Britain and is bordered by the Irish Sea to the west and England to the east. Parc Cenedlaethol Eryri (Snowdonia National Park) is the largest of three national parks in Wales, covering 2,132 km^2. Located in mid- to north-west Wales, its boundaries more or less coincide with those of the ancient realm of Gwynedd, whose rulers were the original Princes of Wales – a title now taken by the British monarch's eldest son. The park takes its English name from Snowdon (Yr Wyddfa) which, at 1,085 m a.s.l., is the highest mountain in Wales and England. The area, which is relatively remote from the centres of government in Cardiff and London, has retained its strong links with Welsh culture and Welsh is the mother tongue of approximately 65% of the 25,000 people who live in the park.

Snowdonia is synonymous with extensive areas of windswept uplands and jagged peaks; nine mountain ranges cover approximately 52% of the park and include many tops that are over 3,000 feet (9,15 m a.s.l.). The park includes 60 km of coastline, over 96,000 ha of moorland and some 36,000 ha of woodland (www.eryri-npa.co.uk).

This cultural landscape is far from wild, being dominated by the impacts of pastoralism and former industry. It has been summarised by the Welsh travel writer Jan Morris as possessing "the detritus of the ages all around. From mysterious litter of the primitives to the abandoned mining gear of yesterday" (Morris 1986). But despite being a cultural landscape, a perception of Snowdonia as a 'wilderness' has dominated the artistic response to the area, has helped develop an increasingly profitable tourism trade and latterly been the *raison d'être* for its designation as a National Park. This wilderness value is perhaps particularly important in a country like the UK, given its long history of settlement and high population density. In this chapter, we chart how this wild/cultural landscape has developed as a

Bryn Cader Faner, a stone age burial site, one of the prehistoric wonders of Wales. Photo: Equilibrium.

A typical Welsh farm, and farming landscape with the ridge of Cadair Idris behind. Photo: Equilibrium

place to value, and ultimately as a place to conserve, and how aesthetic perceptions of the landscape have helped to drive management decisions.

Appreciating the landscape

The area now included in Snowdonia National Park has been a popular subject for writers and artists for centuries. Giraldus Cambrensis (Gerald the Welshman), a clergyman traveller, wrote an Itinerary of Wales in 1188, in which he identified both the landscape character and the agricultural importance of the area.

"I must not pass over in silence the mountains called by the Welsh Eryri, which…seem to me to rear their lofty summits even to the clouds …. They are said to be of so great an extent, that according to an ancient proverb, 'As Mona[3] could supply corn for all the inhabitants of Wales, so could the Eryri mountains afford sufficient pasture for all the herds, if collected together…"

Translated by Richard Colt Hoare (1806)

However, most early images of the Snowdonia landscape reflect values that are those of outsiders, usually educated English travellers. In pictures of the area the lives of local people were usually ignored or represented as poor and crude. Writers, including some modern Welsh novelists like Caradoc Evans and Rhys Davis, reinforced this by describing a bleak picture of a rather primitive culture. It is only much more recently that writers and artists have begun to celebrate the working lives of rural people, the Welsh culture and the local and traditional aspects of architecture and land management.

Some early travellers to North Wales were struck by the fact that the rugged mountains seemed as if they had been thrown up like rubbish by the hand of God and one even described it as "the fag end of Creation" (quoted in Andrews 1989). In this they were influenced by the belief that 'the Creator' had favoured certain parts of the Earth more than others. However, by the second half of the eighteenth century taste in landscape had changed and with this came an attraction to mountainous places. Mountains offered dramatic and startling views and their rocks and waterfalls showed the kind of natural features that had not been changed or improved by people. Many travellers to Snowdonia were writers who were also interested in the ancient history of the area and in its archaeology. One of these was Thomas Pennant, a Welsh landowner, who published various books of his travels in Wales and

3 Anglesey is a large Welsh island that faces directly towards Snowdonia across a narrow strait. The Welsh language name for the island is Ynys Môn or Mona in its Latin form

Richard Wilson 1713-1782. Llyn-y-Cau, Cader Idris ?exhibited 1774. Tate Collection

Scotland including *A Journey to Snowdon* (1781). On this journey Pennant visited the waterfalls at Ganllwyd now in the southern part of Snowdonia National Park. His description illustrates the kind of landscape features that he found attractive.

"In various parts [the mountain] Cader [sic] Idris appears in full majesty over these sloping forests, and gives a magnificent finishing to the prospect. Soon after my arrival among the woods, another cascade astonished me with its grandeur. From the situation I was in, it formed a vast fall, bounded on one side by broken ledges of rocks, on the other by a lofty precipice, with trees here and there growing out of its mural front…"

Like other gentlemen tourists, Pennant travelled with an artist who could record the journey and could provide travel journals with images that described particular features of the landscape. Cadair Idris is one mountain that was frequently painted between the later 1770s and 1800s and was admired for its striking outlines and the way that it dominated its surroundings. Such paintings were not simply factual records, but were imbued by the perceptions and experiences of the artists. Comparing paintings of Cadair Idris at different times shows that the depiction of the landscape, including apparently fixed elements such as the shape of the mountains, alters subtly depending on the dominant aesthetic tradition of the day (Anon 2001,Newbery 1994). For example, the mountain is depicted as steeper and more rugged during the period when the concept of romantic wilderness held a powerful attraction to artists. Richard Wilson, a Welsh artist whose paintings became well known in England, produced a famous picture of this mountain, which is still frequently reproduced in travel literature. It was images like this that certainly helped to spread the popularity of North Wales as a travel destination in the late eighteenth century.

Some tourists and artists were also attracted to North Wales because of its historical association with the druidic[4] religion. It was seen as a place that had an awe-inspiring landscape, with ruins of old castles clinging to steep, rocky sites and characterised by dramatic stories of a mysterious and often violent history (Andrews 1989, Lord 2000). J.M.W. Turner was the most important artist of the period to visit Wales, making several trips between 1792 and 1799. His storm-filled paintings of Snowdonia's scenery popularised this view of the area.

Many wealthy tourists from England began to arrive in North Wales in the early 1800s, when wars in Europe made it more difficult to go abroad to experience grand European mountains such as the Alps. Indeed Snowdonia played a similar part in the emergence of the romantic movement as the Lake District (see box).

4 A pre-Christian nature-based religion that probably originated in Britain and which was very powerful in North Wales until the Romans killed most of the druids or priests in 60 AD.

The Lake District National Park and the English Romantic Movement

Adrian Phillips[1]

The English Lake District was central to the development of the Romantic Movement in Britain and indeed had had a wider influence though the values with which it is associated.

The area was designated as a National Park in 1951 under the 1949 *National Parks and Access to the Countryside Act,* and is the largest park in England, covering 2,292 km^2.

The Lake District is a region of rugged, if modest, mountain scenery, reaching an altitude of nearly 1,000 metres. Volcanic and related ancient rocks were heavily glaciated in the Quaternary era, leaving a landscape of valleys, many of which now contain long narrow lakes. The higher fells[2] are rocky with glacial cirques, many filled with tarns, while the lower fells are open moorland, often heather-covered. Below the tree line, there are native oak woodlands and nineteenth-century pine plantations. The dominant land use is upland farming, often based on the local sheep breed, the Herdwick[3]. The resulting landscape has a distinctive unity, though in detail it is marked by contrasts: mountains, moors, forests, streams, fields, stone walls, farms, villages and -most of all- lakes.

1 In writing this short account, I am indebted to others who have already prepared much of the material in developing the case for the nomination of the Lake District as a World Heritage Cultural Landscape.
2 A local term for mountain slopes.
3 For a fuller account of the role of the Herdwick sheep, see Cole and Phillips in Amend et al. (eds) 2008: *Protected Landscapes and Agrobiodiversity Values*: IUCN and GTZ.

This dramatic yet domestic landscape has attracted visitors and admirers for about 250 years. During the late eighteenth and nineteenth centuries, however, there was a conscious 'discovery' of the Lakes by the English wealthy, leisured and cultured classes. This was also a time of a growing belief in the essential beauty and innocence of the natural world. Turning away from the ordered landscapes of lowland Britain writers, artists and others sought out scenery that could represent these natural values. They found them in the uplands of Britain: especially in North Wales, the Wye Valley (on the English-Welsh border) and –most of all– in the Lake District.

The picturesque beauty of the area, its 'sublime' qualities, combined with the perceived noble, collaborative way of life of its permanent inhabitants, made the Lake District the focus for the development of the English Romantic Movement. A feature of this development was a revolution in writing, particularly poetry. This was influenced by the revolutionary impulses of liberation emerging from Continental Europe, and explored new realms of experience and created a new, powerful mode of expression. Nowhere is this seen to greater effect than in the work of William Wordsworth (1770-1850), the central poet and writer of the age of English romanticism.

Wordsworth grew up amongst the hills of the Lake District and –having left the area to go to university and then to travel on the continent in the early phase of the French Revolution– returned there for the remainder of his life, later establishing for himself a national reputation. He and fellow poet Samuel Taylor Coleridge published *Lyrical Ballads* (first edition, 1798), which revolutionised the course of English Literature. In the second edition (dated 1800), Wordsworth included new poems which drew on the everyday lives and experiences of his fellow inhabitants of the Lake District. In its Preface he defended "incidents and situations from common life" as subjects fit for poetry.

Wordsworth was disappointed at the course taken by the French Revolution. He looked instead to nature, human imagination and the feelings of the heart for guarantees of human meaning and value. He found most inspiration in the landscape: indeed, few poets have ever been more deeply rooted in their landscape than was Wordsworth. The landscape of the Lake District and the lives of its inhabitants not only infuse the poet's work but are its bedrock, enabling Wordsworth to speak directly in what he called "the real language of men".

While Wordsworth was inspired to write his greatest poetry by the landscape, the Lakes were also much loved by some of Britain's greatest landscape artists: J.M.W. Turner, John Constable, Thomas Girtin, John Crome, Francis Towne and Joseph Wright all visited and painted the area in the period 1780-1830. Each in his own way sought to capture and express the dramatic beauties of the Lake District. In painting, as in writing, this region was at the centre of artistic life during those influential years.

The roots of the modern conservation movement also spring from this association of the Lake District with powerful ideas. Thus, in 1810 Wordsworth wrote in his Introduction to Wilkinson's *Select Views of the Lakes* (later to be independently published in 1822 as *Wordsworth's Guide to the Lakes*) that he saw the region as a "sort of national property, in which every man has a right and interest who has an eye to perceive and a heart to enjoy" – a strikingly democratic and inclusive view of conservation. In 1873, the artist, philosopher and philanthropist John Ruskin (1819 –1900) came to live in the Lake District. He considered the beauty of the natural world to be a social property, dependent on good management: for Ruskin, landscape was a social document which revealed the health or otherwise of the society that shaped it. He argued that beautiful places should be protected and enhanced, an argument that influenced his friends Octavia Hill and Canon Rawnsley who, with Sir Robert Hunter, went on to found the National Trust in 1895. This important charity now has over 3.6 million members and owns more than 250,000 ha of the finest coast and countryside that is now available for public access. It has been the model for similar bodies in other English-speaking countries all over the world.

The writings of Wordsworth, Ruskin and others also inspired a powerful movement to protect the Lake District from outside threats. This in turn helped to lay the ground for the 1949 National Parks legislation. Like the National Trust, the UK's National Parks, and the Lake District in particular, have had a global influence, since they pioneered an approach of protecting lived-in, working landscapes.

J.M.W. Turner, "Windermere", 1821 (watercolour on paper). Reproduced by courtesy of Abbot Hall Art Gallery, Kendal, Cumbria.

During the nineteenth century, a growing interest in natural history and geology fuelled a new view of landscape, as an expression of the functioning of the natural world (e.g. Jones 1996, Macfarlane 2003). More specifically it created a curiosity about the details of a landscape. Images of Snowdonia became more precise in their attention to geological detail and to particular aspects of natural history.

By the 1860s tourism to North Wales had expanded: better roads and the railway made it possible for less wealthy travellers to visit the area for shorter periods. It was at this time that the village of Betws-y-Coed developed as a popular resort, attracting people to see its spectacular waterfalls and the surrounding mountains. It also became the centre for a lively colony of landscape painters (1844-1914), whose work was widely exhibited and which increased interest in the landscape features of this part of Wales (Lord 2000).

Landscape, tradition and cultural identity

During the first half of the twentieth century Snowdonia ceased to be somewhere that was thought to be remote. It was undergoing modernisation in the same way as other parts of Britain and, as happened elsewhere, there was a revaluation of the traditional aspects of the countryside and a realisation by some that these could be under threat. From a conservation perspective, human history and influence were increasingly seen as being of equal value to the natural surroundings.

Clough Williams Ellis, a Welsh architect and landowner, was fully aware of the importance of local styles and the relationship of buildings to their landscape. He was one of the founders of the Campaign to Protect Rural England (CPRE) and of a similar body in Wales (CPRW). Later he became a member of the Snowdonia National Park Board. His comments on the intrusion of electrical installations on the Snowdonia landscape are especially relevant today as planning has been an important function of the National Park Authority and because the pipe-lines that he complained about so bitterly still scar the sides of Snowdon. Even after the designation of the National Park, similar installations have intruded on this landscape, including the building of a nuclear power station in the early 1960s. Writing in the late 1920s, Clough Williams Ellis observed:

"The North Wales Power Scheme, for example, has expended much ingenuity and a great deal of money in contriving its little

ancillary buildings in such a fashion as to be almost ideally out of harmony with their surroundings. … Could aesthetic impropriety go further? The answer is, of course, 'Yes – and it does' as witness the arbitrary harshness of the huge pipelines laid down the mountain sides with no attempt at decent camouflage by paint or planting or loose stone covering, and the transformer stations enclosed with saw-tooth corrugated sheets on which great ill-shaped letters spell out the undertaking's name."

England and the Octopus, 1928

At the time that Clough Williams Ellis was campaigning for the preservation of the Snowdonia landscape, a nationalist movement in Wales was also emerging. For some people the existence of a living rural culture in upland Wales was central to sustaining a national identity. For them, the relationship between people and the land was essential and the mountain landscape symbolised this to the extent that in 1933, Plaid Cymru, the Nationalist Party of Wales, adopted a symbol of three mountain peaks as its logo (Gruffudd 1995).

However, there were other forces at work during the 1930s and 1940s that continued to promote the Welsh landscape as worth visiting and also gave particular value to the rural environment. As the author P. Gruffudd (1994) states: "A range of cultural products –travel books, landscape art, popular treatises on rural life, academic studies– contributed to the creation of a ruralist discourse between the two World Wars, each stressing the integrity of rural life and landscapes".

Travel books published in England tend to emphasise the spirituality of the experience of visiting Wales. In his *Beauty of Britain* (1935), Edmund Vale tells readers that the whole of Wales is "…pervaded by an invisible essence which issues from invisible sources and which we may call Welsh atmosphere". Cledwyn Hughes wrote A *Wanderer in North Wales* in 1949. He calls the Snowdonia area "the last loneliness" but in fact he mostly writes about the way that the people whom he meets live and of the rural way of life that still survives in the upland areas. His landscape is a cultural one: peopled, lived-n and worked-n.

Protecting the landscape

The first step towards the protection of the landscapes of mid- and north Wales came with the formation of the National Trust in 1895 (see the box on Lake District National Park). The Trust was given its first piece of land anywhere in Britain by a Mrs Talbot of Barmouth. She donated about 2 ha of land behind her house 'Dinas Oleu' along a high cliff overlooking over the Mawddach Estuary, now just beyond the boundaries of the park (HMSO 1958).

But these early steps to protect the landscape were of little consequence considering the industrial developments being made throughout Britain. From the late nineteenth century the exploitation of Snowdonia became more controversial as the changes to the landscape made to harness its resources were more dramatic. To the east of the park, the vast Lake Vyrnwy was created to supply the English city of Liverpool with water, destroying villages and livelihoods along the way. Slate quarries increased in scale. Six large hydroelectric schemes were under consideration in Snowdonia's valleys. As a commentator at the time reflected: "At the present time, the whole community is sharply divided over the advantages and disadvantages of these projects, the questions at issue being whether they will destroy the natural beauty of the area …" (Gruffyd 1951). The controversy was also clearly nationalistic, with opposition to Welsh resources being used by people in England.

Large-scale plantations of exotic conifers were established over much of Britain following the First World War. The Forestry Commission, which was responsible for most of this planting, claimed that "scenic values are preserved or improved" through conifer plantations, and that it paid "careful regard to the incomparable scenery of the Welsh vales and hillsides" (Forestry Commission 1964). Nonetheless, the reality of planting turned out to be very different. Squares of tightly packed Sitka Spruce (a species originally from Alaska) now dominate several mountain sides within the park and many local people still remember being more or less forced from their land to make way for forests.

To counteract what were seen by many as destructive aspects of modernism, the Addison Committee was set up as early as 1929 to carry out the first committee of enquiry for establishing national parks in Great Britain. A voluntary pressure group, the Standing Committee for National Parks, now the Council for National Parks, was set up in 1935. During the war, John Dower, an architect, rambler and a member of the Standing Committee, was asked to prepare a report for government, which recommended the establishment of national parks and a new Government agency – the National Parks Commission. Dower's report (published in 1945) defined a National Park as:

"an extensive area of beautiful and relatively wild country in which for the nation's benefit and by appropriate national decision and action:

- the characteristic landscape beauty is strictly preserved;
- access and facilities for public open air enjoyment are amply provided;
- wildlife and buildings and places of architectural and historic interest are suitably protected; while
- established farming use is effectively maintained."

Dower clearly saw that national parks in England and Wales would have to be different to other national parks in the world, due to the almost complete transformation of the landscape and the high human populations. The land would on the whole remain privately owned and be protected mainly as lived-in, working landscapes. The thinking behind the IUCN Category V approach draws heavily on UK experience and the philosophy spelled out in the Dower report (Phillips 2002).

The 1949 *National Parks and Access to the Countryside Act* enabled the designation of the Peak District as the first national park in England and Wales closely followed by the Lake District, Snowdonia and Dartmoor. The government of the day noted that "for the first time in English history an Act has been passed by parliament with the object of setting out in a workable form a comprehensive charter of rights for all lovers of the open air" (http://www.dartmoor-npa.gov.uk/lab-historydevdnpa). In 1996, following the 1995 Environment Act, the Snowdonia National Park became an independent Authority and, for the first time, was given a statutory and explicit responsibility to conserve and enhance the wildlife of the area.

In 1949, the Nature Conservancy[5] was set up to protect the dwindling wildlife populations in the UK. The first nature reserve in Snowdonia was Cwm Idwal, which has been protected since 1954 (Condry 1966). Today, the range of habitats contained within Snowdonia, from coasts to bogs, wetlands, lakes and precipitous mountain ridges, deciduous forests and peacefully grazed valleys, is recognised nationally and internationally by numerous UK and EU designations and international conventions such as Ramsar, and has also been a proposed as a UNESCO Man and the Biosphere Site. In total, some 20% of the park is designated as being of national nature conservation importance and 11% of international importance.

But visitors also flock to the castles scattered within and on the edges of the park, including the chain of World Heritage-listed castles established by Edward I (1272–1307) around Snowdonia to subjugate the Welsh, as well as to prehistoric stone circles and burial sites, old churches and even relics of the industrial past including slate quarries and gold mines. (Indeed archaeology is a feature of other national parks – see the box below on the North York Moors). The conifer plantations, a wholly unnatural feature, support a proportion of native biodiversity and some also attract tourists to follow nature trails or appreciate the beauty of the trees. Near-wild and cultural landscapes are intertwined to a degree that most casual visitors never recognise.

5 The UK Nature Conservancy was a government organisation and should not be confused with the NGO of the same name. Its duties in Wales are now carried out by the Countryside Council for Wales.

The extent to which the concept of national parks in Britain was determined by the interests of outsiders versus those of local communities could be disputed. Much of the aesthetic appreciation reflected the preoccupation of an intellectual elite from England. In the case of Wales the dominance of outside perspectives was perhaps also because most local perceptions were in a language spoken by only a small minority in the UK. Much of the pressure for access to the countryside came from urban areas, although the social and class mixture of countryside users was far wider. However, the control of decisions relating to the parks lay largely in the hands of local people: their vision –and to some extent their changing vision– has done much to shape the values of the UK category V protected areas ever since.

Administering the protected landscape

Snowdonia National Park is managed by a sophisticated system that requires a high degree of collaboration amongst its stakeholders.

The National Park Authority comprises a committee, most of whose members are drawn from locally elected politicians but including also members appointed by the Welsh Assembly Government[6] because of their special skills in relevant areas of management. Whilst this committee makes the strategic management decisions, the day-to-day administration and decision-making is carried out by paid staff.

Although 75% of the park's land is under private rather than public ownership, the ability of landowners to exercise their rights is limited. Since 1947 (HMSO 1947) any changes to land-use can only be secured by obtaining prior permission from the local planning authority (in this case the National Park Authority) – though in general this does not apply to agricultural and forestry activities, which are constrained or influenced by systems of incentives and advice, as well as by other legislation. Thus, the authority has significant powers over the amount and type of development that occurs in its area. These powers must be exercised in such a way as to conserve natural and cultural values, and to promote understanding of those values (HMSO 1995a). Private ownership is retained, but the power to make use of it is to some extent constrained to help deliver goods and services to the wider public. However, while broad landscape designations have remained unchanged since 1949, management of much of these areas has altered greatly. For example, upland farming is

6 The UK has a devolved government, with the Welsh Assembly Government being responsible for most of the issues of day-to-day concern to the people of Wales, including the economy, health, education and local government.

in some cases more intensive today than it was when the park was set up, although recent years have witnessed the introduction of incentive payments to farmers for delivering environmental benefits.

The Park Authority has a legal duty to work with stakeholders to ensure that its area's values are enhanced in an efficient and effective way. In support of this, it is required by law to draw up and regularly review a Management Plan (HMSO 1995b) for the park, which sets out management policies to protect the park's values. The plan must be prepared in collaboration with a range of tourism, farming, forestry and conservation interests, and also with the many private individuals and non-governmental organisations that own land in its area. This plan is also used to generate and direct funding towards priority projects. The authority must also draw up a Development Plan, which sets out planning policies, and use this as the basis for decision-making in response to individual development proposals from landowners and developers. Importantly, it is the committee, not the staff, which makes these planning decisions, which must be made openly, fairly and consistently.

It is fair to say that the scope and structure of management in the Snowdonia National Park has developed gradually, rather than emerging suddenly with the park's establishment. Changes that would today be seen as inimical to a protected area of any designation continued for some years, including large-scale tree plantation, dramatic levels of conversion of upland moor to sheep pasture and, most notoriously, the construction of a nuclear power station within the park. Early on in the park's life there was some uncertainty about its management purposes, which generated misunderstandings between the vision of the wider community (which looked to the landscape beauty, natural values and recreational opportunities of the area) and the local politicians (who saw it as their duty to pursue economic objectives and to strengthen the cultural traditions of their people). Since that time a succession of laws –and accumulated good practice– has done much to reconcile some of the underlying conflicts.

Cultural heritage – tangible and intangible

"Cultural heritage can mean our visual heritage: the landscape, traditional architecture, historical places and valuable habitats for wild life. But there is need to delve deeper and give due respect to the invisible heritage: people's feelings of belonging to this truly amazing and incredible area through their language, literature, art, music, sayings, place names, history, recollections, legends, folk customs and also the wealth of oral wisdoms and information on all sorts of craft. These invisible elements, which derive from our heritage, our culture and our communities have created the landscape which we are so eager to safeguard."

Vision statement, Bwrlwm Eryri,
Snowdonia National Park Authority, 2005

As noted above, the Park Authority has several plans which help direct its management: some have been approved and are being implemented, whilst others are still being prepared. The Development Plan for Snowdonia, the Eryri Local Plan, which was adopted in November 1999 (Snowdonia National Park Authority 1999), seeks to express the park's purposes and duties in terms of land-use planning and development policies. In relation to the area's cultural heritage, the introduction to the plan states:

"The policies of the Plan must therefore ensure that new development retains or enhances the unique Welsh character and distinctiveness of the area. Likewise the policies must ensure that structures which reflect the cultural identity of the area, ranging from the Megalithic burial chambers of the Stone Age inhabitants, to the best examples of buildings associated with the slate industry, are conserved."

As well as this overall duty to care for Snowdonia's cultural environment, there are several initiatives within the park and surrounding area to ensure that the unique cultural heritage of Snowdonia is preserved. For example, Bwrlwm Eryri (Snowdonia Cultural Heritage Forum) was established by the Park Authority and launched in 2005 to "protect and promote the rich cultural heritage that exists within the boundaries of the Park and nearby areas, by working with communities and organisations as well as the voluntary, public and private sectors in order to collect, record, protect and promote our heritage for the future" (www.eryri-npa.co.uk).

During the last decade various agencies within the park have also developed interpretive projects that show the links between the landscape of Snowdonia and the ways that people lived and worked in the area in the past. These projects have often involved communities, especially school children, in working with artists to express the cultural themes that are important to them. The Slate Valleys Initiative, a Gwynedd Council regeneration programme, included opening walking trails in the Ogwen, Peris and Nantlle valleys and around Blaenau Ffestiniog and Corris. These trails have markers that show how slate can be used and worked in a variety of ways. In the Coed-y-Brenin forest, owned by the Forestry Commission Wales, the Creuad Heritage Interpretation project has developed carved trail signs and an illustrative map for the Visitor Centre that recall the cultural history (farming and mining) of the forest in a landscape that is now covered by coniferous forest.
A single-track railway has taken tourists to the summit of

Snowdon since 1896. In 2008 a new visitor and information centre will open at this focal point of the National Park and lines of poetry inscribed on the window glass will greet the traveller. These lines, by Gwyn Thomas, Wales's National Poet during 2006-07, celebrate the history of the area and that of its people, and proclaim the glory of the landscape surrounding the mountain.

There have also been significant developments in the opening up of new footpaths, bridleways and cycleways with better interpretation of the associated culture and heritage (the National Park has over 2,500 km of walking paths). One example is the Cistercian Way project, which since 1998 has been developing a long distance walking path to link all the Welsh Cistercian abbeys as part of the celebrations of the 900th anniversary of the foundation of the Cistercian order. The path has a major section in the National Park linking to the ruins of Cymmer Abbey (http://cistercian-way.newport.ac.uk/).

Initiatives such as these, as well as the many guide books, web-sites and television programmes 'advertising' the beauty of Wales, make the Welsh landscape one of the strongest attractions for visitors to the country. Tourism is a key sector of the Welsh economy: expenditure by visitors has grown steadily to £3.5 billion per year and tourism now contributes some six per cent of the gross value added to the Welsh economy. Nearly 9% of all full-time jobs in Wales are supported by tourism, directly and indirectly. When asked the main reason for their visit to Wales in 2006, a quarter of all those questioned indicated that it was the scenery and natural attractions (Hastings 2006).

This growing importance of tourism over other, more traditional activities can be clearly seen in the census figures[7]. About two-thirds of the park's population are in employment, with the tourism sector being one of the major employers, catering for the between 9 and 11 million tourist days spent in the park each year. Those working in more 'traditional areas', such as agriculture, hunting, forestry

7 Since 1801, the census data collected one day every ten years has provided a snapshot of the number of people and households in the UK. The most recent census was in April 2001, when for the first time statistics were collected relating specifically to Snowdonia.

Vista of consolidated ruins of Rievaulx Abbey (English Heritage guardianship monument) from Rievaulx Terrace (landscaping completed 1757). © North York Moors National Park.

and fishing, are declining, although they are still of significance within the rural heartland of the park; likewise, those working in the energy, water or mining industries have decreased from 6.4% in 1991 to 1.5% in 2001 (www.eryri-npa.co.uk).

The importance of the cultural landscape, its history and its future has been recognised by the Welsh Assembly Government. The assembly published a 10-year vision for the future of culture in Wales in 2002 and in 2007 created a new heritage portfolio with £36 million of funding until 2010.

And, of course, artists continue to help shape the wider vision of the landscape and include both local people whose work travels beyond the borders of the park and incomers who visit or settle in the park. Artists such as Kyffin Williams, David Nash and Peter Prendergast are known internationally but have their work rooted deeply in the natural and cultural landscapes of the park. The Welsh Museum of Modern Art, on the edge of the park in the town of Machynlleth, is one of several galleries that help to foster and display the visual arts rooted in the park. As well, photography is today as important a medium as drawing and painting in the area and there are also many publishing houses printing books about the park and novels and poems centred on the park in both Welsh and English.

The perceptions of the tourists, who now represent the largest single source of income for people living in the park, also play a key role in determining questions about management decisions that will affect the landscape. The preservation and to some extent restoration of 'classic' landscape views that is a key concern of park authorities and landowners such as the National Trust is still responding to the vision of Snowdonia that was to a large extent moulded by both classical and popular artists.

The future

The national parks of the UK are not museums to traditional land management, but an attempt to maintain key aspects of the landscape, whilst encouraging rural livelihoods to change and develop. The lives of most people living in the national parks have altered dramatically since their creation; in many, farming methods have changed and continue to develop, a mass of forest planting has come and created jobs for a few years, many of which have now gone again as mechanisation replaces workers. Farms have grown larger and many old settlements continue to be abandoned.

The process of change will continue. Global warming, a drive for biofuels, world food shortages and higher fuel prices will all impact on the parks in different ways, creating different and sometimes opposing pressures that the managers will need to resolve. The central role of tourism continues to change attitudes as well; an appreciation of the landscape is increasingly seen as vital for the survival of tourism-based industries. Such values are drawn from, and interact with an array of different British and international artists, who continue to interpret the landscape and thus influence the way that the rest of us view our national parks.

Protected Landscapes – Archaeology of the North York Moors: the human value

Graham Lee

"There are few places elsewhere in Britain which can offer such extensive and remote tracts of wild and unspoilt scenery within such easy reach of populated areas" is how the North York Moors were described in the Hobhouse Report (1947). The area was designated as a National Park in 1952. Located principally in north-east Yorkshire in the north of England, the National Park is 1,436 km^2 in extent and is bounded to the east by a spectacular rugged coast-line.

The surprise for many who visit the moors, particularly as experienced on a wild and windswept day from autumn to early spring, is just how much these landscapes are the result of activities of our ancestors. From the earliest times, c.10,000 years ago, this involved the creation of clearings for hunting within the mixed oak forest which had grown up throughout the moors after the end of the last Ice Age.

By the early to middle Bronze Age (c.3,500 – 4,000 years ago) people were farming and cultivating crops on the moor tops, probably because the surrounding lowlands were still too wet and heavily treed. The development and use of these field systems, together with climatic deterioration, impoverished the thin soils, leading

to the creation of today's moorlands, which were probably in existence by the beginning of the Roman period.

Much of this ancient heritage survives as structures or earthworks to be appreciated today. And if one can begin to understand the 'language' in which these are written, it is possible to 'read' the landscape as one might read a book.

The landscapes of the moors and dales tell the local story of mankind, illustrating human life and experience, and bringing the activities of our ancestors more clearly to life. The prehistoric remains are extensive, but are often quite subtle; the scale of the transformation brought about by medieval and post-medieval industries, on the other hand, is far more obvious – particularly when one understands what was achieved before machinery and mechanisation transformed working practices.

A fine example is the alum industry, which produced (by means of a complex and time-consuming process) a chemical used to fix and brighten the colour of vegetable dyes in woollen cloth, the principal English export in the sixteenth and seventeenth centuries. Consequently, from the early seventeenth through to the later nineteenth centuries, millions of tons of rock and shale were excavated, moved and processed on the coast and inland, leaving huge scars in the landscape, now softened by the passage of time. This, the first major English chemical industry, is all the more remarkable for the lack of any real knowledge about the science of chemistry and of the processes involved until more than 200 years after its birth.

The remains of the historic industries within the North York Moors often represent the complete story of that industry from its inception to its decline. In the case of iron, one can trace it from small-scale beginnings in the prehistoric period (from c.500 BC), through the early medieval bloomeries to major developments in the sixteenth century (the transition into the high bloomery and blast-furnace), and finally to the huge resurgence of the industry in the nineteenth and early twentieth centuries, meeting the demands of a modern industrial economy.

Religion also had a major part to play in shaping the landscape. The early medieval monasteries brought remote areas of the moors into productive use, particularly through the farming of sheep for wool. Later, the land-owners at Rievaulx Abbey treasured the monastic ruins for the spectacular views that they offered from the surrounding hills, and constructed a parkland landscape with vistas to the Abbey remains through carefully planted avenues of trees.

And finally to the wild moorland landscapes of heather, the present appearance of which owes much to land management over the last 150 years or so to create a heather monoculture for grouse shooting.

Thus, the park's many landscapes record a diverse history, changing economies and countless human lives. They help the present generation to understand how past generations lived. In short, the landscapes around us become part of our own sense of identity.

Alum quarries at Boulby, showing working areas truncated by cliff erosion with quarry faces to rear. © North York Moors National Park.

Aerial photograph of prehistoric field system, probably dating to the Middle Bronze Age, at Danby Rigg, showing a cross-ridge boundary dyke, funerary monuments (round cairns and ring cairns), field clearance cairns and linear clearance (along the line of former boundaries). © North York Moors National Park

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Protected Landscapes/Seascapes are a strong option for the conservation of biodiversity in landscapes and seascapes that are significantly human-influenced and inhabited. They often contain threatened or endemic species of flora and fauna, as well as a great range of agrobiodiversity. Recognized as Category V in the protected area categorization system of the IUCN, their existence is based on the interactions of people and nature over time. Critical areas for cultural sustenance, many protected landscapes encompass an array of cultural and spiritual values.

This publication, "Protected Landscapes and Cultural and Spiritual Values", presents case studies from all over the world illustrating the role Protected Landscapes are playing in sustaining these values and related knowledge and practices. A synthesis focuses on the key lessons to be learned from these case studies, analyses the strengths and weaknesses of these areas in achieving conservation goals, identifies key gaps in knowledge, and presents a glimpse of further work needed.

This publication is the second in a series on the values of protected landscapes, which explores the various environmental, economic, social and cultural values that Category V protected areas can provide. Volume II is a joint project of two working groups within IUCN's World Commission on Protected Areas (WCPA): the Protected Landscapes Task Force and the Task Force on Cultural and Spiritual Values of Protected Areas.

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