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METHODOLOGIES FOR CONSERVATION AND MANAGEMENT OF ARCHAELOGICAL SITES
THE CHALLENGE OF THE 'CULTURAL LANDSCAPE APPROACH'

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PREFACE

'If past experience is any guideline, there will be a tendency rather glibly to assume that preservation of the material fabric of the buildings will, in some magical and mysterious manner, in itself ensure the continuity of the tradition embodied in a stupa. What is forgotten is that the continuity of tradition is not a manner of preserving external forms, in this context the bricks, stones and mortar of stupas, but is a manner of maintaining meaning.'[1]

In the last decades we assisted, in the heritage sector, to the attempt to gradually 'shift […] from simple physical protection to a more layered approach to management taking into account social, economic and environmental concerns and giving the heritage a function in the life of the community'[2]. However, during my archaeological activities carried out on several UNESCO World Heritage Sites in South East Asia, I realised how this holistic approach is extremely challenging due to the lack of resources and capacities. This friction is even more evident in developing countries where management and conservation of wide archaeological areas suffer also of legislative weaknesses and from uncontrolled urban and rural modernization.

Based on such premises, I decided to look at the so-called 'cultural landscape approach' and its practical application as a tool to mitigate the above mentioned issues. In fact, for its own nature, the concept of cultural landscape presupposes the protection of 'the interactions between humans and their environment'[3]. It puts at the forefront of the planning process the dialogue between all the involved stakeholders binding them since the beginning to create an integrated framework that considers all the existent components of the heritage (cultural, natural, social, economic etc.). This approach could go against the tendency of conserving monuments as isolated from their context and may play a key role in the debate about the relation between cultural heritage and the so-called 'sustainable development'.

[1] Snodgrass, A. 1996,p.100
[2] UNESCO et al. 2013, p. 4
[3] UNESCO Website: http://whc.unesco.org/en/culturallandscape/

With particular reference to my experience both as external consultant and fellow culture specialist on UNESCO projects, I will attempt to explain why the cultural landscape approach could be an opportunity to create a 'framework that encompasses an integrated view of the processes and relationships essential to a culture-based conservation strategy that respects the complexity and wealth of diverse values in a rapidly changing world'[4].

[4] Taylor, K. et al. 2014, p. 1

SUMMARY

The thesis is divided in three main parts:

I. Theoretical Framework

After an overview of the shifting process from the site-based approach to the holistic one, I will enlighten the evolution of the 'Cultural Landscape' concept and how this has entered into such a framework. Then, I will focus on the UNESCO approach to the cultural heritage and, in particular, on the use of 'World Heritage Cultural Landscape' category created in 1992. I will analyse the impact of this category within the World Heritage List, identifying strengths and weaknesses.

Finally, I will compare it with the policies from other major agencies - such as ICOMOS, IUCN and European Union - in order underline the necessity to renovate the interest in the cultural landscape concept especially as a way to promote a balanced conservation in large protected areas within development countries.

II. Cultural Heritage Management in South East Asia

During my experience on UNESCO sites, I have noticed the tendency to 'freeze' the heritage areas, using them only as touristic attraction, often avoiding – for a lack of resources, legislation or competences – to take part in the development of such areas from a cultural, social and economic standpoint, with a concrete involvement of local communities. Furthermore, the interrelations between public and private sector as well as the integration with different competences, are usually more on paper than real.

Even if this can be true for all cultural heritage sites, I believe that the issue is far more evident in developing countries. With this in mind, I selected two sites where I have personally worked in the last few years to demonstrate why the cultural landscape approach is more suitable for certain typologies of cultural heritage in areas under economic and social pressure.

The first case presented is the site of Banteay Chhmar (Cambodia), where I worked in 2014 to prepare a new management plan[5]. The site presents many issues common in many countries of South East Asia, such as lack of infrastructures, scarce water management and rapid expansion of the surrounding settlements. Despite the urgent needs of the area, in the last few years, the effort of local and international specialists was mainly focused to the restoration of monumental remains. In fact, since Banteay Chhmar was submitted to the UNESCO Tentative List in 1992, UNESCO and the Cambodian Ministry of Culture worked mainly on the architectural features of the site, without considering any development of the surrounding area.

Until now, probably also because Banteay Chhmar presents similar characteristics to Angkor, the World Heritage nomination remains a difficult objective to achieve, especially if there will be no major changes in the knowledge of the site and in the presentation of its significance.

Within this framework, I am convinced that the cultural landscape approach could be an effective tool for Banteay Chhmar. It will be useful not only for possibly achieving the nomination, but most of all, for proposing a new way of management different from the one of Angkor, which is now showing some of the worst effects that a World Heritage status can bring to an ancient monumental area.

As for the second case study, I selected the Pyu Ancient Cities – and in particular the site of Sri Ksetra -, that was nominated in 2014 as the first World Heritage site of the Republic of the Union Myanmar[6]. Since 2012 I worked as archaeologist of the Lerici Foundation (Politecnico di Milano) - UNESCO team, to train local officials in the field of management and conservation of a World Heritage Site.

With a careful analysis of the master plan presented for the nomination, I will underline how, in my opinion, this site presents the characteristic of a cultural landscape, whether it was nominated 'only' as Cultural Heritage site. Without the presumption to address any responsibility to local or international authorities, my aim is to demonstrate that this choice may bring more trouble than benefits to the

[5] UNESCO 2014(d)
[6] UNESCO 2014(b)

management of the site, especially in dealing with the local communities that live inside the protected area.

In conclusion, in both cases the cultural landscape approach would be and would have been preferable in order to propose a tailor management for the sites, not for the UNESCO status itself, but to demonstrate how cultural heritage can really play a fundamental role in social and economic development.

III. Looking for best practices

In the last part I will be back to the UNESCO framework to underline how, if the cultural landscape approach may be effective as tool for wide archaeological parks within developing countries, the World Heritage Convention isn't most probably the best instrument for its application. Especially considering all the difficulties that the State Parties have experienced in bringing forward cultural landscape nomination, I took inspiration from other international instruments – more linked to the conservation of natural heritage – for an innovative to achieve in specific context as the Asian one.

PART I – Theoretical framework

1. From the Venice Charter to the holistic approach: rethinking the role of conservator

The conservation of tangible cultural heritage such as monumental and archaeological sites was mainly understood as the protection and preservation of materials and fabric at least until the second half of the XX century[7]. Sites and monuments were considered especially for their artistic and aesthetic features and thus they were preserved mainly through the maintenance and restoration of physical elements. Through the adoption of the Venice Charter in 1964[8] this approach to conservation was globally recognized and concepts such as 'minimum intervention', 'compatibility' and 'reversibility' were accepted as the core principles for any intervention on tangible cultural heritage.

In the last decades we assisted to a major theoretical shift and a new approach to conservation saw the light. The community of heritage practitioners – until then composed at large majority by Europeans – was gradually influenced by reflections and suggestions from other cultures and new concerns related to the heritage values were addressed. The very concept of cultural heritage was challenged and it started to be recognised as the ensemble of many different elements that need to be protected, without privileging only the materiality of the objects. This new approach, commonly called the value-based approach, was firstly defined in the ICOMOS Australia Burra Charter that described the conservation as 'all the processes of looking after a place so as to retain its CULTURAL SIGNIFICANCE'[9]. Taking into consideration multiple aspects for the definition of cultural heritage[10], this new concept of 'cultural significance' extended the meaning of conservation with This new concept extended the meaning of conservation with the 'benefit of not

[7] Without entering in detail with the very well-known international protocols for conservation, the aim of this paragraph is to give a brief summary of the main ones.
[8] ICOMOS 1964
[9] ICOMOS 1999, art. 1.4
[10] Demas, M. 2000, Planning for conservation and management of archaeological sites: a value-based approach, in Sullivan, S. and Mackay, R. (eds) 2013.

concentrating on the fabric alone but on a set of VALUES that are important not only to a group of heritage experts but to a variety of legitimate stakeholders'[11].

Natural, social, spiritual symbolic and economic values were added to the 'traditional ones' (historical, aesthetic etc.), and this holistic approach to conservation obliged heritage professionals to acquire new skills and to rethink their role. They were no more the only responsible for Cultural Heritage conservation and, instead of dictating their set of values, or working in isolation, they had to become mediators in the interaction between all the stakeholders – both professionals and non – and in the management of the different values emerged.

To recognize cultural heritage as the ensemble of values perceived by different peoples is also to underline its social dimension and to put 'at the heart of the research on heritage the notion that cultural heritage is a social construction'[12]. Monuments and sites finally came out from their isolation and they are now ' places where social and cultural factors have been and continue to be important in shaping them'[13].

In conclusion, the goal of conservation is no more limited to the preservation of the fabric of the past, but it is aimed to protect a wide range of heritage values in order to emphasize' the role of heritage as an inheritance to be stewarded and passed on to future generations'[14].

[11] UNESCO et al. 2013, p.27
[12] Avrami, E. et al., 2000, p.6
[13] UNESCO et al. 2013, p.13
[14] Mason, R. *Assessing Values in Conservation Planning: Methodological issues and choices* in De la Torre, M. (ed.) 2002, p.26

2. Cultural Landscape and conservation

2.1 The concept of cultural landscape

In the last decades, the concept of cultural landscape was developed within the framework of the above-mentioned shift from 'monumental approach' to holistic conservation. It finds its rightful place and contributed in the global discourse 'for a more anthropological and global conception of material evidence'[15].

The term 'cultural landscape' combines the words land – scape (from the Germanic '*scapjan*' that means create and design) and the word culture (from the Latin '*colere*' that means harvesting and maintaining). It was firstly introduced in 1925 by Carl O. Sauer, professor of geography at the University of California (Berkeley) and it was intended as a static concept, as a specific product of an intentional human action on the natural environment. In his work Sauer states: 'the cultural landscape is fashioned from a material landscape by a cultural group. Culture is the agent, the natural area is the medium, the cultural landscape is the result'[16].

Starting from the '70s, especially in the fields of human geography, archaeology and anthropology the concept of cultural landscape evolved. More importance was given to the relation between human and their environment and to the changes that such relation faces during time. The clear distinction between the natural and the human dimension of the landscape, as seen by Sauer, was criticised and, between the '80s and the '90s cultural landscape was no more defined as a final and intentional product but as a continuous and never-ending process of mutual interaction between humans and nature.

Finally, the interest in applying the concept of cultural landscape in the field of conservation developed constantly in the last few years in the belief that it could be a bridge between culture and nature, tangible and intangible heritage. The reason for the growing interest in the cultural landscape concept within the research for a more holistic approach to heritage conservation lies in its very nature: '[cultural landscape concept] offers a framework that encompasses an integrated view of the

[15] Von Droste, B. *Cultural Landscapes in a Global World Heritage Strategy*, in Von Droste, B., Plachter, H., Rössler, M. (eds.) 1995, p.21
[16] Sauer, C. 1925, p.46

processes ad relationship essential to culture-based conservation strategy that respect the complexity and wealth of diverse values in a rapidly changing world'[17]. Within this context, for the global affirmation of the cultural landscape as a conservation concept the role of UNESCO was determinant.

2.2 UNESCO World Heritage Convention and the category of Cultural Landscapes

UNESCO's role in the protection of the major achievement of the human culture as well as of the nature started in 1962 with the '*Recommendations Concerning the Safeguarding of Beauty and Character Landscapes and Sites*'[18]. In the same year United Nations promoted the '*List of National Parks and Equivalent Reserves*'[19] – which, for example, included also the archaeological area of Angkor. These documents, far from being legally binding, expressed the international effort for recognizing and protecting cultural and natural heritage, including cultural landscapes, even if still bounded to the Western vision of landscapes as places with a marked aesthetic value.

In 1972, the '*Convention concerning the World Cultural and Natural Heritage*' (hereafter WHC) was adopted by UNESCO and during the years ratified by numerous member states (191 as of 2014). Aim of the WHC is to identify the most important and representative cultural and natural heritage properties around the world and to guarantee their protection and conservation for future generations. Such properties are selected through a complex nomination's mechanism aimed to identify their *Outstanding Universal Value* (hereafter OUV). This concept is not clearly defined in the WHC but it can be interpreted as the 'link between universality, uniqueness and rrepresentativeness of a certain cultural phenomenon or natural feature' [20]. In order to see their OUV recognised, the properties have to possess at least one of ten criteria for the nomination and to demonstrate their integrity and, in the case of cultural heritage properties, also their authenticity. These requirements were modified and updated several times during the years and the discussion on their application in the field of conservation is still on going.

[17] Taylor, K. et al. *Introduction: Cultural Landscapes, 21st century conservation opportunity and challenges* in Taylor, K. et al. 2014, p.1
[18] UNESCO 1962
[19] IUCN 1962
[20] UNESCO 2009(a), p.24

However, for the purpose of the thesis, we can simply refer to the 2005 Operational Guidelines[21] (see table below).

Criteria for the nomination	
i	represent a masterpiece of human creative genius; or
ii	exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design; or
iii	bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared; or
iv	be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history; or
v	be an outstanding example of a traditional human settlement or land-use which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change; or
vi	be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance (the Committee considers that this criterion should justify inclusion in the List only in exceptional circumstances and in conjunction with other criteria cultural or natural);
vii	contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance; or
viii	be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features; or

[21] UNESCO 2005(a), Par. IID - IIE

ix	be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals; or
x	contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation;

Authenticity

Depending on the type of cultural heritage, and its cultural context, properties may be understood to meet the conditions of authenticity if their cultural value (as recognized in the nomination criteria proposed) are truthfully and credibly expressed through a variety of attributes including:

- form and design;
- materials and substance;
- use and function;
- traditions, techniques and management systems;
- location and setting;
- language, and other forms of intangible heritage;
- spirit and feeling; and
- other internal and external factors.

Integrity

Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. Examining the conditions of integrity, therefore requires assessing the extent to which the property:

- includes all elements necessary to express its outstanding universal value;

- is of adequate size to ensure the complete representation of the features and processes which convey the property's significance;
- suffers from adverse effects of development and/or neglect.

If the requirements are met the properties are inscribed in the World Heritage List (hereafter WHL) as Cultural, Natural or Mixed sites according to the criteria for which they were nominated. Once inscribed in the WHL, properties' conservation and management will be monitored and improved by UNESCO.

The WHC was 'the first and only international agreement that combines cultural and natural heritage sites protection in one instrument. However, since the very beginning, it treated both properties as separated entities, working against the holistic approach'[22]. In fact, even if the interaction between people and environment was obvious 'a substantive connection between nature and culture was not automatically implied by the World Heritage Convention. The distinction between different ways of thought and scientific background, particularly between art history and nature protection was evident'[23]. This attitude over the years allows cultural sites or natural areas to be separated between each other and thus isolated from their surroundings. It was only during the '90s that the international debate focused on the solution of this tension between natural and cultural heritage.

As mentioned before, this was a period of a bigger rethinking in the field of heritage conservation and management. The concept of authenticity was challenged in order to open the debate to stakeholders from non-western cultures. During the famous *Nara Convention*[24] there were put the base for the modern concept of authenticity that before was merely intended in its historical and material sense. It started to be 'seen as an open, flexible concept, which has to be applied on case by case basis and

[22] Cameron, C. *Entre chien and loup, World Heritage Cultural Landscapes on the 40th anniversary of the World Heritage Convention* in Taylor, K. et al. 2014, p.63
[23] Platcher, H. and Rössler, M. *Cultural Landscapes: reconnecting Culture and Nature* in Von Droste, B., Rössler, M., Titchen, S. (eds.) 1998, pp.15 - 16
[24] UNESCO 1994(a)

in a finely tuned way, with full understanding of the socio-economic, ecological, cultural and historical context'[25].

The difficulties of WHC to perceive cultural properties as something different from the simple ensemble of architectural remains, detached from their natural and social surroundings risen up frequently and it is not a case that in 1992 the two UNESCO secretariats of Science and Culture were joined together through the creation of the World Heritage Centre in Paris with the aim of paving the way for a new integrative approach between cultural and natural conservation. The following step was the reflections on the cultural landscape concept[26] as a bridge between natural and cultural heritage.

Notwithstanding the resistance from UNESCO of accepting a common terminology that might take the distance from the Western idea of the cultural landscapes as rural landscapes, the subsequent session of the World Heritage Committee in Santa Fe[27] decreed the birth of the Cultural Landscape category within the WHC. In the mind of the creators such category represented the integration between cultural and natural heritage aimed to move in the direction of the desired holistic conservation. However, the Cultural Landscape category was created only as a sort of 'sub-category' of the cultural heritage properties and this approach made the unification between natural and cultural conservation far from being real. In fact it was decided not to draft any extra criterion for the selection of cultural landscapes and this make the distance between natural and cultural heritage still evident, especially if one considers that, at the time, the criteria for the definition of the OUV were still divided into two sets (six criteria for cultural properties and four for natural ones). On the contrary, it was precisely after the creation of the Cultural Landscape category that the selection process for the inscription within the WHL entered in a phase of modification by adding few words in the definitions (i.e. cultural traditions, landscape, land, living tradition and human interaction with environment) the two sets of criteria for the OUV were merged assuming their present form in 2005. The intention was to fill, at least theoretically, the gap between the different heritage

[25] Von Droste, B. *Cultural Landscapes in a Global World Heritage Strategy*, in Von Droste, B., Plachter, H., Rössler, M. (eds.) 1995, p.23
[26] UNESCO 1992(a)
[27] UNESCO 1992(b)

properties and, in doing so, the specific role of the cultural landscape concept was finally underlined. Considering the above, at the moment, the Cultural Landscape is the only WHC category able to 'embrace diverse demonstrations of the interaction between human kind and its natural environment'[28] and it is divided in three sub-categories[29] (see table below).

Cultural Landscape sub-categories	
i	The most easily identifiable is the clearly defined landscape designed and created intentionally by man. This embraces garden and parkland landscapes constructed for aesthetic reasons, which are often (but not always) associated with religious or other monumental buildings and ensembles.
ii	The second category is the organically evolved landscape. This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. They fall into two sub-categories: • a relict (or fossil) landscape is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form. • a continuing landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.
iii	The final category is the associative cultural landscape. The inclusion of such landscapes on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.

As the other cultural properties, in order to be inscribed to the WHL, cultural landscapes have also to meet the requirements of OUV, authenticity and integrity

[28] UNESCO 2008, Annexe 3
[29] Ibid. Par. 39

that, in this specific case, have to be related not to the single features (natural or cultural) present in the properties, but to the relationship and interaction between human and environment.

2.3 Other instruments relevant to cultural landscape and conservation

Florence Charter – ICOMOS 1982

The *Florence Charter* was drafted in 1982 by ICOMOS as a sort of extension of the *Venice Charter*. It deals specifically with historic gardens and in its 25 articles emphasizes how historic gardens have to be maintained, conserved, restored and used as ancient monuments. Even if we are still far from the so-called 'landscape approach', the Florence Charter is one of the first documents concerning the protection of areas that are 'expression of the direct affinity between civilization and nature'[30]. Because it recognizes the historic gardens as living monuments, the charter focused on the specific attentions that the preservation of such areas requires. Collaboration between natural and cultural specialists is essential – even without mentioning a proper trans-disciplinary approach – and in the article 7, where it is stated that 'the historic garden cannot be isolated from its own particular environment, whether urban or rural, artificial or natural', one can see the beginning of that process that will brings ten years later to the creation of the Cultural Landscape category within the WHC.

European Landscape Convention – Council of Europe 2000

The *European Landscape Convention* (hereafter ELC) was the first treaty concerning exclusively with European landscapes and it was adopted by the Council of Europe in 2000. Based on the recognition of the landscape as a crucial element for the human fulfilment and as an economic resource, the convention aims to create a European framework for the safeguarding of landscape by which the policies of the States members can be guided. Unlike the WHC, the ELC 'concerns landscape that might be considered outstanding as well as everyday or degraded landscapes'[31]. In conclusion, even without legally binding the States members, the ELC emphasizes the importance of all the landscapes – and not only the exceptional ones – assigning

[30] ICOMOS 1982, Art. 5
[31] Council of Europe 2000, Art. 2

to public bodies an active role in preserve, manage and promote landscapes as an element of cultural identity.

Convention for the safeguarding of the intangible cultural heritage – UNESCO 2003

The *Convention of the safeguarding of the intangible cultural heritage* was adopted at the 32nd UNESCO General Conference in 2003 with the aim of protecting intangible cultural elements from the threats of globalization. Starting from the consideration that tangible and intangible heritage are interdependent, the convention has the same structure of the UNESCO WHC and it can be considered as the first international binding agreement dealing with the safeguarding of intangible cultural heritage such as oral traditions, performing arts, rituals etc. The main purpose of the forty articles of the convention is to identify, protect and enhance intangible elements through the strict involvement of the States Parties. Besides creating an inventory of their intangible heritage, the States Parties have to develop policies and strategies for the promotion, the study and the conservation of such heritage especially through educational activities and capacity building programmes. Upon the proposal of the State Parties a 'Representative List of the Intangible Cultural Heritage of Humanity' is established and continuously updated. Finally, by means of international assistance and cooperation, the convention promotes the creation of regional projects to protect the heritage in order to emphasize 'the invaluable role of the intangible cultural heritage as a factor in bringing human beings closer together and ensuring exchange and understanding among them.'[32]

Natchitoches Declaration – US/ICOMOS 2004

Adopted on the occasion of the 7th International Symposium of the US/ICOMOS, the *Natchitoches Declaratio'* focused on the preservation and stewardship of cultural landscapes. In particular, the participants of the symposium stressed the need of protection not only at global level, through UNESCO, but also at national and local ones. Taking into consideration the fragility of cultural landscapes and the increasing global threats (i.e. degradation, unregulated development, urbanization, mass tourism etc.), the declaration recommended:

[32] UNESCO 2003(c), p.1

- To pursue more effective inter – disciplinary approach to gain a better understanding of the heritage landscape concept and its complexity;
- To pursue thematic studies and to develop models for management, especially whit the involvement of international bodies such as ICOMOS, IUCN and ICCROM;
- To identify specific threats for cultural landscapes and to develop adequate responses;
- To support the inclusion of traditional skills and local knowledge in order to engage the communities into the stewardship and conservation of their heritage landscapes;
- To encourage cooperation at international, regional and national level, using cultural landscapes as a tool for developing management and legislative frameworks able to underline the role of heritage in sustainable development.

Xi'an Declaration – UNESCO 2005

Adopted in 2005 by the General Assembly of ICOMOS, the *Xi'an Declaration* stressed out the need to better protect cultural heritage within its setting in order to reduce the negative impact that rapid transformation and uncontrolled development have on its authenticity, integrity and values. In particular, thanks to the declaration, it was fully acknowledged the fundamental contribution of the settings to the significance of monuments and sites. In recognizing the different characters of the setting (natural, spiritual, aesthetic, artistic etc.) the convention emphasizes the necessity of developing planning tools, conservation practices, policies and strategies aimed to recognize, understand and interpret the complexity of the setting. In this respect, cooperation with international and local communities is essential especially for managing and preserving such settings with a trans-disciplinary approach. Finally the convention highly recommends professional trainings and capacity building programmes at different levels in order to encourage the sharing of knowledge and to improve the efficiency of management and conservation of cultural heritage within its setting.

Recommendation on Historic Urban Landscape – UNESCO 2011

The *Recommendation on Historic Urban Landscape* (hereafter HUL) was adopted by UNESCO in 2011 with the aim of approaching urban heritage in a more holistic way moving 'beyond the preservation of physical environment and focuses on the entire human environment with all its tangible and intangible qualities'[33].

Taking into consideration the pressures and challenges that urban areas are facing (i.e. unregulated development, loss of public space, poverty and social isolation, climate change, mass tourism etc.), the recommendation addresses 'the need to better integrate and frame urban heritage conservation strategies within the larger goals of overall sustainable development, in order to support public and private actions aimed at preserving and enhancing the quality of the human environment. It suggests a landscape approach for identifying, conserving and managing historic areas within their broader urban contexts, by considering the interrelationships of their physical forms, their spatial organization and connection, their natural features and settings, and their social, cultural and economic values'[34].

Urban areas, as well as cultural landscapes are interpreted as a continuum in time and space where different layers intertwined can't be separated. However, to be successful in practice, this urban heritage approach implies new management, conservation and financial tools in order to reach a broader engagement of all the interested stakeholders such as local and national institutions, international and non-governmental organizations, private and public sector.

Hanghzou Declaration – UNESCO 2013

In the last decade, the debate on the relationship between cultural heritage and sustainable development evolved exponentially. With particular reference to regions under development, the balance and the frictions between the safeguarding of cultural heritage and the other legitimate social needs become more relevant within the scientific community and the public opinion. Furthermore, the shift in conservation from the 'monument – approach' to a more holistic one, emphasized the role of cultural heritage as a social agent.

[33] UNESCO 2003(c), p.5
[34] UNESCO 2012(a), p.51

The relevance of cultural heritage – both tangible and intangible – as symbol of adaptation between human and environment, and thus its contribution to human wellbeing, was recognised at global level already in the outcome document of Rio + 20[35]; however all these reflections were not sufficient to include culture as one pillar of the sustainable development within the UN Millennium Development Goals (hereafter MDGs). In this framework, aimed to path the way for the inclusion of culture within the international sustainable development agenda, the *Hangzhou Declaration* was adopted by UNESCO in 2013. Starting from the consideration that culture should play a central role in the Post 2015 MDGs, the declaration pinpointed few strategies that would coordinate at global and national level the actions necessary to produce evidences of the impact of culture in sustainable development. With reference to the conservation of tangible heritage and in particular to the concept of cultural landscapes, the declaration stressed out:

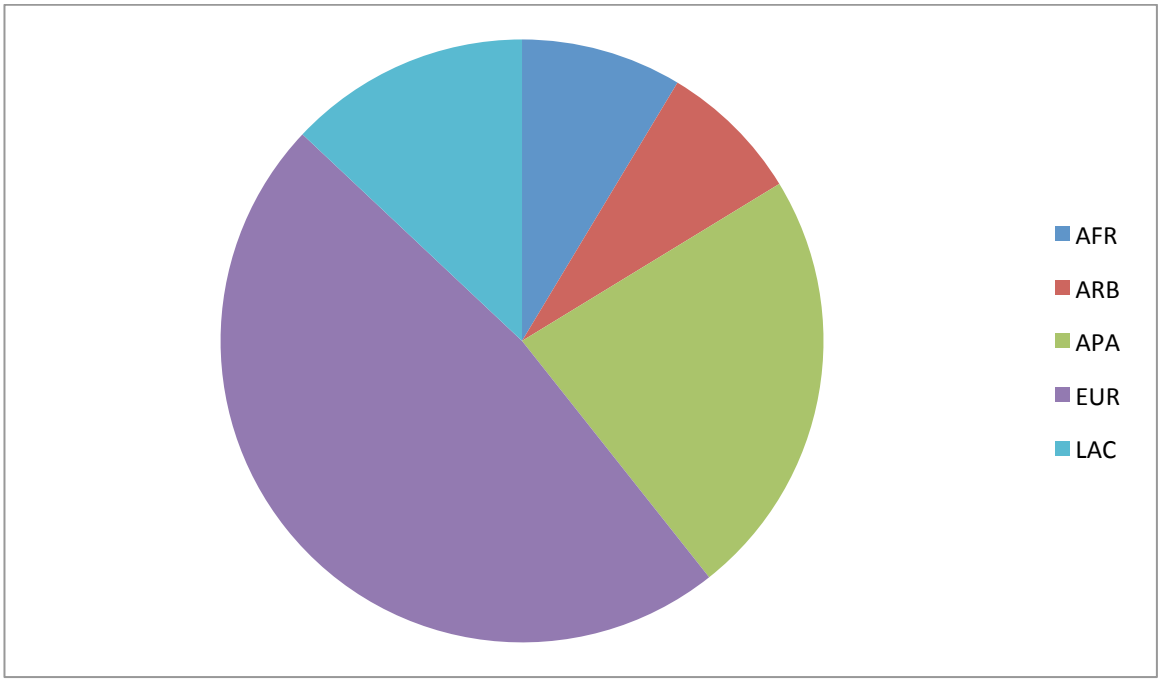
- 'The safeguarding of historic urban and rural areas and of their associated traditional knowledge and practices reduces the environmental footprints of societies, promoting more ecologically sustainable patterns of production and consumption and sustainable urban and architectural design solutions.'[36]
- 'Heritage is a critical asset for our well-being and that of future generations, and it is being lost at an alarming rate as a result of the combined effects of urbanization, development pressures, globalization, conflicts and phenomena associated with climate change. National policies and programmes should be strengthened in order to secure the protection and promotion of this heritage and of its inherited systems of values and cultural expressions as part of the shared commons, while giving it a central role in the life of societies.' [37]

[35] UNITED NATIONS 2012
[36] UNESCO 2013(b), p.4
[37] Ibid. p.5

3. Critical Analysis

3.1 Brief Reflection on the UNESCO WHL

Already in 1994, just twenty years after the adoption of the WHC, the mechanism of the inscription in the WHL showed its weaknesses. UNESCO recognized the lack of balance in the list lamenting that the majority of the properties were cultural sites, located in developed regions. Thus, a '*Global Strategy*'[38] was launched in order to improve the representativeness of the list, and to reflect the diversity of world's cultural and natural outstanding properties. However, while acknowledging the efforts and commitment, not much has changed in this sense since then. On a total of 1031 properties inscribed in the list until 2015, 802 (77%) are cultural sites and 492 (48%) are located only in Europe and North America. These numbers lead us to a reflection on the very nature of the WHL and if UNESCO, as intergovernmental organization – dependent by the decision of the States Member – is really capable of enforcing global standards for management and conservation (Grf. 1).



Grf. 1: Number of World Heritage Properties by region (AFR: Africa; ARB: Arab States; APA: Asia and the Pacific; EUR: Europe and North America; LAC: Latin America and the Caribbean)

[38] UNESCO 1994(b)

First of all, one could ask if there is a limit to sites and monuments that can show OUV and deserve to be in the list and if the inscription process – with an average of about twenty new properties every year – has become no more than a marketing exercise by which the States Members try to draw international attention together with support for economic development. In fact, thanks to the current system of inscription - based on a heavy lobbying by the States Members that often scarcely consider technical recommendations by advisory bodies (ICOMOS and IUCN) - the universal character of the WHL is neglected by the States Members that use the nomination for their national purposes, without considering the obligation that would come with it.

In this scenario the focus shifted from the conservation and management to the inscription process itself, like it was the final goal and not only a mean to guarantee a proper safeguarding of the most significant heritage across the world. Too much attention has been devoted to the nomination of new properties instead to the application and evaluation of the core principles of the Convention. It is not the case, in fact, that the list shows an inflation of properties for which it 'is increasingly difficult to reconcile with the adjectives "outstanding" and "best" as requested by the convention'[39].

Quoting W. Logan we can say that 'there is a need to shift the emphasis of the World Heritage system from the celebration of "our own heritage"(the role of national system) to the understanding "other's people heritage". Much more can be done within the World Heritage system to build bridges between the States Parties, especially to encourage and facilitate professionals working together across cultural divides both in the preparation of nomination dossiers and in the management of the properties once they have been inscribed'[40].

The situation is even more complex if one considers the kind of impact that a nomination can have according to the country. In Western countries, the difference

[39] G.J. Ashworth et al, *Strategy and policy for the World Heritage Convention: goals, practices and future solution* in Leask, A. and Fyall, A. (eds) 2006, p. 150

[40] W. Logan, *States, governance and the politics of culture: world heritage in Asia* in Daly, P. and Winter, T. (eds) 2012, p. 126

between a WHS and a national protected area is often less visible. The procedure for inscribing a property is not so far from the mechanism for safeguarding sites of national importance, thus the inscription process can be realized easily. On the contrary, developing countries are unable to nominate numerous properties not only because of the lack of resources, but also because the national legislation - that is the necessary basis for applying the World Heritage policies - is not in line, or it is too weak, compared with international standards.

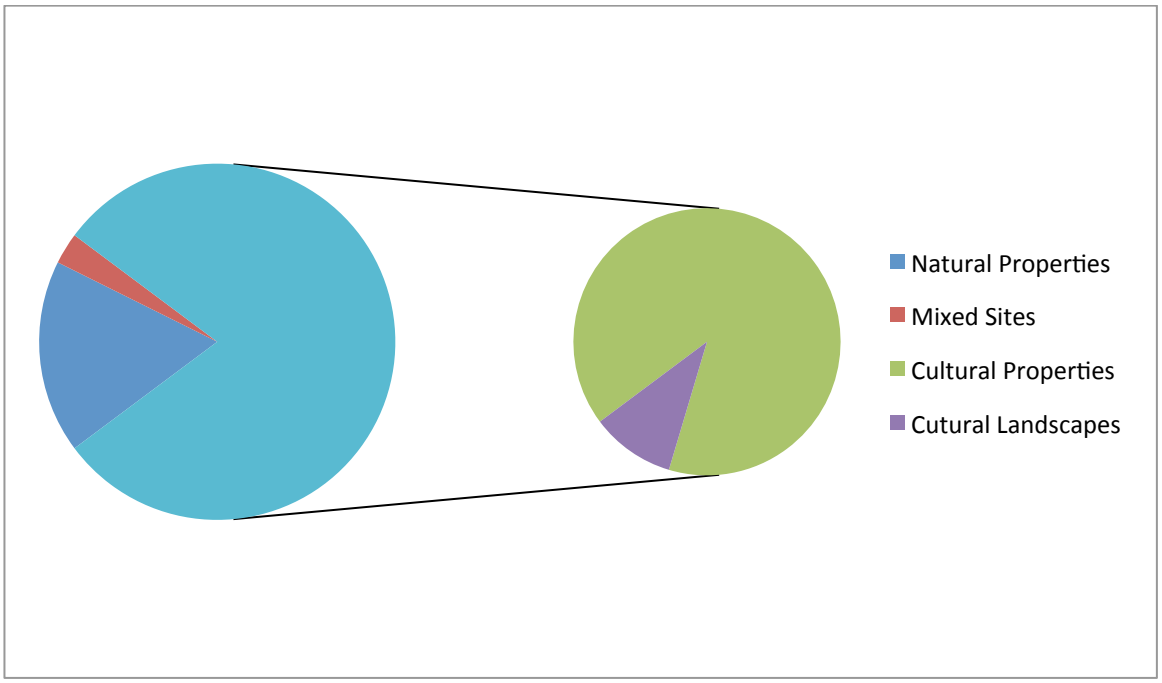
So, what is the point of inscribing more and more sites in the list if UNESCO and the States Members do not have the means to enforce a standard level of protection for each of them, notwithstanding the country? If there is no possibility to augmenting the funds for the implementation of the WHC, perhaps the system of nomination should be more selective or the practice of delisting properties should be used more often.

In his paper, G. J. Ashworth proposes different solutions[41] such as limits for new inscription or the establishment of a maximum number of the properties. At the same time it would be possible to make the criteria for the inscription stricter, together with a pre-selection process and the creation of a system to list the sites according their quality. All these solutions present pros and cons, but, generally speaking, they would probably advantage the richer States Member, that could face a more complex and selective process of inscription. Furthermore any possible change remains in the hands of the States Member and because the WH system lives on a consensual approach, a critical revolution of the nomination process is difficult to foreseen.

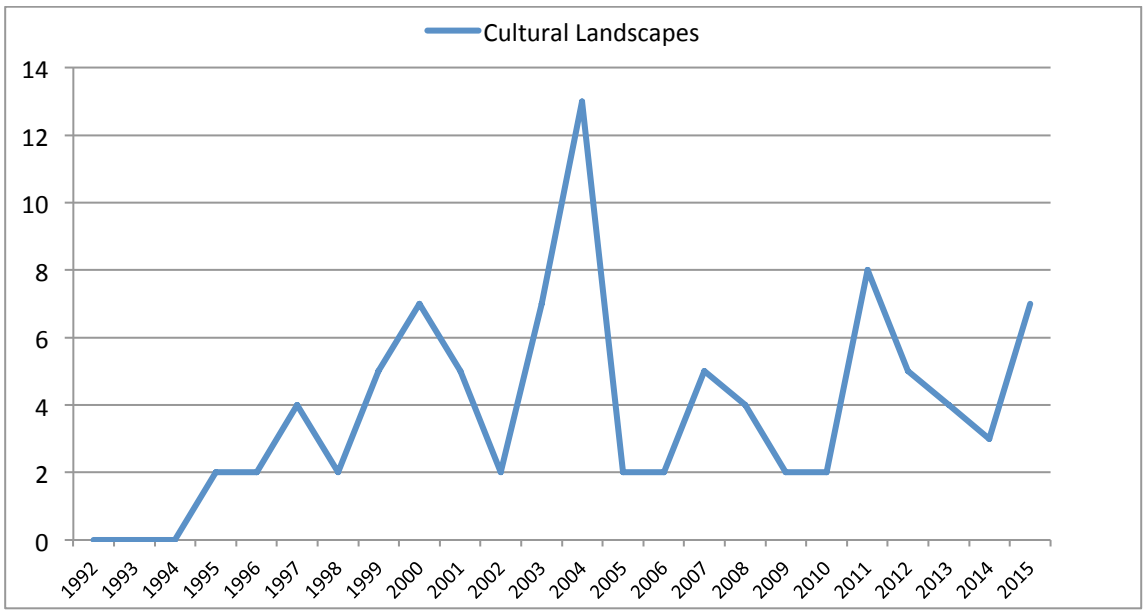
3.2 Evaluation on WHC Cultural Landscapes Category

Since the creation of the category several cultural landscapes were nominated in the WHL. As far as 2015 802 cultural properties have been nominated, plus 32 mixed sites, of which 91 are inscribed as cultural landscapes (around 11%) (Grf. 2 – 4).

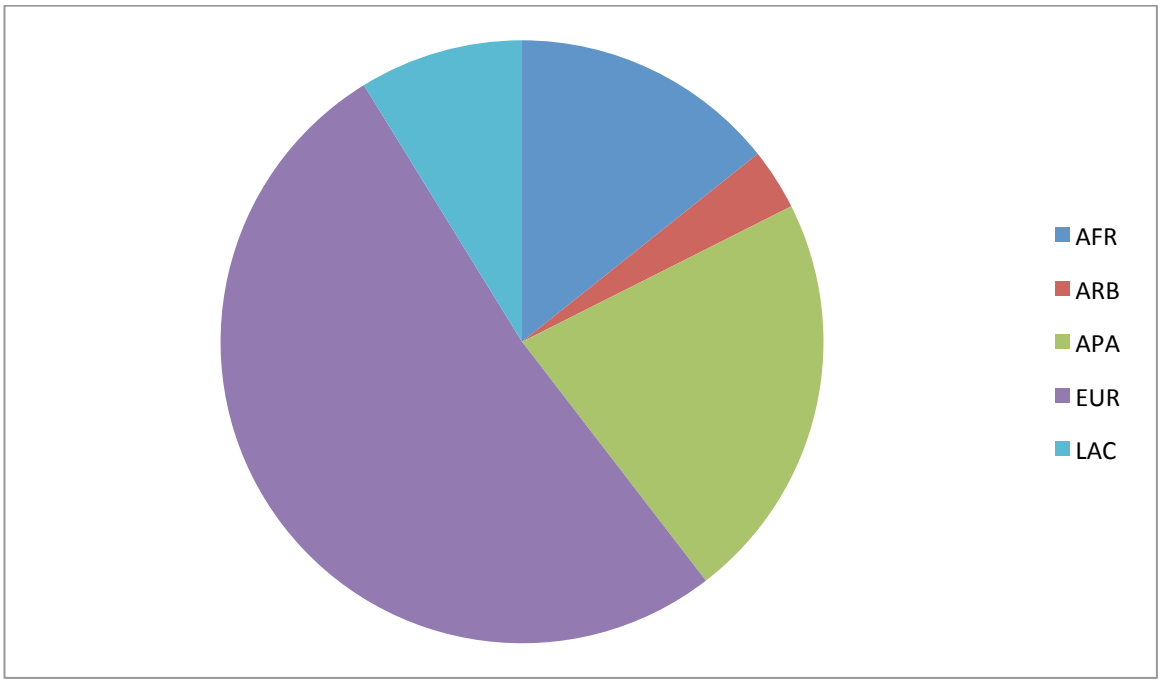
[41] ibid. pp. 154 - 156



Grf. 2: Cultural Landscapes category within the World Heritage List (2015)



Grf. 3: Number of World Heritage properties inscribed each year



Grf. 1: Number of World Heritage Cultural Landscape Properties by region

Created with the clear intention to incorporate different cultures within the WHL and to move from the focus on material to the inclusion of the context and the social environment, the cultural landscapes category did not really break the Eurocentric feature of the list. Even recognizing the pioneering role of UNESCO in promoting this approach and considering the growing interest in the cultural landscapes category by the States Members 'in numerical sense, the hope for the popular success of the Cultural Landscape concept for inscribing World Heritage sites of non-monumental feature has not in fact so far been realized'[42].

At the base of this slow process there are several reasons, some of which may be identified in the confusing mechanism of UNESCO nomination as well as in the still vague way in which the theoretical framework of the cultural landscape is perceived. Due to the European dominance, the cultural landscape concept, once arrived at UNESCO, has been charged with the aesthetic value more linked to rural design, and this approach eventually influenced the process of selection. In general, the term 'cultural landscape' seems a bit vague, especially if there is no specific distinction between different kinds of landscapes. Non-western culture may find difficult to

[42] UNESCO 2003(a), p.45

inscribe landscapes that can't be defined as rural humanized landscapes and this works against the desire of a more balanced World Heritage List.

Furthermore, the difficult relationship between natural and cultural heritage limited the success of the category before 2004 and even after the unification of the criteria in 2005 the situation does not change so much. The unification of the criteria for nomination was in fact more a formal change than an effective one. The new set of ten criteria maintains in practice the division between Natural and Cultural heritage (the criteria from one to six are for cultural properties and the ones from seven to ten are for natural properties) and the evaluation process is still divided with IUCN dealing with natural prosperities and ICOMOS taking care of the cultural ones. In the case of cultural landscapes IUCN can add some input to the ICOMOS evaluation, but its intervention is marginal and so it is the weight of the natural environment in the definition of a cultural landscape.

More confusion is also brought by the existence of Mixed Sites within the WHC that basically overlap the Cultural Landscapes category. The main – and only – difference between the two lies in the evaluation process. Because it is assumed that a Mixed Site meet at least one of the criteria for nomination both for natural and cultural properties (while in the case of cultural landscapes is the combined work of nature and men to be of OUV and thus only cultural criteria are met) the evaluation is made by both the advisory bodies, ICOMOS and IUCN, separately.

A part from the problem of finding ten criteria that can be applied all over the world, all this mechanism of evaluation, with the total absence of real trans-disciplinary dialogue, open a reflection about the very concept of the WHL and one can argue if it is still the best instrument for the recognition and the protection of cultural landscapes.

From a theoretical point of view, the static concept of protection – at least as usually intended within the WHC – and the dynamic character of the landscape, that for its own nature goes through slow and rapid changes, can barely fit together.

4. Cultural Landscapes: issues of management and conservation

If one moves from the theoretical analysis to the practical application of the cultural landscape concept the situation is even more challenging. Intending landscapes as a system that brings together tangible and intangible heritage as well as natural and cultural values that are not constant and may change over time and trying to safeguard it as a process and not as a product, demands the rethinking of the entire traditional approach to conservation. A high level of cooperation between numerous stakeholders is necessary and the role of local communities living, using and shaping the landscape is central. At the same time, because largest and stratified territories will be put under protection, the traditional systems of legal protection and policymaking are not sufficient anymore.

However, even considering all these difficulties, cultural landscape concept helps us to look at the cultural heritage as a complex system of continuous change rather than as an ensemble of sites and monuments. Synthetically, 'the real advantage of admitting cultural landscapes to the heritage family is the opportunity offered to embrace a holistic "way of looking" in assessing what is important to manage'[43].

Especially in developing countries this cultural landscape approach can be determinant to find a better balance between institutions and local communities and, in general, to propose innovative strategies that can guarantee the respect of heritage interests while social and economic development are assured. It would help in the creation of a different way of dealing with protected areas, enhancing intangible values and understanding better the relationship between heritage, sustainability and changes[44].

Before to analyse in detail threat and opportunities of cultural landscape approach in developing countries through the case studies, it is useful to make reference once more to the UNESCO role. Even considering all the weaknesses of the WHC and of the list, we can't deny the effort made by UNESCO to affirm the cultural landscape within the heritage community. With this in mind, the following table is inspired by

[43] UNESCO 2003(b), p. 35

[44] In fact, it is not the case that the term 'sustainability' firstly appeared in the field of heritage with the creation of the UNESCO Cultural Landscapes category through the concept of 'sustainable land use'.

the study made in 2009 on World Heritage Cultural Landscapes[45]. Without the presumption to deal with all the issues at once, this analysis has the merit to synthetize the core principles at the foundation of the strategies for protecting and managing such kind of heritage. Therefore it deserves to be mentioned before to proceed with the investigation of the features arisen during the fieldwork (see table below).

Principle 1	People associated with the cultural landscape are the primary stakeholders for stewardship
Principle 2	Successful management is inclusive and transparent, and governance is shaped through dialogue and agreement among key stakeholders
Principle 3	The value of the cultural landscape is based on the interaction between people and their environment; and the focus of management is on this relationship
Principle 4	The focus of management is on guiding change to retain the values of the cultural landscape
Principle 5	Management of cultural landscape is integrated into a larger landscape context
Principle 6	Successful management contributes to a sustainable society

It is clear that, even outside the WHC context and its list, dealing with conservation and management of cultural landscapes is extremely complex. What emerges in the UNESCO analysis is the attention devoted to recognize, catalogue and evaluate all the elements – cultural or not, tangible or intangible – that shape the landscape in all its extension together with the necessity to reach continuously the shared understanding and the agreement between all the stakeholders. In conclusion, the main issues – applicable to all cultural heritage, but probably even more evident, and therefore particularly important, in cultural landscapes – can be summarized in the following table[46]. They will be discussed, through the case studies presented in the next section (see table below).

[45] UNESCO 2009(a) pp.35-36
[46] Ibid. p.85

Issue 1	Need of specific training to ensure that all the values of the cultural landscape are managed and conserved sensitively
Issue 2	Managing tourism to ensure continuing visitor access to and appreciation of the landscape without seriously impacting its values
Issue 3	Developing landscape conservation treatments and new policies for managing essential components in the landscape and allowing the insertion of new elements (i.e. buildings, infrastructures, plantations etc.)
Issue 4	Support for communities maintaining heritage values within the cultural landscape especially when the values reside within those communities
Issue 5	Finding resources, including external income, to ensure economic viability to conservation activities and to improve the living standards of those living within the landscape

PART II – Cultural Heritage Management in South East Asia

5. Current situation in South East Asia

South East Asia is witnessing deep physical and social changes like few others within the developing countries. Phenomena such as economic growth, urban development and climate change affects inevitably cultural and natural heritage and it is not the case that many countries have improved significantly in the field of conservation and management in the last decades. However, all the effort was devoted to technical issues, usually related to the physical preservation of the monuments with not much consideration for the investigation of social factors that permeate the heritage and create the connection with people.

Far from be unique in this regard, South East Asia nevertheless shows some specific features that will help in moving forward the discourse of protecting cultural landscapes in developing countries. In fact, in this region, the areas under protection usually emphasize the relationship of cultural and natural elements with, for example, frequent landscapes associated to a traditional system of water management within the monsoon regime. Furthermore, the friction between safeguarding and development is quite evident in the region, especially if one looks at the fast growth of the tourism sector and the resulting 'escalation in the cost of living for local residents – from land to transport to food – creating considerable hardship for many'[47].

To see more in detail the issues affecting the protected cultural and natural areas in South East Asia one may refer to the result of the periodic survey carried out by UNESCO between 2010 and 2012[48]. Even if it deals only with World Heritage sites, the result of this investigation can be applied to cultural and natural heritage in general. What emerges is an overall picture where urban pressure, growing tourism and friction between local communities are evident threats, but also lack of management mechanism and clear legal frameworks arise frequently as obstacles.

[47] Winter, T. and Daly, P., *Heritage in Asia, converging forces, conflicting values* in Daly, P. and Winter, T. (eds) 2012, p.19
[48] UNESCO 2012(b)

The lack of sustainable funding mechanisms is also a common issue that in context such as South East Asia is also linked with international cooperation and its delicate balance. Furthermore, there is the need to involve more local communities not only in sharing economic benefits – as for example trough tourism implementation – but in the decision-making process, bearing in mind that, especially if we speak of large areas as cultural landscapes, people leaving permanently in the protected area can offer the best custodianship possible. Of course to get them on board, specific mechanisms are necessary and heritage experts should open their mind to find new approaches. This recalls a whole group of technical issues as the development of infrastructures and service facilities that impacts cultural and natural areas but are at the same time indispensable for the livelihood of local population. Find a compromise is, thus, fundamental considering that 'the relationship with heritage value and society is often so closely entwined that it is difficult to separate. The impact on the tangible attributes must be monitored to ensure that a balance is maintained between the activities carried by the society for its own gain and the conservation of the heritage objects'[49].

Improving the existing circumstances is the final goal of any conservation project. When in areas under development, this can't be limited to the physical consolidation of the monuments but must comprehend various elements of the area, often at odds with each other. In the last decades the tourism industry has been seen as the element to be implemented in order to improve local condition within protected areas. Even considering the positive impact that this sector brings, it should not be emphasized as the only solution to match development and conservation. The problem, especially within WH sites is in the identification of tourism with mass tourism that is founded, for its own nature, only on commercial purposes. Within broad protected areas such as the cultural landscapes, characterized by several elements and by a living population stratified in different social layers is inadmissible to let the tourism sector expand with no control at all.

Considering all the above, it is evident that with the lack of coordination in the region and even within the same country, the confusion between the different aspects of management, such as the clear definition of boundaries, understanding of

[49] Ibid. p.82

goals and objectives and implementation and monitoring of day to day activities remains very much problematic. To face this situation, in the last few years we assisted to the development of an increasing numbers of regulations, guidelines and master plans across the South East Asian region, all aimed to address the safeguarding of protected areas in a more holistic way, trying to balance different elements that need to coexist. To be abreast about the last outcomes in this sense, two documents deserve to be mentioned:

ASEAN Declaration

Signed by the ASEAN representatives in July 2000, the *ASEAN Declaration* on Cultural Heritage was aimed to strengthen regional cooperation for the protection of cultural heritage and cultural rights in order to contrast the 'threat of cultural loss, rapid deterioration of living traditions of creative and technical excellence, knowledge systems and practices and the disappearance of worthy heritage structures due to tropical climate, inappropriate development efforts, illicit trade and trafficking, or the homogenising forces of globalisation and other major changes taking place in ASEAN societies'[50].

In this respect, a series of policies were set up to safeguard, preserve and promote the cultural heritage shared by the different countries, named as cultural heritage of South East Asia. Within such cultural heritage, cultural landscapes deserve a primary importance, because they are seen as the combined creation of human and nature where cultural identity and living tradition survive. The sustentation of living tradition is one of the crucial points of the Declaration and it is repeated more than once that the ASEAN Member Countries have the duty to protect such traditions within the framework of social, cultural and economic development.

The scope of the Declaration is political and not technical, because it deals with the policies and even with the ethics behind the implementation of any activities in the field of cultural heritage. What is pinpointed here is the need of a common standard for legal frameworks that can guarantee the effectiveness of cultural programmes 'ensuring their citizens enjoy the economic, moral and neighbouring rights resulting

[50] ASEAN 2000, p.1

from research, creation, performance, recording and/or dissemination of their cultural heritage'[51].

In doing so, ASEAN Member Countries expressed all their preoccupation for the cultural erosion that often comes together with globalization and consumerist values. Therefore, in order to contrast the negative impact that this may have on Asian cultures it is emphasized that 'ASEAN Member Countries shall make cultural policies as one of the key components of their development strategies. Activities designed to raise awareness of political and economic leaders to the importance of cultural factors in the process of sustainable development shall also be initiated. These cultural factors include cultural industry and tourism as well as people's values and mind-sets'[52].

Hoi An Protocols

The *Hoi An Protocols* for Best Conservation Practice in Asia: Professional Guidelines for Assuring and Preserving the Authenticity of Heritage Sites in the Context of the Cultures of Asia were born as the outcome of the Regional Workshop 'Conserving the Past – An Asian Perspective of Authenticity in the Consolidation, Restoration and Reconstruction of Historic Monuments and Sites' held in Vietnam in 2001. After several updates the final version of the document was published in its final version in 2009.

At the core of these Protocols there is the concept of Authenticity discussed and broadened in its understanding after the Nara Conference of 1994. Starting from here, the aim of the workshop was to set a series of guidelines to be applied for the preservation and safeguarding of different kinds of heritage sites, namely cultural landscapes, archaeological sites, underwater cultural heritage sites, historical urban sites and heritage groups and monuments, buildings and structures. The specificity is in the fact that heritage experts working in the region perceived the need of a shared approach that emphasized 'the interrelatedness of practices for the conservation of physical heritage sites, intangible heritage and cultural landscapes'[53]

[51] Ibid. Art.9
[52] Ibid. Art.12
[53] UNESCO 2009(c), p.2

and decided to create a series of practical guidelines to contrast the specific threat that Asian heritage is facing, as to say population growth, urban development, environmental degradation, loss of traditional knowledge, mass tourism and de-contextualization. Some of the principles on which the Protocols are based were already affirmed in international documents as the Venice or the Burra Charter, but for what specifically concerns Asian context the experts underlined that 'conservation of heritage should and will always be a negotiated solution reconciling the differing values of the various stakeholders, and underscored that this "negotiated state of mind" is a value inherent in Asian cultural processes'[54].

It is evident that in many cases the guidelines seems to be repetitive, because the correct protocols for protecting an archaeological site is for example similar in some part to the ones for group of monuments or historic towns. However, it is not the case also that cultural landscapes are mentioned as the first typology of area like it was 'the overall umbrella under which everything else sits'[55].

5.1 *World Heritage Cultural Landscapes in South East Asia*

It is clear that there is still a deep gap between theory and practice in the application of a holistic approach for cultural heritage and cultural landscapes could be, in my opinion, the mean to reach such an ambitious end in South East Asia as elsewhere. As seen before, the cultural landscapes category within the WHC can't be considered yet as a complete success and, if we analyse the specific situation of South East Asia, the situation does not change very much.

In 2008 Akagawa and Sirisrisak[56] examined the impact the cultural landscape concept in the Asian region. They analysed the properties inscribed in this category of the WHC and they emphasized recurrent characteristics: 'Analysis of the descriptions shows that most of them have archaeological or architectural remains and express the religiosity of powerful beliefs of the local people. Some sites are distinctive and have cultural association with the Indigenous groups. Some sites are testimony to remarkable manmade landscapes; others have retained continuing

[54] Ibid. p.4
[55] Taylor, K. 2009, p.24
[56] Akagawa, N. and Sirisrisak, T. 2008

historic land use for thousands of years'[57]. Many sites across the region show similar features, such as the deep relationship between people and water or between architectural remains and intangible religious values and they are threatened by similar issues, such as urban development and growing population. However, the fact that many properties are still presented 'simply' as monumental or archaeological sites by the Member States shows how the lack of an appropriate management system and conservation mechanisms for this kind of sites is still perceived as an obstacle too difficult to overcome.

Of the same opinion is also K. Taylor that in several articles investigated the confusion that cultural landscapes concept brought in the cultural heritage field, especially in Asia, where instead it would represent a precious tool to 'understanding the cultural context and the setting of heritage places and celebrating the remarkable existence of continuing living heritage'[58]. In his vision, this confusion could be addressed through the reconciliation of Asian regional values and international standards of conservation. This scope can be reached by utilising documents as the Hoi An protocols as a shared base and then, by deepening the investigation of different types of cultural landscapes, such as rural, industrial, urban, archaeological etc., and setting up common standards to help Member States in the difficult task of transfer a sometime complex theoretical concept into practical programs and activities of conservation.

Whit this in mind, the following case studies will be presented in order to show how management and conservation of cultural landscapes, - 'avoiding the musealisation only for touristic and aesthetic reasons'[59] - may be the key to obtain the much-desired holistic approach for enhancing heritage values.

[57] Ibid. p.183
[58] Taylor, K. and Altenburg, K. 2006, p.269
[59] Lennon, J. and Taylor, K., *Prospect and challenges for cultural landscape management, International influences* in Taylor, K. and Lennon, J. 2012, p. 362

6. Cambodia: from Angkor to Banteay Chhmar, towards new approach to conservation

6.1 Angkor: a missed opportunity for the cultural landscape approach

It is not possible to speak about Cambodian cultural heritage without mentioning the WH site of Angkor. Even if it is not the main subject of this case study, a brief overview of the famous Cambodian site is helpful to introduce the discourse on the cultural landscape approach and the positive impact that it may have on the site of Banteay Chhmar and others.

Angkor is located in the central plateau of Cambodia and it is composed by numerous Hindu and Buddhist temples together with the remains of ancient capitals of the Khmer empire built between IX and XV century AD. The whole site covers an area of approximately 400 km2 and includes also forests, cultivated areas, hydrological canalizations and more than 100 inhabited villages (Fig. 1 - 3).

Fig. 1: Angkor world heritage protected area (APSARA et al. 2013)

Fig. 2: The temple of Angkor Wat

Fig. 3: The temple of Ta Phrom

Protection and conservation of Angkor started in 1908 and until 1975 it was carried out by 'Conservation d'Angkor', the institute established by the French colonists. After almost twenty years of war and disorder, at the beginning of the '90s thanks to the international intervention and the new political situation, the site was inscribed in the WHL by UNESCO and immediately declared 'in danger'. On this occasion a first management plan, the ZEMP (Zoning and Environmental Management Plan) was created with the aim to coordinate the interventions in the area and to align Cambodia with the international standards of conservation. Without the intention to deny the importance of physical conservation of the monuments, we can affirm that this plan gave scarce attention to the social and natural elements that coexist with the ancient remains. In doing so, the main outcome of the ZEMP was to establish the border of the protected area (that was the main priority), and major importance was given since the beginning, to tourism development. Behind this approach there was the vision of Angkor as a group of monuments isolated from its social and natural surroundings, a series of temples and ruins that reminds to a past of discoveries and exploration, particularly attracting for tourists. The site was thus conceived 'as material heritage of the ancient past, something to be marvelled at, but divorced from the vibrant idea of living history and heritage. It is a commodification of the past that privileges things rather than people'[60].

The limit of this approach was in the scarce attention to the link between ancient remains and modern villages, giving space also to the uncontrolled tourism development that follows. In more than 25 years, about 70 projects were carried out at the site by national and international partners, but the involvement of local communities was very limited. Despite the large number of local villagers that were employed in the activities of preservation and presentation of the site their traditional socio-economic activities, such as cultivation and forest management and cultural and religious practices were severely restricted during the years, in the name of conservation and tourism[61]. The character of Angkor as a living landscape was distorted by the policies established by national and international authorities that see 'tourism revenue from Angkor as the answer to all the social ills in

[60] Taylor, K. and Altenburg, K. 2006, p.274
[61] Baillie, B. 2007

Cambodia, including poverty alleviation through opportunities for employment and related income-generating activities'[62] (Fig. 4).

Fig. 4: Tourists at Angkor World Heritage Site

Nowadays, we can see clearly the limit of this attitude, especially if we think that in 1992 - the same year of inscription of Angkor – the WHC category of Cultural Landscapes was created. 'The area of the Angkor WHS meets the criteria for listing as cultural landscape. By giving the Site the status of a cultural landscape, the importance of the contribution of the rivers, forest, land uses and local population to the heritage (in addition to the monuments) would be recognized. Each component

[62] Miura, K. 2005, p.12

of the landscape such as canalized waterways and hydraulic structures, ancient cities and their hinterlands and the irrigated areas and settlement, makes a significant contribution to the cultural heritage and the whole complex should be preserved. The classification of Angkor as Cultural Landscape on WHL would require these interests to work together for the preservation of the site'[63].

The idea that Angkor should be managed as an organic whole were people, monuments and land are intertwined in a continuous process of change is not new and many times the Cultural Landscape approach was invocated as a possible solution. The nomination in the WHL was never changed and still now the site is inscribed as a 'simple' cultural heritage site. However, in 2013 a new management plan was presented by UNESCO and the Royal Cambodian Government, with the aim to drive current and future conservation of the site according to a renewed holistic vision[64]. It is not the case that in this document it is immediately stated that Angkor is a cultural landscape and that its value is defined by the coexistence of ancient remains and contemporary villages, natural features and agricultural lands.

If we look at the policies at the base of the management plan, it is clear how the concept of cultural landscape is central in order to guarantee a proper protection and to face old and new issues, such as tourism, poverty, population growth and environmental degradation:

- 'Policy 1: Recognising the interdependence of natural and cultural values, the ecosystems and natural resources of Angkor and surrounding areas will be protected and managed to conserve values and to sustain life.
- Policy 2: The cultural landscape of Angkor and associated physical and non-physical values will be identified, assessed and managed to conserve heritage values.'[65]

Eventually, this new approach will remedy the misunderstandings of the past because 'Angkor's values are now understood to encompass many more attributes

[63] Wager, J., *Cultural Landscape of Angkor Region, Cambodia: a case study of planning for a World Heritage Site – The zoning and Environmental Management Plan for Angkor (ZEMP)* in Von Droste, B., Plachter, H., Rössler, M. (eds.) 1995, p.152
[64] APSARA et al. 2013
[65] Ibid. p.VI

than those acknowledged in the original World Heritage listing citation. In particular, there is greater recognition of the importance of intangible values and continuing cultural traditions'[66].

6.2 Banteay Chhmar: developing a new vision for Cambodian cultural heritage

Bearing in mind the situation of Angkor, we can now enter in more detail into the first case study of this thesis, the site of Banteay Chhmar, whose analysis is central in demonstrating how the cultural landscape approach could be a key solution in balancing protection and development in specific context like Cambodian one.

The Buddhist temple of Banteay Chhmar is located 110 km Northwest of Angkor, in Banteay Meanchey Province. It was built between 1181 and 1218 by the Khmer king Jayavarman VII as part of an extensive building program throughout the empire. Like the other temples of Jayavarman VII, Banteay Chhmar is formed by several concentric enclosures marked by earth ramparts or walls of laterite and sandstone (Fig. 5 - 6). In the case of Banteay Chhmar, there are five enclosure of which the largest defines and area of about 4 km^2. Within this area, besides the main temple buildings, there are eight satellite temples and a large rectangular moat crossed by four axial causeways (Fig. 7 – 8). Furthermore, on the East side, the enclosure is interrupted by a rectangular water reservoir – called *baray* – of 1.7 x 0.8 km, which has an island temple at is centre. The area of the main temple buildings is surrounded by a sandstone gallery that presents, on its outer surface, 538 meters of colossal bas-reliefs (far longer than the bas-relief of the famous temples in Angkor). The gallery is interrupted by gatehouse entrances located in the cardinal directions, through which is possible to accede the sacred area where there are several buildings dedicated to Hindu and Buddhist divinities together with others representing deified national heroes or the royal family itself[67].

[66] Ibid. p.IV

[67] This brief overview of the site is based on the detailed study made by Olivier Cunin (Cunin 2004)

Fig. 5: Plan of Banteay Chhmar (Cunin 2004)

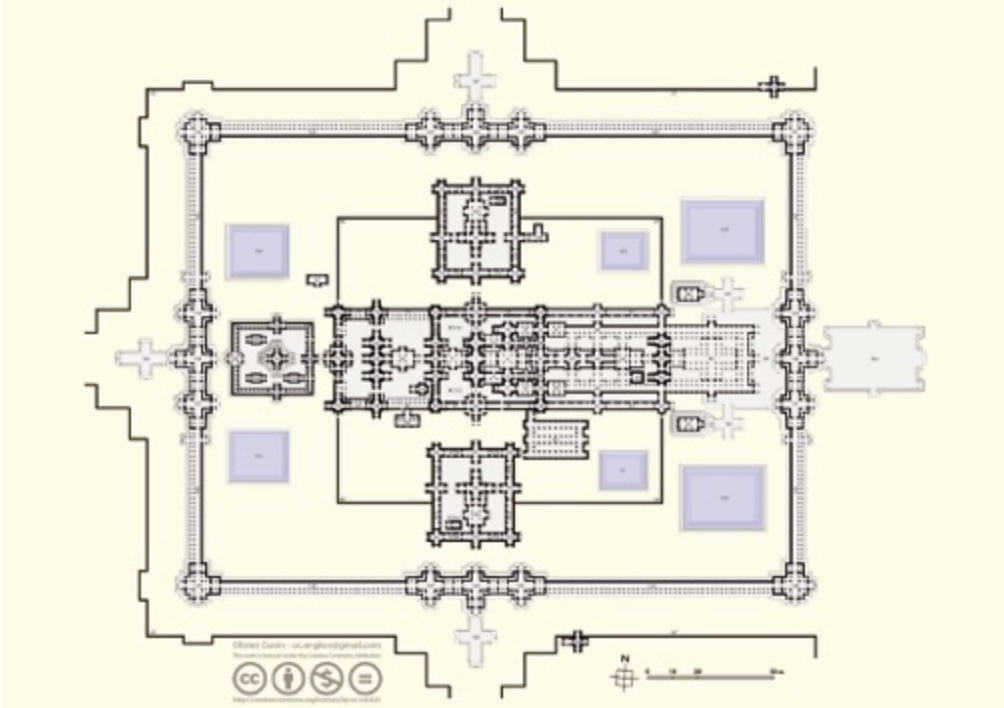


Fig. 6: Plan of Banteay Chhmar; 3rd enclosure (Cunin 2004)

Due to its remoteness, the temple of Banteay Chhmar was less studied then the other Jayavarman temples in the Angkor area. Specific studies, mostly focusing on its architecture and especially on the bas - reliefs and inscription, have been made during French occupation[68]. After decades of abandon, in which the temple had been overwhelmed by the forest and suffered looting, vandalism and destruction, some interest in Banteay Chhmar emerged again since the 90s, linked in particular to the massive pillage of the bas-reliefs gallery[69].

Fig. 7: The Face Tower of the IV satellite temple (courtesy of O.Cunin)

[68] Parmentier, 1910; Groslier, 1937; Coedes, 1951

[69] In January of 1999, due to a lack of proper protection, looters dismantled two large sections of the western gallery wall containing superb bas-reliefs of multi-armed Lokeśvara, unique in this form to Banteay Chhmar and made off with them in a low-loader truck. Fortunately the 177 sandstone pieces were quickly recovered in Thailand and eventually returned to Phnom Penh's National Museum, where they are now on display.

Fig. 8: Bas-relief on the Southwest gallery

As a response of the above mentioned events, the Ministry of Culture and Fine Arts (hereafter MCFA), that has the principal responsibility for protecting the archaeological monument and sites, and tangible/intangible heritage in the Kingdom of Cambodia, together with UNESCO, Global Heritage Fund (hereafter GHF) and other international partners decided to strengthen the protection of the site. Banteay Chhmar was therefore inscribed in the 'Tentative List' of the WHC and, as a result, of this decision, plans were developed to identify a proper zoning of the protected area, which includes, the architectural remains, but also archaeological heritage, natural resources and human settlement of the surroundings. In March 2003 three zones were established by Royal Decree to preserve the cultural heritage and to enhance the value of the site[70] (Fig. 9).

The zones are:

[70] Royal Government of Cambodia, Preah Reach Kret on The Establishment of Prasat Banteay Chhmar Site (NS/RKT/0303/117), Phnom Penh 11 March 2003

- 'Zone 1 (*Core Area*) includes structures of archaeological significance, including the moat, the baray and the satellite temples. No development, cutting of trees or excavation of any kind is permitted within this zone.
- Zone 2 (*Buffer Area*) includes the area-surrounding zone 1 up to a distance that includes the dyke, and the baray. No excavation, agriculture activity or building construction is permitted without approval of the MCFA.
- Zone 3 (*Satellite Area*) includes all land beyond zone 2 up to a distance of 1,500 meters, and is intended as an economic and social development area for the preservation of traditional lifestyle, occupation and livelihood of the people in the area. Within this zone new construction may be permitted following the guidelines of the MCFA.'[71]

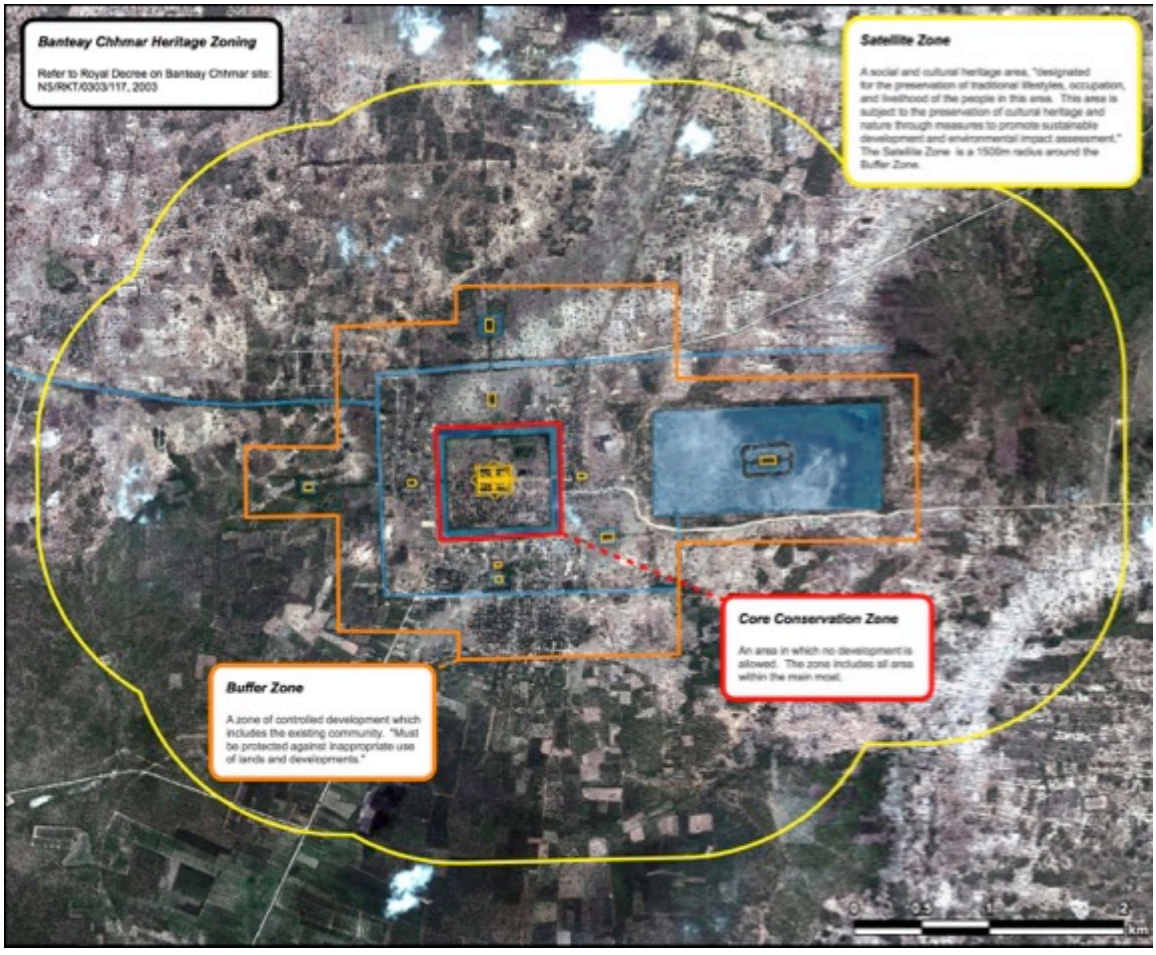


Fig. 9: Zoning of Banteay Chhmar Area (courtesy of GHF)

[71] Irwin, D. 2009, p.19

The decree has the merit to establish a first degree of protection, but it is still quite generic in its definition. Activities that are permitted or forbidden within the zones are determined by general regulations that apply to all ancient sites throughout Cambodia, thus there was not a particular attention to the characteristic of the site. To provide a more tailored plan for management and conservation of Banteay Chhmar, in recent years several workshops were held between 2008 and 2014.

The last outcome of this continued effort was the publication of the 'Action Plan for Banteay Chhmar' in 2014[72]. The purpose of this document was to introduce a methodology for managing heritage sites in the Kingdom of Cambodia - using Banteay Chhmar as a case study – and to provide a framework for an holistic and guided approach for the conservation and enhancement values of a site.

After almost 25 years from the inscription of Angkor in the WHL the decision to look at Banteay Chhmar as model for planning the elements of heritage management was not casual[73]. Generally speaking 'Cambodia is immersed in a fast development process, but there are still enormous differences between cities and countryside, where most of the population reside. Tangible and intangible heritage values are suffering in the face of uncontrolled development, physical and social pressure and the Royal Kingdom of Cambodia is struggling in defending cultural and natural heritage trying to integrate aspects such as education, environment, science and health, supporting the improvement of the quality of life'[74]. In this framework MCFA had to deal with the coordination of an increasing number of national and international stakeholders and, perhaps also in order to avoid the mistakes made in Angkor, decided to establish a new management strategy, a tool particularly valuable in complex scenarios as Banteay Chhmar for coordinating the safeguarding and development of the site.

[72] UNESCO 2014(d)

[73] In 2014 the Royal Government of Cambodia, in collaboration with international partners including UNESCO, approved in 2014 the *National Strategic Development Plan* (2014-2018) with the aim to ensure the conservation, preservation and promotion of the culture of the Kingdom in its diversity, as well as to encourage creativity in the field of culture

[74] UNESCO 2014(e), p.3

Even if the cultural landscape approach was not expressly mentioned during the creation of the Action Plan, it is, in my opinion, the correct way to propose a proper conservation and presentation of the site. In this sense, it worth to mention that the first recommendation proposed by UNESCO was to revise the zoning of the site, especially in view to a possible nomination in the WHL. The enlargement of the protected areas would guarantee the protection of an important archaeological and natural area in a radius of 10 km from the site that includes several remains such as prehistoric sites, communication infrastructures, canals, human settlements, water reservoirs together with flora and fauna etc.[75] (Fig. 10).

Fig. 10: Agricultural landscape at Banteay Chhmar

[75] In 2008 a field archaeological survey was conducted on an area of about 30 km2, carried out by the research team of the Living Angkor Road Project, a Khmer-Thai joint research project studying the ancient royal road linked between capital city Angkor and provincial cities of Khmer empire.

All these elements would contribute in enhancing the importance of the site, beside the presence of architectural and artistic elements. The extraordinary continuity of occupation of the area (from Prehistory to post-Angkor period), together with the connection between Khmer capitals and present-day Thailand would be emphasized. Furthermore cultural landscape approach would make possible the protection of natural elements that are inevitably connected to the cultural ones, especially in an area that had seen the creation of an impressive hydrological system (Fig. 11). Finally, as we will see in the following paragraph a major involvement of the local communities would probably be guaranteed.

Fig. 11: Water rectangular moat at the East entrance

6.3 Participation within a cultural landscape: looking for a balance between preservation and development.

One of the most pressing concerns related to the management of cultural heritage in developing countries is its role in the livelihood of the local communities that often depends but at the same time deliver benefits to their heritage. In the case of Banteay Chhmar four villages are directly connected to the moat of the temple and in recent years they have seen a quite fast development, thanks especially to the presence of water supply and the implementation of road infrastructures (Fig. 12).

Fig. 12: Modern settlement around Banteay Chhmar

Since 2007 the MCFA has monitored the population growth, in order to prevent any damages to the cultural heritage due to the rapid increase of inhabitants. In the 2014 census, the population living in the immediate vicinity of the temple was estimated around 5000 persons (see table below).

Villages	Unit	2007	2010	2014
Banteay Chhmar Lech (West)	Houses	229	251	269
	Families	248	276	326
	Population	1074	1183	1235
Banteay Chhmar Cheung (North)	Houses	287	301	308
	Families	319	367	424
	Population	1389	1436	1454
Banteay Chhmar Tboung (South)	Houses	364	441	451
	Families	364	450	542
	Population	1702	1868	1902
Srah Chrey (East)	Houses	160	166	206
	Families	160	195	215
	Population	769	836	881

The villages' area is quite developed with institutional buildings such a primary and secondary school, and a hospital. The main road is the Provincial Road that connects Sisophon to Samraong crossing the area from Southwest to the Northeast, dramatically boarding the ancient moat. Many secondary roads also traverse the villages, mainly made by compacted mud, which become impassable during the rainy season. In the framework of the Cambodia Northwest Provincial Road Improvement Project, Asian Development Bank (hereafter ADB), in collaboration

with the Provincial Office of the Roads Department is upgrading the transport infrastructure in the Banteay Chhmar area, since 2010. A new access arrangement for Banteay Chhmar temple was under construction still in 2014, with the main goal to divert the long distance traffic from the ancient moat to a new by-pass section that will pass outside the Southeast corner of Zone 3[76] (Fig. 13)

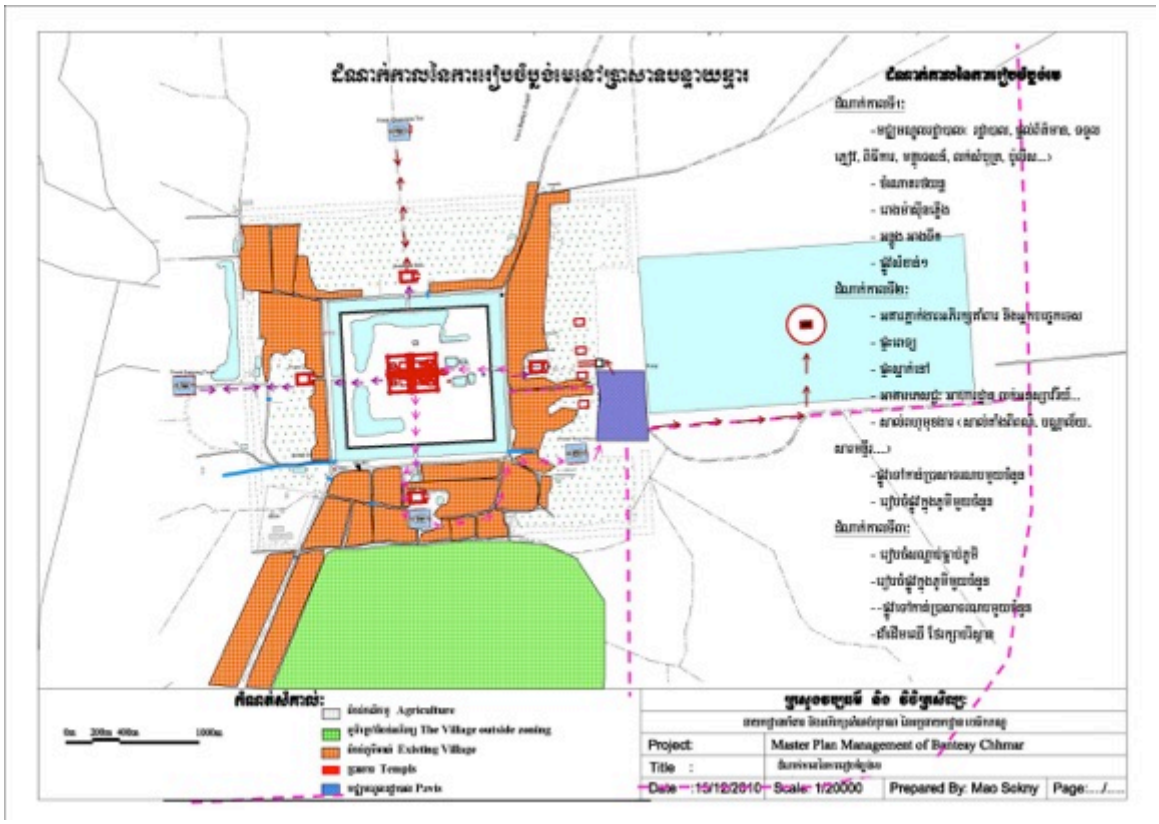


Fig. 13: Urbanization of Banteay Chhmar area (courtesy of MCFA)

During the creation of the Action Plan, particular attention was devoted to the social and economic features of the area; The development of the area was one of the main topics discussed in the several workshops that took place between 2008 and 2014 and at the base of this continued effort there was the belief that a 'monumental vision' of the area was inadequate. To apply a cultural landscape approach to Banteay Chhmar would allow dealing with a whole series of issues – not only

[76] Irwin, D. 2009

concerning the physical condition of the monument – that can't be avoided or under estimated. In this sense, in 2007-2008 the MCFA realized a detailed study about the revitalization of the Banteay Chhmar area, devoting special attention to the architectural features of the modern villages and to the proposal of architectural types for the new housing development[77]. The outcome was a proposal for the establishment of Building Regulation for the protected area, able to allow the development of basic infrastructure with respect of the cultural landscape.

The regulation, even if in its embryonic stage, was aimed to help in the development of the Banteay Chhmar area in close collaboration between MCFA and all the local counterparts. According to this preliminary regulation, no constructions are allowed in the core zone (Zone 1). Strict regulations however are needed for Zone 2 that includes all the villages around the moat. New constructions may be permitted following the approval of the MCFA, which will only be granted in exceptional circumstances. Furthermore, new buildings in Zone 2 should follow the rules below:

- The maximum height must be 8.5 meters
- Buildings may not be used for any purpose other than residential, accommodation for visitors, social facilities or offices.
- All buildings should discharge waste water in septic tanks
- The colour of roof material and external surfaces of all structures should conform to standards prescribed by the MCFA
- All buildings should have a dual or multi-pitched roof and should be conform to traditional Cambodian architectural styles, using traditional material. The MCFA proposed 3 typologies of housing (Fig. 14):

    1. Pet House
    2. Kantain House
    3. Rongdol

[77] Keav Bunthoeun 2007 – 2008

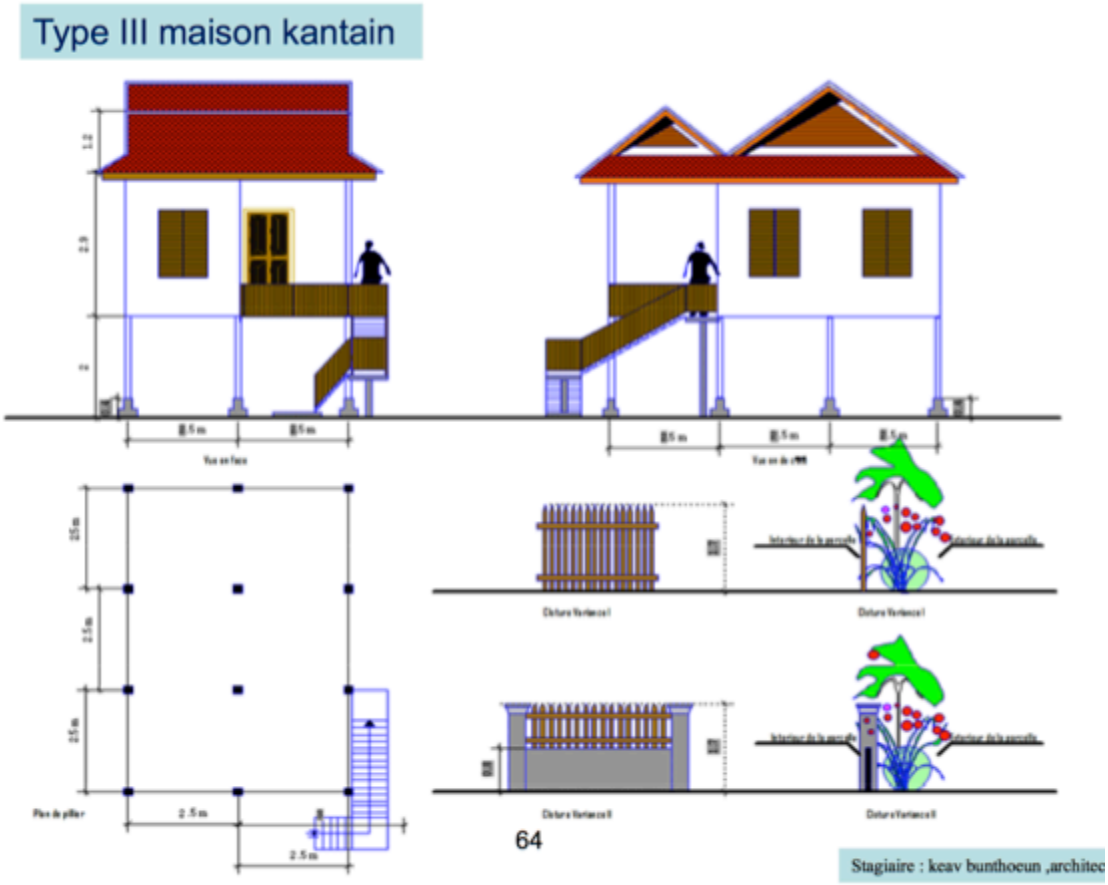


Fig. 14: Typology of housing for the area of Banteay Chhmar (courtesy of MCFA)

Zone 3 is quite distant from the monuments and the control of the MCFA should be less strict. Furthermore in the southern area the development of a new urban area is planned. This "New Town" will take advantage from the new by-pass road and from the possible new hydraulic system and it will allow the installation of the growing population in an area still close to the original villages, but far enough not to pose a threat for the archaeological area.

A part from setting rules for the creation of new buildings, a fundamental aspect was the development of infrastructure able to boost the economic life of the inhabitants. Most of the villagers in the Banteay Chhmar area are farmers with fields in the surrounding area and their economic support thus depends primarily on rice farming and cassava plantations. Basic infrastructures and utility services are also very limited. When the Action Plan was prepared the villages received electricity by

a private generator (every day from 17.30 to 22.30) over a small distribution network. There was no proper collection or sanitary disposal of garbage, with an obvious problem of pollution, linked to the discharge of effluents in the moat. Even without the presumption to solve all the problems with few meetings and a single Action Plan, the management of these services was one of the main concerns during 2014 activities and part of the above mentioned document was devoted to bring the attention of the main stakeholders in this direction. In particular, taking advantage of the effort of the Cambodian government to provide electricity to 70% of the whole country by 2020, the area of Banteay Chhmar was selected to carry on an electrification project starting in 2014. Given the special nature of the protected area of Banteay Chhmar, the MCFA, in collaboration with UNESCO and with the support of Asian Development Bank (hereafter ADB) was called to overview the entire project in order to guarantee the correct preservation of the cultural heritage. This was the perfect occasion to take the distance from the monument itself and look at the entire area, trying to put in practice a cultural landscape approach able to achieve the best protection of the area without interfering with the development. Therefore, several mission were carried out on site with the aim to find a path for the electric line connecting the villages and, at the same time, avoiding any damage to the protected zone. Five options were proposed and then discussed with all the stakeholders (Fig. 15).

- Option 1: This line passes along the road between the protected Zones 1 and 2. It is very close to the main monumental area and it has a strong impact on the cultural landscape.
- Option 2: This line follows the path of Option 1 entering in the protected Zone 2. It avoids the border area of Zone 1 being moved further south. It passes through the South village with less impact on the main monumental complex. However, it is extremely close to the satellite temples along the entrances.
- Option 3: This line passes along the main road, which is under construction, around 2km from the villages. Even if it avoids any impact with the protected area, this line is probably too distant to properly connect the villages.
- Option 4: This line passes along the Southwest edge of the ancient dam and then it continues north. It avoids any impact with the main monumental area,

but, due to the lack of infrastructures in this area, the construction works could face several issues.

- Option 5: This line follows the border between the protected zones 2 and 3, entering in Zone 2, through the Southeast edge of the dam. Once arrived in front of the artificial lake it could follow two different paths going North or Northeast. It impacts the monumental area only in proximity of the artificial lake.

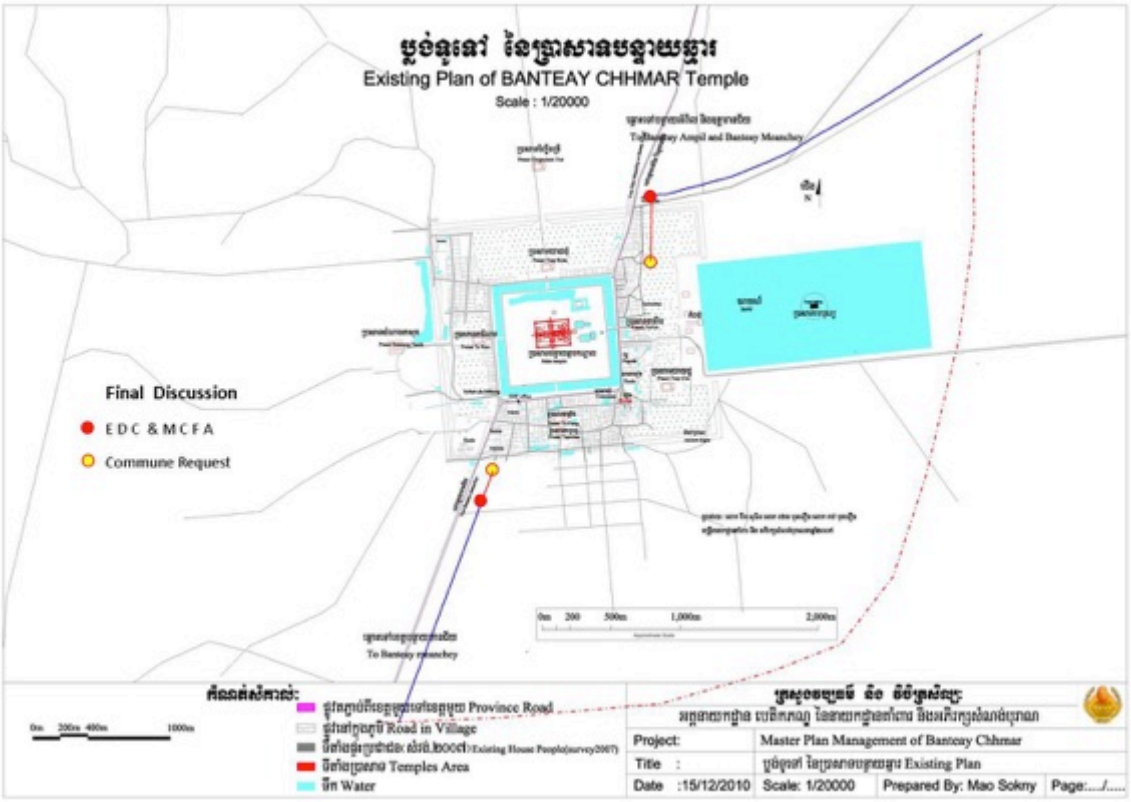


Fig. 15: Proposal for electric line (courtesy of MCFA)

Even if the cultural landscape approach was not expressly requested or mentioned during this project, the profound desire of all the stakeholders to distinguish from the past brought naturally to a holistic vision of the site. Instead of focusing only on conservation problems – that of course were central during the creation of the Action Plan – a consistent part of the resources were devoted to the management of wide area around the site. Especially for the presence of living communities even the members of MCFA, usually keener to keep the distance between ancient monuments

and all the rest, were 'driven' in considering other components. A part from effective results, the real outcome of the entire project was the establishment of a different way to look at the site of Banteay Chhmar with a deep involvement and collaboration of all the stakeholders, the so called participatory approach. MCFA was included in all the decision regarding the area, even when not linked directly to the monumental feature. Representative of local communities were also called to give their opinion in any decision that could affect their life.

Fig. 16: MCFA members discussing on site the path for the electric line

With this project we were able to put at the centre of the discussion the complex relation between Culture and Development that, especially in countries as Cambodia, is fundamental. In doing so all the participants realised how is necessary to move beyond their own competences and wide their vision. Finally, to propose a new future for Banteay Chhmar and its surrounding it was evident that a traditional approach was not sufficient anymore and a more comprehensive one was born: a cultural landscape approach (Fig. 17).

Fig. 17: Meeting with local villagers in 2014

6.4 Education and Tourism: an occasion to be different

Tourism plays an ever-increasing important role in the management of cultural heritage areas. The income from this sector could be very helpful for the management of the site and the development of its surroundings, especially in poor areas like Banteay Chhmar. Its impact, however, has to be controlled. In general, the careless and superficial management of the tourism component, for example without the proper participatory approach of all the interested groups, can do more damage than good. Extreme standardization in the development of tourism in cultural areas is to be fully avoided, but some key-concepts are nowadays worldwide accepted and could be applied in Banteay Chhmar'[78].

'The archaeological interest of Banteay Chhmar as a tourist attraction is beyond doubt. Historically it has an important role within the Khmer empire, the temple complexes are numerous and extensive, water bodies are plentiful (moat and baray),

[78] Irwin, D. 2009, p.10

the bas-relief are unique, and all are located within a natural setting unspoilt by commercial development. Compared to the visitor experience in Angkor, which is now a crowded international destination, Banteay Chhmar offers a more relaxed opportunity to examine the relics of a lost kingdom in a traditional Cambodian environment. Therefore, presently tourists cause few problems and one of the objectives of the Action Plan was to develop a quality tourism programme, while at the same time protecting the site. However, at the moment there are not facilities for tourists (parking area, ticket office, visitors centre etc.) and even the entrance and the path to follow are not clear due to the lack of proper signage. In order to promote tourism in the area, it was suggested to look at Banteay Chhmar as a peaceful place, far from the crowd of Angkor, where to enjoy the atmosphere of a remote ancient Khmer temple within its un-exploited cultural landscape.

With this in mind in January 2007 a Community Based Tourism Project (hereafter CBT) was established with the support of GHF to provide facilities to visitors, accommodations (home-stays) and a range of activities to enjoy the temples (Fig.18). From the response of visitors it is apparent that the traditional character of the villages is an added attraction to the temples and represents an important justification why tourists should visit Banteay Chhmar. The CBT project aimed at managing the reception of tourists and train guides to assist visitors. It was also interested to take on more responsibility in the management of the temples and its main goals can be summarized as follow:

- Manage tourism in Banteay Chhmar and help villagers benefit from it;
- Provide supplementary income for villagers through tourism activities;
- Use a part of tourism benefits to develop the commune with community projects;
- Improve and share knowledge.

Fig. 18: CBT guesthouse at Banteay Chhmar

Tourism component in Banteay Chhmar is still very limited, but it can help us in making some reflection. The only way to promote the site is to create a different image from Angkor. From an architectural point of view – especially if one is not a specialist of Asian archaeology – Khmer monuments can be very similar between each others and one could ask why a tourist would like to reach such a remote area to see something that is similar (and less preserved) to the temples of Angkor. However, if we look to the numbers, we can see an increase of tourist in CBT home-stays (+24% from 2012 to 2013). The truth is that Angkor is over-crowded and decades of a monumental approach to conservation deprive the site from its atmosphere. In Angkor you can find outstanding monuments and facilities of a good level, but the image of what it was supposed to be in the past is totally lost. The history of Banteay Chhmar could be different especially if, once again, we move beyond the monuments and we look at its cultural landscape (Fig. 19)

Fig. 19: Young students visiting Banteay Chhmar

In this sense we may refer once again to the archaeological investigation carried out in recent years that had shown the importance of the area before the temple, underlining a continuity of occupation since the Iron Age. The research project called Living Angkor Road Project (hereafter LARP) had the first aim to identify all the remaining portions of ancient roads radiating from the Angkor capital to different provinces of the ancient Khmer Empire, in view of an overall mapping of the network. However it was intended from the beginning as a multidisciplinary research – carried out by Cambodian and Thai specialists - not only targeting the archaeological remains, but also the present-day communities established along these axis. Therefore the team had to conduct different ethnographic surveys in several villages both on Cambodian and Thai side and what emerged is that, these communities are not alien to their common Khmer past, as they still use and worship all the historic remains. Furthermore, in addition to the academic contribution, the results from this research have been used to enhance the

relationship of the ASEAN countries, for example by organizing five events of Khmer-Thai students under the name of the “Heritage Education Programme” (Fig. 20).

Fig. 20: Heritage Education Programme activities

In fact, the team used the results of its work as a tool to train and educate high school students in Cambodia as well as in Thailand, to enable them to study their heritage, and let them to learn about their own culture and communities. The main objective of the project was to provide a chance for young Khmers and Thais to learn and share their knowledge. Students from all participating schools studied and tried to understand and analyse their local culture. The data collected from each school were then analysed to identify the shared culture of Thailand and Cambodia. The purpose was to spread the idea of getting everybody in the community to participate in the conservation of heritage. But more than that, the project aimed to engage the young generation in learning the history of both countries, in the hope that shared cultural roots will enhance ties between the two nations.

In conclusion if we look at Banteay Chhmar both from the side of the tourism or of the research it is evident that a wide approach that includes the surrounding area even crossing national boarders is the key to do something different. Learning from the issues emerged already in Angkor, MCFA looked at Banteay Chhmar since the beginning as a site where to establish a new strategy for management and conservation of cultural heritage. Considering all the above, cultural landscape approach is probably the best chance that we have to make Banteay Chhmar the symbol of a successful holistic methodology.

7. Myanmar: international standards and local expectations

7.1 Pyu Ancient Cities: history of a cultural landscape

The Pyu culture developed in upper Myanmar at least from the first centuries of the Christian era, giving us the earliest evidences of urbanization from anywhere in South East Asia. The main archaeological sites of this culture are the three ancient capitals of Halin, Beikthano and Sri Ksetra – commonly known as the Pyu Ancient Cities – that developed probably for almost 1000 years in the middle of the Irrawaddy river basin (Fig. 21).

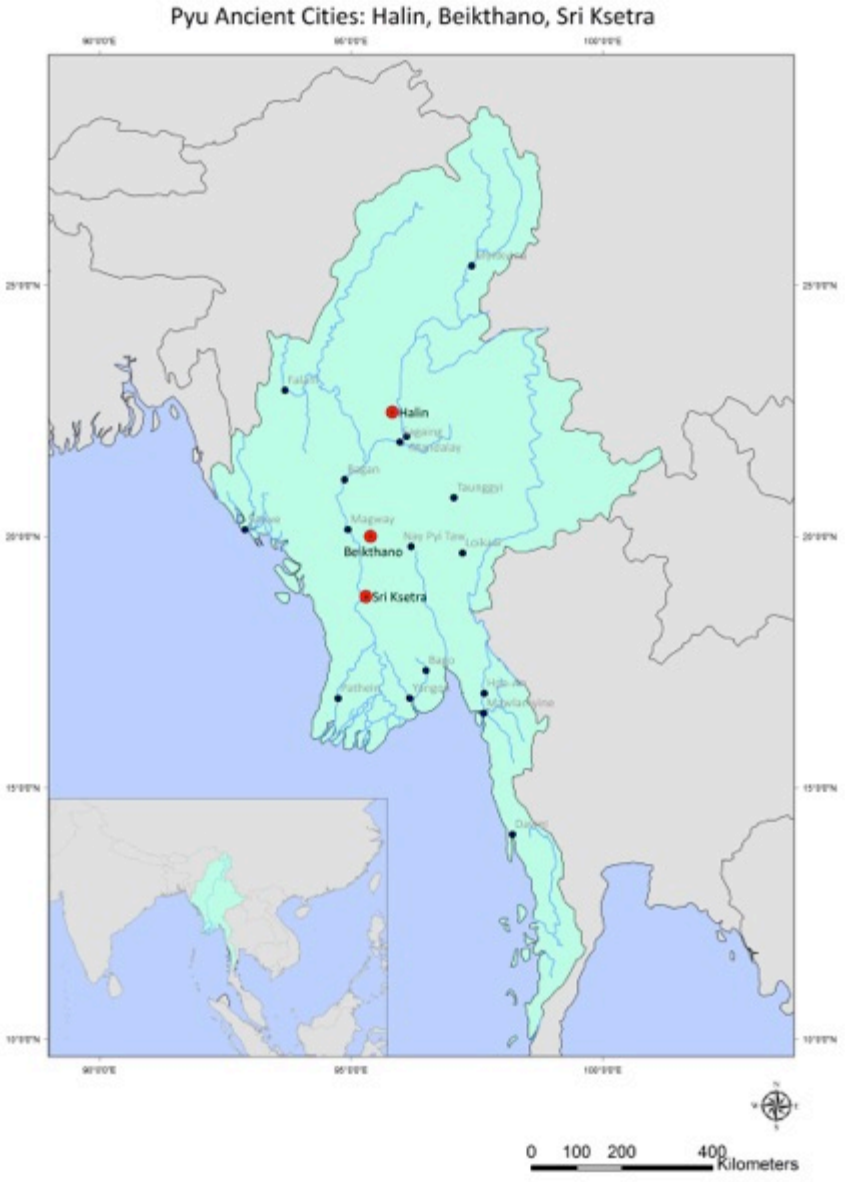


Fig. 21: Location of the Pyu Ancient Cities (courtesy of M.Cucarzi)

The formation of the Pyu Ancient Cities was the result of a complex and prolonged religious, political and economic process that sees earlier Iron-age villages with subsistence farming gradually transform into a specialized urban society. The outcome of this process was a permanent alteration of the landscape through the creation of what is called 'extended urban form' that first emerged in Myanmar and subsequently spread across South East Asia. One of the most evident features of this urban typology was the inclusion within massive walls of wide territories encompassing not only an impressive quantity of ceremonial and administrative brick structures, but also areas of industrial and agricultural production (Fig. 22).

Fig. 22: Landscape at Sri Ksetra (courtesy of M.Cucarzi)

The need to modify the landscape in order to adapt to a monsoonal regime was a fundamental stimulus in the urbanization of the Pyu culture and the development of impressive skills in water management was at the base of the prosperity and longevity of the population. Canals, moats and dams within and outside the walls characterize the sites and show us the birth of a remarkable hydraulic system

enabling the inhabitants to exploit the tributary rivers of the Irrawaddy, in order to expand agricultural and commodity production (Fig. 22 - 23).

Fig. 23: Canalization at Sri Ksetra (courtesy of M.Cucarzi)

Fig. 24: Artificial water reservoir used by local villagers at Halin (courtesy of M.Cucarzi)

However, even if management of the seasonal water resources was essential for the Pyu, the urban revolution can't be seen as separated from a wider socio – political transformation that brought the creation of a complex social hierarchy supported by the introduction of Buddhism. In fact the abundant presence of monasteries, stupas, statues, votive tablets, ritual inscription and remains of cremation practices is the evidence of one of the earliest expansion of Buddhism in South East Asia, another confirmation of the high degree of civilization achieved by the Pyu culture and of the key role that the Pyu ancient capitals played in the network of interchanges within Asia (Fig. 25 - 26).

Fig. 25: Bawbawgyi Stupa at Sri Ksetra (courtesy of A. Pistolesi)

Finally, the Pyu cities probably have seen their power diminished after the rise of Bagan in the 9th century AD, but there is no evidence that they were totally abandoned. They probably coexisted and continued to survive after the growth of Bagan even if they gradually falls into oblivion until the arrival of the British at the very beginning of the XX century.

Fig. 26: Lulinkyaw Gate at Sri Ksetra (courtesy of A.Pistolesi)

It is not the intention of this thesis to enter into details of the studies made about the Pyu culture across the decades[79], but it is important to know that the Pyu cities came under formal protection of the colonial government in 1904 with the *Ancient Monuments Preservation Acts*. Since then, several measures of conservation and management have been established at different levels. The Department of Archaeology, National Museum and Library (hereafter DAMNL) was charged with the responsibility of the overall supervision of the sites and other legal instruments such as the *Antiquities Act* (1957), the *Law on the Protection and Preservation of Cultural Heritage Regions* (1998) and the *Rules and Regulation of the Cultural Heritage Region Law* (2011) were adopted in order to guarantee a higher level of preservation for the Pyu cities. Between 2011 and 2012, thanks to the new opening of the Myanmar government at international level it was decided to propose the nomination of the Pyu sites as UNESCO World Heritage. In this respect the Myanmar National Committee for World Heritage and, at site level, a Pyu Ancient Cities

[79] Aung Thaw 1968; Hudson 2004, Moore 2012; Stargardt 1990

Coordinating Committee (hereafter PYUCOM) were established to coordinate the management of the three sites, integrating conservation and local development.

After two years of continuous activities in order to align conservation in Myanmar with international standards and to create a Property Management Plan[80] (hereafter PMP) for the sites, the Pyu cites were finally nominated as the first World Heritage site in Myanmar in 2014[81]. The nominated property of the Pyu Ancient Cities comprises the three sites of Halin, Beikthano and Sri Ksetra for a total of over 4000 hectares (9000 if we consider also the buffer zone) located north-to-south along a 400 km stretch (Fig. 27 - 29).

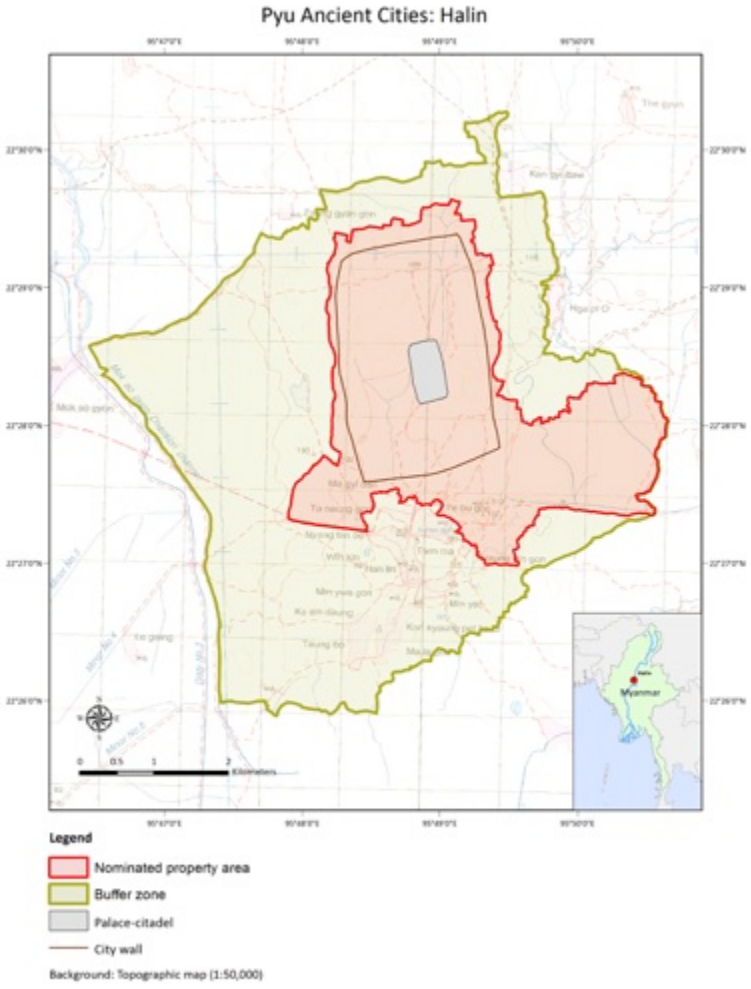


Fig. 27: Zoning of Halin (courtesy of M.Cucarzi)

[80] UNESCO 2014(b)
[81] UNESCO 2014(e)

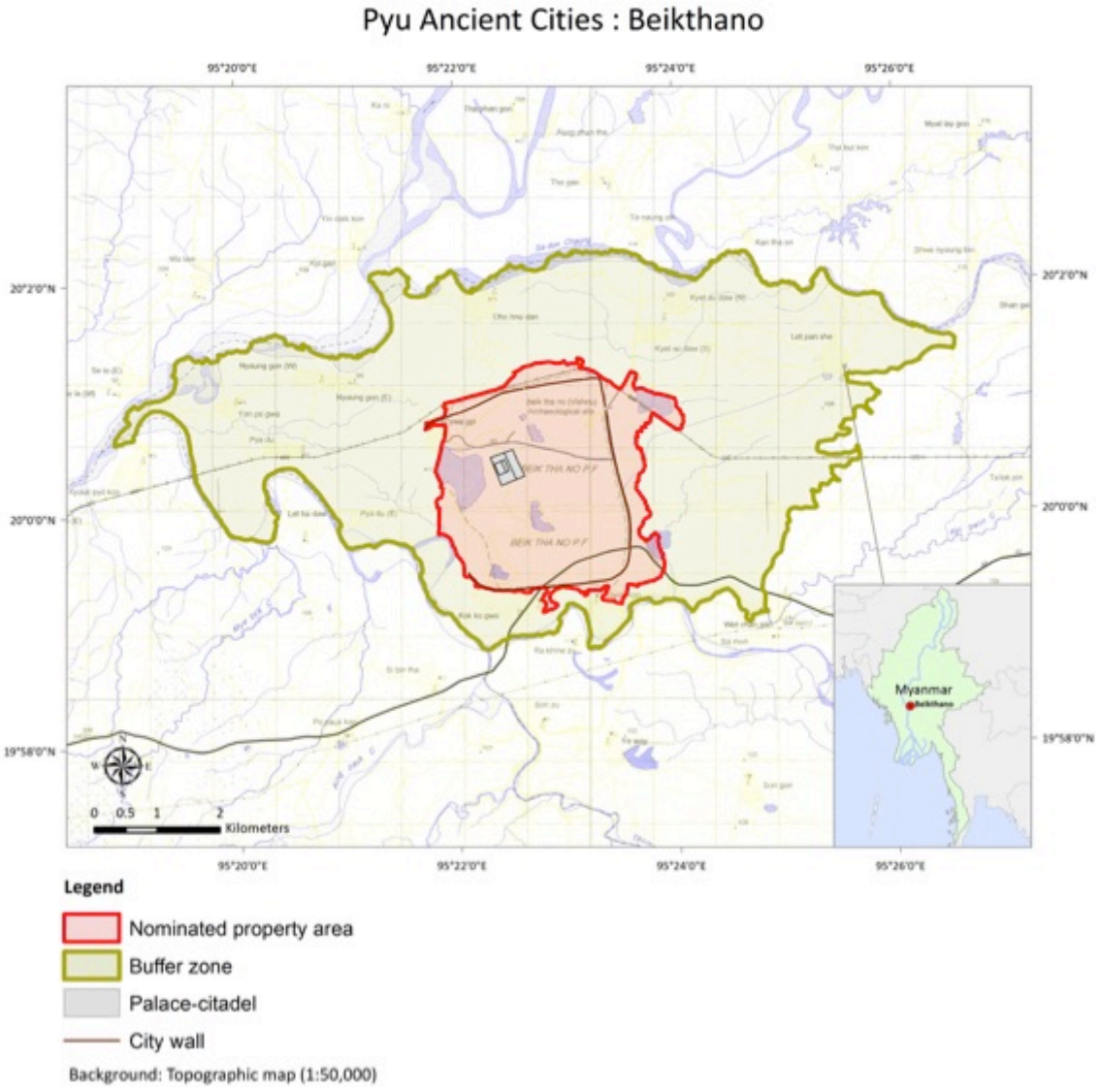


Fig. 28: Zoning of Beikthano (courtesy of M.Cucarzi)

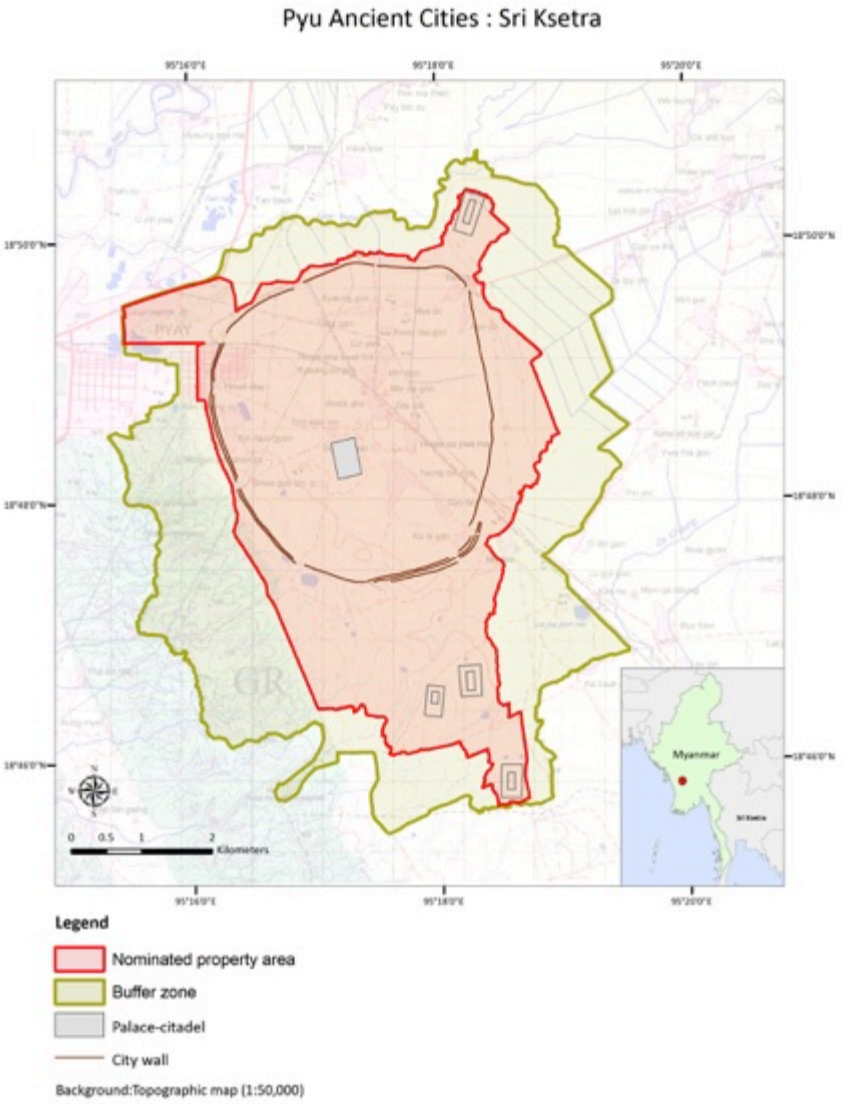


Fig. 29: Zoning of Sri Ksetra (courtesy of M.Cucarzi)

Together the three cities provide a complete representation of the innovative urban format created by the Pyu culture within the first millennium AD. With special reference to the extraordinary response of Pyu hydrological technology to the environmental conditions – different for each site – the archaeological and monumental remains at the Pyu Ancient Cities testifies the larger economic and socio-political transformations happened in the Irrawaddy basin and justifies the

inscription of the serial property on the WHL as a cultural property according to the criteria (ii), (iii) and (iv) of the WHC (see table below) [82].

Criterion (ii) *'exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;'*
Due to interaction between indigenous Pyu societies with Indic cultures from the 2nd century BCE, Buddhism achieved its first permanent foothold in Southeast Asia among the Pyu cities, where it was embraced by all classes of society from the ruling elite to agrarian labourers. Marked by imposing memorial stupas and other sophisticated forms of brick ritual structures, the Pyu Ancient Cities provide the earliest evidence of the emergence of these innovative architectural forms in the region, some of which have no known prototypes. The development of Pyu Buddhist urban culture had widespread and enduring impact throughout Southeast Asia, providing stimulus for later state formation after the 5th century CE following the onward transmission of Buddhist teaching and monastic practice into other parts of mainland Southeast Asia.
Criterion (iii) *'bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;'*

[82] Ibid. p.211

The Pyu Ancient Cities marked the emergence of the first historically-documented Buddhist urban civilization in Southeast Asia. The establishment of literate Buddhist monastic communities arose in tandem with the re-organization of agricultural production, based on expert management of seasonally-scarce water resources and the specialized production of manufactured goods in terracotta, iron, gold, silver and semi-precious stones both for veneration and for trade. Buddhism underpinned the construction of religious monuments in brick through royal and common patronage, marking the shift to permanent materials from earlier timber building techniques. The Pyu developed unique mortuary practices using burial urns to store cremated remains in funerary structures. Trading networks linked the Pyu Ancient Cities with commercial centers in Southeast Asia, China and India. Through this network Buddhist missionaries carried their Pali-based teaching into other areas of mainland Southeast Asia.

Criterion (iv)

'be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;'

Technological innovations in resource management, agriculture and manufacturing of brick and iron at the Pyu Ancient Cities created the preconditions leading to significant advances in urban planning and building construction. These innovations resulted in the rise of the three earliest, largest, and most long-lived Buddhist urban settlements in all of Southeast Asia. The Pyu cities' urban morphology set a new template of extended urban format characterized by massive gated walls surrounded by moats; a network of roads and canals linking urban space within the walls with extensive areas of extramural development; containing civic amenities, monumental religious structures defined by towering stupas and sacred water bodies. At or near the center of each Pyu city was the palace marking the cosmic hub of the political and social universe.

The criteria selected for the nomination define the Pyu cities as a 'cultural property' and not as a cultural landscape. However, after a careful reading of the documentation it seems that it would be more suitable by national and international authorities to emphasize landscape character of the property.

In fact, within the boundaries of the property, both inside and outside the city walls, some of the attributes that defines the OUV of the site are:

- A huge quantity of Buddhist monasteries scattered across the landscape that were founded during Pyu era and continue to function still now (Criterion II)
- The evidences of the Pyu agricultural landscape, including its engineering, storage facilities, but also the planned hydrological system (Criterion III);
- The remains that show the creation of an extended urban form, including different typologies of buildings and infrastructures that connect urban space with extramural areas, (Criterion IV);

Furthermore, the buffer zone - which doubles the size of the area under protection - was established with the intention to safeguard the setting of the property, with specific reference to the panoramic agricultural landscape that surrounds the cities and includes natural features such as water courses or sources of raw mineral the exploitation of which has originated the process of urbanization. In other words the OUV of the Pyu cities lies mostly in the environmental understanding that brought over the centuries to a unique landscape transformation.

Finally if we pay attention to the Statement of Authenticity that accompanies the nomination among other reasons it is stated that 'the authenticity of the Pyu Ancient Cities is to be found in enduring traditions and techniques of agricultural and production management systems, the origins of which are visible in the historic landscape and which continue to be practiced among the local community and in the original location and setting of the cities as verified by archaeological research and which remains largely unchanged since the end of historic urbanized settlement 1,000years ago'. This concept is also reaffirmed in the Statement of Integrity where it is said that 'the landscape engineering of the three cities also remains intact with

the manmade structures such as canals and water tanks remaining in continuing use for on-going agricultural process' (see table below)[83].

Statement of Authenticity
The authenticity of the Pyu Ancient Cities is to be found in the architectural form and design of unaltered and still-standing monumental structures and urban precincts; a continuous tradition of the use and function of property's sites of Buddhist veneration; enduring traditions and techniques of agricultural and production management systems, the origins of which are visible in the historic landscape and which continue to be practiced among the local community; the original location and setting of the cities as verified by archaeological research and which remains largely unchanged since the end of historic urbanized settlement 1,000years ago; the materials and substance of the excavated artifacts from the sites, sourced locally and manufactured 0n-site, and the spirit and feeling of the three ancient cities which throughout the history of Myanmar and until the present day continues to inspire pilgrimage.
Statement of Integrity
The Pyu Ancient Cities are archaeologically intact, as seen in the standing monuments, the in-situ structural remains, the undisturbed unexcavated remains and the still functioning agrarian terrain. The urban footprint of each city, demarcated by the well-preserved moated city walls, remains highly legible two millennia after their initial construction. The property contains all the key attributes of ancient Pyu civilization, as delineated by the three criteria of outstanding universal value under which the property is inscribed. The completeness and reliability of dated archaeological sequences from the site, with the radiocarbon dates derived from intact architectural features dating back to 190 BCE, provide scientific proof of the entire one-thousand year period of occupation of the cities, and reinforces paleographic dates provided by inscriptions in Pyu script on artifacts excavated at the site. The landscape engineering of the three cities also remains intact with the manmade structures

[83] Ibid. p.212

such as canals and water tanks remaining in continuing use for on-going agricultural process. As a serial property, the three cities together provide evidence – in the form of in-situ monumental and archaeological features and excavated artifacts – of the complete development trajectory of Pyu culture.

It is clear that one of the main features of the Pyu urban format (if not the main one) is its integration with the environment. However, 'to consider Pyu urbanization in relation to an agricultural re-organization by means of irrigation, gives only a partial insight into the environmental knowledge, monitoring, and man power needed to elicit food surpluses from the multiple ecological niches in and around each Pyu city walls. The brilliant solutions found for the creation of man-made urban landscapes at the three Pyu Ancient Cities cannot be over-stated: outer walls expertly located in relation to natural slope factors; canals, moats and storage tanks to mediate in the seasonally expanding and contracting *in-gyi* and *in- aing*, (lakes and ponds) as well as changes in the volumes and forces of rivers, streams and seasonal watercourses. All these solutions not only safeguarded each city from flood, but the construction of the canals, monumental brick walls, flanking moats and storage tanks that formed central features of each Pyu city permanently altered the natural face of the land and created a special urban landscape: the extended urban format.'[84]

Thanks probably to their remoteness, the Pyu cities remained isolated and undisturbed by modern development, thus the above-mentioned integrated system still functions today. Local communities still rely on the ancient agricultural field organization and the Pyu hydraulic features, such as canals, dams, moats, water tanks and seasonal reservoirs, are continuously maintained. The present population follows the pattern of agricultural practices established by the Pyu during the first millennium and their needs, especially in terms of rice and vegetables production, allow the regular upkeep of the Pyu original landscape. The continuity in the use and function of the Pyu cities is even more evident if we move from the agricultural setting to the cultural practices. Pyu-era stupas and modern monasteries coexist showing the endurance of an unbroken tradition of veneration and pilgrimage. Still

[84] UNESCO 2014(b), p.54

nowadays, the huge quantity of Buddhist monuments of all historic periods, even with numerous modification and extensions according to the circumstances, keeps alive the religious role of the sites, fundamental in the first-ever spread of Buddhism in South East Asia (Fig. 30 - 33).

Fig. 30: Agricultural landscape at Sri Ksetra (courtesy of A.Pistolesi)

Fig. 31: Agricultural activities at Sri Ksetra

Fig. 32: Agricultural activities at Sri Ksetra (courtesy of A.Pistolesi)

Fig. 33: Agricultural fields at Sri Ksetra

To have an image of the Pyu cities today we can state: 'Upon entering the Pyu Ancient Cities today, these massive and lofty brick structures are clearly visible, but it is the immensity of the ancient sites that first strikes the eye: a mixture of brown and green rice fields, thorny shrubs and the occasional line of trees stretch far across the landscape. The horizon meets the sky in the distance where the dark shadows of the remaining brick walls and ramparts mark out the ancient urban perimeter. Brick structures are omnipresent within this landscape: a small stupa on a low spot near a seasonal pond, a rectangular memorial hall on a hill and other bell-shaped stupas silhouetted on the ridge of the distant hills within the buffer zone of each of the Pyu Ancient Cities'[85].

In conclusion, considering all the above, even if the Pyu cities were nominated 'only' as cultural property, their extended urban format, characterized by the synergy of the natural environment with man-made transformations together with the evidence of an extraordinary continuity both in agricultural infrastructure and in cultural tradition aligns without any doubt the Pyu Ancient Cities with the definition of cultural landscape.

7.2 Farmers and Monks: complexity of a multi-stratified local community

The identification of the sites as cultural landscapes is even more evident if one focus on the spirit of the Pyu cities, as to say their intangible heritage. As mentioned above, Halin, Beikthano and Sri Ksetra were never abandoned. Even when political and economic power shifted to other locations during the centuries, the local population, with a substantial diminishment, continued to keep the original use of the land allowing the preservation of the traditional character of the sites. The feeling of authenticity inspired by the properties, the one that the WH nomination is trying to protect, derives mainly from the on-going life of the local villagers, divided between the agricultural activities and the support to the monastic communities. Especially the continued veneration for Buddhist monks together with the worshipping of pre-Buddhist spirit figures, the *nats*, whose small shrines are

[85] Ibid. p.12

scattered everywhere in the villages and across the land, are the more striking evidences of the spiritual integrity of Halin, Beikthano and Sri Ksetra (Fig. 34).

Fig. 34: *Nat* shrine at Sri Ksetra (courtesy of A.Pistolesi)

This way of life, where the monasteries have retained a central role for the community and where local farmers continue to exploit the ancient hydrological system to assure year-around supply of water is what really connects present situation with past tradition making Pyu cities so unique.

The details of the population with the number of villages and monasteries within the properties and the buffer zones at Halin, Beikthano and Sri Ksetra are as follows (year of census 2012):

Pyu ancient city	**Area**	**Active Buddhist monasteries**	**Monks and novices**
Halin	Property	1	20
	Buffer zone	13	76

Beikthano	Property	3	17
	Buffer zone	9	55
Sri Ksetra	Property	54	188
	Buffer zone	44	116

Pyu ancient city	**Area**	**Villages**	**Inhabitants**
Halin	Property	0	0
	Buffer zone	1	5526
Beikthano	Property	1	604
	Buffer zone	10	11032
Sri Ksetra	Property	18	12529
	Buffer zone	3	2729

The impact of the small villages and the monasteries can't be underestimated and if one looks more in detail at the way in which the management of the property is structured it is evident how these living settlements play a key role in the future vision of the sites, emphasizing once more the cultural landscape character of the Pyu cities.

Generally speaking the preservation of a heritage site must seek a balance between antiquity and livingness, safeguarding and promoting the values of the past within the contemporary life of the living communities. In contexts like the Pyu cities, where the OUV itself is embodied by the continuity of traditional customary and agricultural practices, the integration between heritage preservation, environmental conservation and sustainable development is vital. For this reason, since the very beginning, the vision pursued for the properties was built on double parallel tracks: from one side all the values linked to the Pyu culture should be protected and

communicated and, at the same time, the economic, social and cultural future of the local communities has to be ensured over long term.

With this in mind, local authorities such as DAMNL and PYUCOM tried to base their activities on a participatory approach, looking for a strong cooperation with the local community and the monk body (*sangha*). Ideas and views from all the stakeholders were taken into account for the establishment of goals and objectives that drives the management and conservation of the Pyu cities. Even if DAMNL and PYUCOM are in charge of supervising and monitoring all the activities that can impact the property and its OUV, it is only with the consent, the endorsement and the direct participation of the local communities that such activities can be effectively implemented.

In this framework, a series of management objectives and subsequent actions were established in the PMP. Even if the Pyu Ancient Cities have been nominated as cultural property, some of these objectives and the issues that emerge from their implementation are particularly relevant in highlighting the cultural landscape character of the property:

Management Objective 6
To allow the continuity of traditional practices of repair, restoration, rebuilding of still-venerated religious monuments without compromising other values
Management Objective 8
To maintain the present traditional agricultural land use of the property that represents the continued use of land for similar purposes over millennia by preventing commercial plantations and other modern large-scale agricultural activities requiring the use of modern agricultural practices such as use of chemical fertilizers, deep-draught plough, and the insertion of modern irrigation infrastructure into the ancient landscape
Management Objective 16
To ensure a sense of custodianship of the property for the monks, temple trustees and local community by making them aware of the importance of preserving its heritage character and thereby to obtain consent and make them actively participate

in the management of the property

These objectives may seem a bit generic, but they became tangible through a series of activities that eventually influence the life of local communities. They include:

- 'Promotion of inclusive, participatory, traditional Buddhist practices and of the Buddhist communities associated with the ancient city sites which comprise the property;
- Support for the celebration of Buddhist cultural practices; and religious pilgrimage to the property;
- Development of organic agriculture, emphasizing traditional crops, as a modern economic sector for farmers, in keeping with the government's "organic green" policy for the region's development;
- Supplementation of the economic activities of agriculture of the local communities associated with the sites of the property through the development and promotion of the production of objects of material culture derived from Pyu artefact prototypes;
- Carry out public awareness programs about the negative impact on the OUV due to the modern agricultural practices such as use of deep-draft mechanized ploughing and other harmful mechanized methods of agriculture, etc.;
- Prohibit through statutory control the modern agricultural practices such as use of deep draft mechanized ploughing and other harmful mechanized methods of agriculture, commercial plantations of non-traditional crops and introduction of modern irrigation infrastructure within the property;
- To encourage the on-going greening project for planting locally indigenous trees promoted within the buffer as the most appropriate provision of not

only the need to preserve the potential OUV, but also the living landscape as a setting to the Pyu Ancient Cities'[86].

Objectives and activities established for the Pyu cities are easy to understand especially until they remain on paper. However, when it comes to practice, the instruments implemented at the sites are often insufficient to guarantee a successful outcome. With particular reference to the last few years, a number of issues have arisen at the Pyu cities while trying to put in place the policies aimed to ensure the preservation of the site.

First of all there is an evident lack of dialogue between the DANML and the stakeholders and the highly promoted participatory approach in the management of the property remains mainly theoretical. Many forbidden activities such as illegal expansion of buildings in the protected zones, mining, looting, mechanized agricultural practices and garbage dumping are still practiced at the sites and show the deficiencies in the enforcement of the regulations established by the PMP.

Without the intention to deny the positive impact that the management plan had for the sites, there are certain kinds of issues that are still far from being solved, starting from the ones linked to the role of the DAMNL. In fact, despite of its role as supervisor, the DAMNL does not extend its authority on other government department or local agencies, including the monk body. This situation, together with a chronic insufficiency of human and financial resources, brought to incapacity of enforcing the protective measures for the sites. Furthermore, ownership, occupation and use of the land within the protected areas are divided among a numbers of actors and this made the situation even more complex. According to the PMP:

'Ownership of the land falls into two categories: the public domain, which belongs to state, and the private domains, within which individual ownership and use rights are recognized. Within the nominated property 32% of the land is publicly owned, while 68% of the land is privately owned. Most of the state-owned land within the nominated property is in the possession of, and managed by, DANML. This includes the excavated and unexcavated areas of archaeological exploration, the standing monuments and other historic structures, and the service buildings constructed for

[86] Ibid. pp.189-190,195

the protection, management, maintenance, and interpretation of the property, such as the site office, site museums, and artefact stores. The part of the state-owned land that is not in the possession of DANML is in the possession of, and managed by, local government departments of other ministries. … This includes public infrastructure such as the unused aircraft landing strip in the buffer zone of Sri Ksetra, railroad easements, road, bridges, gas pipelines, electrical and communication facilities, and public schools. The ownership of the privately-owned lands within the nominated property and the buildings on these lands is divided between (a) land which is owned in common by the community; (b) land owned and used by Buddhist religious establishments, the activities of which are supervised by the Department of Religious Affairs, Ministry of Religious Affairs; and (c) land which is owned by private organizations/ companies or by individuals'[87] (Fig. 35).

[87] Ibid. pp.149-150

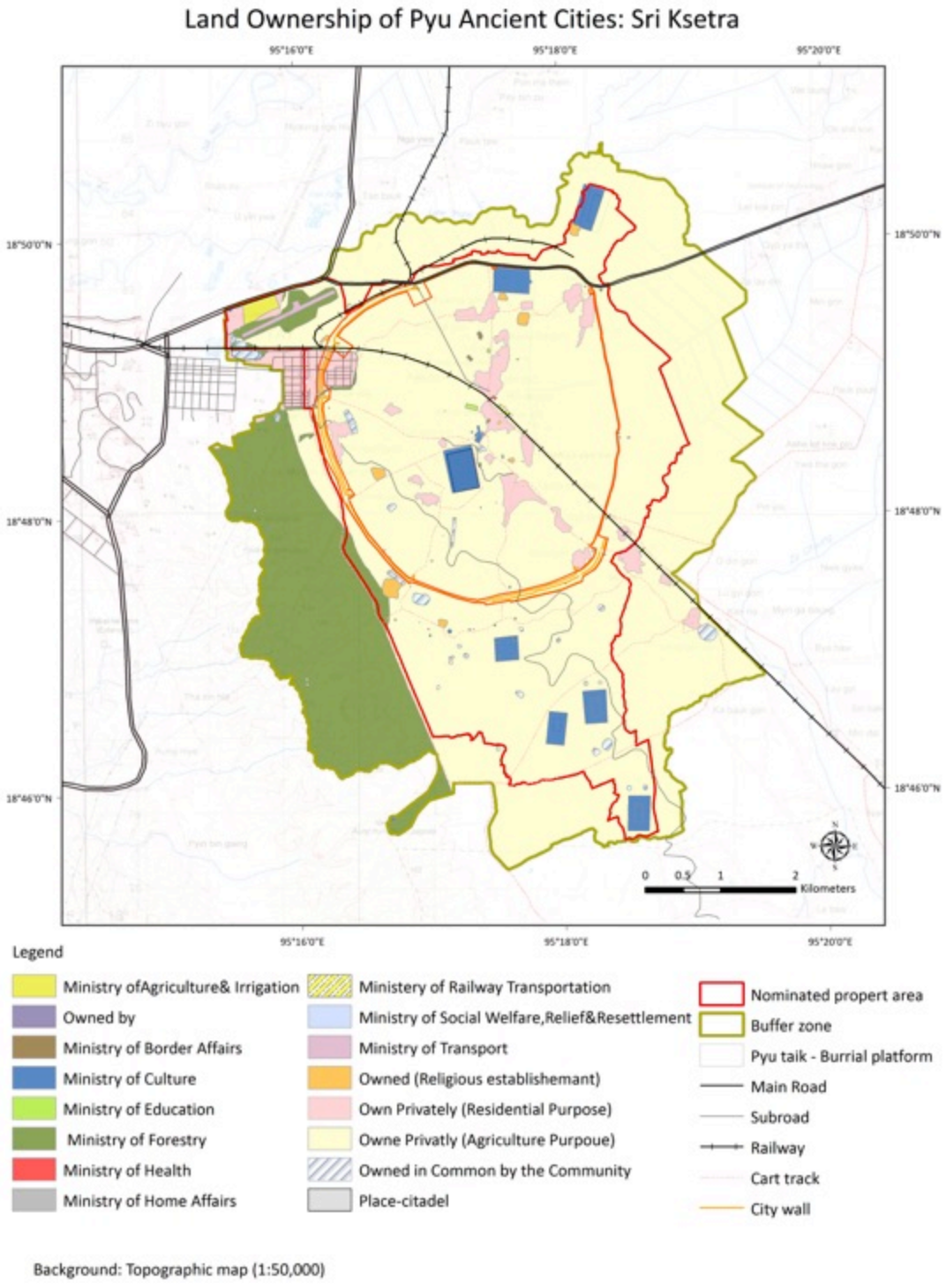


Fig. 35: Land ownership at Sri Ksetra (courtesy of M.Cucarzi)

This fragmentation in governance and land ownership causes many problems when attempting to put into practice regulations that constrain the exploitation of natural resources and the entire production chain that comes. It was established that one of

the main values of the Pyu cities lies in the continuation of the ancient production techniques and in the traditional material culture still present (i.e. production of beads made from the fossil wood; extraction of salt; the making of stamp-designed pottery and the construction of the large ox-carts used to transport harvested goods to market), thus it was imperative since the beginning to find a place for this tradition within the development of the local population. In other words, the relevant authorities should be able to propose regulations that persuade different kinds of landowners with different kinds of priorities and expectations to maintain the above-mentioned traditional practices or at least to carry on their instances avoiding a negative impact on the properties. However, if one looks at the regulations prepared for the agricultural landscape protection, they are quite vague and, most of all, they are limited to a number of generic prohibitions that don't suit the complexity of the situation at the Pyu cities:

- 'All landowners within the property shall adhere to the zonal plan approved by the DANML and PYUCOM and no activity that is considered not compatible with the respective zones shall be allowed;

- Any act which disturb the historic and cultural landscape, morphology, hydrology etc., within the property (such as re-modelling the land, digging canals, drains, construction of new water bodies, filling of marshy land and existing reservoirs etc.) are not allowed;

- Cutting of trees and the under growth in ancient site zone including besides the original path of bullock-carts are prohibited except for firewood. For other purposes, need to obtain prior permission from DANML;

- Moving or destroying demarcation posts of Zone or signboards are prohibited;

- Garbage dumping within the property is prohibited;

- Encroachment and illegal occupation within the property are prohibited;

- Exploring/mining gold, minerals, drilling, digging canal/pond, exploring and exploiting stones, destroying hillocks/mountains, filling

rivers/streams/ponds/canals/ravines/valleys with earth, preparing land and any other form which can cause damage to the existing landscape are prohibited;

- Mechanical ploughing and other agricultural practices that may destroy the archaeological stratifications are prohibited. In the case of traditional ploughing systems using oxen, the depth shall not exceed 15 cm from the surface and not within 100 meter distance from ancient monument;

- Commercial plantations and other agricultural activities which disturb the historical agrarian landscape of the Pyu culture are not allowed;

- Introduction of modern irrigation infrastructure within the property is not allowed'[88].

Even understanding that the goal of the PMP was only to define a wide framework in which place more specific decisions, it is clear that the multi composition of the local community wasn't properly taken into account. Within local population not all are farmers and even among them not all have the same characteristics. Some of them cultivate the land they do not own, while others are small entrepreneurs looking for something different from rice and seasonal vegetables to grow. The obligation to preserve the traditional system of cropping seems to be at least misunderstood. It does not necessarily means to oblige people to live like two thousand years ago, avoiding any kind of modernization because one is too worried to cause any negative impact (or any impact at all) on the integrity and the authenticity of the Pyu ancient landscape.

This issue is common in many protected areas and it is probably unavoidable. However, it is my opinion that the decision to nominate the Pyu cities as a cultural property and not as a cultural landscape has partly worsened the situation. As it was stated at the beginning, the cultural landscape approach puts at the forefront the dialogue with local communities and its own creation as category originated from the necessity to find a conciliation between the requirements of conservation and the expectations of the peoples. On the other side, a cultural property bases its

[88] Ibid. pp.246,250-251

identity on the remains of the past, thus the compromise with needs and wishes of the living population is unbalanced. At first look it may seem that the two categories have just a slight difference, but when the time comes to allocate resources according to one position or another the situation changes drastically.

A better insight of the situation at Sri Ksetra, the bigger and more complex of the three Pyu Cities, it is helpful to understand the impact of management and conservation policies implemented following the WH nomination. Here the friction between heritage protection and development of local community is more evident than anywhere else.

7.3 Current situation at SRI KSETRA

At Sri Ksetra, the majority of the land within the protected area is used by farmers for agriculture. However, unlike Halin and Beikthano, within the property there is a considerable number of villages established near ancient water bodies, just as it had to be in the Pyu era In addition, in the northeastern corner of the site, close to the main road there is a new area of residential plot linked to the urban expansion of the nearby city of Pyay (Fig. 36).

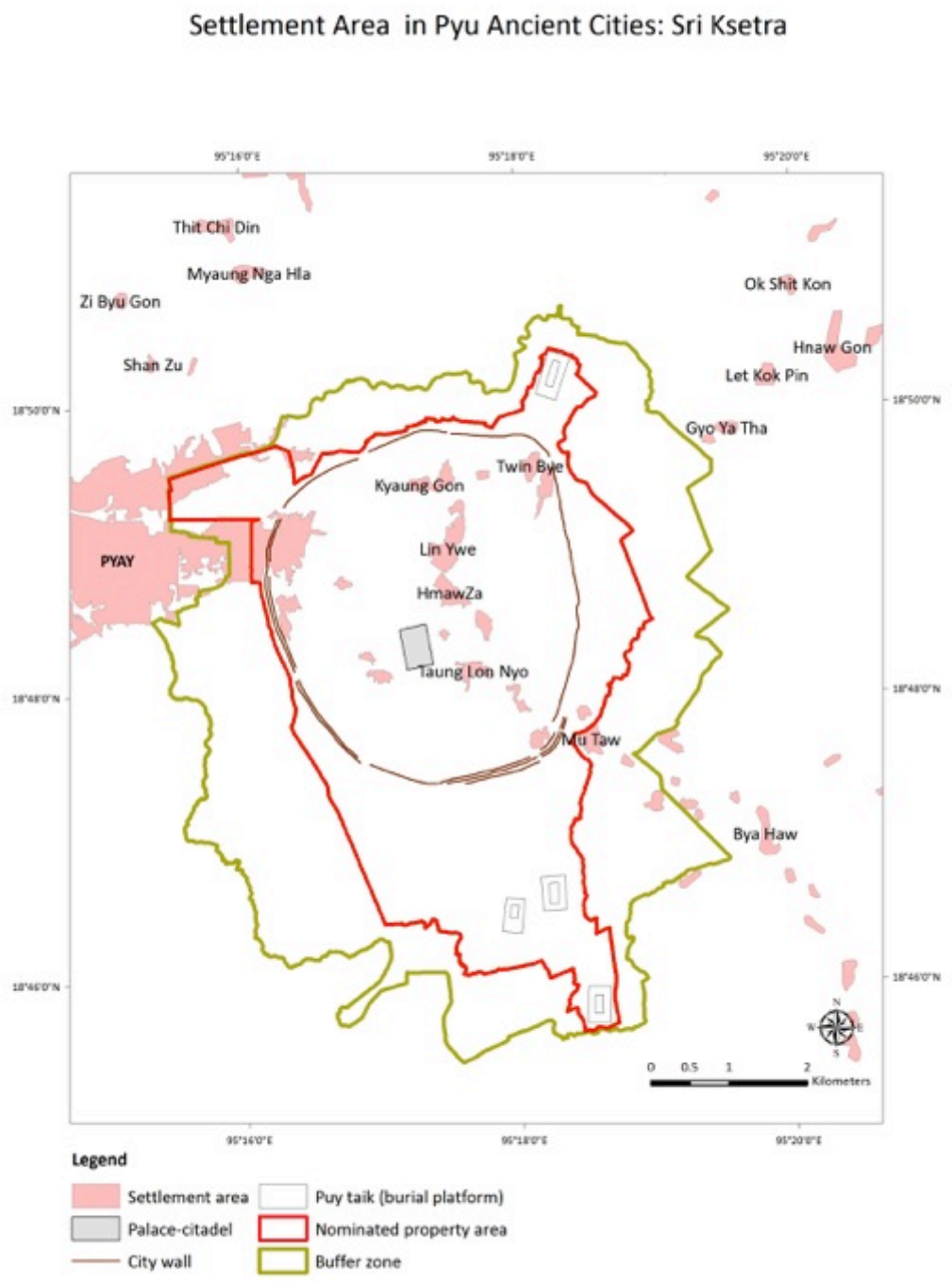


Fig. 36: Settlements within the protected area of Sri Ksetra (courtesy of M.Cucarzi)

Therefore in the monumental zone of Sri Ksetra there are now 18 villages with around 9000 inhabitants that go up to more than 15000 if one considers also the buffer zone (see table below).

Serial	Name of the village	Families	Persons	Area
1.	Kyaungon & Gwakan	86	387	Property
2.	Myosoe	33	172	Property
3.	Twinbye	112	483	Property
4.	Konyoe	144	558	Property
5.	Kwaythegon	24	126	Property
6.	Linywa & Kyaungsoegon & Mindan&Mintegon	217	1002	Property
7.	Hmawzazeyat	158	682	Property
8.	Sinphyukan	27	123	Property
9.	Kalagan	47	201	Property
10.	Kanbaungzu & Kinmongyon	120	578	Property
11.	Shwegyobin	75	285	Property
12.	Moakshe	342	1037	Property
13.	Gyobin	47	202	Property
14.	Taunglonenyo	178	746	Property
15.	Thitseintbin	8	18	Property
16.	Hmawzaywama	106	443	Property
17.	hwetagarmyothit	390	1892	Property
18.	Khittaya New Town (Encroachment area)	904	3602	Property

19.	Khittaya New Town (Encroachment area)	390	1892	Buffer zone
20.	Pyay Extension Area (Near Payagyi stupa)	38	152	Buffer zone
21.	Moathtaw	139	677	Buffer zone
Total		**3585**	**15258**	

Furthermore within the protected area are located also 54 active monasteries that increase up to 98 with the ones into the buffer zone. As for the other cities, the land associated with the active Buddhist monasteries is in the possession of the monk body (*sangha*) and it is used for the religious needs of the community, as well as for the pilgrims visiting many of whom spend extended periods in meditation retreats (Fig.).

It is evident that managing this complex situation and dealing with all the stakeholders involved is not easy for the relevant authorities. A brief and not exhaustive list of the main issues follows:

- Local farmers live often in condition of poverty and their income is barely sufficient for their subsistence;
- Within the villages there is a lack of infrastructures and sanitation;
- Land Register for the protected is no up to date;
- There is no a clear national regulation concerning repair, renovation, extensions of the existing buildings or constructions of new ones within the protected area;
- Monasteries in the protected area are often badly maintained by the monks. Furthermore, there is a scarce interest by the monk community to take care of the ancient structures located within their plots;

- Notwithstanding the small quantity of worshippers in some of the monasteries, new buildings are often under construction by the monks. These buildings seem to have no relationship with the necessity of the farmer communities and, in addition, they often do not fit with the landscape of the protected area.

Even if further studies on this topic need to be developed, some suggestions to integrate the conservation of the property with the contemporary life of the local communities were already proposed in recent years. Considering the difficulty, if not the impossibility, to give a pre-determined list of rules, local authorities and international experts tried to implement a series of guidelines able to encourage and support the needs of the villagers, to drive the economic development of the area and to allow inhabitants to follow their social aspirations. In particular, the following pages refer to the *Protocol of maintenance and safeguard of Sri Ksetra* published in 2015 by the Lerici Foundation[89].

Villages and rural areas

Most of the villagers farming within the property boundaries of Sri Ksetra grow traditional crops using non-mechanized practices. At the same time, the settlement system is very basic, and the whole landscape is probably quite similar to the ancient one. This situation, apart from its interest to anthropologists (and also international tourists), it is very favorable for the management of the ancient city, because there is almost no impact upon the buried archaeological remains. However, in order to mitigate the poverty, any tentative to freeze the current scenario, avoiding the development of the local population is unacceptable (Fig. 37 - 39).

Taking into consideration that only the national law can regulate the development of protected areas, and that the planning of any construction or public service is under the responsibility of local authorities, the role of heritage expert is fundamental in finding a balance with the conservation of the ancient landscape, emphasizing the extreme sensitivity of the topic. In this very moment, when other elements such as tourism, are still not playing a primary role, it is crucial to pinpoint some key concept that can drive future decisions:

[89] Fondazione Lerici 2015

- The application of any regulation will be particularly difficult, if not impossible, without a broad consensus from all the stakeholders involved;
- The inhabitants of any protected area may feel their development rights are infringed and this will bring widespread discontent and the proliferation of illegal buildings. In this respect, it is highly recommended that local authorities introduce a system of incentives, also economical, in order to facilitate the correct activities on the building in the protected area;
- Due to the current situation of the area, the idea to provide economic benefit to the local communities only through tourism is, at least, limited. Even if the touristic importance of the area should be highlighted, the only way to obtain a correct development plan is through a careful and patient phasing of decision-making with all the stakeholders involved;
- Especially in a developing country as Myanmar, the personal fulfillment of the local population should be considered as the high priority, with a long-term strategy.

Fig. 37: Farmers at Sri Ksetra

Fig. 38: Local production at Sri Ksetra (courtesy of P.Zolese)

Fig. 39: Family of pottery makers at Sri Ksetra

The Sangha and the monasteries

As it was said above, the Buddhist *sangha* is, according to the tradition and by Myanmar law, an independent body. Even inside protected cultural areas, the activities of the monk body are not under the control of any governmental authority (Fig. 40 – 42).

This situation is potentially dangerous for the preservation of the site due to the increasing number of building inside the plot of the monasteries. Once again, it is important to underline that without a clear national directives, any attempt to regulate the behavior of the monk community will be vain. It is however useful to highlight few points that will help in dealing with the *sangha*:

- The tradition of maintaining living religious monuments continues today under the guidance Buddhist monasteries. Therefore, a deep collaboration between local authorities and monk community is essential to preserve and manage the site;

- Monk community, as any other stakeholders, needs to be involved with every possible means in the decision-making process;

- The *sangha*, as part of Myanmar society, has the right to benefit from the cultural heritage, but at the same time, it has the duty to maintain and protect it, in collaboration with all the stakeholders involved.

Fig. 40: Ceremony at Bawbawgyi Stupa at Sri Ksetra (courtesy of M.Cucarzi)

Fig. 41: Wood monastery at Sri Ksetra (courtesy of A.Pistolesi)

Fig. 42: Bricks monastery at Sri Ksetra (courtesy of A.Pistolesi)

Final Recommendations

We already know that one of the most pressing concerns related to the management of cultural heritage is its role in the sustainable development. Local communities often depend on their heritage, but at the same time they can deliver benefits to its cultural values and its management. Within this perspective, contributing to sustainable development would be not only an ethical obligation, but also a long-term investment. Considering all the above, it is, thus, strongly recommended:

- The duty of management staff is to create a plan of action for the social and economic development of the site. The aim of this plan is to mitigate the current situation with proposal and suggestions, not only with impositions and prohibitions;

- Now that the site is open to visitors, public pressure will play a primary role. Therefore, in order to not spread discredit on the 1st WHS in Myanmar through social networks or others means of communication, management staff has to set the development of the area as a top priority;

- Concerning the agricultural development, even if some invasive and harmful methods of agriculture could be avoided especially in presence of archaeological deposit, the role of the management staff is to develop answers that meet the needs of the local communities. It is therefore mandatory to involve specialists from various sectors (i.e. agronomists, socio-economists, hydraulic engineers etc.…) in order to find possible solutions for the different issues;

- An updated Land Register for all the properties in the protected area should be implemented;

- Repair, renovation, extensions to the existing buildings and structures as well as new constructions shall be carried out in conformity with architectural characteristics in harmony with the landscape and the overall archaeological/ heritage character of the property. However, without a specific national regulation, it is possible only to highlight few rules that should be respected by all the stakeholders in the protected area (villagers, farmers and *sangha*), according to their specific circumstances:

    - New buildings will be allowed respecting the limit of the property by the owner;

    - Inside the villages, reconstructions should respect the same volume of the previous structures;

    - Reversible material is preferable for scattered farmers' houses in the countryside;

    - Maximum height should be fixed according to the landscape, especially the height of the surrounding trees;

    - Colors must be chosen, in order to fit with the landscape;

    - By combining municipal funding into the programme of village located in protected areas, will be possible to revitalize the quality of life of the inhabitants through the restoration of public spaces, as street, footpaths, green spaces, spaces for children and sanitization in general;

- Any kind of construction (private or public) needs the approval and the relevant authorities. It should have the right to intervene and eventually stop the project;

- The *sangha* should maintain the ancient remains inside their property through a careful ordinary maintenance. In this respect, a proper training of the monk community is necessary in order make them part of the process of maintaining cultural heritage and spread education and awareness.

7.4 Capacity Building for safeguarding cultural heritage in Myanmar: 'Trans-disciplinarity' at work

The situation at Sri Ksetra is illustrative of the degree of difficulty that heritage professionals may find when asked to manage wide areas that contain different kinds of values that may be in conflict with each other, precisely the cultural landscapes. This is, in my opinion, the main reason why the Pyu cities, as well as many other properties around the world, have been nominated and then protected only as a cultural property. It is much more easy to focus on the preservation of cultural elements, especially the tangible ones, instead of reforming the role of conservator to turn it into a true mediator of the needs of many.

In this framework the activities carried out at the Pyu cities in the last few years showed how to path the way for a successful holistic approach. Even if the main purpose of such activities was the conservation of architectural and archaeological heritage they emphasized the importance to move from a multidisciplinary approach to a trans-disciplinary one.

To have a better idea of these kinds of approaches we may refer to a study published in 2006 in the medical field on the difference between multi-disciplinarity, inter-disciplinarity and trans-disciplinarity (see table below)[90]

Term	**Meaning**	**Associated adjective**
Multi-disciplinarity	draws on knowledge from different disciplines but stays within their boundaries	Additive

[90] Choi, Bernard C.K. and Pak, Anita W.P. 2006

Inter-disciplinarity	analyzes, synthesizes and harmonizes links between disciplines into a coordinated and coherent who	Interactive
Trans-disciplinarity	integrates the natural, social and health sciences in a humanities context, and transcends their traditional boundaries	Holistic

All the three terms refer to the involvement of multiple disciplines in the same context, but when it comes to the practical use, to choose one approach or another is decisive in the final outcome of any project. If, as it was stated at the beginning of this thesis, the cultural landscape approach needs for its own nature an holistic way of conserving and managing the protected area, it is saying that any intervention would be based on trans-disciplinarity where boundaries between disciplines are transcended in order to achieve a newly shaped vision of the site.

This is the kind of approach practiced at the Pyu by the Lerici Foundation (Politecnico di Milano), whose first intervention was to collaborate with local authorities in the establishment of the Field School of Archaeology at Pyay.

Field School of Archaeology

The School was founded in 2005 and it was located within the property of the ancient city of Sri Ksetra. Its main purpose is to offer specific on-field trainings for the DAMNL staff or other national professionals in relevant fields, through the establishment of a postgraduate diploma in Applied Archaeology. Because Myanmar universities currently offers a limited number of disciplines relevant to the management and conservation of cultural heritage (history, archaeology, architecture, engineering and chemistry) the participation to the on-site activities of the Field School provides a significant opportunity for the students to develop a deeper knowledge of the subject. Thanks also to the nomination of the site in the WHL the school hosts international specialists and disciplines such as international heritage law, management of cultural heritage, landscape conservation, preservation of vernacular architecture or conservation of archaeological artefacts are now

available. Although these courses are not offered on regular basis, the Field School remains a point of reference for all Myanmar professionals to fill the gaps of their university curricula, aligning their preparation to international standards. Furthermore, local communities of the protected areas are often involved in on-the-job training. The Field School allow villagers and farmers to participate as paid workers on archaeological excavations and conservation activities under the supervisions of the relevant authorities which consequently gives a significant contribution to the development of the cooperation between stakeholders.

Finally, the goal for the future is to upgrade the Field School into a center of excellence, a post-graduate institute attached to national universities and able to offer fully-recognized Master's Degree Courses. The aim is to create a permanent formation center able to offer international level expertise in the field of cultural heritage management and to prepare a national professional body able to conserve the historic monument according to highest standards (Fig. 43).

Fig. 43: Lesson at the Field School of Archaeology

UNESCO Project: *'Capacity Building for Safeguarding Cultural Heritage in Myanmar'*

The establishment of the school was fundamental for the creation of an intellectual environment suitable to receive the contribution of international projects. In 2001, with the support of the Italian Government, UNESCO promoted a project entitled *Capacity Building for Safeguarding Cultural Heritage in Myanmar* with the main purpose to upgrade Myanmar's capacity to conserve and manage cultural heritage sites. In the light of the nomination process of the Pyu cities within the WHL, the project assisted national authorities in strengthening their management capacity and preparing the nomination together with the implementation of training courses in the field of archaeology and conservation. The main components of the project are summarized as follow:

- training in site management and conservation at the Pyu Ancient Cities and
- developing Geographic Information Systems (GIS) for cultural heritage site management and,
- assisting the government in nominating the Pyu Ancient Cities for World Heritage.

During the three-years project, an intensive technical assistance was provided to the Myanmar authorities through several theoretical and practical activities (see table below)[91].

Component	**Technical capacity building in conserving and managing cultural heritage sites**
Description	This component was designed to bolster the capacity within the DAMNL to attain a higher level of understanding, knowledge and skills in conserving and managing cultural sites. This component was particularly critical for complementing the DAMNL's work in preparing World Heritage nominations, which requires that nominated properties have an adequate management system in place and that site managers are familiar with international

[91] UNESCO 2013(d)

	technical benchmarks so as to protect the sites according to global standards.
Achievements	• The management level and technical level have been trained in up-to-date skills in cultural heritage conservation and management; • Knowledge about conservation standards within the DAMNL has been improved through demonstration projects and on-site practicum; • Awareness about cultural heritage protection has been raised among local stakeholders and communities particularly at the Pyu Ancient Cities sites; • Senior and mid-level officials from the DAMNL and cooperating agencies gained knowledge about World Heritage principles and management guidelines; • Professionals from the DAMNL have been in mural painting and stucco carving conservation, archaeological site conservation, non-invasive site investigation, archaeological documentation, archaeological consolidation and architectural restoration; • Community members and local government officials at each site gained awareness about World Heritage principles.
Component	**Cultural heritage information management using Geographic Information Systems**

Description	This component aimed at introducing GIS technology for cultural heritage management in Myanmar. In cultural heritage management, GIS technology is a useful means for creating geographically referenced inventories of heritage assets, creating zoning strategies and monitoring the state of conservation of a heritage site. Within the World Heritage framework, the identification and inventory of components of a heritage site is a precondition for its World Heritage inscription. In this regard, the GIS work thus contributed to World Heritage nomination work by providing GIS mapping outputs that were included for the nomination preparation.
Achievements	• A GIS framework for collecting and managing data related to Myanmar cultural heritage sites was developed; • The capacity of selected technical officials to collect and manage data for cultural heritage sites was strengthened; • The first GIS system for managing a cultural heritage site in Myanmar was set up for the Ancient Pyu Cities Tentative List site; • GIS reference maps were produced for the nomination dossier and management plan of the Pyu Ancient Cities.
Component	**Supporting the nomination of World Heritage in Myanmar**
Description	This component was designed to build capacity for preparing World Heritage nominations as per the requests of the Myanmar national authorities.
Achievements	• Nomination dossier (including management plan) of the Pyu Ancient Cities drafted and submitted in January 2013; • A corps of Myanmar heritage professionals acquainted with the World Heritage nomination process and preparation of a

	nomination dossier and associated documents.

It was during this phase of formation that the trans-disciplinary approach developed. Besides the results achieved thanks to the training, the continuous interaction between national and international experts created the stimulus for transcending the boundaries of the different disciplines. Several months of permanence on site by the member of Lerici Foundation, allow moving from the basic multi-disciplinary method in the direction of a more holistic attitude. The constant mutual exchange of ideas with different stakeholders – both professionals and non – was the ground where has grown the conviction that see the site only from an archaeological perspective was not sufficient anymore. Sri Ksetra and the Pyu cities are cultural landscapes and they have to be managed and conserved accordingly (Fig. 44 - .45).

Fig. 44: Training in archaeological excavation

Fig. 45: Training with archaeological material

Risk Assessment and the Site Manager Database

Considering the above, there is one specific activity carried out during the project that, in my opinion, embodies this shift from 'cultural property conservation' (as established in the PMP) to the 'cultural landscape conservation'. This is the establishment of a Site Manager Database started during the second phase of the project *Capacity Building for Safeguarding Cultural Heritage in Myanmar*.

The second phase of the project was devoted to train local officials in the field of archaeology, laboratory restoration, non-invasive investigations and architectural risk assessment. The focus was only on the conservation of tangible elements and the concept of cultural landscape was initially left aside. However when the time came to create a Risk Assessment Map that would include all the threats present at the site, the necessity of a more holistic approach is emerged. In particular it was recognized the importance to create a detailed database working as a core for the final map. Therefore, after several months of on-field mission and continuous

dialogues with all the specialists involved, the Site Manager Data Base (hereafter SMDB) was created by the team of the Lerici Foundation and experts from Politecnico di Milano.

Without entering into details with its functioning it is sufficient to know that the SMDB contains information related to the site and its state of conservation divided into four main categories:

- Architecture
- Archaeology
- Prospecting
- Territory

These data are functional to highlight risks and threats of the sites and they bring to the creation of a Risk Assessment Map, connected with the Geographic Information System that eventually will allow the site manager and his staff to plan the intervention at the sites according to the priorities. Generally speaking we can say that 'the risk can be *individual*, meaning an intrinsic factor of the object itself (i.e. state of conservation of a specific monument) but also *territorial*, that is, hazards related to the context in which the heritage is set'[92], in other words, the landscape.

The main issue encountered during the collection of the data for the SMDB was in fact related to the definition of the kind of risks specific for the Pyu cities. After a careful analysis, in order to obtain homogeneity of information it was decided to classify the risks in three categories:

A. Structural hazard (i.e. building collapse)

B. Risk of loss of historical and cultural features (i.e. loss of integrity of the building)

C. Hazard related to lack (or inefficiency) of maintenance (risk that could enhance the rapidity of hazards A and B)

[92] Fondazione Lerici 2015, p.110

However, during the discussions that brought to the creation of these three categories it was clear that other factors have to be taken into account if the final aim is to design specific policies for management and conservation. In a complex scenario like the Pyu cities, monuments and archaeological remains are not the only elements that characterize the value of the site, thus are not the only ones that deserve to be analysed. As the activities of risk assessment went on the participants realized that, in order to create a Risk Assessment Map capable to be a precious tool in orientating the safeguarding of the sites, other elements deserved to be considered within the evaluation of the risk:

- historical and artistic values (i.e. level of antiquity, rarity of the object, technical and artistic quality of the monument);
- political values (i.e. religion, ethnicity, areas in which seems opportune to plan an intervention);
- touristic value (i.e. tourism routes, high rate of monuments in a particular area, spectacular nature of the monument);
- scientific values (i.e. interest for research independent from the matters of heritage valorisation);

The preparation of the SMDB is still in progress, and in its first version it will probably not contain the analysis of elements linked to specifically to the landscape. However, the phase of discussions described above is, in my opinion, a practical example of that intellectual debate that brings heritage professionals (in this case mainly architects and archaeologist) to move beyond the borders of their own disciplines, to look for a trans-disciplinary and holistic approach and, eventually, to recognize the area of the Pyu Cities for what it is: a cultural landscape.

PART III – Looking for Best Practices

The cases presented above, despite their differences, show us how a landscape approach may be useful for wide archaeological park in developing countries. However, as it was stated from the beginning, the problem is not only theoretical about what kind of vision there is for a specific site – holistic, thus related to all the landscape or traditional, means more focused on the conservation of cultural elements isolated from their context – but it is very much practical. If one decides that the landscape approach is more indicated for archaeological areas like the ones in Cambodia and Myanmar, the WHC is not the only international instrument that can help in management and conservation and perhaps it is not even the most effective one.

In the following pages other programmes that have worked in the field of safeguarding of cultural landscape will be presented. They come mainly from the natural heritage conservation and they can be an important source of inspiration if we want to continue in the process of establishing a new way of conserving and managing complex and stratified landscapes.

The first two programmes presented are devoted to the designation of protected areas outside the WHC, while the last two were implemented within WH sites in order to bridge between local development and heritage management as well as between cultural and natural conservation. For more information on the results achieved by these programmes two attachment have been included. The first one (ATTACHMENT I) summarizes the result of the '*UNESCO Man and the Biosphere Programme*' within the Asia and the Pacific Region[93], while the second one (ATTACHMENT II) presents one specific case from the '*UNDP COMPACT Programme*'[94]. This case - the site of Sian Ka'an landscape (Mexico) - is particularly relevant for the scope of this thesis. It is the only site within the programme where archaeological elements play an important role and it was also selected as a case study for the '*ICOMOS & IUCN Connecting Practice Project*'.

[93] UNESCO 2010

[94] Brown, J. and Hay-Edie, T. 2013

8. Learning from natural heritage conservation

8.1 IUCN Programme on Protected Areas

The IUCN Programme on Protected Areas started already in 1994 when IUCN developed a guideline in order to classify the protected areas according to their management objectives. The main aim of the guidelines was to set a globally recognised standard for defining and recording protected area and, most of all, to create a common language through which all the stakeholders involved in protected areas could exchange information.

Since the early 90s, global interest in the management and conservation of protected areas augmented exponentially; the IUCN categorization was used to implement international, national or regional policies and, generally speaking, its impact considerably improved. In this context, in order to cover the larger number of issues and necessities, IUCN decided to update the guidelines in 2008[95]. Beyond their original intent of proposing a common language, the guidelines offers now a framework for the management of protected areas and help authorities that want to align their activities to global standards.

Considering the above, IUCN has now proposed a new and recognised definition of Protected Area, and then identified six main categories according to management priorities (see table below[96]).

Protected Area Definition	
A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values	
Protected Areas Categories	
Ia Strict Nature Reserve	Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human

[95] Dudley, N. 2008

[96] http://www.iucn.org/about/work/programmes/gpap_home/gpap_quality/gpap_pacategories/

	visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring
Ib Wilderness Area	Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.
II National Park	Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.
III Natural Monument or Feature	Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.
IV Habitat/Species Management Area	Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement

	of the category.
V Protected Landscape/ Seascape	A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
VI Protected area with sustainable use of natural resources	Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

The IUCN category are now used not only for categorize different types of protected areas, but also to plan and implement conservation strategies. In relation to the scope of this thesis, only the Category V, will be analysed more in detail (see table below)[97].

Category V	**Protected Landscape/Seascape**
Primary Objectives	• To protect and sustain important landscapes/seascapes and the associated nature conservation and other values created by interactions with humans through traditional

[97] Dudley, N. 2008, p.20-21

	management practices.
Other Objectives	• To maintain a balanced interaction of nature and culture through the protection of landscape and/or seascape and associated traditional management approaches, societies, cultures and spiritual values; • To contribute to broad-scale conservation by maintaining species associated with cultural landscapes and/or by providing conservation opportunities in heavily used landscapes; • To provide opportunities for enjoyment, well-being and socio-economic activity through recreation and tourism; • To provide natural products and environmental services; • To provide a framework to underpin active involvement by the community in the management of valued landscapes or seascapes and the natural and cultural heritage that they contain; • To encourage the conservation of agrobiodiversity6 and aquatic biodiversity; • To act as models of sustainability so that lessons can be learnt for wider application.
Distinguishing features	• Landscape and/or coastal and island seascape of high and/or distinct scenic quality and with significant associated habitats, flora and fauna and associated cultural features; • A balanced interaction between people and nature that has endured over time and still has integrity, or where there is reasonable hope of restoring that integrity; • Unique or traditional land-use patterns, e.g., as evidenced in sustainable agricultural and forestry systems and human

	settlements that have evolved in balance with their landscape. • Opportunities for recreation and tourism consistent with life style and economic activities; • Unique or traditional social organizations, as evidenced in local customs, livelihoods and beliefs; • Recognition by artists of all kinds and in cultural traditions (now and in the past); • Potential for ecological and/or landscape restoration.

The IUCN programme focus mainly on natural heritage, but the Category V is the one in which the human presence is more important. As for the WH Cultural Landscapes, one can argue that every protected area has been modified by humans, in a way or another, thus every of them can be comprised in Category V. What IUCN distinguish in this kind of area is, however, the scale of the human intervention. If the level of modification by human society is deep and continued over centuries or even thousands of years, this predominance become fundamental for the management strategy and this is what make the Category V so useful to the discourse on the cultural landscape approach within archaeological areas[98]. In particular, if the distinction between a category and the others depends on the management objectives that the relevant authorities set for the specific protected area, in the case of Category V the main aim of the management is to sustain human livelihoods rather than protect biodiversity.

The implementation of Category V marks an important shift in IUCN philosophy and, more in general, in natural conservation. Human intervention within the natural environments is recognized and the management of the protected area is focused on the people/nature relationship that created and continues to create the landscape.

[98] It is not the case that Banteay Chhmar was designated in 1993 as IUCN Category V by the Cambodian Government.

In this sense the similarities with the WH Cultural Landscape category is evident, but there are also some substantial difference like the major emphasis on the ecosystem rather than the cultural tradition and the absence of the limit of the OUV (see table below)[99].

Features Compared	**WHC Cultural Landscape**	**IUCN Category V**
Status	Operational Guidelines under WHC	International Framework for Protected Area Management Categories, endorsed by IUCN General Assembly
Level of designation	Globally, by the WH Committee	Nationally (or sub-nationally) often through legislation
Key concept	People and nature create landscape of outstanding universal value	People and nature create landscape of national or sub-national merit deserving protection
Key principles	People and nature; cultural values; cultural integrity; authenticity	People and nature; biodiversity; sustainability; ecosystem integrity
Main management aims	Protection of heritage values, process and resources	Protection of the nature/culture balance and associated values and ecological services
Main management means	Strong community involvement	Strong community involvement

In other words the Category V is a tool by which relevant authorities may try to manage a humanized landscapes in all its complexity, taking into consideration the

[99] UNESCO 2003(b), p.43

cultural dimension of the natural environment. It is relatively more flexible than the WH Cultural Landscape Category, but it still works more at theoretical level rather than practical. In fact, because of the very nature of the IUCN Programme for Protected Areas, the categorization does not enter into detail with issues related to governance or cooperation between stakeholders. It is clear that within a lived landscape, the involvement of local communities and not only of heritage experts is fundamental, but to see this recommendation put into practice, one may look to other international programme.

8.2 UNESCO Man and the Biosphere Programme

The *Man and the Biosphere Programme* (hereafter MAB Programme) was launched by UNESCO in 1971 with the aim of helping national governments in managing and conserving special places where a protected ecosystem coexists with human society. These places, called Biosphere Reserves, are designated by the International Co-ordinating Council of the MAB Programme following the request of the State concerned.

According to '*The Statutory Framework of the World Network of Biosphere Reserves*' to be qualified as a Biosphere Reserve, an area should respect the following criteria:

1. 'It should encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions.
2. It should be of significance for biological diversity conservation.
3. It should provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale.
4. It should have an appropriate size to serve the three functions of biosphere reserves, as set out in Article 3.
5. It should include these functions, through appropriate zonation, recognizing:
    a) a legally constituted core area or areas devoted to long-term protection, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives;

b) a buffer zone or zones clearly identified and surrounding or contiguous to the core area or areas, where only activities compatible with the conservation objectives can take place;

c) an outer transition area where sustainable resource management practices are promoted and developed.

6. Organizational arrangements should be provided for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve.

7. In addition, provisions should be made for:

a) mechanisms to manage human use and activities in the buffer zone or zones;

b) a management policy or plan for the area as a biosphere reserve;

c) a designated authority or mechanism to implement this policy or plan;

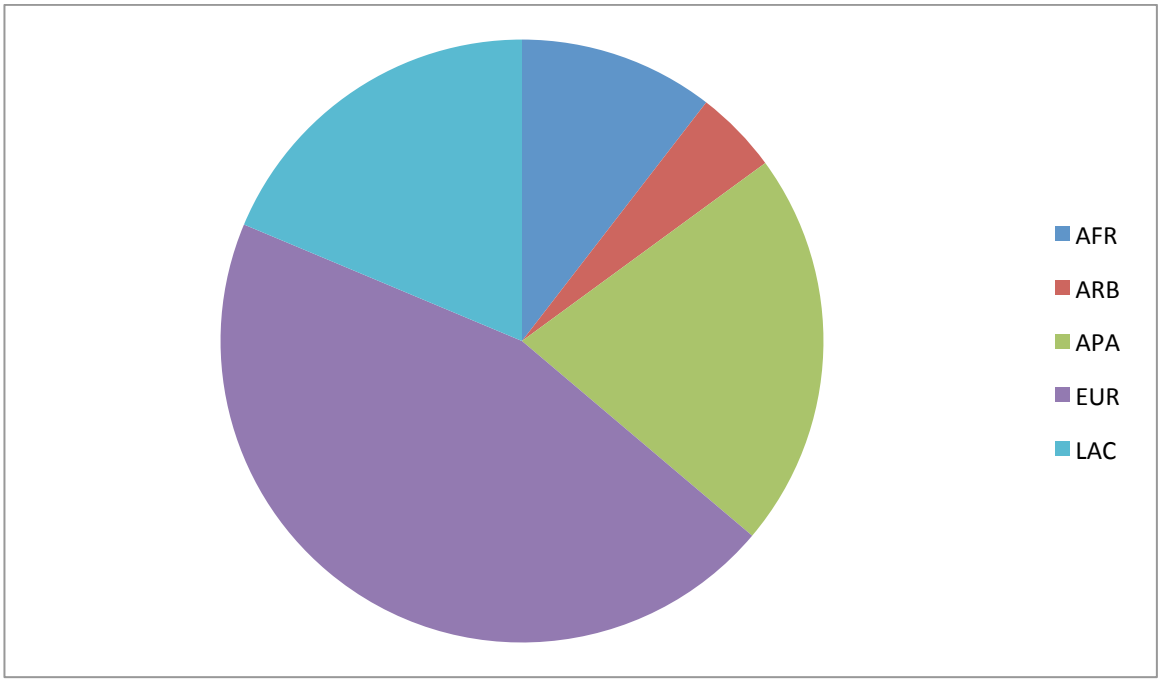
d) programmes for research, monitoring, education and training.'[100]

If the criteria are respected, the selected properties become part of the World Network of Biosphere Reserves (hereafter the WNBR).

Looking at the criteria the similarities between WH Cultural Landscapes and Biosphere Reserves emerge undoubtedly. The latter are more focused on natural heritage but the inclusion of a 'gradation of human intervention' is an indirect reference to cultural elements. At the moment there are 669 properties from 120 countries inscribed in the WNBR, thus the total number of Biosphere Reserves is about six times that of the WH Cultural Landscapes. Even considering twenty years more of activity and the lack of limitation imposed by the research of OUV, in absolute terms the impact of the MAB Programme was much stronger than that of the WH Cultural Landscape category. Nevertheless, if one looks at the data, there is

[100] UNESCO 1995, Art. 4

just a slight difference in terms global distribution of the two typologies of protected areas (Grf. 5).



Grf.5: Number of Biosphere Reserves by region (AFR: Africa; ARB: Arab States; APA: Asia and the Pacific; EUR: Europe and North America; LAC: Latin America and the Caribbean)

The true power of the MAB Programme is not in its ability to strengthen the representativeness of the weaker regions, but it lays in the way in which conservation and management of the properties are set up. As a matter of fact, Biosphere Reserves are essentially designed to fulfill the following functions:

'Biosphere Reserves should strive to be sites of excellence to explore and demonstrate approaches to conservation and sustainable development on a regional scale:

1. conservation - contribute to the conservation of landscapes, ecosystems, species and genetic variation;
2. development - foster economic and human development which is socio-culturally and ecologically sustainable;

3. logistic support - support for demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development.'[101]

The real objective of the MAB Programme is to use the WNBR to show how, in complex social and ecological systems, a balance between people and their environment is possible. The Biosphere Reserves work basically as models for demonstrating the effectiveness of 'conservation of biological diversity and the sustainable use of its components'[102] and the properties remains within the WNBR as long as their permanence contributes to strengthen awareness in environmental education for sustainable development[103]. Free from the political implications typical of the WHC, the technical component become predominant in all the phases of the programme, from the designation process to the monitoring activities. Within the MAB Programme, the coexistence of natural conservation, social sciences, economics and education makes the Biosphere Reserves the ideal platform for experimenting a trans-disciplinary approach, crumbling the barriers that usually divide landscape conservation from social, cultural and environmental development.

In conclusion, what really distinguishes Biosphere Reserves from WH Cultural Landscapes is that the MAB Programme poses its foundation on a scientific approach. In doing this, research and innovation are not devoted only to the conservation of biodiversity, but it its intervention on protected areas are aimed in thriving human societies in harmony with the biosphere.

8.3 UNDP COMPACT Programme

The *Community Management of Protected Areas Conservation Programme* (hereafter COMPACT Programme) was active from 2000 to 2013, and it was launched by UNDP in collaboration with the United Nation Foundations and other partners[104]. The main aim of the programme was to engage local community in the stewardship of their heritage, through the use of small grants system for supporting local activities in and

[101] Ibid. Art. 3
[102] Ibid. Art. 2
[103] It is for this reason, also, that the delisting from WNBR (18 properties), even if not common, it is much more frequent than for the WHL (2 properties).
[104] Brown, J. and Hay-Edie, T. 2013

around protected area. In particular, the COMPACT Programme looked at UNESCO WH sites, recognising the fact that these kinds of sites are priority areas for conservation at global level and that they could provide a perfect platform for strengthening collaboration between all the stakeholders involved both in conservation and sustainable development.

At the core of the programme there was in fact the desire to demonstrate the link between biodiversity conservation and improvement of local communities livelihood. In order to achieve this goal eight WH sites were selected to set up strategies based on the analysis of different typologies of priorities, threats and opportunities (see table below).

Property	**Country**	**Hectares**	**Status**
Barrier Reef Reserve System	Belize	227.000	WH Natural Site
Morne Trois Pitons National Park	Dominica	12.000	WH Natural Site
Mount Kenya National Park	Kenya	218.000	WH Natural Site
Sian Ka'an Biosphere Reserve	Mexico	1.653.000	WH Natural Site
Puerto Princesa Subterranean River National Park	Philippines	100.000	WH Natural Site
Mount Kilimanjaro National Park	Tanzania	271.000	WH Natural Site
Djoudj-Djawling Transboundary Biosphere Reserve	Senegal & Mauritania	776.000	WH Natural Site
Cluster of five protected areas in South-West Madagascar	Madagascar	275.000	WH Tentative List

Looking at the table above, it is clear that the COMPACT Programme focused on natural heritage and that the cultural elements were not considered with particular attention. However, it is also evident that, in order to support local communities in their protected areas, the programme looked at properties of considerable size, at

broader landscapes and seascapes with large ecosystems. At the base of the programme there was in fact the belief that the interaction between conservation and development is more effective across large landscapes, where the different land types and uses together with the coexistence of a diverse range of local communities allow a highly participatory approach, that is the only way to create synergy among different priorities.

In practical terms the programme was implemented as a sort of experiment to verify if the inclusion of local communities in the stewardship of the sites would help to face different kind of socio-economic challenges such as food insecurity, lack of basic infrastructure, limited access to markets, loss on natural resources and biodiversity but also erosion of cultural identity, lack of access to educational system and migration from rural areas.

In order to set out a valid model that could possibly be extended to other heritage sites, the COMPACT Programme based its intervention on three main elements:

- a baseline assessment of the landscape
- a conceptual model (in form of a graphical representation)
- a site strategy for the conservation actions

These three elements are fundamental to understand how at the core of the intervention there is a deep knowledge of the site features. Instead of applying pre-made generic rules, the COMPACT Programme invested time and resources in acquiring detailed information on the sites, and this is what most probably made the project so successful. In order to get all the data necessaries, the involvement of local communities was a priority; therefore in any of the COMPACT site a Local Coordinator for implementing the intervention on ground, and a Local Consultative Body, representative of key stakeholders with an intimate knowledge of the local context were established. These two authorities, together with the SGP National Steering Committee - the authority in charge of the distribution of the small grants – worked constantly together. In all the phases of the programme, the governance was structured in a shared, decentralized and transparent manner, allowing the key

stakeholders (that in the case of large landscape can be numerous) to look at the heritage experts as facilitators in the dialogue, coordination and consensus building.

In more than twelve years of work, the COMPACT model demonstrated the ability to address community needs and generate benefits for the ecosystem of the protected areas. With more than 430 projects and initiative across the sites a large number of beneficiaries have been reached, strengthening the link between the improvement of local livelihoods and the enhancement of biodiversity conservation (see table below)[105].

Property	**Financing (USD)**	**Projects**	**Beneficiaries**
Barrier Reef Reserve System (Belize)	4.223.000	74	55.500
A significant shift in the attitudes of fisher folk and communities in the coastal zones that depend on the barrier reef. Fishing communities, once opposed to marine protected areas are now among their greatest advocates. Many fishermen are leading efforts to improve fisheries management policies and expand the boundaries of marine protected areas and defend the World Heritage site from damage from oil extraction.			
Morne Trois Pitons National Park (Dominica)	2.942.000	59	64.000
The indigenous Kalinago youth in the Carib territory are involved in research and documentation on traditional herbs and fruit with the aim of creating small biodiversity enterprises, contributing to the diversification of the national tourism industry, and preserving the traditional ecological knowledge of the Carib people for future generations.			
Mount Kenya National Park (Kenia)	2.244.000	76	724.000
Numerous donors have found the COMPACT modality appealing and have pledged			

[105] Ibid. p. 7-8

further financial resources to support protected area conservation. The Mt. Kenya Donor Forum, initiated by COMPACT, has helped to secure some US$35 million from donors such as the European Union to complement COMPACT projects in the World Heritage site.				
Sian Ka'an Biosphere Reserve (Mexico)	2.455.000	86	17.500	
A total of 60,000 hectares of community lands connected to the Sian Ka'an Biosphere Reserve (over 10 percent of the area) have been put under sustainable management and use, including community-based REDD+ projects working with the hotel sector, at a cost of roughly $US 12 per hectare.				
Puerto Princesa Subterranean River National Park (Philippines)	1.236.000	28	-	-
COMPACT has supported numerous indigenous peoples organisations to secure territorial rights through Certificate of Ancestral Domain claims, restore degraded forest habitat and river banks, and monitor and protect the forest in accordance with customary law, while enhancing local livelihoods, community development, and cultural integrity.				
Mount Kilimanjaro National Park (Tanzania)	-	-	-	
The COMPACT site strategy has regularly informed and engaged with the Kilimanjaro National Park Outreach Programme Strategy and the Kilimanjaro Regional Development Strategy strengthening partnerships between stakeholders and linking communities with government planning processes. The creation of the Kilimanjaro network of grantees (COMPAKIN) will help sustain community-based efforts once the donor support comes to an end by providing a forum for information exchange and joint resource mobilization.				
Djoudj-Djawling Transboundary Biosphere	1.051.000	19	3.300	

Reserve (Senegal & Mauritania)				
COMPACT is contributing to stronger bi-national cooperation in managing the shared ecosystem by supporting a regional network of grantees and partners and cross border exchanges. Critical habitats for birds and other wildlife have been restored, and pressure on natural resources within the reserve is starting to ease, evident in reduced deforestation and recovery of fish stocks, while local livelihoods have improved through an array of income-generating activities.				
Cluster of five protected areas in South-West Madagascar (Madagascar)	1.697.000	92	190.000	
Through co-financing of local projects and joint grantee capacity development and participatory monitoring, COMPACT is working with the Tany Meva Foundation, a national environmental trust fund, to engage and empower local and indigenous communities in their stewardship of the cluster of five protected areas and ICCAs as part of the World Heritage tentative list nomination for the "dry forests" of South West Madagascar.				

'There are clear opportunities to ensure that lessons learned from the COMPACT programme, with its experience of working in a range of World Heritage sites over many years, are adopted within the mainstream of the World Heritage Convention. In particular, some of the following elements and/or recommendations may be of relevance to the World Heritage Committee, and States Parties, to consider:

- adoption of a multi-stakeholder Local Consultative Body (LCB) for World Heritage sites to ensure the principles of accountability, transparency and good governance promoted by the IUCN for the management of protected areas

- developing sustainable financing schemes to fund small grants at the level of individual protected areas (as demonstrated by COMPACT) which offer

potential to increase the local ownership, as well as the conservation effectiveness, of World Heritage inscriptions; and

- developing synergies and linkages between COMPACT and the 'Enhancing our Heritage' tool developed by the World Heritage Centre, IUCN and UNF, to improve the management effectiveness and governance of World Heritage sites and their wider surrounding landscapes'[106].

In conclusion, thanks to the COMPACT Programme, it is possible to underline once again that when the involvement of communities is constant and constructive, benefits for livelihood as well as for conservation are evident. This concept was already pinpointed many times within the WHC; for example, with the occasion of the 40th anniversary of the Convention, several cases of successful co-management with local communities were presented[107]. However, while these cases are just sporadic or not part of a structured intervention system, the COMPACT Programme was able to set a model for heritage stewardship especially focused on landscape-level conservation.

Even considering the difference between the various sites, what emerges is that, in order to achieve an effective long-term shared management of heritage sites, a broad audience of stakeholders is necessary. They are the key to get a comprehensive knowledge of the site and its features and they are willing, if properly involved, to participate to the mechanism of conservation of the site.

8.4 ICOMOS & IUCN Connecting Practice Project

The *Connecting Practices Project* was launched in 2013 by ICOMOS and IUCN with the main aim of defining e new connected approach between natural and cultural heritage within the WHC. Starting from the observation that natural and cultural conservation are still divided, the project was moved by the necessity to underline the interconnection between the different values of the protected landscapes and to implement a new working method for the advisory bodies of the WHC.

[106] Ibid. p.135
[107] UNESCO 2012(c)

Most of the project was structured as an open discussion between relevant stakeholders, and part of the resources were devoted to workshops, seminars and publications. However in order to provide tangible evidences of the issues linked to the coordinated management of natural and cultural heritage, three field-based joint advisory activities were undertaken.

Between 2014 and 2015 the on-field missions were carried out at WH sites of:

- Petroglyph Complexes of the Mongolian Altai (Mongolia);
- Konso (Ethiopia) and
- Sian Ka'an (Mexico)[108]

The three sites were chosen to represent different typologies of WH designation (the first is a cultural property; the second is a cultural landscape and the third is a natural property) in different regional contexts. The main objective of the missions was to define a practical approach in the delivering of a joint advice by ICOMOS and IUCN. An advice more comprehensive, that takes into account cultural and natural values simultaneously. After the on-field missions, the discussions of the participants focused on the following points (see table below)[109].

Topic	**Suggestion**
Guidance	Develop a joint Resource Manual on managing natural and cultural World Heritage properties;
	Revise the Resource Manual for Preparing World Heritage Nominations to incorporate guidance on how to link culture and nature;
	Develop guidance for Tentative Lists, including best practices.
Outreach/communication:	Appeal to the World Heritage Committee to put

[108] It is not the case that this site was also selected for the COMPACT Programme
[109] IUCN et al. 2015, p.9

	out a message encouraging State Parties to adopt a connected approach to considering nature and culture;
	Promote communication about project results;
Advisory Bodies' internal work and possible 2nd phase of Connecting Practice	Develop the capacity of professionals working with the World Heritage system about the interconnected biocultural character of the natural, cultural and social values of landscapes and seascapes;
	Streamline the evaluation of mixed sites based on lessons learnt from the Connecting Practice project;
	Develop a one-page document about conceptual and practical arrangements for the consideration of culture and nature within the implementation of the World Heritage Convention; and
	Implement more field-based joint advisory activities.

Considering the above, the proposed actions, at the end of the two-year projects can be summarized as follow:

- 'formally-constituted joint IUCN and ICOMOS governance group and process to create and govern implementation of lessons learnt and steer further stages of work;
- IUCN/ICOMOS joint communiqué to their constituencies about interlinkages between nature and culture;

- harmonized standards and evaluations processes and protocols between IUCN and ICO- MOS to the extent possible;

- collective briefing of team members involved in joint IUCN and ICOMOS missions;

- common main terms of references for joint IUCN and ICOMOS missions, with additional terms specific to nature and culture, when necessary;

- guidance on approaches to linking nature and culture in tentative lists/upstream processes, nominations, and management of sites;

- joint Resources Manual on how to manage natural and cultural World Heritage properties, and an interim document to link the two;

- capacity building activities to create a linked group of experts within the Advisory Bodies with a common understanding and shared skillsets on linking nature and culture to support missions and other IUCN and ICOMOS' work.'[110]

The *Connecting Practices Project* is still moving its first steps, and at the moment, this preliminary phase was very much theoretical, focusing mainly on a broad discussion about how to achieve a conceptual and practical shift in the nature/culture dichotomy within the WHC. However, the field-missions lay the foundations of a new strong partnership between ICOMOS and IUCN. Especially in their activities of monitoring end evaluation, the two advisory bodies can be the driving force in the establishment of a new model. A model the moves beyond the he limit imposed by the OUV and its criteria, where natural and cultural values are enhanced together and, eventually, the conservation and management of the site is not divided anymore according to competences, but it is undertaken in an holistic way.

[110] Ibid. p.17

CONCLUSIONS

In some sense it can be said that every landscape is a cultural landscape. Every area of the world, with few exceptions, has been modified by humans during the centuries. Not every cultural landscape deserves protection, but when it is so one should recognize the specific features that distinguish this kind of area from 'simple' natural or cultural heritage sites. Whether we like it or not, in fact, natural and cultural heritage conservation developed on two distinct tracks and the concept of cultural landscape, that for its own very definition bridges between nature and culture, is struggling in finding its rightful place. The debate about the definition of the concept may seem pointless, but the truth is that it can make the difference when it comes to practical application.

Taking inspiration from the *IUCN Category V* definition, we can affirm that the distinction between cultural landscape and other protected areas is in the scale of the human interaction with the environment. If the level of modification by human society is deep and continued over centuries or even thousands of years, and it is extended considerably trough space, we may consider the site as a cultural landscape. Of course, there are different typologies of cultural landscapes such as agricultural, industrial, urban, but in terms of management strategies the guiding principles are the same: every intervention should be aimed to sustain the interaction between human and environment rather then to protect isolated elements, whether they are cultural or natural.

Especially in the last years, the shift from monumental to holistic conservation and the renewed interest in the social values of the heritage – including the intangible heritage – brought new stimulus in the discussion about the application of the cultural landscape concept and, in this sense, UNESCO played undoubtedly a pioneering role. The WHC – that firstly established the Cultural Landscape category already in 1992 – is still the most effective international document in the field of heritage conservation, but it is showing all its waknesess to adapt to a dynamic concept such as that of cultural landscape.

Especially in regions under development - for which actually the cultural landscape category had been established at first – the friction between the theoretical framework of the WHL and its practical application in terms of conservation and management is extremely evident. Natural and cultural elements and tangible and intangible heritage are still handled in a seprate way - as for the IUCN and ICOMOS evaluation of the properties - and the lack of a trans-disciplinary approach is at the base of the insuccess of the cultural landscape category.

However there is still room for improvement and a brief overview of the Asian situation allow understanding how this context could fit with the application of a 'cultural landscape approach' for the heritage. Especially wide protected areas with archaeological, monumental, and natural features, together with the surviving of a cultural tradition of permanent living population, needs a holistic way to be managed that looks at the balance between the preservation of the past and the modern needs.

The case of Banteay Chhmar illustrates the Cambodian situation and the desire to move further from the focus on the WH site of Angkor. Banteay Chhmar is in the tentative list since the 90s - with few possibilities to be nominated for its OUV -, but scarce attention has been devoted to its management in more than twenty years. The creation of the Action Plan is a tentative to widen the vision of the site underlining the possible benefit from a cultural landscape approach. Even if it was not expressly requested or mentioned during this project, the profound desire of all the stakeholders to distinguish from the past brought naturally to a holistic vision of the site. Instead of focusing only on monumental conservation problems – that of course were central during the creation of the Action Plan – a consistent part of the resources were devoted to the management of a wide area around the site. Especially for the presence of living communities even the members of MCFA, usually keener to keep the distance between ancient monuments and all the rest, were 'driven' in considering other components. A part from effective results, the real outcome of the entire project was the establishment of a different way to look at the site of Banteay Chhmar with a deep involvement and collaboration of all the stakeholders, the so called participatory approach.

Perhaps at the moment - especially due to the state of advancement of the studies - the site does not meet the criteria for the nomination as a Cultural Landscape within the WHL. However it was designated in 1993 as IUCN Category V by the Cambodian Government and, in any case, the presence of a permanent local population using partly the ancient hydrological system gave a strong sense of continuity that can not be ignored when dealing with the conservation and management of the site. Furthermore, both from the side of the tourism and the research it is evident that a wide approach that includes the surrounding area of Banteay Chhmar is essential.

In conclusion, learning from the issues emerged already in Angkor, Banteay Chhmar may be the site where to establish a new strategy for management and conservation of Cambodian cultural heritage. In doing so, because of its highly participatory character, the cultural landscape approach is probably the best chance to make of Banteay Chhmar the symbol of a successful holistic methodology.

On the contrary the Pyu Ancient Cities show all the features of a cultural landscape and they most probably should have been nominated in this category. Thanks probably to their remoteness, the sites remained isolated and undisturbed by modern development, and the human - nature integrated system still functions today. Local communities still rely on the traditional agricultural field organization and the Pyu hydraulic features, such as canals, dams, moats, water tanks and seasonal reservoirs, are continuously maintained. The present population follows the pattern of agricultural practices established by the Pyu during the first millennium and their needs, especially in terms of rice and vegetables production, allow the regular upkeep of the Pyu original landscape. The continuity in the use and function of the Pyu cities is even more evident if we move from the agricultural setting to the cultural practices. Pyu-era stupas and modern monasteries coexist showing the endurance of an unbroken tradition of veneration and pilgrimage. Still nowadays, the huge quantity of Buddhist monuments of all historic periods, even with numerous modification and extensions according to the circumstances, keeps alive the religious role of the sites.

Nevertheless, the site was nominated within the WHL ‘simply’ as Cultural Heritage site. Reading the PMP one can understand that at the moment the policies

established are to vague to guarantee a proper protection of intangible heritage and that the friction with local communities, that may see their expectations infringed, is increasingly evident.

In fact, even understanding that the goal of the PMP was only to define a wide framework in which place more specific decisions, it is clear that the multi composition of the local community wasn't properly taken into account. Within local population not all are farmers and even among them not all have the same characteristics. Some of them cultivate the land they do not own, while others are small entrepreneurs looking for something different from rice and seasonal vegetables to grow. The obligation to preserve the traditional system of cropping– that is a corner stone of the PMP - seems to be at least misunderstood. It does not necessarily means to oblige people to live like two thousand years ago, avoiding any kind of modernization because one is too worried to cause any negative impact (or any impact at all) on the integrity and the authenticity of the Pyu ancient landscape.

This issue is common in many protected areas and it is probably unavoidable. However, it is my opinion that the decision to nominate the Pyu cities as a cultural property and not as a cultural landscape has partly worsened the situation. As it was stated at the beginning, the cultural landscape approach puts at the forefront the dialogue with local communities and its own creation as category originated from the necessity to find a conciliation between the requirements of conservation and the expectations of the peoples. On the other side, a cultural property bases its identity on the remains of the past, thus the compromise with needs and wishes of the living population is unbalanced.

Finally, during the implementation of the *'Capacity Building for Safeguarding Cultural Heritage in Myanmar'* and in particular with the *Protocol of maintenance and safeguard of Sri Ksetra* requested by Myanmar Government, we tried to move in the direction of an holistic approach for the properties. Despite the difficulties due to the lack of a proper national legal framework, the partial results on the impact of the trans-disciplinary project are promising and we are confident that the conservation of the Pyu Ancient Cities is pointing in the right direction.

Therefore, if the cultural landscape approach may be correct for certain kind of properties like Banteay Chhmar or the Pyu Ancient Cities, it is still not clear how one can implement it. As stated at the beginning the WHC is probably not the best mean, due to its static character and its focus on a specific OUV more then on a set of interrelated values. Taking inspiration from natural conservation one can find other instruments that, despite their own limits, are able to fill the gap of the WHC and inspire in finding a better way to manage cultural landscape. As we have seen, IUCN probably gives the best definition of these kind of protected area but it still working mainly at theoretical level, without dealing concretely with governance and conservation. On the other hand the *MAB Programme* is probably the best example balance between preservation and development within protected areas. Free from the political implications typical of the WHC, the technical component become predominant in all the phases of the programme, from the designation process to the monitoring activities. Within the *MAB Programme*, the coexistence of natural conservation, social sciences, economics and education makes the Biosphere Reserves the ideal platform for experimenting a trans-disciplinary approach, crumbling the barriers that usually divide landscape conservation from social, cultural and environmental development. The involvement of local communities is at the base of the programme that, however, is working mainly on natural sites focusing on biodiversity more then on cultural elements. However, the Biosphere Reserves show how, in complex social and ecological systems, a balance between people and their environment is possible and they may be seen as a model also for cultural heritage sites as Banteay Chhmar and the Pyu Cities.

Other projects working at a smaller scale, as the *COMPACT Programme* and the *Connecting Practices Project* pinpoint other specific feature that may be used in the management of cultural landscapes such as the involvement of the local communities in the stewardship of large areas, through a strong collaboration with the private sector and the tentative to fill the gap between natural and cultural field especially in the designation of the values to be protected.

In conclusion all these programmes demonstrate how the balance between conservation and development is probably more effective at landscape level. Participatory approach and shared governance are more complex with wide

audience, but if a trans-disciplinary approach is at the foundation of the management strategies, it is not only possible to conserve biodiversity and cultural elements, but also stand against the social challenges typical of the developing countries, intervening on the protected cultural landscapes with the aim of thriving human societies in harmony with heritage values.

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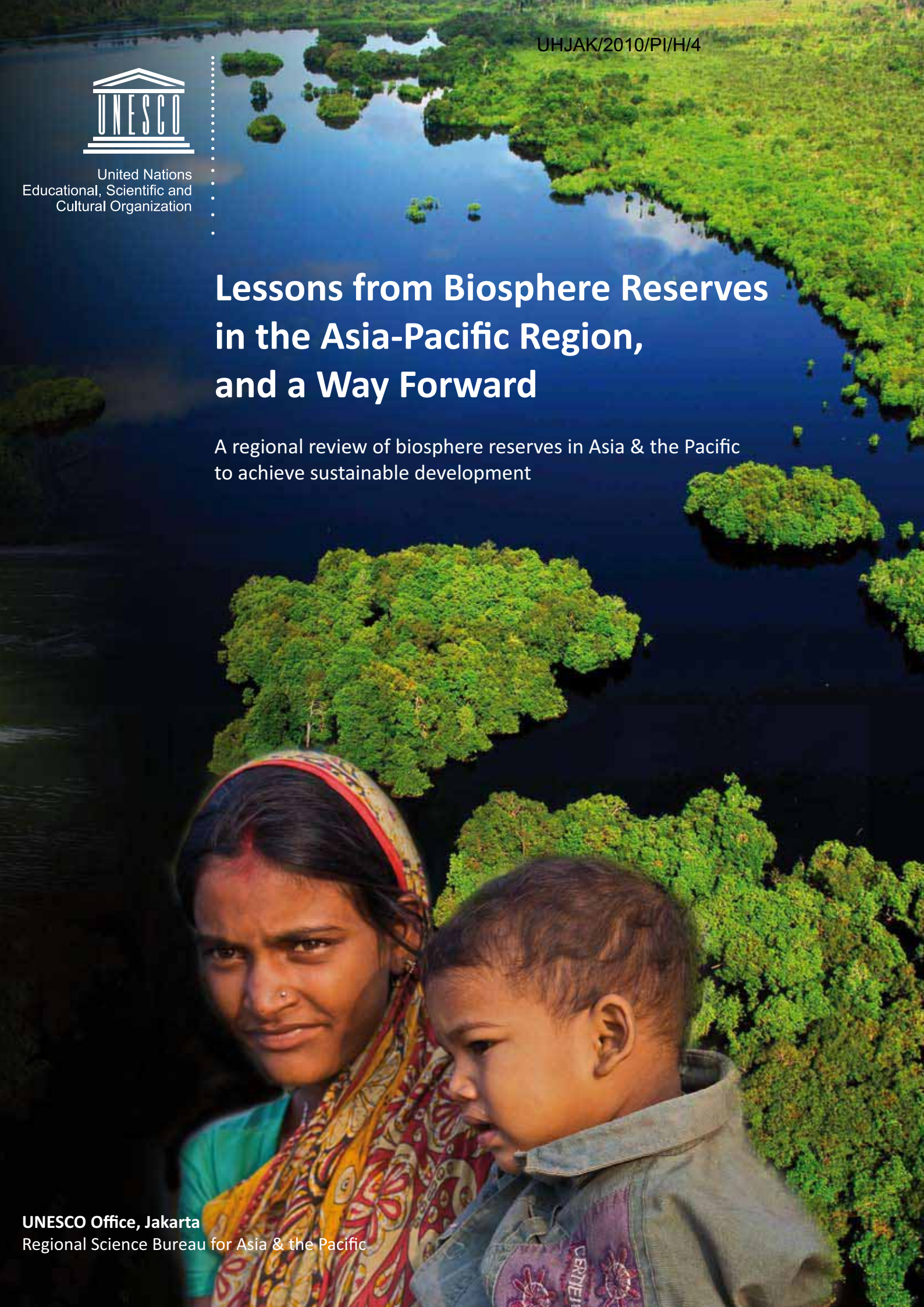
United Nations
Educational, Scientific and
Cultural Organization

Lessons from Biosphere Reserves in the Asia-Pacific Region, and a Way Forward

A regional review of biosphere reserves in Asia & the Pacific to achieve sustainable development



UNESCO Office, Jakarta
Regional Science Bureau for Asia & the Pacific

CASE STUDIES

Below are several reviews and case studies of Asian Pacific biosphere reserves. This information is far from comprehensive, but aims to provide a broader picture of the implementation and management of biosphere reserves in the region. The case studies contribute further to the quantitative and qualitative analyses above, and will help in the development of recommendations for improving the effectiveness of biosphere reserves in the region.

A review of Australian Biosphere Reserves

In a study in 2007, Buckley (2007) described the history of Australian biosphere reserves, using a review of Australian Biosphere Reserves by Matysek et al. (2006), as well as a detailed study of the Fitzgerald Biosphere Reserve (for locations see Figure 16 on page 38). She stated that during the period 1977 to 1982, Australia established 12 biosphere reserves in all States except Queensland. Since this time, three newly designated reserves were added while one reserve, the South-West National Park in Tasmania was delisted. Some three decades since the initial flurry of biosphere establishment, progress slowed for the Australian Biosphere Reserve Programme. Buckley suggests that the model from the outset had been characterized by problems in perception and application. Some specific explanations for this slowing down included: 1. national and international prioritizing of World Heritage areas over the MAB program; 2. resource competition at both Commonwealth and State environmental tiers; and 3. devolution of responsibility at the local level without adequate resourcing.

Buckley states that early in the life of the program, there had been little public understanding or appreciation about the concepts and the opportunities offered by biospheres. More recent developments indicate renewed interest, which Cochrane and Muldoon (cited in Matysek et al 2006) outline in terms of complimentary activities such as greater private sector involvement and philanthropic partnerships in some reserves leveraging off the concept and opportunities offered by the biosphere model. While these initiatives have merit, Matysek et al (2006) concluded in their review of the Australian program that there has been '*a multi-jurisdictional failure to foster local participation and stewardship, and regional and national leadership and management*' of the Australian biosphere reserve network.

Following the second review of the program in the early 1990s, actions identified to fulfill the requirements of the MAB Programme and advance the biosphere concept, led to the selection of two sites to be resourced by Commonwealth and State authorities as benchmark biosphere reserves (Matysek et al 2006). These reserves, the Riverland Biosphere Reserve (then Bookmark) in South Australia and the Fitzgerald River Biosphere Reserve in Western Australia, were considered to be the most important examples of an integrated protective framework, interpreted locally and evolving in application.

Despite, these negative reviews, there is a strong constituency in Australia for further development of the biosphere reserve network. The 2008-2009 annual report of the Mornington Peninsula and Western Port Biosphere Reserve mentions that even though the biosphere reserve concept remains poorly understood, there is increasing support and a new wave on enthusiasm for the concept in Australia. The report states that "here is now interest in the formation of an "Association of Australian Biospheres" in an effort to help coordinate biosphere activities, education, awareness, marketing and promotion of biospheres both in Australia and internationally, and to act as a lobby group to increase Biosphere awareness and support from all levels of government." (Note that in the Australian context the "Reserve" prefix is often dropped and the areas are often referred to as "Biospheres", in an apparent attempt to take the emphasis away from the 'conservation/reservation' aspects of biosphere reserves.

It remains to be seen how much this recent promotion of biosphere reserves in Australia will improve their national recognition and optimize their potential to address a range of environmental and socio-economic issues. An ambitious proposal in 2008 to declare all of the Australian Capital Territory, with an area of 2,358 km^2, a biosphere reserve has not had much political attention. This proposal by the Nature and Society Forum anticipates that a number of benefits will flow to the ACT from nomination as a biosphere reserve, ranging from a higher international profile, and an increased involvement of Australia in the UN Decade for Education for Sustainable Development, for which UNESCO is the lead agency. Also, the forum anticipates that making the ACT a biosphere reserve could give more focus in the ACT to the development of intermediate technology and smaller scale production, both of which should have relatively low environmental impacts. There could be greater scope for sustainable horticultural production of food in the ACT and surrounding region, despite current shortfalls in arrangements for providing water.

Cat Ba Biosphere Reserve, Vietnam as an example of Vietnam's commitment to biosphere reserves

In their review of the biosphere reserve concept Ishwaran and colleagues (2008) paid particular attention to the progress that has been in Vietnam regarding the development of biosphere reserves. The very active Vietnam National Committee of the MAB program has developed a vision that emphasized the notion of biosphere reserves as learning laboratories for sustainable development. The core features of Vietnam's vision for biosphere reserves are (after Ishwaran et al. 2008):

1. The focus is on the whole biosphere reserve, i.e., the core, buffer and transition areas.
2. Conservation and development must be seen as interdependent and applicable to the functioning of all three zones; integration of these elements needs to be considered in all zones.
3. Piloting climate change mitigation through programs for clean energy and zero-emission of greenhouse gases in buffer and transition areas of biosphere reserves is an important target of Vietnam's government for developing working models that can be applied elsewhere in the country.
4. Education, research and long-term monitoring continue in biosphere reserves remains a focus; together they constitute the link that promotes an iterative and learning interaction between policy and practice.

Cat Ba Archipelago Biosphere Reserve is one of the most important testing grounds for Vietnam's vision on conservation and sustainable

development. To effectively test this model of biosphere reserves as learning laboratories, the MAB National Committee of Vietnam is turning to the Chair and the Vice-Chair of the People's Committees of the Provinces where its biosphere reserves are located as well as working with the School of Integrative Systems at the University of Queensland, Australia. The Vietnam MAB National Committee feels that effective coordination of all biosphere reserves functions in all three zones is only feasible through the active involvement of governance, management and administrative professionals in charge of the overall province where the biosphere reserve is located.

Vietnam seems to provide a very good testing ground for biosphere reserves because a lot of the pre-conditions appear to be in place. For a start, In the early 1990s, decollectivisation of agriculture, allocation of forestry land to households, and the development of market networks transformed land use in the mountains of Vietnam, leading to an increase in forest area (Meyfroidt & Lambin 2008a, 2008b). Involvement of local communities in the decisions about land use has also played an important role in realizing net forest increase. For example, local communities around the degraded forests of the proposed Phong Dien Nature Reserve in Central Vietnam identified the need for, at least, limited extractive activities in the protected area. They also stressed their willingness to participate in the monitoring and control of the area, and in the selection of local species for reforestation programs (Boissiere et al. 2009). If such programs are well developed and accepted in Vietnam, the integrated development approach of biosphere reserves is likely to work well in this country.

Tonle Sap Biosphere Reserve, Cambodia

The Tonle Sap Lake in Cambodia is country's only biosphere reserve, and the most productive wetland in Asia, providing a resource base for the country's economy and rural livelihoods. But these rich resources are under growing human pressure driven by rapid change of social, natural, economic and political dimensions, and several economically important species are in decline (Brooks et al. 2007; Platt et al. 2008; Yen et al. 2009). In 1997 the government designated the Tonle Sap Lake as a Biosphere Reserve, potentially developing management approaches that could reconcile biodiversity conservation as an integral part of the management regime. The Prek Toal Core Area is the most important biodiversity hotspot of the Lake, where a large number of wildlife species of global significance are found. Conservation and ecotourism still face some constraints and risks associated with limited knowledge, ineffective policy, lack of participation from key social groups, socio-economic needs and limited human capacity (Bonheur 2001). The lack of knowledge appears to be addressed effectively with a considerable number of researchers working in Tonle Sap on a range of disciplines (also see Google Scholar analysis on page 27). Still, this is a complex area to manage with a high number of poor people using the reserve's resources, and developing and implementing sustainable management strategies will be a major challenge.

An overview of Indonesian biosphere reserves

All but one of the seven Indonesian biosphere reserves were set up in the late 1970s and early 1980s. The ones established in the late 1970s overlap with the boundaries of the national parks they are associated with, and the core, buffer and transition zones have not yet been clearly identified. This might be because the buffer and transition zones do not easily coincide with existing land use categories in the Indonesian spatial planning systems.

Considering the important role Indonesia plays in regional and global discussions on the conservation of terrestrial, freshwater and marine biodiversity, deforestation and forest degradation, sustainable development, and poverty alleviation, further development and promotion of the biosphere reserve concept appears logical.
Indonesia is addressing the poor understanding of biosphere reserves with a new approach. The Giam-Siak Kecil – Bukit Batu (GSKBB) Biosphere Reserve, which was officially estabblished in 2009, specifically promotes the balance between economic development (in this case the development of acacia plantations) and conservation functions (the core reserve part of the landscape). Furthermore, the establishment of the reserve and it management, as it is being planned at the moment, are being carried out jointly between the government and forestry industry. Such a partnership with forestry businesses theoretically reduces the probability that private sector will engage in harmful practices, and leverage its influence with government and its employees to promote sound management of their ecosystem and resources. Such an approach reflect's Indonesia's recent government administrative change from a centralized mode to a decentralized mode, promoting a multi-stakeholder approach to arrive at localized participation and solution. New achievements by the MAB National Committee concerning the establishment of a multi-stakeholder management board for Cibodas Biosphere Reserve represent Indonesia's new approach in managing and promoting biosphere reserves.

Overall, forest cover change analysis suggest that the Indonesian biosphere reserves are relatively effective in preventing deforestation, as shown for an analysis for Siberut and Gunung Leuser Biosphere Reserves on Sumatra (Gaveau et al. 2009), as well as Lore Lindu Biosphere Reserve, Sulawesi (the Nature Conservancy, unpubl. data). For Cibodas in Java forest cover monitoring data are unavailable, while for Tanjung Puting Biosphere Reserve, recent forest cover change analysis (Orangutan Conservation Services Programme, unpubl. data) suggests continuous forest loss. As with many protected areas, the biosphere reserve in mountainous areas are performing better in regard to preventing deforestation than those in lowlands, but this may be more the result of their relative isolation as of their biosphere management.

Biosphere reserves in China

China appears to be among the countries in the region that take the biosphere reserve concept very seriously. The country established the China Biosphere Reserve Network (CBRN), which is a network established by the Chinese National Committee for UNESCO Man and the Biosphere Programme in 1993. At present there are 136 "China Biosphere Reserves" within the CBRN, including 28 UNESCO Biosphere Reserves; another seven reserves joined the China Biosphere Reserves in November 2009. Membership in the CBRN serves as a prerequisite for joining the World Network of Biosphere Reserves.

Research plays an important role in Chinese biosphere reserves, as well as a focus on cultural diversity. The latter was the theme of a 2007 joint regional seminar of the Ecotone-SeaBRnet 2007 and the 9th Conference of the CBRN:

"Cultural diversity: a foundation for biodiversity conservation and sustainable development. The importance of research in biosphere reserves is evident with a Google Scholar search on "China" and "Biosphere Reserve" resulting in 4400 publications. The most cited papers among these focus on ecosystem dynamics, species conservation, biosphere reserve design, and general protected area management. With that the Chinese authorities appear to effectively address one of the core goals of biosphere reserves. A good example of this is the Wolong Biosphere Reserve, where issues such as local people's perceptions as decision support for protected area management (Xu et al. 2006), human disturbances on landscapes in protected areas (Zeng et al. 2005), the complexity of protected area management (Fu et al. 2004), and effectiveness monitoring of protected areas (Lu et al. 2003) have been studied. These examples also indicate another strong focus of Chinese Biosphere Reserves, i.e., the integration of China's long-term agricultural experience with sustainable development needs through new approaches to agro forestry and agro-ecological farming systems.

Judging several period reviews of China's biosphere reserves (Fenglin, Maolan, Nanji Islands, Tian Mu Mts.), the Chinese National Committee for UNESCO Man and the Biosphere Programme takes adaptive management seriously. The reports clearly state weaknesses in present management and recommend relevant action for addressing these issues. Admittedly, these four reports only provide a snap shot of the broader biosphere management issues in the country, but they are at least a positive indication that biosphere reserve management effectiveness is taken seriously by the Chinese authorities.

Biosphere reserves in India

Similar to China, India has developed a network of its own biosphere reserves, some of which are also part of the World Network of Biosphere Reserves. So far, the Indian government has established 15 Biosphere Reserves of India. These categories roughly correspond to IUCN's Category V Protected areas, which protect larger areas of natural habitat than a more strictly defined protected area (national park or wildlife sanctuary). Like the MAB areas, these Biosphere Reserves of India often include one or more National Parks and/or preserves, along buffer zones that are open to some economic uses. Protection is granted not only to the flora and fauna of the protected region, but also to the human communities who inhabit these

regions, and their ways of life. Seven of the 15 Indian biosphere reserves are part of the World Network of Biosphere Reserves.

India has a strong history of ongoing research programs in their biosphere reserves. Especially the Nanda Devi Biosphere Reserve has been extensively studied, especially regarding the role of local communities in the management of these reserves, conflict resolution, and tourism as a source of revenues to communities (for a list of relevant literature see Literature Cited).

A 2003 review of Indian biosphere reserves, using a set of indicators related to community participation, legal and institutional mechanisms, management capacity and management effectiveness, concluded that "Indian biosphere reserves have, by and large, failed to resolve or even added to resource conflicts due to inter agency disputes or imposition of an inappropriate model of development" (Ganguly et al. 2003). Moreover, the review states, "major management decisions seem to be taken at higher bureaucratic levels without reference to the livelihood concerns of local people and traditional resource management systems followed in local areas". On the other hand, "Indian biosphere reserves have been successful in areas like supplementary income generation". It is unclear to what extent these conclusions are supported by the wider Indian biosphere community and whether the concerns have been addressed.

DISCUSSION AND RECOMMENDATIONS

This review of the biosphere reserves of the Asia-Pacific shows that the concept has been widely taken up in the region. More than half of the countries in the region have established biosphere reserves or are planning these in the near future. For several countries, such as Vietnam, biosphere reserves have become the guiding model for protected area management, or even broader sustainable development. Other countries such as India and China are actively developing their own biosphere reserve networks, some only within a national framework and others within the context of the broader international MAB network. In countries, such as the Philippines, the biosphere reserve concept is promoted as a possible solution to the tension between development and conservation, which is likely to grow under the pressures of climate change, population growth, and poverty. Australia, is also fast tracking the biosphere reserve concept in areas such as Noosa and Mornington Peninsula where more holistic sustainable development solutions are sought, balancing environmental conservation needs with development.

Despite these positive developments, however, the biosphere reserve model remains underutilized and does not get the attention from governments and the public that it deserves. The simple Google search revealed that neither researchers nor the public are more likely to find information about biosphere reserves than about ordinary protected areas, whereas the World Heritage designation, for example, does that much better in that regard. Access to information about individual biosphere reserves also remains difficult, even though UNESCO now runs a centralized data system. Furthermore, even though there is a periodic review system for biosphere reserves, access to such monitoring information is hard to come by and rarely provides good insight in how effective individual biosphere reserves are managed.

These issues are further discussed below and an attempt will be made to recommend actions that could improve the present situation.

Lack of understanding about the biosphere reserve concept

Biosphere reserves do not get sufficient public attention. They are rarely mentioned outside the networks that specifically with biosphere reserves, get limited media attention, and are sometimes largely ignored by the national governments that are responsible for managing them. Despite the considerable efforts by UNESCO and other organizations, biosphere reserves remain in somewhat of an identity crisis. This is very unfortunate, because as shown in this review, the biosphere reserve concept is very relevant to many of the situations in the region where conservation and development goals need to be balanced, and will likely become a standard model for sustainable development. Whether or not the name 'biosphere reserve' will be associated with that model is a different issue. As it is now, biospheres get too little attention, and there remains a significant lack of understanding of what they stand for.

In recognition of this, UNESCO has made progress in promoting the concept of biosphere reserves as living laboratories or landscapes rather than as strictly protected areas. When the first biosphere reserves were established in the region, they largely coincided with protected areas. Since, the launch of the Seville Strategy, new biosphere reserves have taken the basic steps towards aligning reserve design and management with the updated biosphere reserve concept. What is needed next is a much broader evaluation and communication strategy that measures the benefits of the biosphere reserve for people and nature and informs a wide audience including governments, media, and the public about this. This requires addressing several issues:

- Availability of information about individual biosphere reserves as well as the broader, participatory biosphere reserve concept. This should include emphasizing the role of communities in managing biosphere reserves and their resources to counter present anti-conservation/pro-community development.
- Insight in the effectiveness with which biosphere reserves attain their various goals on conservation, poverty alleviation and development. This would also provide better scope for quality control.
- Some standardization is needed about how biosphere reserves should be run, what qualifies as a biosphere and what doesn't. This will help in the marketing of the concept.

These issues will be addressed below.

Data availability

Although UNESCO has a dataset of all Biosphere Reserves in the Asia-Pacific region, with nearly complete data on ecological conditions, social-cultural information, zonation, and a range of other factors, it remains very difficult to obtain any further information about these areas. This is not unique to biosphere reserves, but characterizes all global datasets on protected areas. The World Database on Protected Areas that was consulted, and which is apparently the state of the art dataset for protected areas, has many mistakes and omissions, to the extent that it could not be used it for the present study.

Still, it shouldn't be a major effort from UNESCO to further improve data availability for the biosphere reserves. At least, shapefiles of the area boundaries and also reserve zones should be made available to UNESCO, kept in a central, publically accessible database, and be regularly updated. This would facilitate future analysis of the effectiveness with which biosphere reserves attain their social and environmental goals.

Even though, UNESCO has compiled a lot of information about individual reserves and makes this available on their website, finding out more detailed information, such as maps, species list, management plans, etc is more difficult. Many of the contact details provided by UNESCO could no longer be used, and trying to obtain data from managers at the field level during this review frequently led to long, often unsuccessful, email chains. Again, it would be useful if one person in the region was responsible for maintaining contact details up to date.

Recommendation 1:
To increase the accessibility of information regarding biosphere reserves, UNESCO should further improve systems to compile information on individual biosphere reserves, including maps and GIS files, reserve descriptions, and information on monitoring and evaluation of the effectiveness of individual reserves.

Communication and PR

Biosphere reserves remain relatively poorly known by the public, as was, for example, indicated by the Asia-Pacific Google search for individual biosphere reserves. Just for comparison, a simple Google search on "Biosphere Reserve", "World Heritage Area", "National Park", and "Nature Reserve" returned respectively 643,000; 23,300,000.; 154,000,000; and 37,700,000 hits., confirming that biosphere

reserves do not get much public attention. In addition, many of the communities that live near or in biosphere reserves do not know of their existence.

This is clearly indicated in some of the Asia-Pacific countries assessed in this review, in which there is hardly any awareness of the existence of biosphere reserves, even if some of them have been around for decades. There is clearly a need to blow new life into the biosphere reserve concept, especially because as a tool in conservation and sustainable management it seems more relevant than ever.

One option would be to highlight demonstrable successes of biosphere reserves attaining conservation and development goals, especially in areas where new approaches are being implemented and tested for effectiveness. Specifically targeting certain areas, with a media angle in mind, might help attract attention. This could include areas with a strong private sector role, or very well organized local communities who take an active role in reserve management, or with a popular species such as orangutans (Pongo spp.) or Giant Panda (Ailuropoda melanoleuca). But these are local efforts and a much broader communications strategy is needed build on these specific examples and get conservation practitioners, donor organizations, government agencies, and the public more aware of and interested in biosphere reserves.

Recommendation 2:
To raise the visibility of biosphere reserves through media campaigns, awareness material, and promotional activities, so that people understand and appreciate what a biosphere reserve is and how they can get involved.

Monitoring and evaluation

Conservation in general is notorious for its poor record on transparency and accountability. Few organizations or programs can state which specific and tangible conservation outcomes have been achieved. Biosphere reserves are no different from other protected areas or other conservation strategies in that they lack regular performance reviews. The 10-year reviews that are presently asked for by UNESCO are a step in the right direction, and some of these review reports assessed during the present review were of good quality. Still, this information is hard to obtain and it is unclear whether these 10-year reviews have been produced for all Asia-Pacific biosphere reserves.

Monitoring and evaluation is a crucial part of the process of making conservation and sustainable development strategies more effective. Getting direct feedback from the impact that certain strategies have on overall goals allows adaptive management changes to be made and optimizes resource allocation. Even though the cause-effect relationships between certain strategies and ultimate goals might be complex, regular monitoring and evaluation might highlight that certain are or aren't working as well as expected, and thus demand closer attention from managers. Not having the monitoring information in hand often leads to situations in which management approaches are rarely changed, potentially perpetuating poorly performing conservation and sustainable development programs.

Monitoring and evaluation studies are also needed to address a key question regarding biosphere reserves: Is the zonation system in biosphere reserves (core, buffer, transition) resulting in more positive conservation and sustainable development outcomes than in traditionally managed landscapes where conservation focuses on protected areas and development outside them? This question is fundamental to the biosphere concept but has never been properly tested. An experimental set up would be required in which conservation and development achievements in well-designed and managed biosphere reserves are compared to independent control site with similar socio-economic, political, and environmental characteristics. If indeed it can be proven that the more holistic, multi-stakeholder-based approach in biosphere reserves delivers superior outcomes compared to other approaches, this would be of significant promotional value.

Lack of good monitoring and evaluation information might partly be because methodologically such processes are thought to be complex. Reserve or program managers are generally already busy enough dealing with the many demands of conservation and sustainable development. Adding a complex monitoring task is the last thing they need. This review, however, has demonstrated that with very simple tools a quick, cheap quantitative overview can be obtained for some key conservation measures, such as management effectiveness or impact on key conservation indicators such as forest cover. This demonstration does not necessarily

mean that UNESCO should exactly follow these methods. Rather, it is recommended that UNESCO invest some time and thinking to develop their own simple conservation and development measures, and implement these in at least their model biosphere reserves.

Recommendation 3:
UNESCO should develop a standardized set of socio-economic and environmental indicators, and cheap, simple methods to measure them. These should then be implemented by at least a subset of the best biosphere reserves. The results would feed into a national, regional, and global database on biosphere reserves to track whether they are indeed contributing to the stated conservation, development, and logistical functions. Overall findings can then be actively used in UNESCO's communication strategy, as well in adaptive management of the reserves.

The UNESCO World Heritage Center maintains a list of World Heritage in Danger, in accordance with Article 11 (4) of the Convention. This indicates that while nations recognize the duty of ensuring the identification, protection and conservation of World Heritage sites belongs primarily to them, the nation state signing the treaty also agrees to do "all it can" to protect these sites. Article 6 clarifies this statement even further by stating, "Whilst fully respecting the sovereignty of the State [nation]...State Parties to this Convention recognize that such heritage constitutes a world heritage for whose protection it is the duty of the international community as a whole to cooperate." Article 4 goes on to state that a nation signing the treaty is "to the utmost of its own resources, and where appropriate, with any international assistance and co-operation" protect these sites. Biosphere reserves presently do not have a similar system, either legal or administrative, in place that can notify member governments that something isn't right about certain biosphere reserves, and to press on them to improve the management of endangered biosphere reserves.

Having a monitoring and evaluation system in place would allow UNESCO to distinguish between the good and poor performers among biosphere reserves, making it easier to highlight the good examples, and address resources, such as technical assistance, towards biosphere reserves in trouble. One possibly constructive approach would be to develop a rating system for biosphere reserves, with indicators to measure performance, as for example, in Table 7.

A rating system could build on some of the measures methods tried in this review, such as the management effectiveness score card or forest cover monitoring, although there are many other different approaches. The rapid management score card assessment as used in this review is probably too simplistic to really guide biosphere reserve management, but with a little bit more effort and input from local reserve managers, the score card could be incorporated into UNESCO biosphere reserve system. The advantage of the score card is that it standardizes effectiveness measures across different biosphere reserves thus allowing for objective comparisons between reserves, countries, or regions.

Standardization of management and alignment with national legislation

Biosphere reserve management goals and objectives are clearly described, but the only major tool for management implementation seems to be the zonation of the biosphere reserve, with individual management goals for

Table 7. Possible indicators for a rating system for biosphere reserves.

Rating	Indicator 1 - design	Indicator 2 - conservation	Indicator 3 - poverty
Level 1	Zoning not yet developed	Conservation targets not clearly identified	Poverty alleviation targets not clearly identified
Level 2	Zoning developed but not effectively implemented	Conservation target identified but not reached	Poverty alleviation targets identified but not reached
Level 3	Zoning effectively implemented	Conservation targets reached	Poverty alleviation targets reached

each zone. Giving more specific management guidelines might be considered difficult because these are often context specific. For example, the management guidelines for different biosphere reserve zones may not be in line with available land use management options in a specific country. If the whole biosphere reserve would be designated as a national park, then sustainable development objectives in the transition zone might not be allowed under the country's legal framework. If instead, the core zone would be designated as an officially protected area, the buffer zone for limited use, for example for commercial forestry, and the transition zone for development, then the latter zone might have to fall into an agriculturally land use category where sustainable uses are not legally required, thus not meeting the biosphere reserve's sustainability targets. Such incompatibilities between national land use regulations and biosphere management appear to be common and it would be helpful to reserve managers if general guidelines existed about how biosphere targets can be reconciled with national legislation. One step in that direction is to ask national MAB committees to do a gap analysis between biosphere reserve targets and national legislation. This would give UNESCO an overview of the most common areas of conflict. These could then be translated into guidelines about how to address such conflict situations (apart from revising national legislation) to ensure that biosphere targets can still be met. A gap analysis would also identify commonalities between biosphere reserves and how they are managed under national legislation. These commonalities could be to provide standardized management guidelines at the regional and global levels.

Recommendation 4:
UNESCO should develop a rating system for biosphere reserves to distinguish different levels of performance, allowing the promotion of best management practice examples, and targeted assistance to biosphere reserves in trouble. Such a rating system, although potentially politically sensitive would improve the biosphere reserve brand.

Multi-stakeholder nature of biosphere reserves

One of the most difficult challenges in conservation is to develop and effectively implement multi-stakeholder management of conservation targets. Solid partnerships are required between a range of governmental and non-governmental groups, each of which with their own conservation and development agenda. Avoiding the potential conflicts of interests that occur in such partnerships is most easily done by minimizing the number of stakeholders, for example, by setting up areas under only one management authority, e.g. a strict nature reserve under national government management. It has become increasingly clear though that exclusion of other partners (local communities, business groups, local government etc.) is counterproductive in the long term. However difficult, multi-stakeholder management seems to be a requirement for successful integrated conservation and development. The biosphere reserve management goals acknowledge this and multi-stakeholder management is a core concept. Still, acknowledgement does not automatically lead to implementation, and many biosphere reserves reviewed in the present study struggle to effectively develop management structures that incorporate the objectives of various interest groups. Many questions need to be addressed to go beyond the relatively simple conservation objectives of a protected area. What are the best processes to develop conservation and development targets (short-, mid-, and long-term)? How are conservation and development goals balanced, and how is a common vision developed that represents that balance? What kind of management structures are required to plan, implement, guide, and monitor the different processes? Who determines the role of different stakeholders and how is this decided?

Answers to the above questions are highly context specific. They depend on national and regional legislation, the country's or region's culture on governance and multi-stakeholder management, the level of education of different stakeholders, etc. Despite these differences it might be worthwhile to explore what communalities exist between different

countries and what general guidelines could be developed that would help all biosphere reserve management groups. Such guidelines might prevent that approaches are used that in most other experiences have failed to perform effectively. Also, having some idea of the different options in multi-stakeholder management might speed up reserve development (although going too fast in development multi-stakeholder structures has its own dangers).

In addition, most countries in the Asia-Pacific region have yet to develop national legislation on the development and implementation of biosphere reserves. The multi-stakeholder nature of these reserves, might be a major stumble block, and providing general UNESCO guidelines would help governments to speed up country-specific guidelines for biosphere reserve management.

Recommendation 5:
UNESCO in collaboration with MAB National Committees as well as regional networks should implement an analysis of how well biosphere reserve targets are aligned with national legislation. The goal would be the identify areas of conflict between targets and legislation, guidelines on how to resolve this, and eventually develop a set of standardized management guidelines which can be used at the regional and global levels. Also biosphere reserve management plans should be part of the larger provincial and local development plans to ensure that its development objectives are in line with those developed at a regional scale. This prevents biosphere reserves ending up as isolated management units rather than local conservation and development strategies integrated into the broader objectives for the landscape or region.

Guidance on area designation

During this review, a conference was attended in South Korea about the appropriate designation of a particular site. Preference for a particular designation (e.g., Biosphere Reserve, World Heritage Site, or Geopark) reflected the background of the individual rather than the overall management structures associated with the different designations. Governments and other interest groups in the Asia-Pacific can choose from a considerable range of different international land designations (e.g., World Heritage, Biosphere Reserve, national park, geopark, Ramsar, ASEAN Heritage, strict protected area, industrial site such as a plantation with protected zones). There is, however, relatively little guidance on which designation is most suitable under certain circumstances. It would be very helpful if a key was available that would allow governments to make informed choices between different categories. A list of questions could steer governments to make the best choice for sites at different scales. Not only would this lead to a more effective and efficient process of land use designation, but it would also improve public profile of biosphere reserves.

Recommendation 6:
Given the multi-stakeholder nature of biosphere reserves, it is recommended that UNESCO and their partners develop guidelines on how to set up and implement partnerships and what formal structures are needed for doing this work best. This should involve all national committees who should be required to develop a plan with a timeline to create country-specific legislation on biosphere reserve management and development of concomitant multi-stakeholder management structures.

Biosphere reserves and climate change

It is now clear that climate change is the most critically important issue facing the planet today. The associated sea level rise, precipitation change, and resulting droughts and floods will require adaptation to minimize the impact on human and natural systems, including food and water resources.

Adaptation to global warming consists of initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects (IPPC 2007). This is in contrast with the

Recommendation 7:

UNESCO in collaboration with other international groups should work towards clearer definition of the organizational, socio-economic, environmental, geo-political, and geographical characteristics of biosphere reserves versus other international designations, eventually resulting in a key that can be used by governments to inform their choices of international site designation.

mitigation of global warming. Adaptation has the potential to reduce adverse impacts of climate change and to enhance beneficial impacts, but will incur costs and will not prevent all damages. Human and natural systems will to some degree adapt autonomously to climate change, but in many cases planned adaptation will be needed as a supplement to autonomous adaptation. In general it appears that there are more options and greater possibility for offering incentives in the case of adaptation of human systems than in the case of adaptation to protect natural systems (Climate Change Working Group 2001), not in the least because the financial losses to human systems are potentially so much larger than those in natural systems, especially because environmental services are rarely monetized.

Biosphere reserves effectively combine the human and natural systems. This makes them potentially highly suitable to facilitating a climate change adaptation role in threatened ecosystems, if indeed climate change adaptation activities are recognized to benefit human systems. Many communities and regions that are vulnerable to climate change are also under pressure from forces such as population growth, resource depletion, and poverty. If biosphere reserve management can lessen pressures on resources, improve management of environmental risks, and increase the welfare of the poorest members of society it can simultaneously advance sustainable development, and enhance the adaptive capacity of a particular area, thus reducing vulnerability to climate changes and other threats (Climate Change Working Group 2001).

Well managed biosphere reserves can also play a significant role in climate change mitigation, primarily through reducing deforestation and forest degradation, but also by maintaining healthy coastal and marine environments.

The specific role of biosphere reserves in climate change adaptation and mitigation needs to be further explored and tested. Sound management of biodiversity and ecosystem services can be a highly cost-effective way to adapt to climatic change, for example through:

- Agriculture: Maintaining diversity of local varieties, crops and agricultural systems contributes to risk distribution, decreased vulnerability, and increases the ability of the agricultural system to adapt. Increased levels of organic matter in soil contribute to increased harvests and improved ecosystem services, such as nutrient cycling and water retention.
- Coastal zones: Conservation of mangrove forests and coral reefs is a cost-efficient measure to protect coastal zones against weather-related catastrophes (storms and typhoons). It also benefits biodiversity and fisheries since spawning grounds for fish are preserved, and it is favourable for tourism.
- Lowland tropical forests including peatlands play a significant role in absorbing CO_2, and therefore will serve a key role in climate change mitigation.
- Forested mountain areas are important as water sources, but also for their capacity to absorb and moderate the consequences of flooding (and increased water flows from glacial melting).
- Wetlands have a buffering effect (e.g. against drought and flooding), as well as a rich species diversity, and also contribute to other ecosystem services such as removal of nitrogen from agricultural runoff.

Biosphere reserves should specifically start to address some of the above issues to demonstrate the impact these reserves can have on reducing the effects of global climate change, while maintaining sustainable development goals.

Recommendation 8:
It is recommended that UNESCO develop one or more pilot projects in which climate change adaptation and mitigation is specifically incorporated into the biosphere reserve management plans, and in which the specific contributions of environmental services from the reserve to climate change are closely measured and publicly demonstrated. The purpose is to promote biosphere reserve and related landscape-level management as an appropriate tool to address the drivers of climate change and minimize its environmental and socio-economic impacts.

Biosphere Reserves and poverty alleviation

There is insufficient information available to judge whether biosphere reserves are indeed a useful tool in sustainable development and poverty alleviation. As pointed out above, under the header "Monitoring and Evaluation" there is a need to scientifically test whether biosphere reserves are a superior tool for targeting poverty alleviation, and under what circumstances that is the case. In that regard, it is especially important to establish the links between economic contributions that core zones make to the people and overall economic development of the remainder of the biosphere reserve. This includes the value of environmental services, tourism revenues, climate regulation, climate change mitigation properties, as well as products obtained by people from the core zone. Vice versa, a system should be put in place in which revenues obtained in the buffer and/or transition zone contribute to the maintenance of the core zone, for example through a taxation system. In very poor areas where taxation and other financial mechanisms might be poorly developed this could be difficult. Other opportunities could be assesses, including micro-finance to see to what extent a levee could be added to loans that would be used to manage the values of the core zone.

Recommendation 9:
The impact that biosphere reserves have on poverty alleviation and rural development should be better tested, and once found to be effective, poverty alleviation and development should be specifically incorporated in the biosphere reserve management plans.

Development of a multi-faceted regional program

This review demonstrated that there is a real need for a regional program that reflects and addresses current biosphere reserve challenges such as: standardizing and improving biosphere reserve management; climate change mitigation and adaptation efforts into biosphere reserve planning and management; stronger engagement with stakeholders across sectors including the private sector; incorporating poverty alleviation and rural development into biosphere reserve planning and management; and raising the profile and visibility of biosphere reserves. At present, although biosphere reserve networks – both global and regional – have contributed to sound communication between biosphere reserve practitioners, coordination and standardization is rather loose. While this allows for flexibility and adaptation, a lack of standardization and coordination at the regional level leads to a weak system. A regional program that is designed, developed, and implemented in partnership with Member State authorities, local communities, civil society organizations, and private sector parties would produce the intended benefits associated with biosphere reserves, stimulate dialogue among stakeholders, provide greater visibility to biosphere reserves, and, ultimately, contribute to regional and national sustainable development efforts.

Recommendation 10:
UNESCO should develop a regional program that reflects all the issues and concerns articulated in this review, particularly focusing on: climate change mitigation and adaptation; poverty alleviation; and stimulating and promoting greater cohesion among different biosphere reserves and biosphere reserve networks. Such a program can also bring in the unique set of expertise that UNESCO possesses in the sciences (environmental, hydrology, basic, social), education, culture, and communication and information.

COMPACT

Engaging Local Communities in Stewardship of World Heritage

Edited by Jessica Brown and Terence Hay-Edie

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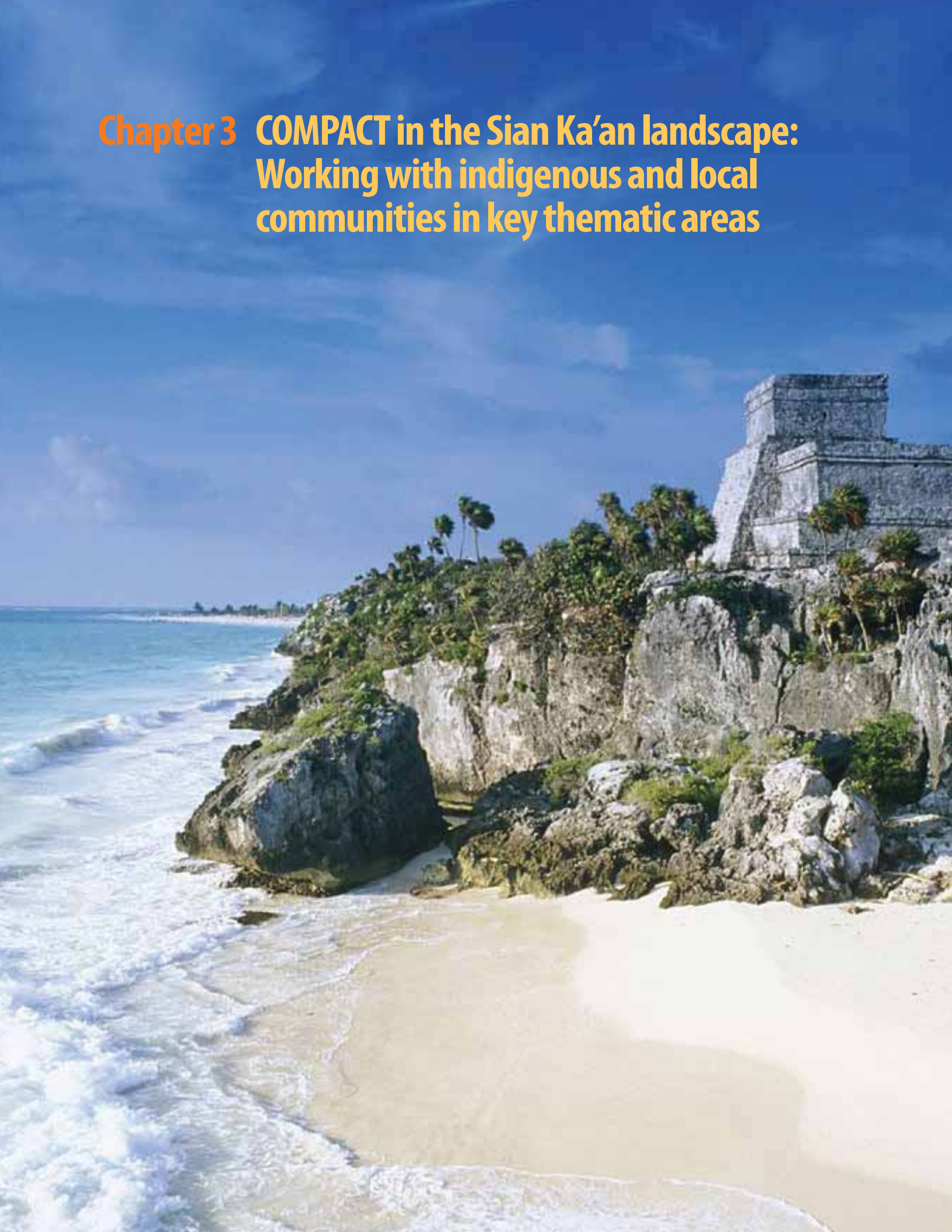
Chapter 3 COMPACT in the Sian Ka'an landscape: Working with indigenous and local communities in key thematic areas



CHAPTER 3

COMPACT in the Sian Ka'an landscape: Working with indigenous and local communities in key thematic areas

JULIO MOURE

The Sian Ka'an Biosphere Reserve and World Heritage Site is located on Mexico's eastern Yucatan Peninsula in a region known as "the heart of the Mayan culture". It is a landscape rich in biodiversity, cultural heritage, and the traditional knowledge of indigenous peoples.

Overleaf: The archaeological site of Tulum within the World Heritage Site is major tourist attraction on the 'Riviera Maya'.

Introduction

Since 2000 COMPACT-Mexico has been working in close partnership with communities in the Sian Ka'an Biosphere Reserve and World Heritage Site. Located on Mexico's eastern Yucatan Peninsula, in a region known as "the heart of the Mayan culture," it is a landscape rich in the cultural heritage of its past and present-day inhabitants, in particular indigenous peoples. In the 12 years since its establishment, COMPACT-Mexico has financed approximately 100 small grants projects in and around Sian Ka'an. Central to COMPACT's approach in this region has been the integration of Mayan culture, language and traditional knowledge in all aspects of its work.

This chapter presents the work of the Community Management of Protected Areas Conservation Programme (COMPACT) in the Sian Ka'an landscape and seascape. It tells the story of how COMPACT, using a highly participatory methodology based on dialogue, has forged partnerships with local communities to improve conservation of the World Heritage site, while improving local livelihoods and helping to stem the loss of Mayan languages and culture. While the focus here is on experience resulting from a decade of work in Sian Ka'an, this reliance on participatory methodologies characterizes COMPACT's approach in each of the eight sites where it is working.

In particular, this chapter will discuss how COMPACT's activities in Sian Ka'an have been clustered around key "thematic areas" related to the coast, the forest and the preservation of Mayan culture. This clustering of activities is an important aspect of how COMPACT works at the landscape level in Sian Ka'an, as well as in other sites world-wide. The chapter briefly introduces project elements of COMPACT's work in Sian Ka'an, including sustainable fisheries management, community-based

tourism activities, apiculture and carbon capture. In addition, the chapter highlights COMPACT's experience with reviving traditional knowledge in farming and handicrafts, along with empowering community-based networks to market local products under a common brand. It explores the important role of exchange among communities and between countries in helping to introduce new methods and build collaborative networks. The chapter reflects on how COMPACT's approach of facilitating collaboration within thematic areas, over time and with relatively modest investment, has helped to scale up individual projects to broader initiatives within the Sian Ka'an landscape.

The Sian Ka'an Biosphere Reserve and World Heritage site

The Sian Ka'an Biosphere Reserve and World Heritage Site is the largest protected area in the Mexican Caribbean, encompassing terrestrial and marine environments of high biological diversity with unique geological features. Inscribed on the World Heritage List in 1987, Sian Ka'an was first recognized as Biosphere Reserve in 1986, with a core zone composed of two terrestrial areas and one marine area. Land-sea linkages are important in the Sian Ka'an Biosphere Reserve and World Heritage Site, as the area spans almost one-third of the Caribbean coast of Mexico. Its location on a partially emerged coastal limestone plain has resulted in unique geological features, such as sink-holes (*cenotes*) and underground rivers, important for their high biodiversity and species endemism. Its 650,000-ha area encompasses a diversity of coastal and marine environments representative of the Caribbean Sea and the Yucatan Peninsula, including sandy beaches, rocky beaches, sand dunes, mangroves, shallow bays, and coral reefs.

Sian Ka'an protects a 110-km portion of the Meso-American Barrier Reef, the second largest in the world, rich in marine biodiversity, including 161 species of reef fishes. On the terrestrial side, as part of the Sian Ka'an-Calakumal corridor, it contributes to connectivity across the forested landscape within the wider Meso-American Biological Corridor shared across different countries in the region. In addition to high floristic diversity and the presence of many endangered mammal species, the Biosphere Reserve supports the second largest community of aquatic birds in Mexico and is a key part of the migratory bird corridor between North and South America (López-Ornat, 1990). There are 346 bird species registered in the Reserve, including resident and migratory species (MacKinnon, 1992). With more than 300,000 hectares of aquatic environment it supports the largest crocodile habitat found in any of Mexico's protected areas (Lazcano-Barrero, 1990), and is particularly rich in amphibians and reptiles. A preliminary listing of over 100 mammal species found in the Biosphere Reserve includes manatees, dolphins, four species of whales and 39 species of bat.

Sian Ka'an can be translated from the Yucatec Maya language as "*where the sky is born*" or "*gift from the sky.*" Its landscape is rich in cultural values, an expression of the past and present Mayan communities living in the area. Sian Ka'an is located in the ancient Mayan regions of Cohuah and Uaymil, likely inhabited during the pre-Classic and Classic periods. There are twenty-three known archeological sites of pre-Hispanic culture in the Biosphere Reserve, and discoveries of human remains, ceramic pieces, and other artifacts have been dated up to 2,300 years old. Today, small

Sian Ka'an can be translated from the Yucatec Mayan language as "where the sky is born" or "gift from the sky." The protected area safeguards a 110-km portion of the Meso-American Barrier Reef, the second largest in the world.

communities in and around the Reserve are predominantly of Mayan origin and a number of indigenous languages are spoken in the area. The population is estimated at 2,000 inhabitants, with most settlements concentrated in the coastal regions. The Mayan communities hold possession of the land in the form of *ejidal* land tenure.

The linkages between the cultural and natural values of the Sian Ka'an landscape are key. The high degree of biodiversity found within the Biosphere Reserve and in the surrounding areas and its conservation is, in large part, a legacy of the traditional knowledge and practices of the Mayan people and their management of the landscape over the centuries.

Conservation threats and challenges to sustainable development in the Sian Ka'an landscape

Although it is in the least developed part of Quintano Roo, the Sian Ka'an Biosphere Reserve and World Heritage site still faces a number of threats. Unregulated tourism development, overfishing, forest fires, cultivation of coconut in the coastal dunes, and the uncontrolled extraction of resources are some of the main activities threatening the protected area. Tourism has been explosive in the region in recent decades, transforming Cancun from a fishing village to the largest tourism destination in Mexico, and extending south along the length of the coast of Quintana Roo. Ongoing development along the coast contributes to the contamination of the water and is altering the hydrology of the area, compromising the integrity of the estuarine, mangrove and coral reef communities.

New developments in agriculture pose further threats to the region's landscape. Growing reliance on intensive industrial inputs, "improved" seeds (e.g. hybrid and transgenic), fertilizers and pesticides, and the use of machinery are all having a major impact on land use, contributing to soil erosion, groundwater contamination, and the loss of biodiversity and agro-biodiversity. At the global level, the loss of ecosystem services formerly provided by these natural systems is significant (Boege 2002).

A number of external pressures are threatening local culture and livelihoods, in particular of the indigenous peoples living in the Sian Ka'an landscape. Along with financial and ecological debt, the market economy is leaving a social deficit that manifests itself in massive poverty, the loss of indigenous language and culture, out-migration from the region, and unemployment affecting many parts of society, including indigenous peoples. The region is recognized within the 'National Programme for Priority Regions' as a marginal area affected by extreme poverty, which has led to forced migration and high levels of malnutrition. A further challenge to traditional culture is the prevalence of mass media, which now reaches all corners of the world, presenting a Western, market-based worldview and way of life, accompanied by consumption patterns that often erode the vital and spiritual relationship between human beings and their environment.

Rich cultural heritage and traditional knowledge

Despite these challenges, the Sian Ka'an landscape is rich in cultural assets and social capital that can form the basis for endogenous, sustainable development. The present-day Mayan culture, with all the contradictions and challenges facing it, possesses a rich heritage of knowledge and management practices (often referred to as Traditional Ecological Knowledge or TEK). While the concept of biodiversity is very recent, the practices related to its sustainable use and conservation by indigenous peoples span millennia. The territories inhabited by indigenous peoples, such as the Maya, are rich in biodiversity, constituting a significant contribution to the global inventory. In short, the living cultural heritage of this landscape and its inhabitants form an inextricable part of its global significance.

The Mayan cultures have lived for years with the ecosystems of the Sian Ka'an landscape, and have co-evolved with them, choosing to use some plants and animals, cultivating others, so that their practices have transformed the landscape and its biodiversity (Toledo and Barrera-Bassols 2008). With the selection of wild species came the development of cultivated plants that were distributed worldwide and are now the basis of the global food system. Indigenous production systems have long sought to optimize their use of local resources and adapt to environmental conditions,

based on shared knowledge, technologies and ways of organizing work that are based on the preferences and values of the group (Bonfil Batalla 1994). Importantly, this experience is not only restricted to food. Living alongside the biodiversity of the region has required these communities to develop complex ways of using the plants, insects and animals around them for food, medicine, clothing, and shelter.

This traditional knowledge and the associated management practices offer a strong foundation for efforts to foster biodiversity conservation and sustainable development in the region. One of the questions facing COMPACT in the Sian Ka'an region has been how to bring together scientific knowledge and indigenous knowledge systems in an initiative that respects the natural ecosystem while helping to meet basic human needs?

The COMPACT programme in Sian Ka'an: Planning frameworks based on a participatory methodology

COMPACT Mexico was launched in Sian Ka'an in 2000, building on the substantial experience of UNDP/GEF Small Grants Programme prior decade of work in the Yucatan Peninsula.

COMPACT staff relied on a highly participatory planning process and bilingual outreach for the three basic planning elements in the COMPACT methodology described in chapter 2. Over the first seven months, the Local Coordinator conducted numerous meetings with community-based groups, NGOs, environmental authorities, local authorities and academics to identify challenges and help frame how COMPACT might help support the communities in addressing them.

As a result of this consultative process, participants identified the central goal for COMPACT to "*provide livelihood opportunities for local residents while resisting the negative effects of the very rapid rise of tourism along the coastline… developing sustainable ecotourism approaches to benefit local communities as an alternative to 'selling out' areas of coastline to large-scale private developers*". A bilingual document was produced in Spanish and Maya, using simple language and drawings by a local artist. It served as a starting point to explain and understand the goals and operations of the programme. As one leader observed in reflecting upon COMPACT's work some years later, "*those seven 'wasted months' [of early consultation] were among the most important of the programme.*"

COMPACT participatory planning methodologies are not only a function of the initial stages of project preparation, but represent a constant cycle of iterative learning and community feedback.

This participatory approach continues to be central to COMPACT's programme in Sian Ka'an, and is founded on principles of empowerment and endogenous development, such as those articulated by Paulo Freire. The programme seeks to create answers to problems in dialogue with people in order to find, in their plain language, the seeds of solutions to multi-faceted problems that emerge from a long history of marginalization. In this view, knowledge is not transmitted, rather it is "*under construction meaning the act of education is not a transfer of knowledge, but rather the enjoyment of building a common world*" (Friere 2005).

Each step is defined in a participatory manner, through a diagnostic and collective planning process that creates a framework for responsibility and cooperation among grassroots groups, participating NGOs and other actors. The aim is to trigger new attitudes, raise awareness and strengthen self-development. Under this methodology, capacity-building is seen as a process of lifelong learning – one that moves horizontally from practice to knowledge, from knowledge to vision, and from vision to action (Friere in Souza 2011). Such an approach based on collective learning encourages teamwork and transforms competition into emulation, alongside the fundamentals of creativity, respect and commitment.

Through this participatory approach, COMPACT and partners developed a framework for action based on principles that include:

- **Grassroots democracy** – promoting the democratic participation of men and women from the communities in analyzing problems and finding solutions to them;
- **Participation of women** – ensuring that gender equity is considered in all aspects of COMPACT's planning, and encouraging the participation of women in the the process of identifying problems and developing projects;
- **Exchange of experience** – promoting the exchange of experiences among all participants in COMPACT programmes, especially within areas of realted activity; and
- **Dissemination of experience** – supporting activities to systematize and disseminate lessons learned from COMPACT's activities and the programme as a whole.

Governance structure

The governance structure in Sian Ka'an is similar to that of COMPACT in other countries, as is described in this volume. The advisory structure at the local level parallels that of SGP, operating in a decentralized, democratic and transparent manner. A local selection committee of ten individuals, with diverse areas of expertise and serving in a voluntary capacity, makes decisions on funding of projects in coordination with the Local Coordinator and the SGP National Steering Committee. Reflecting the programmatic approach of COMPACT in Sian Ka'an, the selection committee members work in thematic clusters (e.g. forestry, fisheries, apiculture, tourism and Mayan culture) to advise the Local Coordinator on programme planning in these areas and to offer their expertise to COMPACT grantees.

Governance of the COMPACT programme in Sian Ka'an is based on consultation, dialogue and consensus with communities and organizations. COMPACT has built partnerships with a wide range of government, non-governmental and academic institutions at all geographic levels. These include the national park management agency as well as local, national and international NGOs. These stakeholders contribute substantively to programme planning and participate in decision-making about activities and future directions.

COMPACT'S key areas of work in Sian Ka'an

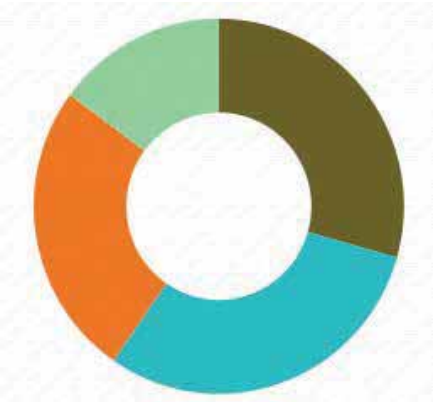
Over the past decade COMPACT has financed approximately 100 small grants supporting projects in and around the Sian Ka'an Biosphere Reserve and World Heritage Site in three thematic areas: the coast, the forest, and the preservation of Mayan culture (see Figure 5). A fourth line of work (environmental education and technical support) serves as the "fishing rod", supporting the development of skills in intercultural dialogue. The chapter explores how the approach of clustering these activities according to themes has enabled COMPACT to foster synergies among different organizations and actors in the Sian Ka'an landscape and seascape.

The coast

Sustainable fisheries

COMPACT is helping to advance sustainable fisheries through a series of inter-linked projects.

FIGURE 5. AREAS OF WORK



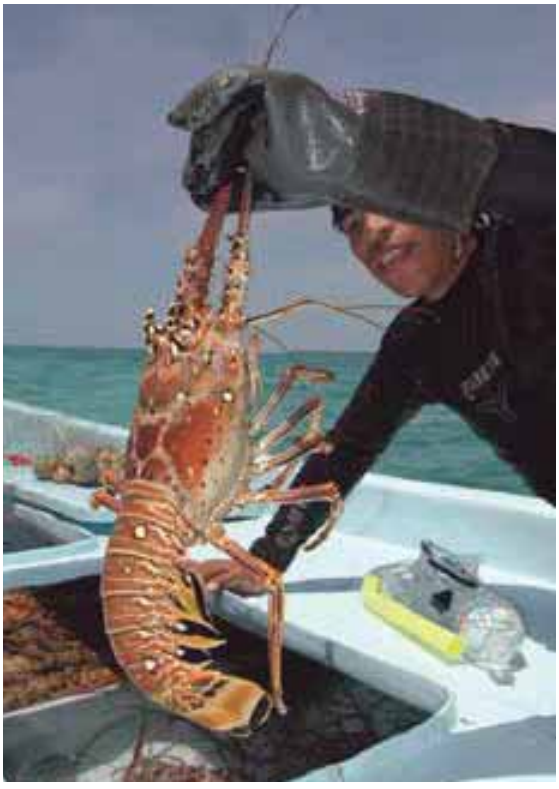
- Forest manangement and apiculture 24 projects
- Community tourism and fishing 20 projects
- Mayan culture and publications 20 projects
- Environmental education and technical support 13 projects

Based on the successful experience of the *Vigia Chico* fishermen's cooperative in Punta Allen, sustainable practices of lobster fishing (e.g. the use of shades instead of traps and protection of nursery areas) have been extended to numerous other fishing cooperatives in communities such as Maria Elena and Azcorra in nearby Punta Herrero (see box). The experience of the Integrated Association of Lobster Fishermen, CHAKAY, has been extended to three more cooperatives in Banco Chinchorro, linking two Biosphere Reserves. To help these groups with joint marketing of lobsters, COMPACT has with the World Heritage-LEEP programme (see Chapter 10) to provide small grants to support the selection and packaging of the lobsters, including by developing a geographic indication label for the product origin. In its first year the cooperatives reached their target of jointly marketing about 10% of their production.

In July 2012 the Marine Stewardship Council (MSC) approved certification of the spiny lobster fishery in Sian Ka'an and Banco Chinchorro, making it only the second artisanal fishery in Mexico to receive this certification. The success of COMPACT and partners, including the six participating cooperatives, in securing this eco-certification represents a significant step toward supporting sustainable fishing practices in the area.

In an important marine conservation initiative extending beyond the boundaries of the Biosphere Reserve, COMPACT has worked over the past decade with three fishing cooperatives on protection of fish aggregation and spawning zones within the Sian Ka'an Biosphere Reserve. In the second stage of the project these partners are analyzing the potential to create marine protected areas, likely to take the form of "no-take" or fisheries replenishment zones (each lasting at least five years), through a proposal that is supported by fishers in key local fishing cooperatives.

Another key area of work by COMPACT relates to coastal tourism. Punta Allen is the principal point of attraction for tourism along the coast of Sian Ka'an, attracting between 80,000 and 100,000 tourists annually. Through 10 years of COMPACT project support, four tourism organizations in the community formed the Punta Allen Alliance in collaboration with the protected area authorities and international NGOs such as 'RARE'. This partnership has been crucial in avoiding conflicts and maintaining consistent prices for tourism services and products offered in the community.[1] An important result is ensuring that the majority of the benefits



Lobsters are individually harvested by hand by fisherfolk who use GPS units to monitor underwater "lobster shades", and maintain their own computer database to track the cyclical productivity of the bay.

Grass-roots democracy for World Heritage Sites: promoting shared governance of protected areas through the full participation of men and women from the communities in analyzing problems and finding solutions to them.

remain with the communities, as the local organizations develop the ability to bypass intermediaries and market directly to tourists visiting Tulum and the "Mayan Riveria."

Eco-tourism and the "Orchids of Sian Ka'an"

In cooperation with the Punta Allen Alliance, COMPACT is supporting a new tour guide training course for women from the community, providing instruction in nature interpretation, boat-handling and navigation, English language skills and quality control management. A group of 33 women participating in the course have formed a cooperative called "Orchids of Sian Ka'an," which is offering new experiences for visitors interested in cross-cultural exchange and nature-based tourism. These community-based tourism activities include kayaking, bird-watching, and guided walks in the forest, as well as accommodations in local homestays, traditional foods, and sale of local handicrafts. In parallel, COMPACT is helping four Mayan-led eco-tourism organizations working in the wetlands and forest of Sian Ka'an to develop a programme on "living Maya culture." Anchored by an existing cooperative, Community Tours of Sian Ka'an (CTSK), the groups are collaborating to develop a circuit that will include the Muyil wetlands and canals, the blue lagoon, local caves and a museum of Maya culture in Tihosuco.

The forest

Apiculture in the forests of Sian Ka'an

Promoting apiculture has proven to be one effective way to help maintain forest cover while improving the quality of life for people in the region. COMPACT is supporting several organizations that are making the transition from conventional to organic honey and have successfully obtained orgnic certification. One example is *Flor de Tajonal*, a certified cooperative that sells between 150 and 200 tons of honey annually and is leading a process of landscape-level cooperation among various communities in the Mayan region. Five years ago a group of women formed an organization called *Melitzaak* (which means "bee cure" in Maya) and have developed over 90 apitherapy products that combine honey with other componnents, including medicinal plants. These are sold from a retail store and marketed at hotels and trade fairs nationally and internationally. Based on their success, *Melitzaak* members are now training women from other regions of Mexico and the neighboring country of Belize.

THE *KANAN KAY* ALLIANCE OF QUINTANA ROO

Working in partnership with other groups, COMPACT has created an alliance to establish a network of fisheries reserves called replenishment (or "no take") zones along the 400km coast of Quintana Roo.The *Alianza Kanan Kay* is a cross-sectoral collaborative with 33 members representing government agencies, fishing cooperatives, national and international civil society organizations, academic institutions, research centers and philanthropic foundations. Alliance members share the common objective of establishing an effective network of fisheries refuges (or replenishment zones) that would cover 20% of the territorial waters of Quintana Roo state with the goal of restoring the artisanal fishery. The name *Kanan Kay* comes from the Maya, "*guardian of the fish*."

Its plan of action relies on six related strategies aimed at achieving results within the next three years:

Design and implement fishing replenishment or "no take" zones within a network of effective, legally recognized and locally respected fisheries reserves comprising critical, functional and representative habitats and covering 20% of the coast of Quintana Roo.

Establish the necessary legal and institutional framework to enable the establishment of the fisheries reserves, as well as management, inspection and monitoring of the fisheries.

Promote economic and social development linked to fishing ensuring that the reserves provide livelihood opportunites for communities linked to the added value of fishing and eco-tourism.

Build and strengthen the capacity of the Alliance as a critical mass of Mexican individuals and institutions concerned with and capable of establishing, maintaining and managing an effective network of fishing reserves.

Launch communication and awareness-raising programmes ensuring that the various stakeholders (including fishers, tour operators and local communities) along with the general public are convinced of the importance of the network of fishing refuges and conservation of coral reefs in Quintana Roo.

Secure financing for the long-term sustainability of the Alliance ensuring that there are sufficient resources from the public and private sources to ensure the ongoing management of the network of fishing reserves.

Plans are underway to establish an apiculture school where young people from local communities can study the theory and practice of organic beekeeping. It envisions an integrated approach to bee-keeping that encompasses aspects such as breeding of the queens, relocation of hives to former *milpa* plots in the forest, organic production from the beginning, and a supply chain based on fair trade. At the same time a reforestation project involving native honey plants is helping to boost productivity.

Carbon capture

In 2007, COMPACT initiated a project on carbon capture in the *Ejido de Felipe Carrillo Puerto* focusing on a 1230-ha area. Called MUCH' KANAN K'AAX, the pilot project has grown and become a center for learning and sharing of experiences on this subject for the entire Yucatan Peninsula. In the next stage of the project, COMPACT will finance the certification of bonds (through the *Plan Vivo* Foundation) and will support training and capacity building of local communities on the topic of REDD+.[2] A long-term forest partnership is in development, involving five *ejidos* working in a 200,000 ha forest area to improve stewardship and secure timber certification (see Box).

Based on a number of COMPACT community projects to improve apiculture techniques in the region, plans are now underway to establish an apiculture school where young people from local communities can study the theory and practice of organic bee-keeping.

Since 2008, with the support of the United Nations Foundation and COMPACT, a partnership involving two NGOs and representatives of eight community groups is jointly marketing handicrafts, including items made from wood, seeds and rattan (Non-Timber Forest Products), as well as embroidery and hammocks, under a common indigenous trademark. All of the participating groups come from Mayan communities in the area and that could draw on long traditions in the development of handicrafts. At present 139 artisans from 15 communities are collectively marketing their handicrafts under the *Ak Kuxtal* label (which means "Our Life" in Maya[3]).

Mayan culture

An integrating element across COMPACT's biophysical interventions in the Sian Ka'an landscape is its work to sustain the Mayan culture. The Maya Intercultural University of Quintana Roo is a key partner in these activities. Some 600 young people from local communities now study there, pursuing careers in fields such as agro-ecology, community health, Mayan language and culture, alternative tourism and municipal management. Elements of COMPACT's work in this area include:

COMMUNITY-BASED CARBON ACCOUNTING: A PILOT PROJECT IN THE MAYAN ZONE

One of COMPACT's pilot projects in the forests of the Sian Ka'an-Calakmul Corridor is serving as a model of how local and indigenous communities can participate in carbon sequestration projects related to REDD+. The initiative began in 2006, led by indigenous communities that were interested in learning more about carbon capture. With technical and coordinating support from U'yool'ché A.C (an NGO founded by indigenous and local leaders) and COMPACT, the communities undertook a feasibility study, concluding that a sustainable management approach could generate revenue to protect the tropical forest and create jobs. The communities declared a communal reserve of 1,230 hectares within the territory of the *ejido* in 2007 (this reserve has since been certified by CONAP as a Voluntary Conservation Area, the first of its kind on the Yucatan Peninsula).

A first grant from COMPACT in 2008 supported the communities in developing participatory management strategies to preserve the forest and avoid deforestation in the *ejido*, including within the communal reserve. Their project aims to explore carbon markets as an alternative means of financing for forest conservation, and to pilot new methodologies for carbon capture in the forests of the to corridor and wider region. Knowledge generation and exchange has been a core component of the project, particularly important in the context of REDD+ preparation in Mexico. In this connection, a second SGP grant has helped support capacity-building and knowledge transfer, including exchanges among communities, and support with carbon credit certification process.

Typical of the COMPACT approach in Sian Ka'an, the project has relied on participatory processes for learning, management and decision-making. These include:

- a dialogue format for courses and workshops, to foster sharing of expertise of different kinds;
- the use of community research methods, drawing on expertise and guidance from resource people at a local community college. As an example, development of an allometric equation for calculating carbon in the local context has helped to reinforce a local sense of ownership for the project methodologies;
- Use of traditional knowledge in developing methodologies, such as reforestation in the field;
- Systematization of knowledge to foster sharing among communities and project sites and the use of both Maya Yucateq and Spanish language for workshops and publications.

- **Publications** produced in Mayan and Spanish languages, presenting biological information as well as symbolic representations, stories and legends. The programme has funded nine bilingual publications now found in 510 community centers and schools in the region.
- **Strengthening of local organizations** including those concerned with traditional medicine, language and culture.
- **Recovery of native seed stock with 20 communities** addressing an increasingly urgent need to conserve native seeds and plants adapted to growing in the region, especially those most important for human nutrition.
- **Research and training in techniques of using natural dyes** using research from several states with a strong indigenous presence (Oaxaca, Chiapas and Quintana Roo), and in collaboration with people from local Mayan communities, a manual was published showing how to produce nine colors with natural plants. The next stage will be the production of fabrics, hammocks and other products using natural dyes.

As of 2012, over one hundred and thirty artisans from fifteen communities are collectively marketing their handicrafts under the Ak Kuxtal *label (meaning "Our Life" in the Mayan language).*

Impacts of COMPACT's work for indigenous and local communities of the Sian Ka'an landscape

Activities related to fisheries, eco-tourism and bee-keeping have resulted in significant increases in household income in communities where COMPACT is working (see Figure 6). Because this income is distributed through cooperatives it is having a positive impact on thousands of families in the area. Income-generating activities, linked to certification of good ecological practice, have resulted in an increase of income in those households reached by the projects, with the total estimated to be in the range of US$1,000,000 in an average year.

FIGURE 6. RELATIVE INCREASES IN INCOME IN PROJECTS FINANCED BY COMPACT

Project	Increase in income	Source of income
Lobster fishery	30%	Sales of lobster
Apiculture	20%	Sales of organic honey, mainly to Europe
Forest management	20%	Sales of certified wood
Community tourism	20%	Reduced consumption of gasoline using fuel-efficient motors
Handicrafts production and commercialization	20%	Sales of community products made from sustainably managed resources under a common brand and label of origin
Organic agriculture	10%	Sales of a portion of organic crops, with remainder for family consumption

Productive activities such as fisheries, forest management and apiculture have traditionally been the domain of men, and they remain the main participants in these activities, with women participating in only about one-third of the COMPACT projects in these areas. While this is changing, there is still much progress to be made in achieving gender equity in these initiatives.

Between 2000 and 2005, poverty rates fell dramatically in the coastal communities of Punta Allen, Punta Herrero and Maria Elena, all communities within the Sian Ka'an reserve. The percentage of households experiencing nutritional poverty declined from 32.16% to 5.38%. The rates of poverty (in terms of wealth and capabilities) also fell from 50.29% to 8.6% and from 85.38% to 22.58%, respectively. Poverty indicators related to nutrition, skills and capital are lower in these locations as compared to state and national averages (UNESCO Mexico, 2009).

An important impact has been that as local communities have benefitted directly from activities related to sound management of natural and cultural resources, they are recognizing the connections between these activities and protection of the Sian Ka'an landscape/seascape, including its status as a World Heritage site. As noted in a recent UNESCO study of the impacts of World Heritage designation on local development:

> *Overall, the opinion of the various social and institutional agents is that the declaration of Sian Ka'an as a World Heritage Site has been positive. It constitutes an element of identity that is valued by the inhabitants, has contributed to the conservation of the site, and has opened opportunities for economic development through tourism. However, the perception remains that this potential has not been fully tapped* (UNESCO 2009).

Next steps

What began as a series of small projects linked to the programme's priorities have progressively been organized into "thematic clusters" so that now these areas of activity are clearly identified thematically and engage networks of partners. They fall into the following areas of work: Mayan culture, fisheries, tourism, forestry management and apiculture. With support from COMPACT and its continuing role in facilitating collaborative processes, a variety of stakeholders and partners in the region are working together to develop plans in these areas. As a result, relatively small-scale projects have, over time, been scaled up to multi-stakeholder initiatives at increasing geographic scale with the potential to extend across the entire peninsula.

In the third phase of its work COMPACT is helping to forge lasting partnerships, based not only

FIGURE 7. COMPACT BENEFICIARIES AND AREAS UNDER CONSERVATION

	Total Amount	Origin of funds	Average per project
86 projects financed by COMPACT*	US $1,952,530	75% GEF 25% UNF	US$ 22,704
Beneficiaries (including environmental and cultural education)	Women: 5,962	Men: 7,427	Men: 55.5% Women: 45.5%
Beneficiaries in productive projects	Women: 1,461	Men: 4,501	Men: 66.7% Women: 33.7%
Hectares under management (approximation)	Marine: 120,000 hectares (2 bays of Sian Ka'an, fisheries and community tourism)	Forest and land: 130,615 hectares (Forest management, apiculture and organic agriculture)	

** An additional five projects were financed by WH-LEEP (see chapter 10).*

LESSONS LEARNED FROM COMPACT-SIAN KA'AN

Among the lessons learned from COMPACT's decade of work in the landscape of Sian Ka'an are the following observations about participatory approaches to fostering sustainable development:

- Culture permeates all aspects of this work. Respect and appreciation for people and their culture is basic to fostering endogenous development.
- Uniting cultural roots with science fosters creativity, breaks new ground and restores dignity to people.
- Before financing projects it is necessary to spend the time needed to analyze problems in a participatory manner and build consensus regarding solutions and "the way forward." Approaches based on dialogue, in which each person is allowed to his or her say, can trigger new attitudes and favor self-development.
- After creating this consensus, it is important to use accessible language to explain what is intended, and to explain it as often as possible. In this way, all concerned can understand and feel part of the collective project.
- At each stage it is crucial to encourage dialogue directly among participants in order to share the positive, analyze the difficulties and challenges and then adjust what is not going well. This reliance on dialogue supports an adaptive management approach to developing projects. It is important to create partnerships and alliances that combine the efforts and benefits of related sectors.
- Dialogue and consensus are the basis for harmonious development. Projects in the communities mature at their own speed and gain traction when people see the results. These methods of conservation and collaboration have allowed them to improve their incomes and maintain their resources over the long term.

on planning collaboratively, but also on long-term organizational commitments and cooperative agreements. These partnerships are in key sectors including: fisheries (e.g. Chakay fishing cooperatives in Sian Ka'an and Banco Chinchorro); community-based tourism (e.g. the Punta Allen Alliance), and forest protection (e.g. the Alliance of Forest Ejidos). At present these alliances, started at the local level, are now extending their reach across the state and are expanding to focus on the Yucatan peninsula as a whole. Examples include the *Alianza Kanan Kay*, which is concerned with the entire coast of Quintana Roo (see Box) and *Alianza Itzinkab*, which is concerned with the forested areas of the peninsula.

In a new initiative, COMPACT is participating in a project against malnutrition in the indigenous regions of Quintana Roo that is opening up potential areas of cooperation with governmental agencies and civil society organizations to overcome this serious problem.

An integrating element across all COMPACT's interventions in the Sian Ka'an landscape has been to sustain Mayan culture by promoting the transmission of traditional ecological knowledge through the production of bilingual Spanish-Mayan publications

Conclusions

In its 12 years of work in the Sian Ka'an World Heritage Site, COMPACT has fostered a landscape-level laboratory for initiatives that advance sustainable development, sustain indigenous culture, and build social capital. It has demonstrated tangible progress in improving livelihoods and enhancing conservation, in areas ranging from fisheries, apiculture, handicrafts, community-based tourism and forestry. Using a participatory and community-driven approach, it has been able to open up new perspectives and attitudes among local communities and other

stakeholders. This work relies on partnerships with a broad range of stakeholders and would not be possible without the cooperation of partners in government, academia, business and the NGO sector.

A key role that COMPACT has played and is continuing to play is that of facilitator, helping to convene different partners who share common concerns across a relatively large landscape and seascape. In this respect, the clustering of activities within thematic areas, as discussed in this chapter, has proven to be an important aspect of the COMPACT model. With relatively modest financial investment, but with considerable investment of time and social capital over time, this approach has enabled individual projects supported by COMPACT to scale up to broader, multi-stakeholder initiatives within the Sian Ka'an landscape.

As it develops and expands its partnerships in the coming years, COMPACT has the potential to continue to grow and amplify its impact at increasing geographic scale within the Sian Ka'an landscape and the wider region of the Yucatan Peninsula. At the national level, the Mexican government is drawing on the experience of the UNDP/GEF Small Grants Programme in the Yucatan Peninsula (including COMPACT's work in Sian Ka'an) to develop landscape-level projects in protected areas in other parts of Mexico. Thus COMPACT's impact is reaching beyond the Sian Ka'an to other regions of Mexico. By piloting this integrated approach over an extended period in a globally significant landscape, COMPACT is serving as a model with national and international relevance.

Endnotes

1. http://www.puntaallenalianza.com/
2. http://muchkanankaax.com/
3. http://www.kuxtalsiankaan.com/ak-kuxtal.php