Renewable Energy 49 (2013) 72–76

Contents lists available at SciVerse ScienceDirect

Renewable Energy

journal homepage: www.elsevier.com/locate/renene

Architecture, tourism and sustainable development for the Douro region

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ARTICLE INFO

Article history:
Available online 9 February 2012

Keywords:
Sustainable architecture
Tourism
Douro region
Green-building

ABSTRACT

We claim that sustainable construction and architecture has vital role in achieving the tourism full potential for conservation and development of the Douro Region, with recognized capacity for tourism growth. Buildings that make possible tourism occupation, involve extra consumption of energy and natural resources, when compared to average levels of local communities. To make progress on this, we are gathering a representative set of tourism compounds that will be analyzed through criteria from evaluation methods of sustainable construction. We are gathering data related with the comfort experience of this buildings users, aiming to know the ratio between tourists demands of comfort and final consumption of resources. As result of this research, we intend to refine environmental certification criteria in this specific geographical context and building category and, if necessary, define corrective intervention strategies and guidelines.

1. Introduction

In Europe, the "increased demand for sustainable destinations, where nature and local communities play a key role" [1] along with a growing environmental awareness are recognized as crucial factors in the success of tourism products. The Portuguese National Strategic Tourism Plan [2], places "Gastronomic and Wine Tourism" in first of the 10 strategic products. Nowadays, the Upper Douro and Douro International, have recognized potential for tourism growth. However, the buildings that are necessary for leisure and tourism activities, imply an extra consumption of energy and natural resources, when compared to consumption levels for regular dwelling. The original development impetus of the industry associated to the Demarcated Wine Region of Alto Douro, with 250 years of existence, has little in common with the current demands of growth and development of the "Gastronomic and Wine Tourism" concept. it is very easy for Tourism, understood as "leisure, culture, mobility and knowledge," to become only synonym for unsustainability [3].

To overcome such problems, in one hand "the policies of destination management should be improved with a more consistent and coherent planning" [1]. At small scale analysis, attention to architecture and construction detail of tourist facilities, is central to "explore the potential for tourism promoting conservation and development, avoiding the negative impact on the ecology, culture and aesthetics" [4]. It is necessary to know the factors that interfere with the comfort feelings of visitors and users of Tourism buildings. The comfort parameters required by visitors should converge with the need to lower the levels of energy consumption and reduce landscape and environmental impacts, such as solid waste, sewage and water use? Despite that we don't known the ratio between the tourists demands of comfort and final consumption of resources, the result of individual small decisions in architecture to satisfy these requirements are reflected exponentially in the environmental indicators of the tourist region.

2. Methodology

Within the Douro geographical context, these research focus is to analyze the architectural features of region's most representative tourism buildings, identify what defines and determines comfort and satisfaction of buildings visitors and users, and finally, promote corrective strategies for the analyzed buildings along with organized information to support future building projects.

We feel that the sustainability isn't yet assessed nor guaranteed at the building lever, and so, the regions sustainable balance can be irreversibly compromised. The World Tourism Organization [5] recommends that the principles of sustainable tourism development should undergo a careful analysis of the tourists satisfaction

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doi:10.1016/j.renene.2012.01.063

levels so that destinations retain their popularity and attractiveness. Tracking this recommendations, architectural wise, means that primary fonts in the shape of data gathering near visitors and users of buildings, are urgent. The fieldwork is being prepared with the objective of gathering architectural surveys on each chosen touristic facility. This detailed data, collected from visitors and direct users complies with the principle of "participatory tourism" [6].

3. Results

The ongoing research will permit a solid setting of standards for "environmental comfort" for the Region. The ambitioned result, will not create another assessment system of sustainable construction, the aim of this research, is to find concrete solutions, starting from the existing systems available and the new data collected on site. This research aims to provide specific data to improve existing methods such as LiderA, SBTool, LEED or BREEAM [7] in the specific analysis of tourism buildings. We want to know to what extent is the "eco-efficiency" factor relevant in the satisfaction of tourists visiting the Douro Region. Fig. 1, pretends to give an overview to this region in terms of territorial compartment and institutional organization that shares the Douro river as the main common and unifying element.

The sub-region *Alto Douro Vinhateiro*, recognized for the Vineyard of Porto Wine, is an Unesco World Heritage Site. This region has critical characteristics of fragile water resources, though its proximity to an apparently stable river. Further upstream the "International Douro is an orographic enclave formed by the River Douro and its tributary the *Águeda*, natural border between Portugal and Spain, has unique characteristics in terms of geology and climate, affecting communities of plants and animals, including birds, and the actual human activities" [8]. This particular area was recognized as Natural Park in 1997 [9] and crosses three NUT III regions, starting from *Douro*, continues to the Northeast into the *Alto Trás-os-Montes* and stretches Southeast the *Centro* NUT III region. Several other entities, not listed in Fig. 1, have general territorial management and tourism specific skills for a region that has a wide diversity of landscape, morphology, geology, climate, demographic and socio-economic characteristics. Though the industrial, tertiary activities and tourism services are sectors that should lead the economic future Douro region, only with all vigorous sectors can the region effectively set population.

Recently published *PROT-N* (North Regional Plan for Territory Planning) [10] recommends the adoption of a wide range of principles and guidelines for strategic options and operational objectives set for the protection, re-qualification, enhancement and management of water resources. This document refers to Tourism, as a transversal activity with strong territorial impact, which interacts and depends on several factors for its economic, social and environmental sustainability. Three fundamental assumptions are identified in the *PROT-N* as guides to ensure tourism regional development – Excellence, Sustainability, Competitiveness and Innovation. Also, regarding the regional model for energy, *PROT-N* recommends the adoption of best practices for monitoring and benchmarking the Region. Tourism is to be set under tight rules on energy performance according to the energy certification legislation SCE 2006 [11] requiring that the new 5-star ventures must have class A+ and the 4-star tourism developments should have class energy A or A+.

3.1. Tourists

Data from the Department of Tourism [12], reveals that the tourists who visited Portugal in recent years are mainly from

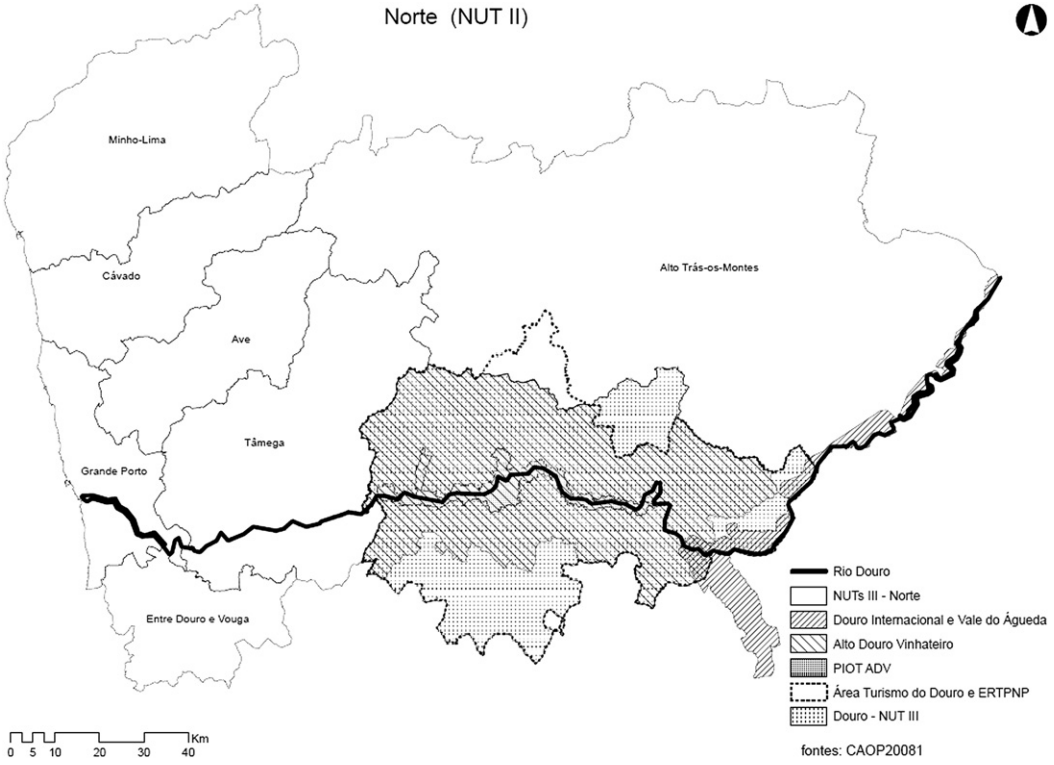

Fig. 1. Map of north (classification of territorial units for statistics – NUT II) and entities. Douro River; North Regions NUT III; International Douro and Águeda Valley; Alto Douro Wine Region; Intermunicipal Plan for Land Use Planning of the Alto Douro Wine Region; Areas of responsibility of the Douro Tourism and Regional Tourism Entity for Porto and northern Portugal; Douro Region – NUT III.