A Consideration of the Factors Influencing Tourism Development in Relation to Biodiversity Conservation

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Abstract: - We can define the territorial heritage as a product that shaped its identify in the mixing of environmental, building and anthropogenic components. Nowadays, the traditional theories of development, based on an unlimited economic growth consider "territory" in more and more reducing terms. If on the one side it has produced a fast growth, on the long term it has caused environmental and social degradation. Tourism can represent an essential component in the creation of competitive advantage of a specific area, mostly in its sustainable dimension. Nevertheless, in an economic analysis of tourism based on natural resources, its distinctive feature is that natural resources are an input of productive process, enter tourist utility function and produce a trade-off between the quantity of the resource used for tourism and the quality of its supply. The importance of this relationship results above all respects the optimal use of resource, in particular when the tourist preferences are characterized by "aversion to crowding". Evaluating tourisms we can see that a tourism based on natural resources is considered a snob-good, so that the quality of a tourist site decreases by crowding of natural resources. In this perspective, this study tries to focus on how the quality of resources is inversely proportional to its degree of crowding and, consequently, as in the tourism sector there is an economic incentive to conservation.

Key-Words: - Rural tourism, sustainable tourism, aversion to crowding, conservation of resources, Mediterranean islands, rural development

1 Introduction

The globalization process, encouraged by the traditional theories of development and by the unlimited economic growth, has led to consider and to employ the territory in more and more reducing terms. Technological development has also influenced that and it has often used the territory independently from the relationships with the place and its environmental, cultural and typical features qualities. This distance from the territory, with the presumption to create a "*second artificial nature*", has produced an ephemeral growth, adding in the long run, environmental and social degradation and thus producing what it was defined as "*unsustainable development*" (Omidvar, K., 2010). This evolution has gradually involved all economic sectors and in such framework, the tourism, that sees territory its main element, is one of the most involved fields (Lanfranchi M., Giannetto C., 2013). Therefore, in this economic trade the need to guarantee the necessary conditions to get a "sustainable" development becomes basically (Babaita, C., *et. al.*, 2010). In this way, the necessity of policies, aimed to safeguard the territory and based on the improvement of no transferable and specific resources of the place emerges. Tourism, in fact, if managed according to sustainability standards, can represent a tool of revaluation and development of destinations (Dulaŭ, A.V., *et al.*, 2010). In this paper, we aim to analyze the choices of a locality related to the development of tourism based on natural resources, *tourism TNR*. It enquires whether a specific conservative use of resource exists, in particular, when tourists' preferences are characterized by "*aversion to crowding*". It focuses on the optimal *crowding* degree of a tourist resource, considered as a relationship between the offer - in terms of presences - and the dimension of the resource, assuming the quality of the tourist supply depends in inverse way of the exploitation intensity of resource. In the specific cases of some islands, characterized by a seasonal and mass tourism, the analyzed phenomenon gains particular importance because, thanks to their location, they are easily accessible from a low profile tourism and from the excursionist phenomenon. In the end, some possible hypotheses of specialization of the destination, as a mass tourism, elite tourism or a mix between the both forms of tourism, are mentioned in

order to encourage investments that contrast environmental degradation.

2 Objective of Study on the Tourism TNR. Some Economic Motivations of Conservative Use of Resources

The introduction of the sustainability topics represents the main strategy in the elaboration of new "guidelines" for the most part of countries particularly for the specific Mediterranean regional context. It is certainly possible, in some regional areas, to find institutional, politics, socio-cultural dynamics, characterized by great differences, which discover, for the development of its territories, some elements of unification in the role of tourism, in its many values. Tourism, in fact, represents a sector of growing importance in the world economy. There are many international cases in which it has been possible to exploit the competitive advantage in the tourist services production to undertake, in the long term, some development and growth paths, so that to intensify the capability to generate new source of income and to qualify the tourism as driving sector for whole economic system. Nowadays, the international tourist framework is always more complex and varied (Muntean, M.-C., *et al.,* 2010). Tourist demand potentialities are very high and, above all for what concerns the Mediterranean basin, the increasing interest for environmental and social-cultural tourist resources emerges from users with a medium/medium-high spending power (Jucan, C.N., Jucan, M.S., 2010). On the other hand, the most recent analyses on the tourist flows show the worldwide growth of new shapes of fruition based on natural and historical-cultural resources of the destination. From this point of view, the tourist market oriented towards the improvement of environment and protection of landscape, takes on importance for the development of a sustainable tourism and for the growth of a wide territory (Lanfranchi M., 2010). Tourist goods differ from tourist good *"ex-novo"* created and from the ones based on the natural resources. The first ones, can be produced anywhere and are characterized by a normal supply curve; the second ones (TNR goods) (*Pigliaru, F. 2002*) have a precise space and, in many cases, temporal localization, because they are tied up by the availability of a not reproducible resource, consequently they show a fixed or with slow growth supply curve (Fisher, A.C.1981). In this analysis, TNR goods have an important characteristic: in the consumer choices perspectives they are considered to "elite goods", that is the quality of a tourist area decreases owing to grow (presumably beyond a certain limit) by *crowding* of natural resource. The most important goal of an analysis on natural resource tourism economic is the study of its natural resources (Hsiao, J.-M., Sung, C.-W., 2013). They enter into the utility function of consumer-tourist and are not just an input to a production process, thus creating a trade-off between the amount of "consumed" resources for tourism and the quality of supply.

The importance of this relationship is clear in all discussions regarding the optimal use of natural resources, especially when tourists' preferences are characterized by *aversion to crowding* (Candela, G. 1996). In the tourist valuations, the quality of resource is inversely proportional to its degree of overcrowding. In other terms the more a site resource is crowded the less the consumers are willing to spend their money to go there (Tisdell, C.A. 1991). The site has some important economic reasons to preserve in times a high quality of its own resource. The main reason concerns the rates of income rise produced by tourist exploitation: if a few crowded natural resources are, *ceteris paribus*, a high quality good compared to a very crowded resource, according to microeconomic studies, it is possible that the consumers want to pay more to use a "luxury good" and they will pay less for low quality goods. In the long term, the revenue gained from the most "exclusive" place grows faster than the revenue of most crowded place; preserving the resource, therefore, may mean grow faster in the future.

3 Methodology Proposed for Studying the Optimal Level of Crowding of Resources

On the whole, from an economic perspective, in presence of tourists with *snob* preferences it is better *to exploit the tourist resource until the decreases of per-capita tourists spending, due to their aversion to crowding, they are more than compensated by the rise of tourists* (Candela, G., and Figini P. 2003). This is a classic result of tourism economy (Lanza, A. and Pigliaru F. 1994). Developing a hypothesis for which tourists decide also on the ground of quality of tourist destination, we consider a small tourist location and we assume that the welfare of residents is not due to the environmental quality of the territory, but only indirectly, through the revenue resulting from exploitation of the tourist resort. It is necessary, therefore, to find the crowding level that maximizes the total tourist spending in presence of aversion to crowing. The inverse relationship between the crowding degree

and the willingness to pay of tourists assures just an optimum level of exploitation.

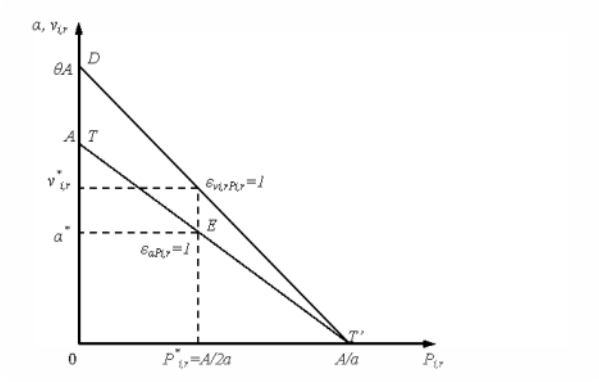

Figure 1. Optimal level of crowding of resources

The graph analyzes both the quality tourist function TT' and the demand function DT', it is easy to verify that this rule determines geometrically the optimum point on the TT' straight, which correspond to abscissa value: $P_{i,r}*$= A/2a (Candela, G., and Figini P. 2003). We consider a tourist location where the prices of tourist goods are determined by international market. Consequently, the economy of this location cannot change the prices of different kinds of goods; but it can choose the kind of good which can afford to the locality to maximize its tourist income. We can define α as an indicator of environmental quality. We assume this indicator changes exclusively as an (inverse) function of degree of crowding of natural resource. We define this degree of crowding *q*, and for each location is given by the relationship between tourist supply, measured in number of presences $P_{i,r}$ and the dimension of resource R.

Therefore:

$\alpha(q)$ *with* $\alpha'(q)<0$

$$q= P_{i,r}/R \quad (1)$$

We adopt, for simplicity, the following mathematics relationship to connect the degree of crowding and the indicator of environmental quality:

$$\alpha(q) = \alpha(P_{i,r}) = A - \alpha P_{i,r} \quad (2)$$

In connection with this indicator of environmental quality are fixed the prices of holiday, which of course depend directly on the quality of the product:

$$v_{i,r}(\alpha)=\theta\,\alpha \qquad \theta>1 \quad (3)$$

Therefore

$$v_{i,r}(P_{i,r})= \theta\,\alpha(P_{i,r}) = \theta A - \theta a P_{i,r} \quad (4)$$

Remembering the consumers expenditure for a destination *r* which offers just a kind of tourism: $Si,r=v_{i,r}\ P_{i,r}$. The total tourists' spending is determined by:

$$S_{i,r}=v_{i,r}(P_{i,r})\,P_{i,r}= \theta A\,P_{i,r} - \theta a P_{i,r}^{2} \quad (5)$$

The optimal choice corresponds to the following crowding level:

$$P_{i,r}*= A/2a \quad (6)$$

The amount that maximizes revenue has value equivalent to the middle of abscissa function. Applying the analysis of elasticity function is easy to show that the combination $E(P_{i,r}*\alpha*)$ is unitary elastic: $\varepsilon\alpha\ P_{i,r}=1$. Lower values mean $\varepsilon\alpha P_{i,r}<1$, that is the expedience to increase the crowing until $P_{i,r}*= A/2a$, where $\varepsilon\alpha P_{i,r}=1$; further crowding reduce the total revenue. If a destination takes into account the quality of its supply, and if its depends on the crowing of its resource, then for the inbound operators, the optimal supply corresponds on the existence of Curnout equilibrium (at this point the demand is unitary elastic that is to say a combination of price-presences that maximizes tourists spending); the overcrowding can lead to a sub-optimal exploitation of the resource and, in the balance point E ($P_{i,r}*$, $v_{i,r}*$), the price which may be required for a higher quality of the tourist product is more than offset by reduction of tourist presences. In the end, the optimal degree of overcrowding (what maximizes the revenue which can be obtained from resource) is as lower as more consumers are sensitive to quality topic. Therefore, in case of crowing aversion, we can come to result that a more "crowing" is economically less convenient than a lower "crowing". Consequently, it is possible that "crowding much" endangers the economic prospects of future generations and it causes "losses" in income obtained from the exploitation of the resource for the present generation (Cândea, M., 2009). It shows, that in the tourism sector, a specific economic incentive to the conservation of environment can exist. However, the objective

function to maximize to specify the optimal choice is not ever the same in the various cases. In particular, it may change from a location in a country where tourists are mostly residents, to a small economy (country or region) included in international markets. But it can also change from countries with local relatively developed economy, to less diversified economies. In the case of small islands, especially the Mediterranean, a trend to over-exploitation of its natural resources is more overburdened by external origin of invested capitals, by objective problems due to isolation and by model of tourism development on which they decide to direct. The entrepreneurs, who don't want to associate their own economic destinies with those of tourist locations, may induce them to choose a high exploitation of the resource.

4 Result of Research: Growth, Quality of Environment and Tourist Specialization

The importance of the tourism sector in many areas, such as those of Mediterranean islands, has driven some analysts to identify in the tertiary sector in general and in the tourist area in particular, the driving force of their future economic growth. According to our considerations about the crowding natural resource in many cases, it would be an error to promote a mass tourism (i.e. seasonal seaside tourism) sometimes close to saturation point. It may be necessary, however, to promote "tourism niche" and, in this case, those linked, directly or indirectly, to environment (natural and cultural tourism, rural tourism, sports tourism and so on). However, the most popular tourist models set out for the opposite direction, i.e. towards models characterized by concentrated growth, monoculture and seasonal mass tourism, in which the excursionist component, in many cases has a great weight. Basically, this figure creates main environmental problems, both because it is closer to the consumer model (i.e. hasty tourism) and because it is difficult to collect. Moreover, if a *"destination has convenience to exploit the tourist resource until the decreases of per-capita tourists spending, due to their aversion to crowding, they are more than compensated by the rise of tourists"* we should wonder what it means to increase the number of tourists and what are the kind of tourism or the management policies of destination which must aim to ensure sustainable growth processes (Nistor, R., et *al.*, 2010). For example, if transportation costs have an important role in the choice of the destination, it is possible a great part of tourists', with low incomes, demand goes to the surroundings tourist destination, this phenomenon involves a growth of prices of low quality tourist goods and therefore an adjustment of offer to this specific component of demand (Candela, G. and Figini P. 2005). This assessment could mainly affect the case of some areas, such as islands characterized by the proximity to the mainland (Camarda, A., *et. al.*, 2010). In this case, actually, the growing number of excursionists emphasizes the seasonal peaks and, as a result of crowding, contributes to expel tourists, because of external diseconomies both on environment and on other tourists (overcrowding effect). Moreover, the two figures (tourists and excursionists) are characterized by very different preferences. The diversity of preferences is also a source of different behaviours. For example, it was noticed that, in equal conditions, the tourist is characterized by an average expense higher and qualitatively different than the excursionist. The reduction of the average stay of tourists, produces an increase in the number of tourists, which for the same total expenditure, it causes a greater consumption of resources. Obviously an intensive tourist development requires the risk that the carring-capacity of individual renewable components are overcome, with consequences that can add further irreversible damage to the resource (Lanfranchi M., Giannetto C., Puglisi A., 2014). This model produces a high short term income, but it cannot activate the mechanism that makes tourism if not sustainable, at least not unsafe for environment, because it does not consider the social costs which it produces. If it is true that tourists are attracted by the system in its entirety, as a set of natural, cultural, artistic and landscape inseparable values, then the reduction of systemic complexity and/or deterioration of its resources, in the long run makes less attractive the same system and this confirms our initial hypothesis in which we have defined tourism (TNR) a snob good. In such meaning, two conclusions can be distinguished: the reserve price tourists are willing to pay depends by environment condition and it decreases with its worsening; otherwise the destination must oppose the environmental degradation with right investments (Candela, G. and Figini P. 2005). The solution could be sought following a microeconomic approach, or in choosing for a destination between an elite tourism specialization, which keeps tourist flow constant through a progressive increase in the price. In mass tourism, which keeps the price constant allowing a gradual increase of tourist flows, not exceeding the optimum level of crowding resource, or opting for an intermediate solution of a tourist development

which strategically choose an optimal mix of price and of tourist flows dynamics

5 Conclusion

Naturally, tourism can represent a means of territory promotion. Nevertheless, the incentives to an excessive use of resources are numerous, and none of these can be easily neutralized. The problem, also, arises because each enterprise considers the quality index of resources as a variable that depends only to a limited extent by its decision-making process. It needs, instead, that the enterprises become aware that the value of their product depends increasingly on the quality of the surrounding environment. The tourists are required to generate profit, but they are also cause of environmental, natural and social degradation of the destination. In this paper we have identified some possible approaches to face the problem: elite tourism, a certain kind of mass tourism or a mix of these two solutions. This last case also explains because some destinations, in the time, change its vocation identifying in many cases the existence of intermediate and ameliorative solutions with respect to specific goals. In addition, we can say as the tourists' preferences change and it is possible in presence of increase in income, high level of education, knowledge of the value of natural capital and, in presence of increased general scarcity, they move in favour of TNR goods. However, it is reasonable to argue that, as a result of a perceived image of destination and of investments that support it, the transition from a mass destination to an elite destination, may involve higher costs than the contrary evolution from an elite tourism to a mass tourism. In fact, a very popular destination has sunk costs and must invest time and resources in the "rebuild its image" of an elitist vacation. Under this approach and reasoning in terms of local development, the intervention policies must aim to think and reorganize the offer price, tourist flows – above all in a sustainable key- to study the interactions among different sectors, making the most of positive externalities that these interactions can generate.

Acknowledgements

This paper is a result of the full collaboration of all the authors.

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