IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 29 October 2014

Please note: this is an archived Conservation Outlook Assessment for Trang An Landscape Complex. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Trang An Landscape Complex

SITE INFORMATION

Country:
Viet Nam
Inscribed in: 2014
Criteria:
(v) (vii) (viii)

Site description:

Situated near the southern margin of the Red River Delta, the Trang An Landscape Complex is a spectacular landscape of limestone karst peaks permeated with valleys, many of them partly submerged and surrounded by steep, almost vertical cliffs. Exploration of caves at different altitudes has revealed archaeological traces of human activity over a continuous period of more than 30,000 years. They illustrate the occupation of these mountains by seasonal hunter-gatherers and how they adapted to major climatic and environmental changes, especially the repeated inundation of the landscape by the sea after the last ice age. The story of human occupation continues through the Neolithic and Bronze Ages to the historical era. Hoa Lu, the ancient capital of Viet Nam, was strategically established here in the 10th and 11th centuries AD. The property also contains temples, pagodas, paddy-fields and small villages.
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SUMMARY

2014 Conservation Outlook

Significant concern

The IUCN evaluation of the Trang An Landscape Complex, which was inscribed in 2014, concluded positively on the potential natural World Heritage values of this relatively small site under criteria (vii) and (viii). The property has been described as “a relatively small but exquisite geological property that displays more clearly than any other on the World Heritage List the end stages of karst landscape evolution near sea level in a humid tropical environment”. (IUCN Evaluation, 2014). However, the property’s small size in the face of a number of current and potentially significant threats raises serious concern. While the values remain in good condition, the boundaries of the property contain areas which detract from core values; there are concerns regarding the standards and consistency of legal protection over the site; and weaknesses in the management planning framework and zoning systems. Of greater concern is the threat of rapidly increasing tourism pressure on the site in the absence of a clear plan and measures to mitigate potentially negative consequences. The property has the potential to become a major tourism asset for Ninh Binh Province and Vietnam but must be very carefully managed to avoid impact and to retain a quality visitor experience.

Current state and trend of VALUES

High Concern
Trend: Data Deficient

Whilst it appears that the property’s values are stable it is difficult to accurately assess trends given the relative newness of this inscription. The World Heritage Committee has recognized the threat posed by development, human activities and increasing tourism and has thus requested the State Party to address the need for boundary modification of the property to better reflect the areas and attributes of OUV and to finalize a tourism management plan to give assurances

that values will be protected in the future. (WHC 38COM Decision, 2014)

Overall THREATS

High Threat

Of greatest concern are two main areas of potential threat to the protection of the OUV of the property. Firstly the expansion of urban areas within the property has been identified in the site's management plan. The State Party recognizes the opportunities for growth in villages with resettlement of locals, and has intimated a future that includes the expansion of urban areas within the property. At present the cultural landscape of paddy fields and rural dwellings provides an appropriate aesthetic landscape foreground to the dramatic and precipitous fengcong and fenglin landscape elements, however an urbanized landscape would be a threat to these rural and natural values. The second most significant potential threat derives from the dramatic increase in tourism doubling to 2 million by 2020. Inadequately planned and managed tourism growth along with its associated infrastructure support and service provision developments would post a significant threat to Trang An.

Overall PROTECTION and MANAGEMENT

Some Concern

Trang An has a reasonably effective protection and management regime in place however, poor site design and boundary configuration coupled with weaknesses in its capacity to plan and manage for rapidly increasing tourism demand raises significant concern. (IUCN Evaluation Mission, 2013; IUCN Evaluation, 2014).

FULL ASSESSMENT

Description of values

Values

World Heritage values

► **Extraordinarily beautiful and awe-inspiring tower karst landscape**
Criterion:(vii)

The tower karst landscape of Trang An is a spectacular system of forest-mantled limestone rock towers up to 200m-high. The property incorporates a footcave enclosed depression (cockpit) landscape that is considered by experts to be the best in the world. The cockpit landscape is characterized by sharp ridges enclosing deep depressions filled by waterways that are interconnected by a myriad of subterranean cave passages, all contributing to a multi-sensory visitor experience. As Trang An is a mixed site blending with the forests are extensive rice paddy fields bordering streams, with local farmers and fisher folk engaged in their traditional way of life. The dramatic mountains, secretive caves and sacred places in Trang An have inspired people through countless generations. (IUCN Evaluation, 2014; WHC 38COM Decision, 2014).

► **An exceptional geological site showcasing the final stages of tower karst landscape evolution in a humid tropical environment**
Criterion:(viii)

The property demonstrates a series of classical karst landforms, including towers, cones, enclosed depressions (cockpits), interior-draining valleys (poljes), foot caves and subterranean cave passages with speleothems. These landforms are a result of the deep dissection of an uplifted limestone massif over a period of five million years. Trang An is unusual in being an

autogenic (rainfed only) karst system. The presence of transitional forms between ‘fengcong’ karst with ridges connecting towers, and ‘fenglin’ karst where towers stand isolated on alluvial plains is an extremely significant feature of the property. Former fluctuations of sea level are evidenced by a series erosion notches in cliffs, with associated caves, wave-cut platforms, beach deposits and marine shell layers. (WHC 38COM Decision, 2014).

Other important biodiversity values

- **Significant biodiversity values related to scenic amenity and karst landform development processes.**

  There are natural biological values that contribute to the scenery and aesthetics of the property and to the evolutionary processes that underpin the development of the property’s complex karst systems. The natural rainforest cover of the landscape ensures that natural karst processes are on-going. The property is also home to the “near threatened” native Chinese Serow (Capricornis milneedwardsi). (IUCN Evaluation Mission, 2013)

Assessment information

Threats

Current Threats

Low Threat

Current threats to the site emanate from the extent of human intrusions and developed areas which have been included within the boundary of the inscribed property. A significant population of 14,000 people reside within the 6,172 ha property. There are new road developments, tunnel developments, tourism development, urban, rural and commercial areas included within the property. For example the extensive infilling of paddy fields and ornamental landscaping work in the vicinity of the Trang An Visitor Centre and the area between the Ninh Binh City and the site constitute the transformation of a

traditional paddy field rural landscape into an inappropriate cultural setting. Other concerns stem from active dredging work being undertaken for maintenance purposes and the impact of domestic goats on the property's values.

► Mining/ Quarrying

Low Threat
Outside site

Limestone mining for cement or for ornamental sculptures is a local industry based on the local high quality Lower Triassic limestone karst exposures. Quarrying areas have been excluded from the property and a larger cement facility was excluded from the buffer zone prior to inscription. Pollution impacts from limestone mining to the south of the property's buffer zone are considered to be minimal due to prevailing winds that carry any dust and pollutants away from the property. Blasting associated with the mining will be heard at some distance and within the property (IUCN Evaluation, 2014)

► Housing/ Urban Areas

High Threat
Inside site

14,000 people reside within the recently inscribed property (SP Nomination, 2013). Extensive infilling of paddy fields and ornamental landscaping work is being undertaken in the vicinity of the Trang An Visitor Centre and also between Ninh Binh City and Trang An. Parts of this transformed area will be used for resettlement of people displaced from elsewhere within the property and will be urbanized. (IUCN Evaluation, 2014)

► Dams/ Water Management or Use

High Threat
Inside site

Active dredging work is undertaken within the property for maintenance purposes. The State Party contends that this does not impact the natural water flow regimes, water quality or water levels. Nonetheless dredging could be undertaken to improve footcave access so has the potential to adversely impact OUV and needs to be the subject of a detailed Environmental Impact Assessment. (IUCN Evaluation Mission, 2013; SP

Nomination Supplementary Report, 2014)

▶ Invasive Non-Native/ Alien Species

Data Deficient
Inside site
Outside site

Two introduced animal species have been identified in the property: one a species of snail, the other being semi-wild goats. Natural karst evolutionary processes are dependent on naturally functioning ecosystems including intact biodiversity. These processes may be impacted by introduced species. Domestic goats in particular are considered to be a threat to natural catchment processes in addition to potentially impacting the near-threatened Chinese Serow (Capricornis milneedwardsii). The SP reports that some local farmers allow cattle to stray onto the property. (SP Nomination, 2013) (IUCN Evaluation, 2014)

Potential Threats

High Threat

Of greater concern are two main areas of potential threat to the protection of the OUV of the property. Firstly the expansion of urban areas within the property has been identified in site's management plan. The State Party recognizes the opportunities for growth in villages with resettlement of locals, and has intimated a future that includes the expansion of urban areas within the property. At present the cultural landscape of paddy fields and rural dwellings provides an appropriate aesthetic landscape foreground to the dramatic and precipitous fengcong and fenglin landscape elements, however an urbanized landscape would be at odds with the rural and natural values of Trang An. (IUCN Evaluation, 2013).
The second most significant potential threat derives from the dramatic increase in tourism doubling to 2 million by 2020. Inadequately planned and managed tourism growth along with its associated infrastructure support and service provision developments would post a significant threat to Trang An.

▶ Housing/ Urban Areas

High Threat

The Management Plan for the Landscape Complex recognizes opportunities for growth in villages; for the immediate resettlement of people within the area; and a future that includes the expansion of urban areas within the property. A cultural landscape of paddy fields and rural dwellings provides an appropriate aesthetic landscape foreground to the dramatic and precipitous fengcong and fenglin landscape elements, however an urbanized landscape is considered a visual threat to these landscapes. (IUCN Evaluation, 2014)

► Tourism/ Recreation Areas

Very High Threat
Inside site

Visitation to Trang An is forecast to double to 2 million people per year over the period 2011 to 2020 raising concerns about the potentially serious impacts this could have on the property's OUV. It is not clear how tourism growth and development is being planned for in a way that will protect the site's values. New tourism infrastructure and associated developments leading from Ninh Binh City and to Trang An reflect that tourism is a key economic driver for the local area. Developments have included a new dual highway; a major gateway; a landscaped highway route; the landscaping-infilling of paddy fields; and a new tourism Visitor Centre with associated large car park. A 70 yr private sector lease has been entered into over a large part of the property to develop and manage tourism. The State Party advises that it will be implementing a tourism plan as part of the Management Plan and that the tourism plan will ensure full protection of the natural features of the site, and establish daily, seasonal and annual limits to visitor numbers. However, this plan has not been completed and IUCN has also expressed concerns relating to the latitude afforded by current laws in permitting tourism and other infrastructure development. (IUCN Evaluation, 2014)

Protection and management

Assessing Protection and Management

► Research

Mostly Effective

There are plans for future research projects to include investigations into the archaeological, geological and ecological heritage within the Tràng An massif and in the area of the Hoa Lu Ancient Capital. The State Party recognizes the need to develop an archaeological master plan as a framework for research, excavation and preservation of archaeological resources; to conduct research on the effects of climate change and to develop a natural disaster risk assessment and response plan. (SP Nomination, (2013) (SP Nomination supplementary report, 2014)

► Monitoring

Data Deficient

Proposals for monitoring programmes have been generally outlined for the property however data is lacking on implementation. (SP Nomination, (2013)

► Tourism and interpretation

Serious Concern

There is currently no public access to sites of special scientific interest within Tràng An, however specialist tours and seminars are planned to take small numbers of people (including students) to visit active excavations and conservation work within the property (SP Nomination supplementary report, 2014). There is a recognized need to develop a standard guiding curriculum for the guides to improve the information and interpretation of heritage values and attributes. There has been substantial investment in allocating resources for marketing and promotion of heritage tourism, including plans for building an exhibition /interpretation centre; training for tour guides; development of an official website for the property, and professional improvement in the promotional materials and publications, such as brochures, maps and other interpretation and information materials. (SP Nomination, (2013). Concerns regarding the capacity of management to cope with projected increases in tourism to 2m p.a. by 2020 have been noted elsewhere.

► Education and interpretation programs

Data Deficient

The State Party plans to increase public outreach through static displays and presentations on the cultural and environmental heritage of Tràng An and to continue education, training and awareness-raising programmes. This will include public awareness raising activities, including allowing opportunities for local communities to participate in heritage management and encouraging heritage education in schools. It also intends to increase public awareness about international conservation and relevant national laws and regulations, through workshops, the media, brochures and advertising campaigns, and to raise public awareness of climate change issues. (SP Nomination, (2013). Data on actual implementation of programmes is however lacking.

► Sustainable use

Data Deficient

The State Party reports that the great majority of residents residing in the property are families of subsistence gardeners and fishing folk who have no detrimental impact on the cultural and natural values of the property, along with some townships and four small resorts, with their limited associated transport and utilities infrastructure. According to the State Party, the property’s policies of sustainable use and management of resources are fully aligned with well recognized and accepted policies and principles for the sustainable development and management of protected areas. (SP Nomination supplementary report, 2014). However, concerns have been noted regarding a development as opposed to conservation emphasis within the Management Plan and the potential impact of unplanned tourism has been noted elsewhere. (IUCN Evaluation, 2014)

► Staff training and development

Mostly Effective

As part of its future planning for the property, the State Party reports that it will build capacity in guiding and interpretation of the property's values including competency training in heritage management for staff at all levels; organize workshops and training courses to build capacity in implementing

laws and regulations for heritage management agencies (including related department and local authorities); improve natural disaster preparedness and mitigation and conduct training to raise awareness on sustainable tourism development (SP Nomination, 2013). Specific training for the management of the karst values of the site would also be beneficial.

► Sustainable finance

Highly Effective

The average budget for the Trang An Management Complex Board is about $US500, 000 per annum and this is considered adequate. In recent years this has come from major capital investment funding and revenue from tourism, in particular from the Trang An ticket sales. (IUCN Evaluation Mission, 2013). Ongoing funding is likely to come from national and provincial government contributions and significant tourism income provided this is directed back to management. (SP Nomination, 2013)

► Boundaries

Serious Concern

All of the key elements of a fengcong and fenglin Karst landscape are present within the inscribed property and the natural processes of Karst development are on-going. However, whilst the property (6,172 ha) is of sufficient size to include all of the values that underpin World Heritage criteria (vii) and (viii), the boundary as selected is not the most appropriate in relation to natural criteria. The site includes developed areas and infrastructure which detracts from the OUV. (IUCN Evaluation, 2014)

► Implementation of Committee decisions and recommendations

Data Deficient

As the property was inscribed in 2014 there has not been the opportunity to assess this aspect.

► Management effectiveness

Some Concern

The State Party has advised that the lessee operations within the property are subject to the objectives and regulations of the property Management

Plan. (IUCN Evaluation Mission, 2013) There is however no formal management effectiveness evaluation system in place.

► Management system

Some Concern

The Trang An Landscape Complex has a Management Plan. It also has a Master Plan for the Hoa Lu Ancient Capital and the nomination document identifies that a Master Plan will be developed for the nominated area consistent with legislation. A specific plan is also to be developed for Tourism. (IUCN Evaluation Mission, 2013). In addition the zoning system (5 zones are provided for) has a number of weaknesses and does not reflect on ground realities.

► Integration into regional and national planning systems

Some Concern

Most of the property is secured within three statutory national protected areas and regulations concerning management, protection and promotion of heritage values have been developed at both central and provincial government level. (SP Nomination, 2013) (SP Nomination supplementary report, 2014) Provincial aspirations are clearly supporting tourism development and its potential benefits so it is essential, the property be planned in an integrated way with regional and indeed national tourism development planning. At this time there is however, no finalized Tourism Management Plan that is binding on the Board, tourism lessees and operators within the Landscape Complex and that defines ecologically sustainable tourism management that protects OUV whilst optimizing the visitor unique experience of this exceptional place.

► Legal framework and enforcement

Some Concern

Trang An is owned by the Socialist Republic of Viet Nam and controlled by the Ninh Binh Provincial People’s Committee. Most of the property is secured within three statutory national protected areas: the An-Tam Coc-Bich Dong Scenic Landscape, Hoa Lu Special Use Forest and the Hoa Lu Ancient Capital. (SP Nomination supplementary report, 2013). IUCN has raised concerns regarding two aspects of the protection: first that several areas lie outside of

the formally designated protected areas and, whilst protected by Prime Ministerial Decree, they are not yet formally designated as protected areas. The second concern relates to the delegation of protection and management responsibility in the context of tourism development through the granting of a 70 year private sector lease over the 3,000 hectare Trang An – Tam Coc – Bich Dong Scenic Landscape. The lease is for the management of protection, conservation, tourist and promotional activities and delegates the management of the tourism services to this private sector interest. There are also four other private resort operations within the property. Concerns stem from this poorly defined protection regime and the latitude afforded by current laws in permitting tourism and other infrastructure development (IUCN Evaluation Mission, 2013) (WHC 38COM Decision, 2014).

► Relationships with local people

Mostly Effective

In February 2012, there were 14,383 residents in the property and 21,109 in the buffer zone, many of whom live in small villages and hamlets. There appear to have been commendable efforts to consult with local people during the nomination process with a view to securing broad based support for the site to become World Heritage. This included awareness raising campaigns, meetings and surveys to ascertain local support. Some local people were also involved in the development of the Management Plan for the Landscape Complex (IUCN Evaluation Mission, 2013)

Overall assessment of protection and management

Some Concern

Trang An has a reasonably effective protection and management regime in place however, poor site design and boundary configuration coupled with weaknesses in its capacity to plan and manage for rapidly increasing tourism demand raises significant concern. (IUCN Evaluation Mission, 2013; IUCN Evaluation, 2014).

► Assessment of the effectiveness of protection and management in

addressing threats outside the site

Serious Concern

The main threat to the OUV of the property emanating from external pressures is unplanned and rapidly growing tourism. Trang An is a relatively small site within which an even smaller core area protects the natural World Heritage standard scenic and karst values. The site is already home to 14,000 residents to which are added the pressures of increasing tourist numbers and associated infrastructure. The capacity of management to deal with this is untested and not yet planned for. In addition external threats from limestone quarrying in the buffer zone will need to be monitored. (SP Nomination supplementary report, 2014; IUCN Evaluation, 2014)

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Extraordinarily beautiful and awe-inspiring tower karst landscape

High Concern
Trend:Data Deficient

The Trang An Landscape Complex contains a relatively undisturbed “core area” of superlative natural phenomena and of exceptional natural beauty and aesthetic importance which is quite confined in its total area. (IUCN Evaluation mission, 2013). Whilst the site’s natural values thus remain intact, significant concerns relate to the adverse impacts of incompatible development and landuse within the property boundaries which are compromising these values. Furthermore the imminent threat from tourism growth is considered a potentially very significant threat to the values of Trang An given it’s relatively small area. (IUCN Evaluation, 2014). As this is a new World Heritage site data on trends is unavailable.

► An exceptional geological site showcasing the final stages of tower karst landscape evolution in a humid tropical environment

Low Concern
Trend:Data Deficient

The property displays a natural area of fengcong dominated karst in the inner part and protects an overall diverse karst landscape. The karst values of Trang are again substantially intact, however, are equally threatened by areas of development and human activity and by the potential impact from growing tourism (IUCN Evaluation, 2014). Potential dredging impacts and potential alteration to the footcaves, including the adverse provision of utilities (cave lighting) are of concern.

Other important biodiversity values

► **Significant biodiversity values related to scenic amenity and karst landform development processes.**

There are natural biological values that contribute to the scenery and aesthetics of the property and to the evolutionary processes that underpin the development of the property's complex karst systems. The natural rainforest cover of the landscape ensures that natural karst processes are on-going. The property is also home to the "near threatened" native Chinese Serow (Capricornis milneedwardsi). (IUCN Evaluation Mission, 2013)

Summary of the Values

► **Assessment of the current state and trend of World Heritage values**

High Concern

Trend: Data Deficient

Whilst it appears that the property's values are stable it is difficult to accurately assess trends given the relative newness of this inscription. The World Heritage Committee has recognized the threat posed by development, human activities and increasing tourism and has thus requested the State Party to address the need for boundary modification of the property to better reflect the areas and attributes of OUV and to finalize a tourism management plan to give assurances that values will be protected in the future. (WHC 38COM Decision, 2014)

► **Assessment of the current state and trend of other important**

biodiversity values

Low Concern

Trend: Data Deficient

The forest cover and associated fauna are an integral part of the natural Karst landform development process at Trang An and the management of these values, their condition and change in condition and threats such as the presence of semi-wild domestic goats, is unknown but needs to be monitored to assess any changes. (IUCN Evaluation mission, 2013).

Additional information

Key conservation issues

▶ Increase in tourism

Local

In order to plan for and mitigate against any negative impacts from the potential doubling of visitor numbers from one to two million in the period 2011 to 2020, it is essential that the State Party develop and implement the proposed tourism plan as a matter of urgency. This plan hopes to ensure full protection of the natural features of the site. (IUCN Evaluation, 2014)

▶ Urban growth and urbanization of the landscape

Local

The Management Plan for the Landscape Complex recognizes opportunities for growth in villages, for the immediate resettlement of people within the property and a future that includes the expansion of urban areas within the property. However, an urbanized landscape is considered a threat to the traditional agricultural landscapes of paddy fields and rural dwellings which provide an aesthetic landscape foreground which is sympathetic to the dramatic and precipitous fengcong and fenglin landscape elements. (IUCN Evaluation, 2014). In line with this the site’s boundaries also need to be reviewed and rationalized to ensure they include only the areas of OUV and are designed in such a way as to protect these values (WHC Decision, 2014).

▶ Uncertain threat posed by semi-wild goats

Local

The presence of the introduced species of semi-wild goats is considered to be a threat to natural processes within the property which underpin karst formation. In addition the management of goats is seen as important to ensure the protection of other biodiversity values including the near-threatened Chinese Serow (Capricornis milneedwardsii). (IUCN Evaluation, 2014)

Benefits

Understanding Benefits

▶ Outdoor recreation and tourism

Eco-tourism contributes substantially to the local economy. The further promotion of sustainable tourism may increase employment and strengthen it further. It is hoped that the growth in tourism may contribute to a reduction in poverty for the residents, whilst fostering an optimal use of resources. (SP Nomination supplementary report, 2014)

▶ History and tradition

There has been a remarkably long and continuous cultural history at the site for around 30,000 years and traditional festivals and cultural events are commonplace. (SP Nomination, 2013) (IUCN Evaluation, 2014)

▶ Fishing areas and conservation of fish stocks, Traditional agriculture

Traditional landholders undertake agriculture that includes growing rice, raising livestock (ducks) and fishing. (IUCN, Evaluation mission, 2013)

▶ Does management of the site provide jobs (e.g. for managers or rangers)?

Many locals are directly involved in the property as boat owners and operators, maintenance workers, security workers and many derive income by providing accommodation, supplying food and selling handicrafts (IUCN

Evaluation mission, 2013)

Summary of benefits

Benefits are derived from some 14,000 residents living within property and another 21,000 or so inhabitants in the buffer zone, which encircles the property. Tràng An is claimed by the State Party to be a unique example in South east Asia of human-environment interaction where local people live and work following traditional subsistence practices, and have been present for 30,000 years. (SP Nomination, 2013)

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	N.A.		No data

REFERENCES

№	References
1	IUCN (2013) Evaluation Mission Trang An Landscape Complex IUCN Gland, Switzerland
2	IUCN (2014) Evaluation Report. Trang An Landscape Complex IUCN Gland, Switzerland
3	State Party of Vietnam (2013) Trang An Landscape Complex Nomination Submitted to 38 COM
4	State Party of Vietnam (2014) Trang An Landscape Complex Nomination Supplementary Report Submitted to 38 COM
5	UNESCO (2014) Statement of Outstanding Universal Value Trang An Landscape Complex http://whc.unesco.org/en/list/1438 Accessed August 2014
6	World Heritage Committee (2014). Decision 38 COM 8B.14 Doha, Qatar