



# Nature – Culture Linkages in the Cu Lao Cham – Hoi An World Biosphere Reserve

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## ■ Abstract

*The Cu Lao Cham- Hoi An in Vietnam was designated as a UNESCO Biosphere Reserve (CBR) in 2009 based on its natural and cultural values. Currently, these values are facing challenges from the threat of disasters and socio-economic development. Heavy typhoons and floods are impacting the ancient town of Hoi An and have given rise to collapsing river banks and beach erosion. Sedimentation and pollution are attacking coral-reefs and sea-grass beds. Moreover, there are several development projects on the river sand-dunes and beaches. These result in changes to the natural morphology, fragmentation of aquatic habitats, and alternations in the wildlife-cycle. In this paper, the author describes the values of the CBR and how the CBR zoning helps to conserve and promote them, as well as to mitigate the threats upon them. This paper explains that the conservation strategies and management are defined based on the relationship between the Marine Protected Area (MPA) and Hoi An Ancient Town (World Cultural Heritage)(Hoi An People's Committee, 2015) and it clarifies that the implementation of these measures aims to support sustainable development in Hoi An city and building resilience to climate change throughout the entire CBR.*

**KEY WORDS:** Cu Lao Cham – Hoi An, Biosphere Reserve, Nature-Culture Linkage

## ■ 1. Introduction

Located at the mouth of the Thu Bon river, the Cu Lao Cham-Hoi An World Biosphere Reserve(CBR) is marked by a diversity of coastal and estuary ecological systems. Canebrakes, sand-dunes, mangrove forests, sea-grass beds, coral reefs, seaweed masses, and natural forests on the islands, as well as the landscape and seascape, provides the city of Hoi An and its surrounding coastal and marine areas and adjacent islands with many ecological services, creating favorable conditions for socio-economic development, especially eco-tourism (Hoi An People's Committee 2015).

Being aware of, and consenting to, the principles and targets set by the UNESCO Man and the Biosphere Programme (MAB), the People's Committee (PC) of Quang Nam province proposed, in 2008, the establishment of the CBR<sup>1</sup> as an integration between the natural and the cultural environment, as well as between the conservation of nature, cultural heritage, and the protection of the community environment (Quang Nam People's Committee 2008). UNESCO recognized the proposal from the PC of Quang Nam and delivered the certificate of World Biosphere Reserve to Cu Lao Cham – HoiAn in 2009 (UNESCO 2015).

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<sup>1</sup> World Biosphere Reserve (WBR) is a system that includes natural and cultural values. Both categories of values are interrelated and create the basis for the implementation of the three functions of a WBR: (1) to preserve natural and cultural resources and their linkages; (2) to develop an environmentally-friendly economy; and (3) to support monitoring activities, scientific research, education programs, communication plans for local communities, and to raise stakeholders' awareness on environmental matters. A strategic objective of a WBR is to maintain life-quality in both a spiritual and material sense. This is also the objective of the 17 Sustainable Development Goals of the United Nations (Vietnam Government 2012; Vietnam Government 2018)

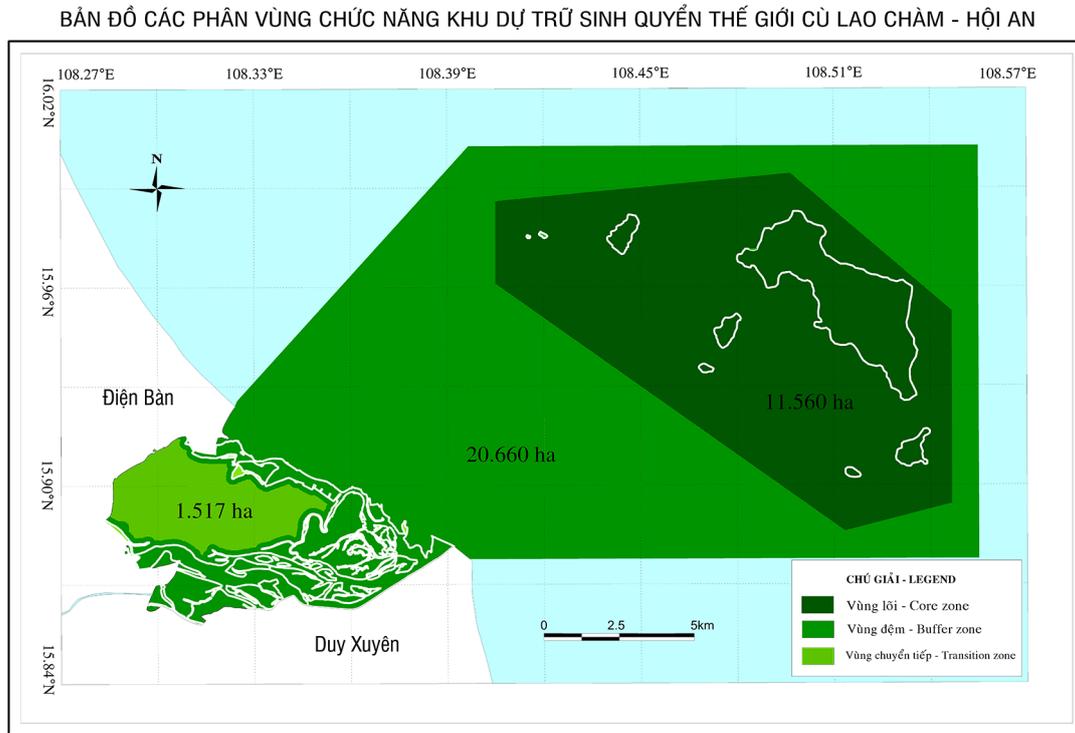


Figure 1: The CBR zoning map

The river mouth with its mangrove forests can be considered a “bridge” that connects the biodiversity of the Marine Protected Area (MPA) to the cultural values of Hoi An Ancient Town. This is a basic principle of the CBR conservation strategy (Hoi An People’s Committee 2015; Quang Nam People’s Committee 2008), which is also reflected in the zoning of the CBR [Fig. 1]:

- *The core zone* comprises almost the entire area of the MPA and includes strictly protected areas and ecological rehabilitation zones. It has a total area of 11,560 hectares to carry out the biodiversity conservation function of the CBR.
- *The buffer zone* has a total area of 20,660 hectares and includes the area around the core zone, the buffer of the river, natural wetlands, and the beaches of Hoi An city. It consists of the marine ecosystem and its close interactions with the core zone: mangrove forests, which play an important role in controlling water quality, as well as the aquatic ecosystems, habitats, and species linked with the river mouth and the islands.
- *The transition zone* is made up of Hoi An city, with a total area of 1,517 hectares, which includes the ancient town of Hoi An, a World Cultural Heritage property.

In this paper, the author describes how the BR zoning system in the CBR integrates human-ecology and natural-ecology. The paper shows how the CBR has become a great place for stakeholders in different cultural and natural sectors to work together and to work out integrated solutions for the conservation and development of the heritage city and its larger ecosystem in a sustainable way. Furthermore, the paper explains how all activities are coordinated towards the enhancement and harmonization of the relationship between humans and the biosphere.

## 2. Significance of the CBR

Hoi An Ancient Town (recognized as a World Cultural Heritage property in 1999) is an exceptionally well-preserved example of a South-East-Asian trading port dating from the 15<sup>th</sup> to the 19<sup>th</sup> century. Natural and cultural resources are important assets of the Hoi An World Heritage city. They do not exist in an independent way, but they influence each other, generating interactions. The commercial port, international shipping, and traditional villages were created on account of the river basin, beaches, islands, and ocean. The appearance of Hoi An Ancient Town on the sea silk-road in the past is an important evidence for culture and nature interrelations. Merchants and researchers came from Japan, China, the Middle-East, India, Europe, and other countries for commercial exchanges and set-up an international community. Their families

have been living in Hoi An ever since. Therefore, the outstanding universal value of the World Heritage property is also supported by the continuous cultural life of the local communities, beyond just the historical houses (Hoi An People’s Committee 2014)

In addition, the MPA (created in 2006) consists of a marine biodiversity conservation area which, in this case, also includes the tropical forests on the islands. More than 357 hectares of coral-reef, 80 hectares of sea-grass beds and seaweed, 10 beaches, and 1,500 hectares of primary forests are protected by the MPA and the local people (Long, Thao and Trinh 2017). The natural and cultural resources are tourist attractions and life-sustaining for more than 3,000 people on the islands.

Recently, in 2017, a traditional practice of the communities living in the CBR received another designation from UNESCO, the *Bai-Choi singing* is representative of Vietnam’s intangible cultural heritage (Vietnam 2017). This is a folk-singing genre of a coastal Vietnamese community. People use picture cards and traditional musical instruments to play in village huts such as public place, temple yards and village stadium. It is often performed at the spring festival and resembles a game. The Bai-Choi songs are moral lessons related to the living experience of the people in these communities. The game and songs were created by Madarine Dao Duy Tu (1572-1634) to help the locals protect their crops (Vietnam Plus 2019).

■ 3. Current management systems of the CBR

In holding three UNESCO designations (World Heritage, Biosphere Reserve, and Intangible Cultural Heritage), Hoi An city is promoting the conservation of natural and cultural values in their development strategy. There is a proposal for nominating Hoi An as an ecological-cultural-tourism city in 2030. With this idea in mind, all departments and divisions of the city have begun integrating this mission into their plans and activities, establishing goals for the whole city. The CBR management board coordinates all activities that are related to the cultural and natural values of the city [Fig. 4]. Through the development procedure, the CBR tries to create a safe place for stakeholders to work together and figure out integrated solutions. There are several approaches that must be integrated into the action plans, such as the ecosystem approach, watershed approach, integrated coastal management, and the ridge to reef (2R) approach, in order to develop management models. One model which has been

successfully applied in the CBR is the 2013 Bai-Huong village sub-MPA co-management model [Fig. 3]. In this model, the Quang Nam province has been assigned 19 of the 235 hectares of Cu Lao Cham MPA area for the local fishermen in Bai Huong village to manage the marine resources and develop eco-tourism based on the conservation results (Quang Nam Province People’s Committee 2013). This is a shared decision-making process that includes the government, the local communities, and other stakeholders. The local fishermen created resource management plans by themselves. Using this system, the local partners will be the real owners of the natural and cultural resources. They are decision-makers in the maintenance of the outstanding universal value of the Hoi An World Heritage city.



Figure 2: Coral bleaching (top and center) and sand dune concretion in river (bottom) (Source: Author 2017)

The master plan and implementation program of the CBR is continuously in the making, being updated, and coordinating with stakeholders, including the four main entities: the government, scientists, the private sector, and the local people (Hoi An People’s Committee 2015) [Fig. 3]. The majority of the leaders in the city were invited to

be members of the CBR management board. This is an important characteristic of the system which serves to facilitate the collection of information and data, to discuss and to reflect on at workshops and meetings, to analyze problems, and to find out solutions. All of the CBR coordinators are responding to the balance between conservation

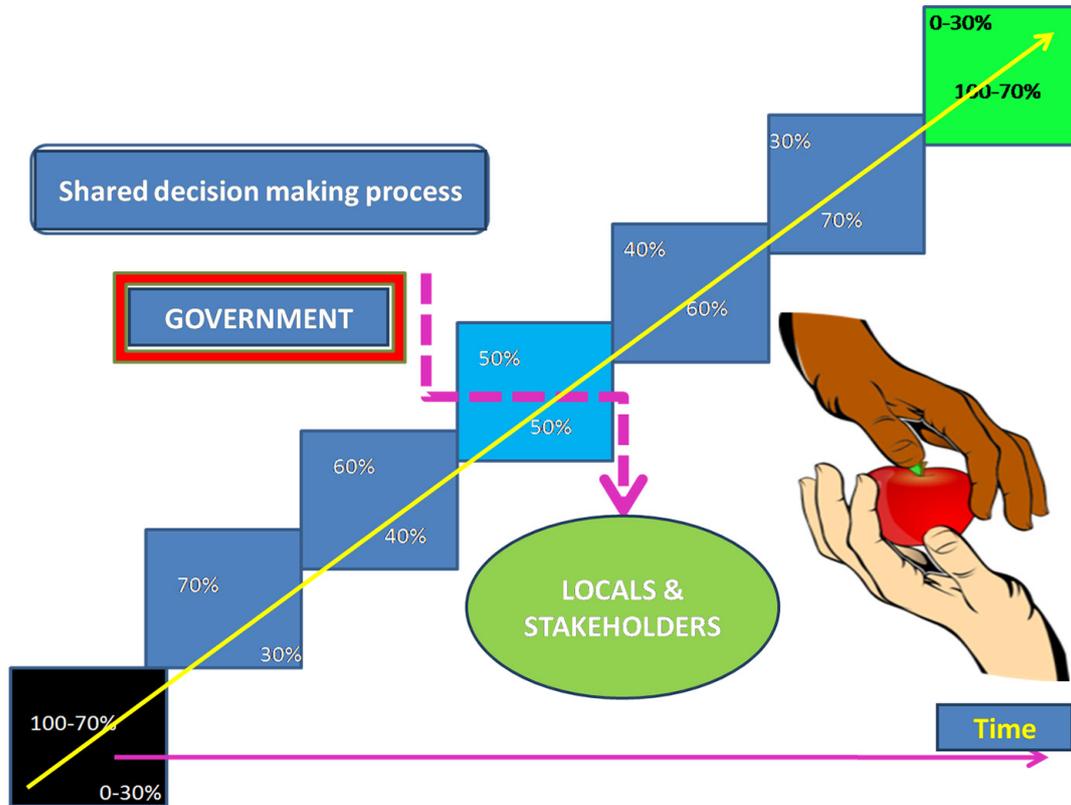


Figure 3: The co-management model in CBR (Source: Author)

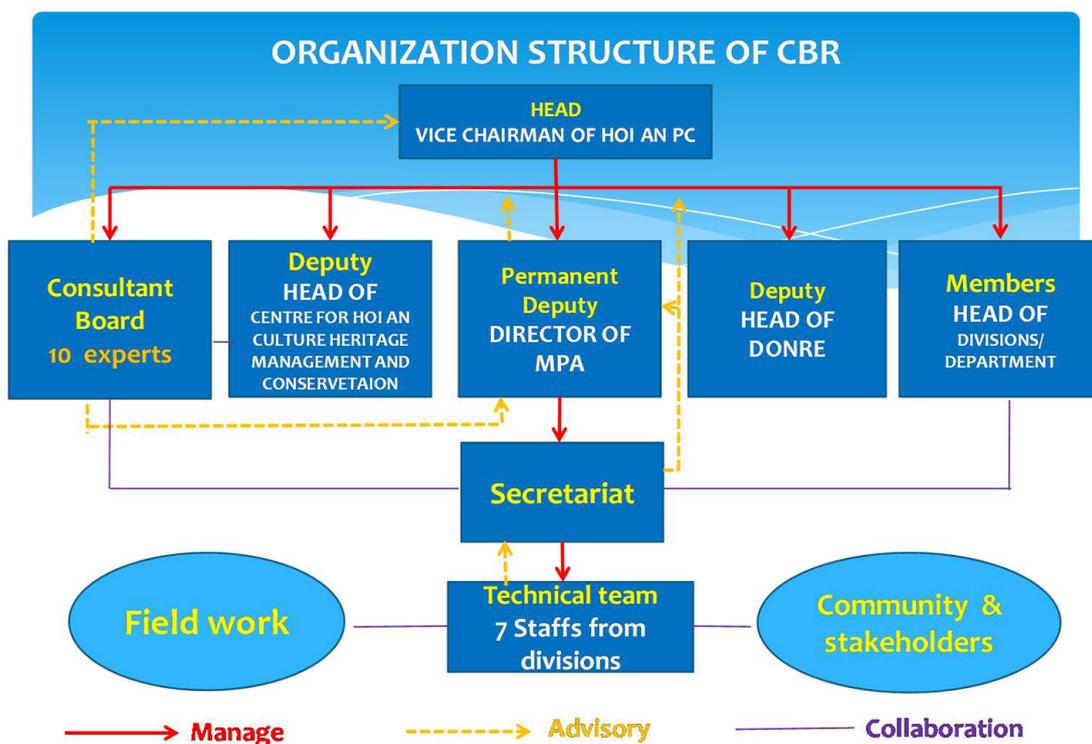


Figure 4: CBR organization structure (Source: Hoi An People’s Committee 2015)

and development, focusing on sustainable development and resilience to climate change.

The CBR not only applies effective methods for the coordination of its activities through the participation of stakeholders but also executes the SLIQ model (System thinking – Landscape planning – Inter-sectoral coordination – Quality economy) [Fig. 5] (Nguyen 2018) in development projects and for the sustainable development of Hoi An World Heritage city.

The CBR has not only created a good relationship with local communities and stakeholders working together on conservation, livelihood development, eco-tourism, and education but it is also a space for system thinking, reflections on linkages with nature, and harmonization between humans and the biosphere. It is a wonderful foundation for sustainable development. Furthermore, the CBR integrates and adapts other international, national, provincial, and even local instruments. The IUCN’s Red List and Vietnam’s Red Data Book provides the basic criteria used to make plans for the protected areas, to propose projects or research, and especially related to harvest and the use of natural resources in a sustainable manner related to species, habitats, or ecosystems. Since the CBR was established in 2009, the communication, education, and research programs have been embedded into the compliance with the Convention on International Trade in Endangered Species in the Wild (CITES)(Management Board of Cu Lao Cham – Hoi An BR 2015). These programs have raised awareness and had an impact on the actions of the local people. They have not only stopped hunting and eating sea-turtles but also have been volunteering to protect and help them face challenges from disaster, climate change, and socio-economic development.

The Government agencies are using the CBR and its protected areas to increase sustainable fishery use. This is an important action so that the European Committee will remove the 2017 IUU (Illegal – Unreported – Unregulated) yellow card that Vietnam was flagged with.

■ 4. Challenges to the conservation of the CBR

Natural resources, especially in marine ecosystems such as in the CBR, are very sensitive to climate change and are facing hazards as well as impacts from socio-economic activities along river basins, on beaches, in the ocean of Hoi An city, and along the coast of Vietnam. There are usually around 10

typhoons, which cause flooding, per year in the central coast of Vietnam (UNDP 2015). They are directly impacting the housing structures of the ancient town, making river banks collapse, and eroding the beaches. Sediments and pollution from the mainland, following the Thu Bon river basin, are attacking the coral reefs and sea-grass beds in the vicinity of the islands. Fishing boats, tourist speed-boats, and ship movement, in general, jeopardize marine habitats and aquatic ecosystems in the MPA.

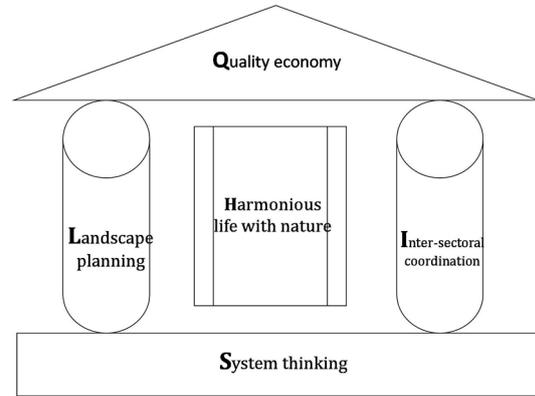


Figure 5: The SLIQ model (Created by Vietnam Man and Biosphere Programme National Committee) (Nguyen 2018)

Construction along the rivers, on the sand dunes and on the beaches, modifies the natural morphology, impacts the direction of the river flow, and puts the ecosystem’s health in danger thus generating the loss of the nursery of species, habitat loss, and species lifecycles alternation. Because of these negative impacts, the CBR lost more than 40 hectares of sea-grass beds within ten years (2008-2017) (Long, Thao and Trinh 2017). This is an important lesson for the city to keep in consideration when preparing a new building strategy and master plan. The sustainability of the heritage city can only be based on the balance between development and conservation, according to the principle of harmony between people and nature (Nguyen 2018).

In addition, the quality of the tropical forests upstream is reducing. A hundred hydropower reservoir dams store water during dry periods but release water during the rainy season. This operation is creating salt-intrusion during the dry season and has increased flooding in the rainy season.

Some of the mitigation activities are being undertaken as part of the general strategy of the CBR and Hoi An city. These activities reflect that socio-economic development should be based on the linkages between natural and cultural resources. This linkage is helping the city to raise its resilience

to climate change. For instance, the city has built concrete embankments to protect the structure of the old houses in the ancient town. Ecological dykes are used to maintain the sand dunes, river-banks, and beaches [Fig. 6], and the mangrove forests at the river mouth are being restored.

However, the value of the Hoi An cultural heritage is not only in the architecture of its historic houses but also in the traditional lifestyle of local people. Currently, this ancient town is a very good place for commerce service. Almost all tenants want to change the structure of the buildings and want to rebuild the historical houses, adapting them to commercial functions. The Government and heritage conservation agencies are trying to manage these activities by applying regulations on construction work, but they cannot control this negative development entirely. There are many people from other cities moving into the town in order to start commercial and service business activities. Such activities and modern life are changing and impacting the local traditional lifestyle, which is the soul of the World Heritage property.

## 5. Conclusion

Hoi An holds three international designations from UNESCO, which gives this heritage city advantages when compared to other cities in coastal Vietnam. The three designations include intangible and tangible cultural heritage and natural heritage (with the BR) and providing opportunities to work on nature-culture linkages at the management level. The CBR, which covers the larger area of these designations, has created its strategy involving a diversity of stakeholders, applying effective approaches to management models, raising the community's awareness on natural-cultural linkages, emphasizing biodiversity conservation, protecting the historical structure of Hoi An Ancient Town, and improving the capacity of the local communities on disaster prevention, post-disaster recovery, and their resilience to climate change.

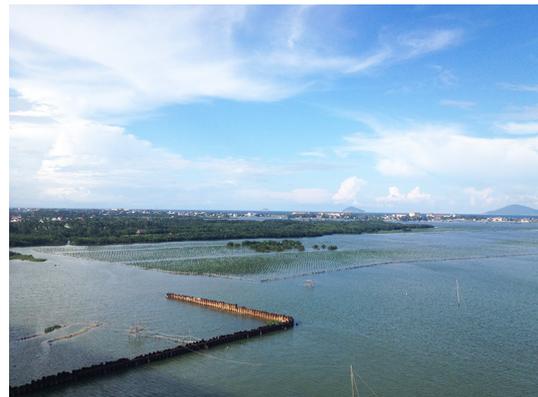


Figure 6: Ecological dyke (top and center - Source: Vu My Hanh) and mangrove forest rehabilitation (bottom - Source: Author)

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