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INDICATORS OF TOURISTIC SUSTAINABILITY APPLIED TO THE INDUSTRIAL AND MINING HERITAGE: EVALUATION OF RESULTS IN SOME CASE STUDIES

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I. INTRODUCTION

Areas with a productive tradition have found a stimulus in tourism for the reassessment of their distinguishing features based as much on material cultural aspects as on non-material ones. This form of tourism has little to do with the usual criteria imposed in other areas, where a significant conglomeration of people is experienced at certain times of the year. The patrimony inherited from industry and mining is a cultural resource which, in effect, contributes towards *de-seasoning* the touristic demand and diversifying attractions to the benefit of the various destinations.

Understanding the diversity of existing cases, the main objective is to approach the level of sustainability reached with the new touristic use. As the industrial and mining heritage are frequently interpreted as a local revitalising resource, searching for and selecting the most adequate indicators has become indispensable, setting the foundations of the planning and the actions undertaken.

Another objective has been to compare the starting point of the selected areas with that reached in recent times before the expectations created by cultural tourism. This has enabled the problems of initial decline to be overcome and better levels of development and welfare to be brought about.

II. CONCEPTUAL AND METHODOLOGICAL CONTRIBUTION

In this study, the qualitative and quantitative methodological perspectives have been combined. The conceptual approximation has been based on the bibliographical checking of theories linked to research, not only focusing on the transcendence of sustainable tourism

but also on the details of sustainability in the area of industrial and mining heritage. This is a novel contribution which has not been seriously analysed yet and which attempts to highlight the fulfillment of a number of indicators in areas selected for their cultural and touristic significance, while at the same time defining the concept of sustainable tourism and industrial heritage.

Cartographic and photographic documents have been used, field work has been carried out and a type of survey has been devised for the analysis of the case studies. The area of analysis is centred on some places that are representative of what this type of tourism currently means, creating a model of local evaluation that serves as a projection for future touristic developments in more ample geographical areas. The analysed areas are in Asturias, País Vasco, Cataluña, Aragón, Castilla-La Mancha, Murcia and Andalucía.

Twenty-three specific indicators have been established that are grouped into four general components referring to the efficient and integrated management of natural and cultural resources: the maximisation of social, economic, cultural and environmental benefits for the local community.

Moreover, a synthetic index of sustainable development (SISD) has been designed which is calculated as an average of the figures reached in the four components of each selected area. In addition, using an index, the correlation between the number of tourist visits and sustainability has also been calculated.

III. THEORETICAL BASIS OF THE RESEARCH

Sustainability is a way of achieving local development. The basic element to protect the values connected with patrimony is the balance between its use and its preservation. Co-ordination between the various government administrations, the promotion of private initiative and the promotion of the sustainable use of patrimonial wealth should be absolute objectives. Similarly indispensable is the application of management projects that are integrated into urban, regional, touristic and cultural policies, as well as into the economy and the society of the receiving areas.

Some threads appear in the study which interpret tourism in the context of ecological and environmental sustainability (geographical and human), not neglecting the economic perspective, and in the context of the long-term viability of the projects. Other threads can be included with ones already mentioned eg. political, governmental and administrative, which explains the different interpretations of the concept of sustainability and its subsequent application to the area of tourism. On many occasions, sustainable tourism has been understood only as lasting form of tourism, instead of referring to the viability of the activity while causing no damage to the environment.

IV. TOURISTIC DIMENSION AND LOCAL MANAGEMENT OF THE INDUSTRIAL HERITAGE

All the selected areas enjoy a valuable patrimony, inherited from a brilliant industrial or mining past and later given a new lease of life by tourism. The mining areas are more spectacular than the industrial ones for the fact of having suffered more greatly from the deteriorating landscape as well as having been places of recovery with more daring projects and integrated

into areas of little or no touristic tradition. The results have been spectacular and it has been possible to successfully transform old patrimonial resources into products for tourism.

In the four mining areas that were selected (Almadén, Riotinto, Cartagena-La Unión and Andorra-Sierra de Arcos) mining parks have been created, i.e. theme areas that, firstly, demonstrate the type of activities undertaken for decades or centuries by means of education, enjoyment and research. Secondly, they also manage to protect the patrimony inherited from mining work in its geographical environment. Mining parks like these have become important tourist attractions, capable of generating jobs and income, lessening the deterioration that would have been caused by the long-term closure of the operations and their various facilities.

Various projects have been undertaken in these areas but in all cases, a basic reference point has been the offer of touristic-cultural services of the park, from the underground gallery tours or the overground open areas to the on-site museum visits or the mineral treatment facilities.

In the industrial areas analysed, (River Parks of Llobregat and Ter, La Encartada factory in Balmaseda and Duro-Felguera in Langreo) the impact of the projects has been less significant because of the actual characteristics of the overhauled structures. Industrial museums have been opened where the buildings and original tools of production have been preserved, recreating the pre-closure atmosphere. In addition, interpretation centres have been opened where the main aspects of the industrial zone and its surrounding area are explained to the visitor using modern media methods.

The conversion of industrial patrimony into a cultural resource and a touristic product demands, in almost all cases, the intervention of public initiatives destined to finance the cost of the undertakings. The town halls, although they have not always taken on the complete preservation of the remains, have been the true architects of the change towards tourism by applying central or regional government initiatives and by making use of technical ability to provide a tourism impulse to unproductive areas through planning. Similarly significant is their participation in the foundations and boards responsible for the development, management and exploitation of the old buildings and their surroundings. In other cases, it is the commitment of the holding companies, which has occurred in some mining areas and which has been the determining factor in facilitating the work of touristic adaptation.

The conversion into patrimony of the architectural remains demands the participation of various agents: the local community, government administration at its various levels and industrial or mining companies. Each one of these plays a fundamental role in the touristic impulse of the areas and in the final success of the projects. Ideally, the three above-mentioned agents work together and actively intervene from the start, which guarantees the new experience of local development. However, what usually happens is that the initiative is only taken by some of the agents mentioned.

The individual characteristics of each area determine, somehow, the ways of intervention and the level of participation of government administration, the local community and the companies in the various stages. The success of the analysed projects, which are Spanish models of the best management of industrial heritage, goes beyond any partial consideration and confirms the importance of a comprehensive action plan and the commitment of public and private agents.

V. COMPONENTS AND INDICATORS OF SUSTAINABILITY: EVALUATION OF RESULTS

By means of a postal survey sent to the selected centres between December 2011 and January 2012, the necessary information has been obtained to measure the touristic sustainability related to industrial heritage, referring to the components as previously established indicators. Using the average values, the synthetic index of sustainable development (SISD) of each patrimonial area has been calculated.

a) Almadén Mining Park

It presents a medium- high value on the SISD. Of the four components, the environmental one has the highest value, followed by culture and management. Sustainability related to the social and economic areas is less than average.

b) Riotinto Mining Park

It is in first place regarding the synthetic index of sustainability. All of the described components present values that are higher than the rest, above all cultural followed by social and economic. The environmental aspect has the lowest value but it is still above average.

c) La Unión Mining Park

This has a medium-high value on the SISD. The component with the highest number is the cultural one followed by social and economic. The environmental component is the one with the lowest value although it is higher than the general average.

d) Colonia Vidal Museum

This has a medium-low value on the SISD. The most noteworthy component is the environmental one, which is above average. This is followed by cultural, social and economic. That of management is one of the lowest in the whole group.

e) Boinas La Encartada Museum

This occupies third position in the index of sustainability. The environmental component stands out above all, followed by the cultural, the social and the economic. That of management comes out lowest.

f) Iron and Steel Industry Museum

Its SISD has a medium-low rating. The areas with highest rating are the social, the economic and the cultural. The environmental area is seriously deficient, with the lowest rating of the series.

g) Technological Mining Park of Andorra-Sierra de Arcos

This Park has a low value SISD. The strongest aspects are the cultural and environmental followed by the social and economic. That of management is particularly deficient.

To see the connection between the index of sustainability and the number of visitors, a co-relational coefficient has been calculated that responds to both variables, and whose value can be found between -1.0 (perfect inverse relationship) and 1.0 (perfect direct relationship). The coefficient calculated is 0.688, which indicates high positive correlation.

VI. CONCLUSIONS

All the projects undertaken have taken into account the basic aspects of sustainability, above all in the cultural, environmental and socioeconomic areas. That of management presents low values. In heritage centres, sustainability is more important in Riotinto Mining Park, with greater experience in use for tourists, which confirms that sustainability is related to medium and long term projects.

There is a direct connection between this tourism and sustainability, with an important positive correlation. Therefore, the sustainable measures have meant a lot for the increase in tourist visits to the selected places. Sustainability has been the basis for all the interventions undertaken and it has created a kind of harmony which associates, not without problems, tourism and local development.

