RESILIENCE OF HISTORICAL CITIES AND CLIMATE CHANGE.

THE CASE OF THE OLD TOWN OF CORFU.

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Introduction

The aim of the presentation is the highlighting of the effects that climate change can cause to historical cities, and the necessary planning solutions and measures to be taken, to make them resilient. Case study will be the old Town of Corfu -a World Heritage Site- enclosed for its most part by massive venetian fortifications and the sea and endowed with a valuable architectural heritage of western influence. The residential area, developed on 3 small hills, is composed by densely built multistory buildings forming continuous facades along the narrow streets. Important free public space of the town from the Venetian period -in front of its older Fortress- is the Spianada Square, which is the largest square in the Balkans.

The presentation is based on a Monitoring and Evaluation (M&E) framework developed by a team of multidisciplinary experts to identify the effects of climate change on Greek cultural heritage and propose guidelines to ensure that this heritage has the capacity to adapt appropriately[1]. The aim of the Framework is to complement and revise the 2016 National Strategy for Cultural Heritage. Each NAS's proposed action was supplemented with a series of measures and each measure with indicators. The measures were proposed considering the international and European experience adapted to the actual conditions in Greece and aim at achieving the goal set by the respective action[2]. The indicators were developed following UNESCO's guidelines[3] and aim to monitor the implementation of each measure and evaluate its effectiveness, at national, regional, and local levels.

In addition, the action of CCHWG[4] has been considered, and the Icomos document "The Future of our Pasts" was considered, as it provides important information on the challenges on the resilience of historic towns and villages when looking at climate change.

[1] The proposed M&E framework follows the actions under the Greek Strategy for Climate Change and recommends additional measures and indicators.

[2] The project is coordinated by the Ministry of Environment and Climate Change, while the partners include the Academy of Athens, the Bank of Greece, the National Technical University of Athens, the National Observatory of Athens, the Hellenic society for the environment and culture (ELLET) and 5 Municipalities and 3 Regions.

[3] (UNESCO, 2019)

[4] Climate Change and Heritage Working Group (CCHWG) of Icomos.

The case of the old Town of Corfu

The old Town of Corfu is a living city, attractive to visitors but vulnerable to a wider range of pressures, including over tourism, car traffic and the effects of climate change -as increased temperatures, sudden changes in temperature, humidity, windstorms, and storm events-. Therefore, the town faces fire risks, floods, rising moisture levels, and windstorms. It also faces a seismic risk due to the dense urban fabric and its high-rise buildings. The problems are getting worse due to the age of the buildings, the lack of the necessary funds, deficiencies in infrastructure, inadequate fire and earthquake protection, incompatible uses of buildings and public space, excessive tourism, traffic congestion, lack of pedestrianization, weaknesses in urban operation regulation, as well as residents being absent from the participatory process and the managing body. The town has a Management Plan, which has been prepared in accordance with the requirements of Unesco and is currently under review.

The numerous climate effects, and natural phenomena mentioned before, in combination with human actions, make the old Town vulnerable and can have devastating consequences to the built and natural environment as well as to residents and visitors. Urban resilience to face the above, presupposes identification of risks, mitigation, preparedness, recovery, and adaptation. And as it is not possible to prevent natural disasters, a combination of research, policy, and programme development as well as management and education is needed[5].

A heritage management process is needed to include a thorough analysis of the likely climate impacts and disaster risks to both historic urban areas as a whole and the individual buildings and movable heritage, sites and cultural landscapes, communities,

[5] Turner M.& Singer R. “Urban resilience in climate change”

and intangible heritage they contain. Urban planning can play a key role in designing effective mitigation and adaptation strategies, which in turn will enhance the environmental value of urban areas[6].

Based on the above an integrated vulnerability assessment analysis for the old town of Corfu, included the following steps:

- Analysis of the site's characteristics that compose its multifaceted identity. Some of the elements examined and documented are the topography, the geographical location and the geological characteristics of the site, the character of the urban tissue, the natural environment, number of habitants and number of tourists per day, social and economic data, land uses, the vegetation, the materials, the infrastructure, the accessibility and the legal context, the management practices etc.
- Analysis of climate data and relative climatic indicators and identification of the most likely hazards for the study area for the next 30 / 50 or more years.
- Assessment of the site's vulnerability to the effects of climate change[7], using the terms "exposure", "sensitivity" and "adaptive capacity".

Communication of vulnerability assessment analysis to stakeholders will follow and the necessary adaptive policies and strategies aiming to the resilience of the old town -that should be considered in the Management Plan of the town - will be proposed.

The above procedure should be periodically repeated and re-evaluate the site's vulnerability to future changes of the weather, as strengthening the resilience of historical towns and societies requires constant care. Training and education for professionals and public is also necessary.

Concluding

The presentation should be useful in enriching the discussion on the effects of climate change on historic cities and villages and how to deal with them. The issue is interesting, as the challenges faced by historical cities are more complicated from those that archeological sites and individual monuments face. In any case a multidisciplinary collaboration is required.

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[6] According to the updating of Valetta Principles (17.06.21)
[7] based on the guidelines set by the Intergovernmental Panel on Climate Change (IPCC)