From Vernacular to World Heritage

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Transformation and changes of vernacular heritage

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Chimneys in the Chorá of Pátmos
(© *L. Montoni, 2018*)

The vernacular heritage is characterised by its strong link with the physical, social, cultural and economic context of which it belongs. The vernacular settlements, the morphology of the buildings and the construction techniques depend on the natural resources available, the limits and potential of the territory, the type of society, the economic and social conditions, the culture that influences the way of life of a given society. When one of these factors change (environmental, social, cultural or economic context), vernacular architecture inevitably undergoes a transformation, to adapt to the new context. For this reason the vernacular heritage is intrinsically much more vulnerable than the monumental one, as it is strongly dependent on the transformations of its surroundings. In many countries, the lack of specific regulations for the conservation and protection of the vernacular heritage further increases its vulnerability. But in a broader view, the vulnerability characteristic of vernacular architectures is determined by their ability, widely tested, to adapt to the changing needs of both inhabitants and the community: vulnerability lies more in tacit knowledge, inadequate or lost, applied in management of change or pressure for adaptations beyond their transformative capacities.

The fast and recent changes in the global environment and within human society determine a range of new pressures that are quite different to those experienced in the past. Consequently, the heritage management practices will have to evolve to reduce the impact of novel threats and to recognise the need for a shift from damage mechanisms, like climate changes, epidemic disease, socio-economics, cultural context changes, and the potential requirement for radical interventions.

Main changes affecting World Heritage

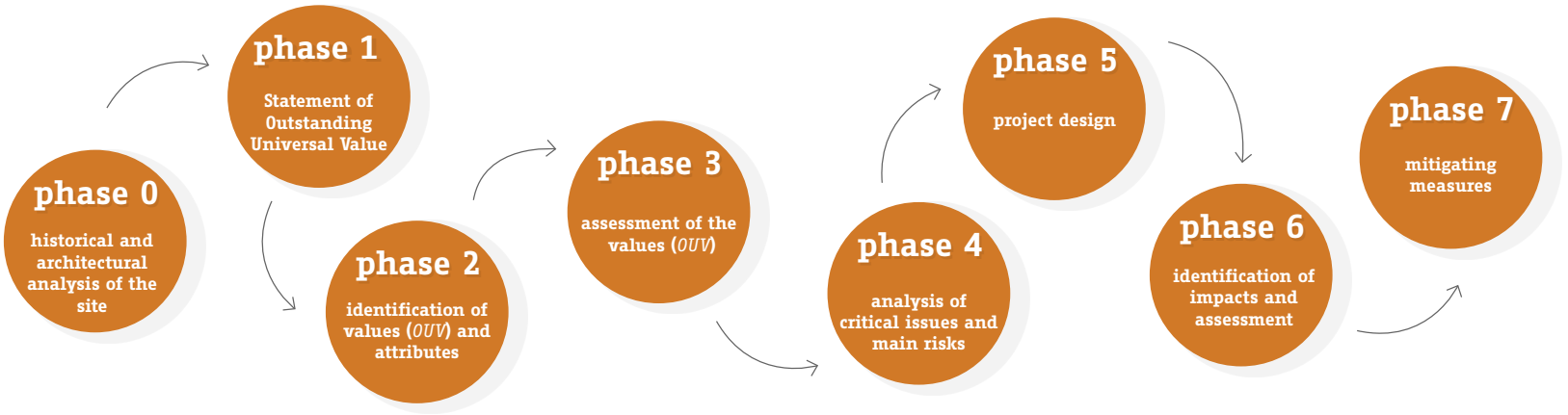
The transformation actions of a World Heritage Site are harmful, as they can endanger the values that have given the worldwide recognition. In 2008, the World Heritage Committee approved a list containing 14 risk factors leading to changes that can adversely affect a site's OUV (Outstanding Universal Value). When a World Heritage property presents one of the risk factors identified on the list, it can be inscribed on the List of World Heritage in Danger. These factors may correspond to cases of ascertained or potential danger, and are the result of transformations due to natural disasters (earthquakes, volcanic eruptions, fires, cyclones, etc.), to climate change (floods, desertification, sea level rise, etc.), or to anthropogenic causes (effects of regional planning project, lack of conservation policy; armed conflict, etc.) (Francini, 2019).

Due to the enormous impact of natural disasters, many studies focus on the vulnerability assessment and on the risk management in cultural heritage affected by natural hazards (Jokilehto, 2000; UNESCO, 2007; UNESCO et al., 2010; ICCROM, 2016). Indeed, natural disasters pose risks not only to the heritage physical attributes, but also to the life of communities and visitors, as well as having obvious negative consequences for the local economy. The tools for reducing disaster risk are concerned not only with protecting the property from major hazards, but also with reducing underlying vulnerability factors, such as loss of tacit knowledge, inadequacy of scientific and technological knowledge, lack of maintenance, inadequate management, progressive deterioration, or ecosystem buffering that may cause hazards eventually to become disasters (UNESCO et al., 2010).

With regard to the impacts of climate change on cultural heritage, in recent years, the most important institutions that address heritage management policies have released numerous studies and analyses on the subject (Australian National University, 2009; Markham et al., 2016; UNESCO, UNEP, 2016; ICOMOS, 2019; Gravari-Barbas, 2020). The report *World Heritage and Tourism in a Changing Climate* (UNESCO, UNEP, 2016), analysing 35 sites in 31 countries, shows how climate change is growing and affecting sites in all types of environments and in all regions. All the World Heritage sites are presumably impacted by climate change, but some are more at risk than others. Rising water levels, for example, threaten to cause the disappearance of World Heritage properties near the coast. Extreme weather events cause considerable damage to other properties. We need, therefore, to better identify the climate vulnerability of World Heritage Sites, identifying those that are most at risk and assessing the climate threats to their OUV, integrity and authenticity (UNESCO, 2007). It is also necessary to understand how to prioritise our efforts in those sites, identifying which ones need measures and interventions more urgently. Changes due to causes of anthropogenic origin, which have also been growing in recent years, can determine a very wide variety of negative impacts on OUV, especially in the vernacular heritage, strongly influenced by the social and cultural context. Furthermore, man-made transformations that do not respect the territory or heritage can increase the vulnerability of sites and consequently the risks caused by natural disasters or climate change. The threats to heritage caused by changes of anthropogenic origin are highlighted in the report "State of Conservation of World Heritage Properties" (Veillon, UNESCO, 2014). Based on the analysis of 2600 reports on the state of conservation drawn up between 1979 and 2013, this document demonstrates that the factors that had a greater negative impact on World Heritage properties related primarily to management aspects (75%), then to the presence of buildings or development plans incompatible with the property (50%), to changes in the social / cultural uses of heritage, including impacts of tourism (30%), and to the development of transportation infrastructures (24%).

World Heritage management and impact assessment tools

The main tool for the proper management of World Heritage sites is the Management Plan, which has been made mandatory since 2002 by the World Heritage Center. The Management Plan is a strategic



Process of Heritage Impact Assessment (© *L. Montoni, Here Lab-UNIFI, 2019*)

and operational document aimed at guaranteeing the conservation of the OUV of the property for present and future generations. It is a tool capable of analysing, through the involvement of various subjects and stakeholders, the cultural and socio-economic context, in order to promote coordinated and shared actions of protection and enhancement able to face the threats that interfere with the maintenance of OUV (UNESCO, 2013).

The basic tool for coordinating management actions is the Periodic Reporting. It is required every six years. It provides a periodic review of the effectiveness of the management system and an assessment as to whether the Outstanding Universal Value of the properties inscribed on the World Heritage List is being maintained over time.

Risk analysis is a process that is adopted in the phase of developing a site management plan, in order to reduce the risk factors that could change the processes and management systems with respect to the planned results. Considering likelihood vs severity of a potential hazard makes it possible to undertake risks assessment and setting priorities. To reduce or eliminate risks, measures should lead to the mitigation of the severity of the damage (with protective measures) and / or likelihood (with preventive measures).

In light of the growing threats on heritage caused by transformations, wrong policies, inadequate management and excessive or inappropriate tourism, ICOMOS has proposed the adoption of a specific tool for assessing the impacts on WH properties. The Heritage Impact Assessment (HIA) is a methodology created as support for the managing of WH properties in circumstances, where some form of change may affect the OUV of those sites. This tool can be used also very early on in a planning process, in order to inform the development design in a pro-active rather than in a reactive manner. It is an adapted version of the EIA to the heritage, focused on the values of the OUV. It was introduced by ICOMOS within the *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS, 2011), and allows it to respond to the transformation needs of the sites in a systematic and coherent way. The guide provides general indications for the assessment, tables for the classification of the attributes used for the assessment, and for the evaluation of the weight of the change. The combination of these factors allows to identify the potential significance of the impact (adverse or beneficial) on the site. The aim of this tool is to safeguard the values that allowed including the site on the World Heritage list. The results and conclusions of the HIA are therefore integrated into the planning and decision-making process, to mitigate the negative effects and improve the positive aspects of a project on the Outstanding Universal Value (OUV) of a property (Francini, 2019). The strength of this assessment tool lies in its being multidisciplinary, recognising environmental, cultural and social aspects as part of the identity culture of a Heritage.

CATEGORIES	VALUES (OUV)	ATTRIBUTES	GRADING
CULTURAL / RELIGIOUS / ARTISTIC	The continuity of the teachings of the Greek orthodox church since 1713 *(authenticity)*	Modern-day activities of the Patmiada School.	●
	Amasing treasure of manuscripts and printed books *(authenticity)*	Monastery library.	●
	Religious ceremonies that date back to the early Christian times are still being practised unchanged *(criterion III)*	Ritual of the Washing of the Feet in Easter Week.	●
	Museums *(potential OUV)*	Circuit of the Museums (Nikolaides House, Simandiri House, museum of the monastery Saint John, museum of the monastery Zoodochos Pege).	●
	High concentration of sacred art *(potential OUV)*	Collections of representative ecclesiastical objects and monumental Byzantine paintings preserved inside the Monastery of Sain John and the various churches of Chorá.	●
ARCHITECTURAL / RESIDENTIAL	The material fabric and design features of the significant elements and their organisational patterns provide an authentic and credible expression of the site's stylistic and typological models *(authenticity)*	The simple cell, called *monospito*, with the four variants.	●
	The alterations that have taken place through the ages and under the influence of the historical conditions allow the visitor to see even today the distinct phases *(integrity)*	Distinct characteristics between Byzantine buildings and buildings with neoclassical influence.	●
	Construction of three windmills strarting from 1588 *(potential OUV)*	Three windmills located at the northeast of Chorá.	●
ARCHITECTURAL / RELIGIOUS	*Greek Orthodox pilgrimage centre of exceptional architectural interest (criterion IV)*	Monastery of Saint John the Theologian, the Cave of the Apocalypse and the settlement of Chorá.	●
	Large number of churches distributed within the Chorá *(potential OUV)*	St. Apostoloi, St. Lesvia, St. Vasileios and Thalaleos, St. Demetrios, St. Anna, St. Ioannis Theologos, St. Chrysostome.	●
HISTORICAL LANDSCAPE	Relationship between human and natural landscapes *(potential OUV)*	The entire settlement of Chorá with the Monastery of St. John stand at a dominant position of the island and mark the profile of the hill (The landscape is protected by the provisions of the Archaeological Law 3028/2002 and the ministerial decisions No. 407/2007).	●
	19th century urbanisation processes *(potential OUV)*	Connection between Skala and Chorá built in 1819 as the first public road, named Aporthianos Road.	●
ENVIRONMENTAL	Integrity of the natural landscape and morphology *(potential OUV)*	The mountain slope of Pátmos, defined by the present end of Skála and the settlement of Chorá, is recognised as being of *"special natural beauty"* under the authority of the 4th Ephorate, in 1968 legislation.	●
	High variety of botanical species *(potential OUV)*	Varieties of native botanical species (*Olea europaea, Citrus, Vitis vinefera* ...).	●
HISTORICAL / ARCHAEOLOGICAL	The town of Chorá on the Island of Pátmos is one of the few settlements in Greece that have evolved uninterruptedly since the 12th century *(criterion III)*	From the Monastery, built in 1088, to the last residences built in the 20th century.	●
TECHNICAL	Conservation of morphological characteristics and construction techniques *(authenticity)*	• Grey granite stone from the Manolakas quarry (now abandoned) and beige-ochre limestone from the Megalo quarry; • the structure of the openings is made using the technique of the architrave system, called *mantoma*; • stratification of the slabs with: cypress logs called fides; reeds; lobsters (dry bushes) and algae; earth; • flat cover; • white plaster externally.	●
CULTURAL HERITAGE	The community through which it is possible to safeguard the artistic and intellectual values of the monastery, traditions and rituals *(authenticity)*	Activities of the monastic community.	●
	Sites where two of the most sacred Christian works were composed: the Gospel of St. Jhon and the Apocalypse *(criterion VI)*	The Cave of the Apocalypse and the Monastery of Saint John.	●
	Heritage of productive and artisanal techniques (potential OUV)	Realisation by some workers of the typical tile of Pátmos, still used in the houses of Chorá.	●
	Strong religious feeling *(potential OUV)*	Important pilgrimage destination.	●

HIA applied to the Chorá of Pátmos

The HIA methodology was applied to the case study of Pátmos to assess the impacts of possible rehabilitation scenarios, and evaluate the most appropriate intervention for the enhancement of the vernacular heritage. The assessment tool supported the design process, collaborating in defining intervention priorities to reduce the potential risks of the site, minimise negative impacts and maximise positive effects on the OUV (Dipasquale et al., 2020).

In a first phase, the information deriving from interviews, direct observation of the site, recommendations and evaluations of the 2014 Periodic Reporting were processed, in order to identify safety needs and risk factors. A Risk-Based Thinking approach was adopted, in order to direct the strategies towards rehabilitation projects capable of minimising the main risks for the preservation of the identity of the site. In Chorá of Pátmos the main factors of risks emerged are: depopulation; seismic risk; decay of some areas; potential loss of local crafts; potential impact of mass tourism. The risk assessment revealed that the main threats for the preservation of the identity of the property are the loss of residents in Chorá, and the possible extension of areas of degradation due to the neglect and carelessness of an absent citizenship. Based on these elements, a regeneration project of a degraded area, with the key objective of improving the quality of life of citizens and promoting a sustainable development, has been hypothesised.

The first step of the HIA process has been to identify the attributes that transmit the Outstanding Universal Value of the property. The attributes can be physical qualities and natural, social or cultural processes that influence the value of the property. They have been classified by eight reference categories: cultural/religious/artistic, architectural/residential, architectural/religious, historical landscape, environmental, historical/archeological. Values that are not explicitly mentioned in the OUV, but are considered important for the authenticity and cultural richness of the site, are identified as potential. The importance of each value is classified on a rating scale, from very high to negligible. For each attribute, all the effects of the changes have been assessed in relation to six impact categories: visual and perceptual, functional and intended use; socio-cultural, historical and artistic, environmental and intangible impacts. The effects of the changes may be adverse or beneficial and their severity - from major to absent -, should be judged taking into account their direct and indirect effects and whether they are temporary or permanent, reversible or irreversible (ICOMOS, 2011). The overall impact on an attribute is a function of the importance of the attribute and the severity of the effects of changes. The result of the HIA process is the Scoping report, on the basis of which the evaluation committee draws up a report containing any recommendations and mitigating measures to reduce the impact on heritage. In the case of Pátmos, the application of the HIA supported the process of designing a rehabilitation project capable of promoting sustainable development of the area, with benefits for the local community. The process of evaluating the key elements of the OUV and the potential attributes has not detected negative impacts on them, and even where the impacts are relevant and very relevant, they are always to be considered as positive impacts.

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Table of identification and assessment of the attributes that convey OUV in the World Heritage site of Chorá, in the Island of Pátmos
Gravity:

- **very high**
- **high**
- **medium**
- **low**
- **negligible**

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ATTRIBUTES	IMPACT'S CHARACTERISTICS	SCALE & SEVERITY OF IMPACT	PROTECTIVE MEASURES TAKEN AND CONSIDERATIONS
MONASTERY OF SAINT JOHN, THE THEOLOGIAN	1. Visual and perceptive impacts	●	The maintenance of existing trees will not change the overall visual perception from above. The plan previews the requalification of an area partially visible from the monastery.
	2. Functional and intended use impacts	●	
	3. Socio-cultural impacts	●	
	4. Historical and artistic impact	●	
	5. Environmental impacts	●	
	6. Intangible impacts	●	
THE SIMPLE CELL, CALLED *MONOSPITO*, WITH THE FOUR VARIANTS	1. Visual and perceptive impacts	●	Creation of a new view towards the southern landscape through the reopening of the window on the front road currently buffered and the demolition of a portion of the masonry.
	2. Functional and intended use impacts	●	Recovery of the housing envelope for public and exhibition space.
	3. Socio-cultural impacts	●	The project will offer a recreational location and a new meeting and sharing point for the community and visitors.
	4. Historical and artistic impact	●	The architectural structure represents a variant of the basic typology of traditional dwelling.
	5. Environmental impacts	●	Insertion of a green space and removal of debris and limestone within the area. the recovered materials obtained with the partial demolition of the masonry will be reused for a part of new flooring and for new seats.
	6. Intangible impacts	●	
	7. Other: architectural impact	●	Rehabilitation of the base cell by removal of the crumbling roof slab.
CIRCUIT OF LOCAL MUSEUMS AND ART GALLERIES	1. Visual and perceptive impacts	●	
	2. Functional and intended use impacts	●	Strengthening of the museum circuit through the inclusion of a public and exhibition space located in an area of low attendance.
	3. Socio-cultural impacts	●	The intervention may be the occasion to implement the existing cultural offer of the museum circuit.
	4. Historical and artistic impact	●	
	5. Environmental impacts	●	
	6. Intangible impacts	●	
MEDIEVAL SETTLEMENT OF CHORÁ	1. Visual and perceptive impacts	●	The intervention does not change the general historical structure of Chorá.
	2. Functional and intended use impacts	●	Transformation of an enclosed plot into a public green space flexible to the needs of the community. The plot is an exception of public space within Chorá as there are no other green spaces.
	3. Socio-cultural impacts	●	The redevelopment of the area currently degraded offers the possibility to strengthen the social relations of the district, in particular through the organisation of events and activities (involvement of the citizenship).
	4. Historical and artistic impact	●	
	5. Environmental impacts	●	Recovery of a degraded area and insertion of a green area.
	6. Intangible impacts	●	
	7. Other: architectural impact	●	Alternative of roads and urban renewal respecting the historical characteristics of Chorá.
	8. Other: urban impact	●	Intervention respectful of the traditional morphology of Chorá.
LARGE NUMBER OF CHURCHES DISTRIBUTED WITHIN THE CHORÁ (CHURCH OF ST. CHRYSOSTOME)	1. Visual and perceptive impacts	●	
	2. Functional and intended use impacts	●	
	3. Socio-cultural impacts	●	
	4. Historical and artistic impact	●	
	5. Environmental impacts	●	The insertion of the green is adjacent to the masonry of the church of S. Chrysostome.
	6. Intangible impacts	●	
VARIETIES OF NATIVE BOTANICAL SPECIES	1. Visual and perceptive impacts	●	Visual changes are made and new plant species are introduced in a homogeneous manner and in line with the existing context.
	2. Functional and intended use impacts	●	
	3. Socio-cultural impacts	●	
	4. Historical and artistic impact	●	
	5. Environmental impacts	●	
	6. Intangible impacts	●	
	7. Other: environmental-climate impact	●	Maintenance of existing tree species and inclusion of new aromatic and shrub collections compatible with the climatic and environmental conditions of the site.

CONSERVATION OF CONSTRUCTION TECHNIQUES: • GREY GRANITE STONE; • ARCHITRAVE SYSTEM FOR THE OPENINGS; • TYPICAL STRATIFICATION OF THE SLABS; • FLAT COVER; • WHITE PLASTER	1. Visual and perceptive impacts	●	The existing stone will be enhanced through cleaning and consolidation of the portion of masonry maintained. The reuse of the recovery stone inside the flooring and the seats will add new elements not existing before giving a new key to the interpretation of the use of the material. On the street front the white plaster that characterises the elevations of the entire street, will be maintained and the window will be reopened with the typical technique of the architrave system, called *mantomata*, to offer a direct view of the landscape to the south.
	2. Functional and intended use impacts	●	
	3. Socio-cultural impacts	●	
	4. Historical and artistic impact	●	
	5. Environmental impacts	●	Stone cleaning and weeds removal will bring environmental improvements.
	6. Intangible impacts	●	

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opposite page
Scoping report for the the World Heritage site of Chorá in the Island of Pátmos
Negative / Positive impacts:

● ● very high
● ● high
● ● moderate
● ● minor
● ● negligible
● ● no changes

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