Economic estimation of the benefits from the protection of the long Anastasian Wall

Alexi Danchev
Fatih University, BuyukCekmece, Istanbul, Turkey
adanchev@fatih.edu.tr

Abstract. *The paper outlines the basic methodological and practical problems concerning the benefits of the protection of the long Anastasian Wall located 65 km on the West of Istanbul, Turkey. The author indicates the principles of applying cost-benefit analysis for this case and the necessity of complex approach to the problem. It is expected that such an approach would reveal benefits, which considerably outweigh the costs of conservation works. A system of such complex valuing is presented based on estimation of general economic value and its attributes. The conclusions from this paper can be used as an argumentation for raising funds for further more detailed research and conservation works.*

Keywords. Economic benefits, Contingent valuation, Cultural-historic monuments, General economic value.

1. Introduction

The cultural-historic heritage in the Balkans is huge and unique composed by many civilizations constituting great contribution to the world culture. It includes original folklore, numerous historic monuments, rich written materials left from the Thrace, Slavonic and Ottoman cultures and a lot of other documents playing important role of formation of the modern culture of the Balkan states.

Monuments of great cultural significance of the world history are located on the territory of the Balkans. Many of them were destroyed over time, others survived many centuries. Now most of them are object of intensive tourists' invasion, which have controversial effects on their physical state. In all cases however there is a need of costly conservation works, which faces the financial restrictions of mobilizing the necessary funds.

For most effective use of the restricted resources there is a need of ranking the restoration works. Economic science since a long time tests various methods of valuation. The present paper is an attempt to overcome some of the principal drawbacks of valuation procedure and to propose new alternative for consideration. We leave cost side of the problem for other discussions. The long Anastasian Wall is an excellent case to illustrate the problem [1].

2. The Long Anastasian Wall and its present state

The period of construction of the wall was time of high pressure over the Byzantine Empire from almost all frontiers. It was constructed urgently to protect the rich capital Constantinople from the Western invaders [2]. 512 AC is regarded as a birth year of the wall.

This unique for the late Antiquity surrounding was abandoned after about two centuries and gradually disappeared. Now one can observe only some remains from the long almost 56 km wall [3]. This is however sufficient to turn the area into an object of cultural tourism. A profound estimation of the costs and benefits of such initiative is to be carried out. The present paper can be regarded as the first step in this direction.

The long Anastasian Wall undoubtedly is one of the most unique architectural buildings from the late Antiquity [4]. It is stretched between Marmara and Black seas in an area, which now is important ecological reservoir of the region. This is one additional argument in favor of initializing of conservation works and turning the whole area not only into an object of cultural tourism but also in protected zone with restrictions of any activity, which could harm the ecology of the region. This would protect the wall at least in the state it is at present.

3. Methodological background of the study

The application of the principles of cost-benefit analysis for the protection of cultural-

Alexi Danchev (2010). Economic estimation of the benefits from the protection of the long Anastasian Wall M. Kalogiannakis, D. Stavrou & P. Michaelidis (Eds.) *Proceedings of the 7th International Conference on Hands-on Science.* 25-31 July 2010, Rethymno-Crete, pp. 334 –338 http://www.clab.edc.uoc.gr/HSci2010

historic monuments has already accumulated good experience [5]. The basic argument of using these principles is that the resources for restoration are very restricted and there is a need of ranking priorities with funding these projects, which have highest efficiency. Although there is some impression that valuable historic monuments may remain outside the conservation work due to the myopic of the economic assessment, this is not necessarily true.

The economic consideration of the benefits from protection is based on the consumer surplus created by the objects of estimation. The neglecting of some valuable historic monuments can take place only in cases this consumer surplus is underestimated, which is very common problem. Regrettably the economic theory has not yet prepared very distinct vision about the benefits estimations and juxtaposing them with the corresponding costs. In many cases this is practically difficult due to the uniqueness of many cultural-historic monuments and the access to them by a broad audience.

The common assessment procedure is based mainly on valuing elements of so called total economic value regarded as a sum of several sub-values estimated as various consumer surpluses created by the object of estimation. We leave the critics of this approach for other discussions.

Our starting point in understating the benefits is the idea of general economic value expressed in terms of willingness-to-pay (WTP) for a given good. Following the logic of economic science every good as soon as it is regarded as economic good possesses a given WTP by the side of its consumers. Lancaster theory of attributes [6] however showed that as a matter of fact consumers buy the good not per se, for its general economic value, but for its attributes. Thus, if we would like to have more complete picture of the value of goods we have to analyze the general economic value together with the WTP for its attributes. Valuing cultural goods is difficult to put into this scheme. Most of these goods are public, with restricted access to some of them. Subtracting the real WTP from their consumers is not an easy task.

Which are the attributes of cultural heritage for which the customers (actual and potential) would be willing to pay? We can outline several basic attributes. They are named values in economic theory although as a matter of fact they are various attributes of the same good.

We start with the benefits not connected with the direct or indirect use of cultural heritage, but with the fact that this heritage exists and can be used later. This is extremely important aspect of the benefits as it gives the most general possible estimation of the benefits synthesizing the whole lot of tangible and intangible attributes into a single estimation expressed as WTP.

Two aspects are important in this issue. Cultural heritage creates some general benefits, that is, benefits as a whole from the very fact that the cultural heritage (cultural-historic monuments in our case) can be visited any time we would like to. This is like a fruit, which we can consume any time we would wish and the benefit of it is created by the option that it exists. We call it general economic value, which is close to so called option value in the literature [7], [8]. In such a way we receive a general picture of the benefits, without the necessity of looking for other information, which often is impossible to receive. The consumer surplus created by the monuments absorbs all the benefits of them by expressing the willingness to pay of the real or potential visitors.

Similar to it are so called non-use benefits created by the fact that they also originate consumer surplus. It comes from the expectations that we may wish to preserve the cultural heritage for our children and the next generations or just to know that it exists (that is something different from the general economic value, when we just postpone the opportunity to use some of their attributes now or later). In this case we distinguish between two kinds of values: **bequest value** - the respondent may have no intention to use the good, but may be willing to preserve it for the future generations thinking basically of his/her children and their children, etc. and **existence value** - the benefit emerges from the very fact of the existence of the heritage, understanding or intuitively perceiving their multifarious importance.

Finally some returns can also come from the forgone benefits connected with cost avoidance and the opportunity costs of the location of cultural heritage.

In summary all benefits of cultural heritage can be presented in the following scheme:

TEB = UV + GEV + NUV = (DUV + IUV) + OV + (BV + EV), where

TEB – total economic benefits
UV – use value, including
DUV – direct use value
IUV – indirect use value
GEV – general economic value
NUV – non-use value including
OV – option value
BV – bequest value
EV – existence value.

It is very important to note that TEB is not a mathematical sum of all components; it just expresses that the total economic benefits consists of use-value, general economic value and its attributes (non-use values).

We have to underline the difference of our value considerations in comparison with other authors. Our aim is not to produce integral indicator of value, which in our opinion is not possible for cultural heritage at least at the present stage of knowledge. Our model integrates various attributes of value around its general economic estimation. In our next discussion we will concentrate on valuing historic monuments, as they are the most endangered part of cultural heritage. The conclusions from this study can be extended to the rest of the cultural heritage. Thus we are preparing scheme which will sum up the biggest part of the benefits of the cultural heritage in economic terms in two groups: use values and non-use values, which complement the general economic value of cultural heritage.

4. The results of empirical studies

A project for complex estimation of the costs and benefits of the protection of cultural-historic heritage on the Balkan area was initiated, part of which is the estimation of the benefits from the protection of the long Anastasian wall located on about 65 km from the biggest city in the area – Istanbul.

This can be regarded as a continuation of the initiated during the 1990's study on the valuation of the benefits from the protection of Bulgarian monasteries in the initial stages on the transformation process, when the everyday needs for survival could blur the value of cultural heritage. The project funded by the EU PECO program was coordinated by CSERGE-UCL, the UK and included interviewing of 483 Bulgarian citizens from 17 cities and towns. The results of this study have been published in a collective monograph on valuing cultural heritage [9].

This study allowed drawing important theoretical and practical conclusions, which have been tested in the next studies. This facilitates now strongly the organization of the study on estimation of the public interest in the conservation of the long Anastasian Wall.

As a starting point interviewing of local population was initiated with the ambition to extend it to other Balkan countries. At this time 158 interviews have been collected, which can be regarded as a good initial position. The construction of the questionnaire and the training of the enumerators have been carried out by the author.

The sample is not representative, but in the following stages we plan to tighten the interviewing following the restrictions of the quota control. As criteria for this control we use education, age, gender, place of living and working experience. The choice of these criteria is motivated by the results of our past observations. They indicate that normally the attitude to the protection of cultural heritage differs depending in bigger degree on the indicated above criteria than for example on such indicators as income, origin, religion, etc.

Due to space restrictions we report only part of the results. The first question we have been interesting in was the level of awareness of the wall. Surprisingly few people know about it. Only 2.1% of the respondents pretend to know it very well - most of them live in the area close to the wall. On contrary 32.5% of the respondents have not heard about it, 18,1% have some idea about it, 35.1% have heard about it, and 12.2% have some information about it.

Next the survey includes questions as should cultural heritage by protected with almost 100% of respondents supporting it despite the culture they belong to.

The most difficult part of the survey is the extraction of general economic value and its attributes. It is too early to comment the results as this is only the start of the interviewing, but even these preliminary steps show that the social support in favor of protection will be high.

Of course we need to take into account the fact that the interviewing takes place in Istanbul, which is a center of many cultural-historic monuments of global importance. Besides, there is high economic and social upheaval in the country during the last ten years. It naturally creates preconditions to higher WTP for the cultural-historic monuments than in the rest of the Balkans.

This however may not be necessarily true. When for example the Bulgarian study on the monasteries was initiated, the interviewing took place in the riots period in Sofia and the big cities. Taking into account the situation we anticipated low or even zero WTP for the monasteries conservations. Contrary to the expectations however people gave high vote to the conservation declaring unambiguously the needs of their protection despite the crises.

This is an indication that the attitude to such objects as cultural-historic monuments is formed as result of endogenous preferences. They are stable, have deep roots in the humans' minds and are not strongly influenced by the market conditions. The WTP in terms of constant prices varies slightly over time and is normally strongly correlated to the income. For this reasons even a small group of respondents may give information very close to the results of the representative study.

The estimation of the general economic value is however not sufficient to reflect the overall benefits coming from the conservation of the wall. There are many secondary effects, which have important influence on regional development. Examples are so called development benefits, which include the benefits from research activity of cultural monuments in terms of producing new knowledge about the history and national culture. It would increase the regional R&D potential and create additional employment for the local population both in highly educated specialists and in services.

There are also benefits from organization of scientific meetings in the area of cultural monuments using the created hotel capacities as a nice venue for discussing. It would create additional payments for the hotels. Finally there are definite benefits for the educational activity as it would allow initiating of training courses for the young generations in various disciplines of historic and cultural knowledge and particularly in the significance of the cultural monuments.

Increased level of knowledge about their sustainable use potentially reduces the relative cost of supporting the cultural monuments. It would stimulate their sustainable use, the better understanding of their cultural importance and preventing any damage during their visits.

Finally we should mention the induced benefits from increased demand of goods and services in the adjacent areas as a result of visiting the area. It includes a broad spectrum of goods and services produced as a result of activities related to the direct use of the cultural monuments and their resources: new kinds of food, beverages, entertainment, etc. Producing movies in the cultural monuments areas is a good example of induced benefits as a result of expected increased demand for their visit and potential benefit of their conservation.

The induced benefits of the cultural monuments are enormous and they should be subjects of separate study. Some of the induced benefits are actually forgone benefits of alternative uses of resources.

The long Anastasian wall as the other cultural- historic monuments located on the Balkan territory produce global benefits as there are significant parts of the world culture. These facts can be used as a persuasive motivation for the search of financial support for the conservation works by various national and international sources.

The interviewing also included the way the funds for the conservation work should be collected. For technical reasons this discussion remains for other presentations.

The interest in the wall is increasing also in connection with the 1500 anniversary of its birth date. Anastasian Wall Research Community [10] has been organized with open the door for broad social discussions of the necessity to undertake conservations work to protect the wall from further deterioration.

5. Acknowledgments

I owe a lot for the preparation of this paper to the project **"**Managing human capital for the aims of sustainable development (case study of some Balkan countries**)**" supported by the Scientific Research Fund of Fatih University under the project number P51010901_1. Although not directly oriented to the topic it allowed collecting valuable information for the theoretical explanation of the endogenous motivations for the WTP for cultural monuments generalizing the effect of the human capital accumulation. We express our thanks for the ability to use this support.

6. References

[1] Anastasian Wall Project, Survey project focusing on long wall in Thrace. 2003 http://www.unc.edu/awmc/web-anastasianwallproject.html [last visited 15-May-2010]

[2] Procopius, Buildings, Book IV (Part 3). In: The Buildings of Procopius, the Loeb Classical Library, Bill Thayer translation: 1940: 4. http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Procopius/Buildings/4C*.html [last visited 15-May-2010]
[3] The Anastasian Wall project. http://www.shc.ed.ac.uk/projects/longwalls/AnastasianWall.htm [last visited 15-May-2010]
[4] Crow, J. Ricci, A. Investigating the hinterland of Constantinople: interim report on the Anastasian Long Wall, Journal of Roman Archaeology, 1997; 10;253-288.
[5] Pearce. D.W. et al. Cost-Benefit Analysis and the Environment: Recent Developments, OECD; 02-2006.
[6] Lancaster, K. A new Approach to Consumer Theory. Journal of Political Economy 1966; 74: 132 – 57.
[7] Pearce D. Moran D., The Economic Value of Biodiversity, Earthscan, 1994.
[8] Conrad J. Quasi-option Value and the Expected Value of Information, Quarterly Journal of Economics 1980: 92:813 – 819.
[9] Mourato S, Kontoleon A, Danchev A, Applying Environmental Valuation Techniques to Historic Buildings, Monuments and Artefacts., In: Valuing Cultural Heritage. Edward Elgar: 2003.
[10] Anastasian Wall Research Community. 2010, http://anastasianwall.blogspot.com/ [last visited 15-May-2010]