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56

# Valuing damage and losses in cultural assets after a disaster: concept paper and research options

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**Focal Point on Disaster Evaluation**

**Mexico, D. F., September 2006**

This document was prepared by Kaspars Vecvagars, as a consultancy for the ECLAC, under the World Bank/ECLAC Project M006 "Economic social and environmental impact of disasters: valuation as a tool for the reduction of disaster risk in developing countries".

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United Nations Publication
ISSN printed version: 1680-8800
ISSN online version: 1684-0364

ISBN: 92-1-121611-7
LC/L.2610-P
LC/MEX/L.731
Sales N°: E.06.II.G.135

Printed in United Nations, Mexico, D. F.

# Contents

## Tables



## Boxes



## Figures

# Abstract

This paper is a first conceptual discussion and proposal to formalize the inclusion of the valuation of cultural assets after a disaster. Over the last recent years ECLAC has, in several instances, attempted at valuating cultural assets damage and losses as incurred in the wake of disasters.

The paper discusses first the existing debate on the valuation of cultural goods and services, describes the characteristics of cultural assets and their market and non-market values. It proceeds then to describe some valuation methods that have been applied to cultural assets in other contexts, including the quasi-valuation method, and describes the process of damage assessment. It concludes by summarizing the possibility of applying one or several of these methods as part of the well established ECLAC disaster impact assessment methodology[1] and advances some recommendations and areas for turture research. The paper also includes an example of application of contingent valuation method in a particular case (Fes Medina in Morocco).

[1] Handbook for Estimating the Socio-economic and Environmental Effects of Disasters (LC/MEX/G.5), July 2003. For recent evaluations in which cultural assets have been assessed, see: www.eclac.cl/mexico, under “desastres”.

# Executive summary

Culture not only has multidimensional character, but it is also multidimensional as a term. For the purposes of this paper the term 'culture' is understood as cultural heritage, natural heritage and intangible cultural heritage as defined by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Interest in the multidimensional character of culture from the economic perspective is a rather modern trend. Only recently cultural economists have started to work on the development of methodology for valuation of cultural assets and, hence, the literature is rather limited. Moreover the discussions and available studies on valuation of damages and losses of such assets are even less common.

This paper attempts to discuss and present an overview of the different available methods in assessing the value of cultural assets and provides some recommendations for valuing such damages and losses in the future. Cultural sector plays an important role in people's everyday lives. It improves not only psychological and social, but also economic well-being of individuals and societies. However, both natural hazards and human activities impose different threats to culture and its assets. Therefore, the valuation of cultural assets, damages and losses becomes ever more important.

Most of the cultural goods differ from other consumer goods, because they possess not only private, but also public good characteristics. While private good consumed individually by the members of society indicate the worth of the good to a particular individual, public good is consumed collectively by society and is rarely traded in markets. Thus, in the latter case there is no observable price. When examined in more detail cultural goods differ even more

from other consumer goods. These differences are mainly due to the different values attributed to cultural assets. For the purposes of this paper the characteristics of cultural goods are categorized according to their use (market) and non-use (non-market) values, which together create the total value of an asset. The main non-use values include existence, option and bequest value and the use values include aesthetic, spiritual, social, historical, symbolic, authenticity value (for more details see chapter 2 and figure 1). The existing research demonstrates that the public good characteristics and non-use values of a cultural asset are an important part of its total value and are the most difficult to assess.

The classification of valuation methods differs from one source to another. For the purposes of this paper the following five types of valuation methods have been distinguished: stated preference, revealed preference, cost based valuation, derived benefit and quasi valuation method. While the stated preference methods involve estimation of values from people's responses to hypothetical questions, the revealed preference methods estimate the value based on the observations of behavior in the markets for related goods. The cost based valuation methods as implied by the name use costs as a proxy for the value of an asset. Derived benefit methods focus on the linkages between the cultural assets and the broader economy (e.g. generation of employment and additional revenues to restaurants, hotels, etc.). The benefit transfer method assesses the value of a good or service based on the value of an appropriate substitute, which has already been assessed using some of the other valuation methods. Therefore, in this paper it is considered as a quasi valuation method (for more details see chapter 3 and figure 2).

Contingent valuation (CV), a stated preference method, is the most frequently used method and, therefore, is reviewed in the paper in greater detail. In CV studies respondents are asked about their willingness to pay (WTP) for the benefits of a particular good or their willingness to accept (WTA) compensation for the loss of the benefits from a particular good. However, use of CV in assessing the damage of cultural assets will be not only very expensive and time consuming, but also makes many discussions on relevance of the results. Other stated preference methods discussed in the paper such as Referenda and Multi attribute valuation are similarly expensive and time consuming, thus, face similar issues. Cost based methods, reveled preference methods and derived benefit methods are less time and resource demanding. At the same time, many of them require information and data, which might be limited, especially in developing countries.

For the purposes of post-disaster damage assessment when time is usually under high pressure, the benefit transfer method may be the most appropriate approach. It also requires rather limited financial resources. One of the most important and, probably, most difficult tasks would be finding an appropriate 'substitute' to the cultural asset being evaluated with as similar characteristics as possible.

Another appropriate method for the purposes of post-disaster assessment would be advanced or enhanced replacement cost method proposed by the author. It is based on the standard replacement cost method where the cost of replacing the good or service is used as a proxy for the good's/service's value. However, under this method the costs and, hence, the value would not be calculated based on the creation of a replica or reconstruction of the original, but rather based on the creation of a new, possibly different and/or enhanced cultural asset (see chapter 3.6). The most important drawback of this as well as any cost based method is the assumption that the cost of replacing the cultural asset or service is equal to the value of such an asset or service. As the enhanced replacement cost method is more time and resource consuming than the standard cost based methods it can be carried out either in situations when time is of a lesser concern or for the purposes of the more detailed damage assessments.

Although all valuation methods differ in their approaches and have their strengths and weaknesses, their application would include the following general steps. The first step is identification of the cultural asset followed by determination of the level of significance of the lost

or damaged cultural asset. The next step would be the identification of the beneficiaries to whom the benefits from the cultural assets accrued and identification of such benefits. Based on that the appropriate valuation method can be identified. The final step would include the valuation itself and compilation of the results. The valuation studies can be conducted in different manners (e.g. by mail, phone or internet), the best results can be obtained through face-to-face interaction.

Although there are number of possible valuation methods the information about the cases where these methods have actually been applied not only to cultural, but other assets as well, is scarce. The exception is CV, which has been broadly applied in different areas since 1970s. Most extensively the different methods have been applied in the evaluation of environmental amenities. As culture and environment share many of the same characteristics and uniqueness, further research of the literature on environmental evaluation and case studies would, hopefully, provide additional insights for the applicability of these methods in culture.

# Introduction

Culture not only has multidimensional character, but it is also multidimensional as a term. It is very well reflected in the numerous definitions attempting to capture culture's dimensions, characteristics and trends. For example, in Coccossis and Nijkamp ed. (1995, p. 3) culture is defined as 'the product of human activity; it is an expression of the human mind in a material sense (e.g. monuments) or in an immaterial sense (e.g. music or literature). It provides context and content to living; a framework in the present, from the past and for the future. Culture is a generic term that has various appearances such as performing arts, literature, architectural heritage, historical or archeological sites, manmade landscapes, monuments and so forth.' In *Recognizing Culture* it is defined as the 'expression of human values. It may be very intense and conscious, as in art objects and performances or religious practice. It may be pervasive and relatively unconscious, in the rituals of food, the use of time or family celebrations. It embraces the extremes of this spectrum and everything between. Culture is everything we don't have to do to survive, but are compelled to do to feel human.[2]

There are 150 qualitatively distinct definitions of culture found by anthropologists and the number persists to grow. Although the efforts to capture cultural facets into one definition does not have a particular starting point, the first scientific definition of culture was given by the British anthropologist Edward B. Tylor in 1871 defining

[2] Matarasso (2001), p. 3.

it as 'a complex whole including knowledge, belief, art, morals, law, custom, and any other capability or habit acquired by human beings as members of society.[3]

For the purposes of this paper terms 'culture', 'cultural asset(s)' and 'cultural good(s)' include the definitions of the United Nations Educational, Scientific and Cultural Organization (UNESCO) for cultural heritage, natural heritage and intangible cultural heritage:

## a) Cultural heritage

i) Monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of feature, which are of outstanding universal value from the point of view of history, art or science;

ii) Groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;

iii) Sites: works of man or the combined works of nature and man, and areas including archeological sites, which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

## b) Natural heritage

i) Natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view;

ii) Geological and physiographical formations and precisely delineated areas which continue the habitat of threatened species of animals and plants of outstanding universal value form the point of view of science or conservation;

iii) Natural sites or precisely delineated natural areas of outstanding universal value form the point of view of science, conservation or natural beauty.

## c) Intangible heritage

- Practices, representations, expressions, knowledge, skills —as well as the instruments, objects, artifacts and cultural spaces associated therewith— that communities, groups and, in some cases, individuals recognize as part of their cultural heritage.

For the purposes of this paper the term 'damage and loss of an asset' is used in the meaning of the term 'direct damages' as defined under the methodology developed by ECLAC for the post-disaster damage assessment (ECLAC, 2003): direct damage 'consists of damage to assets that occurred right at the time of the actual disaster'. Due to the fact that the assessment of 'indirect losses' as defined by ECLAC (2003)[4] in the culture sector would follow the same methodology as in any other sector, it is not covered in this paper.

While interest of anthropologist, sociologists and general public in culture has a long history, interest in culture from economic perspective and involvement of economists within the cultural realm is a rather modern trend and its starting point is considered to be the publication of William J. Baumol and William G. Bowen's book *Performing Arts – The Economic Dilemma*, published in 1966. By now there are many studies and exclusive research carried out in the cultural sector covering various domains such as demand and supply, art markets, cultural labor market, public subsidies, international trade and economics of copyright. Interest on the cultural issues has

[3] Danesi and Perron (1999), p. 3.

[4] The effect of indirect losses 'refers essentially to the flows of goods and services —expressed in current values— that will not be produced or rendered over a time span that begins after the disaster and may extend throughout the rehabilitation and reconstruction periods'.

attracted many scholars including David C. Throsby, Bruno S. Frey, Alan Peacock, Ruth Towse, Tyler Cowen, James Heilbrun and Charles M. Gray as well as the first full time professor for cultural economics Arjo Klamer at the University of Rotterdam, to name a few (for more detailed account of the studies in cultural economics and their authors see Blaug, 2000). In addition, Association for Cultural Economics International (ACEI) that includes economists, government officials, foundation officials, managers of arts and cultural organizations and artists has been established in 1994. The association holds international research conferences every two years, sponsors small conferences, workshops, and sessions concerned with cultural economics. It also sponsors *Journal of Cultural Economics*, which publishes original papers that deal with the theoretical development of cultural economics as a subject, the application of economic analysis and econometrics to the field of culture, and with the economic aspects of cultural policy since 1996.

Only recently cultural economists have started to work on development of methodology for valuation of cultural assets and most of the discussed methods are 'borrowed' from non-cultural spheres, mainly environmental economics (Navrud et al., 2002). Even more limited are discussions and available studies examining valuation of damages and losses of cultural assets and there is lack of agreement on any single common methodology. This paper attempts to present an overview and discuss different existing methods in assessing the value of cultural assets and provides some recommendations for ways to value the damages and losses in cultural assets. It provides different examples and presents a case study on Fes, Morocco, where one of the methods (Contingent Valuation Method) has been applied in valuing the city's cultural heritage. The paper also briefly discusses both cultural and economic values of a cultural asset and indicates some areas for further research.

# I. Valuation of cultural goods and services in the context of disaster assessment

## 1. Discussion of valuation of cultural heritage goods and services: the existing debate

Currently there are 788 World Heritage properties included in the UNESCO's List of World Heritage and thirty-five of them are also in the UNESCO's List of World Heritage in Danger. There are many more cultural assets, which are not included in the UNESCO's Lists, but are of local, national and international significance.

Protection of cultural assets is embodied in both local and international policies, the most important of which are UNESCO Convention for the Protection of Cultural Property in the Event of Armed Conflict (1954), Convention Concerning the Protection of the World Cultural and Natural Heritage (1972), Convention on the Protection of the Underwater Cultural Heritage (2001) and Convention for the Safeguarding of the Intangible Cultural Heritage (2003). Although these conventions oblige the State Parties to take the necessary measures to safeguard both tangible and intangible cultural heritage of local, national and international significance, numerous disasters still persist and affect cultural assets.

According to the *Handbook for Estimating the Socio-Economic and Environmental Effects of Disasters,*[5] disasters can be classified into two major groups depending on their origin:

a) **Those deriving from natural hazards**, i.e. tropical storms and hurricanes, floods, droughts, earthquakes, volcanic eruptions, tsunamis, mudslides, etc.;

b) **Those brought about by human activity**, i.e. explosions, armed conflict and war, fires, oil spills, pollution, tourism, neglect, encroaching development, etc.

Both groups pose major problems to many cultural assets. International Council on Monuments and Sites (ICOMOS) publishes global reports (*Heritage at Risk*) on a regular basis that identify and document risks and threats to cultural assets and their conservation, as well as indicate the most threatened types of such assets. The *Heritage at Risk 2000–2001* report identified the following major current threats:

i) Turism-related issues;

ii) Economic and social changes, particularly changing State responsibilities and unsettled ownerships;

iii) Maintenance deficiency, lack of financial and human resources;

iv) The effects of globalization;

v) Military activity and political change;

vi) Cultural displacement – forced migration.

Among the most threatened types of cultural assets were:

i) Rural/vernacular architecture due to transient materials and unassuming character, as well as of their remote location;

ii) 20$^{th}$ century heritage places due to poor recognizability of their heritage values;

iii) Industrial heritage due to pressure for re-development or modification;

iv) Religious heritage due to targeting of religious buildings during military campaigns;

v) Archeological sites due to lack of adequate inventories, increasing vandalism, illicit excavations, as well as natural forces;

vi) Cultural landscapes and gardens due to encroachment of lands for agriculture or urban settlement with attendant infrastructure demands.

Considering the increasing rate of damages to and losses of cultural assets due to the above threats, the valuation of cultural assets as well as such damages and losses is becoming ever more important. Additionally, Mourato and Mazzanti (2002) identify two other powerful arguments for using economic valuation of culture. First, it would 'inform macro and micro decisions in the cultural heritage sector.' Second, 'public institutions are increasingly being required to justify their expenditure decisions or requests for funding in terms of generated 'consumer benefits,' and those that are unable to do so might find their budgets cut. Furthermore, in a world where potential visitors are spoiled for choice, time constrained (rather than income constrained), and getting more sophisticated, cultural destinations are having to renew and market themselves to compete and survive.' Cultural economic literature provides a number of other arguments for valuation of cultural assets:

i) Determining whether preservation and restoration are appropriate;

ii) Helping private firms and government policy-makers make more informed decisions;

[5] ECLAC (2003), p. 1.

iii) Establishing comparative advantage to other goods, thus, estimating the amount of and necessity for government subsidies;

iv) Assessing existing regulations and cultural policy;

v) Helping determine the most appropriate sources of funding for preservation and restoration, etc.

It has already been acknowledged that cultural sector makes a great contribution to education, community welfare, urban renewal and tourism, thus, creating not only an important social, but also economic impact on local, regional and national economies. According to UNESCO Institute for Statistics, trade in cultural goods represented 2.8% of all world imports in 1997.[6]

Since the 1980s many developed countries have established cultural databases, although available data are still limited and differ from one country to another. The quality of the data is also questionable because of the lack of standardization of cultural indicators across the countries.

Despite the scattered information many studies have been carried out that illustrate the importance of cultural sector and its impact at a local, national and international level. For instance, Matarasso (2001) and Arts Council England (2005) indicate that in the UK, the cultural industries generated revenues of about £112 billion and contributed £10.3 billion or over 5% of GDP to the country's trade balance – more than any of the UK's manufacturing industries. Most significantly, perhaps, the UK's cultural industries experienced an average annual growth of 7% in the five years to 1993, while the rest of the economy was in recession. In 1997-1998 creative industries' out-put grew by 16% compared to 6% for the economy as a whole. In Australia[7] cultural sector accounted for 2.4% of the value of goods and services produced in 2001-2002. Revenues form heritage institutions (including nature parks) reached $1.4 billion in 1997-1998. More so, cultural sector contributes 1.8% to Western Australia's total production. In Canada[8] the cultural sector directly accounted for 3.1% of the Gross Domestic Product (GDP) in 1997. In 1997-1998, the national economic impact of heritage institutions amounted to $960 million in GDP.

Cultural sector also generates employment. For example, cultural sector provided 2.8% of employment in Western Australia.[9] In the United States of America the not-for-profit cultural sector represents nearly 1% of the total workforce.[10] In the United Kingdom cultural sector employs 1.3 million people.[11]

In addition to creating direct and indirect employment, cultural sector has wider impact. As Steinberg (2001) indicated that 'the distinctive value of culture is a key advantage' in the increasingly competitive tourism markets that account for 3.1% of global employment and economic activity worth some US$4.5 trillion. Travel and tourism is one of the biggest and fastest growing sectors globally and offers important potential, particularly, for developing countries that are 'equally rich in heritage and contemporary cultural assets'. In accordance with a US poll of frequent travelers 50% of respondents indicated historical or archaeological treasures as important for travel in 1990s, an almost double increase from 27% in the 1980s. Willingness to understand culture increased from 48% of respondents to 88% over the same period. According to the World Travel and Tourism Council, the industry was expected to generate US$4.5 trillion in total demand in 1999 and double by 2010. In terms of employment, travel and tourism industry jobs are expected to increase from the recent 68 million to 86 million in 2010. Furthermore, 'cultural tourist market is

6 UNESCO, Institute for Statistics, 2005.
7 Department of Culture and the Arts (2005).
8 Statistics Canada (2005).
9 Statistics Canada (2005).
10 Strom (2001), p. 23.
11 Arts Council England (2005).

also highly desirable: cultural tourists are generally high earners, well educated, older, tend to stay longer and spend more than the average tourist.[12]

The contribution of cultural tourism to the local and national economy could be further increased by developing user pricing mechanisms that are based on the estimated consumer willingness to pay (WTP). For example, a contingent valuation study in Machu Picchu Historic Sanctuary in Peru in 1999 revealed that majority of respondents were willing to pay by 82%-83% higher entry fees than charged at the time (Mourato et al, 2004).

According to research by Mourato and Mazzanti (2002) people tent to attribute a significantly positive value to the conservation or restoration of cultural assets. Their research showed that the public would be willing to pay from less than a dollar (for example, Bulgarians were found to be willing to pay about $0.60-$1 to preserve their famous monasteries) to over $150 (for example, the conservation of an archaeological park in Italy was valued at about $216 by local residents) or 0.01%–0.5% of per capita GNP for avoiding and reducing the rate of damages to cultural goods.

Culture is an important sector and besides improving individual health, psychological social, and economic well-being (Guetzkow, 2002), the importance of culture can be seen when different forms of cultural expression do not leave people indifferent and have an impact 'creating cultural conflicts involving an action or grievance against the content on an artistic presentation (murals, plays, books, sculptures, fine arts exhibitions, television programs, movies, popular music, poetry) or an educational or interpretative exhibitions (Tepper, 2003)'.

## 2. Characteristics of cultural assets and their non-market and market values

Most of the cultural goods differ from other goods consumed in everyday life, because they possess not only private, but also public good characteristics.

As a private good it can be consumed individually by the members of society and it is possible to detect the worth of the good to a particular individual by measuring his/her willingness to pay (WTP) for a specified cultural asset or willingness to accept (WTA) certain amount of money for giving it up. For example, visitors express their WTP while visiting an arts museum, gallery or any other place of cultural significance by paying entrance fee or for they travel. Based on that, it is possible to construct demand function for these goods, which look much like the demand functions for any other commodity. The respective supply function reflects the marginal costs incurred in producing the cultural goods. Thus, a private market equilibrium can be determined. However, the price will be a rather limited indicator of the economic value of private cultural commodities partly because of the shortcomings of price as a measure of value for any economic good, and partly because of the additional characteristics peculiar to cultural goods and services (Throsby, 2001, p. 24).

Culture as a public good is consumed collectively by society and is rarely traded in markets and, therefore, does not have an observable price. Economic literature describes public good as having two characteristics: non-excludability and non-rivalry. Non-excludable means that it is difficult or impossible to keep consumers from enjoying the good. For example, it is difficult or impossible to charge people for viewing and enjoying a building of cultural significance or architectural monument. The second characteristic is non-rival, which means that one person's use of the good does not necessarily preclude others from using it. For example, tourist viewing and enjoying the building of cultural significance or architectural monument in the center of the city does not stop other tourists from viewing and enjoying it. These two characteristics lead to a

[12] Steinberg (2001), pp. 39-43.

situation where markets cannot provide such goods sufficiently. However, it also makes the valuation of such goods difficult.

Not all cultural goods are either purely private or purely public. Cultural goods are considered to be mixed goods having both characteristics. For example, when an individual visits cultural performances (e.g. theatrical plays, operas, concerts, etc.) his/her knowledge of culture and, thus, 'intelligence' increases. The increased knowledge and 'intelligence' in turn increases the person's working potential and, thus, his/her welfare. In this sense culture is a private good and it can be sold to an individual charging an entrance fee. At the same time it is also a public good because enriching an individual benefits the society as a whole. The same can be attributed to culture providing enjoyment, information and knowledge individually and enriching the whole society. Another example is sites of cultural significance. While visitors to these sites can be charged an entrance fee, the sites' aesthetic characteristics and their role in clean and beautiful cities' environment can be enjoyed by everybody else.

There are many different other types of values attributed to cultural assets making them different from other goods (see Annex I). Figure 1 below provides the typology of values of cultural assets based on the information provided by different authors (Serageldin, 1999; Mason, 2002).

The above shows that cultural assets possess both cultural and economic values and for the purposes of this paper cultural and economic values are categorized according to their use (market) and non-use (non-market) characteristics creating the total value of a cultural asset.

The use value can be subdivided further into extractive use value and non-extractive use value. Extractive use value, also called direct, consumptive or structural use value, derives from goods, which can be extracted from the asset. For example, historic cultural site would provide extractive use value from renting the space, thus, generating revenues. The category of extractive use value is the easiest to measure due to observable prices captured by the market transactions.

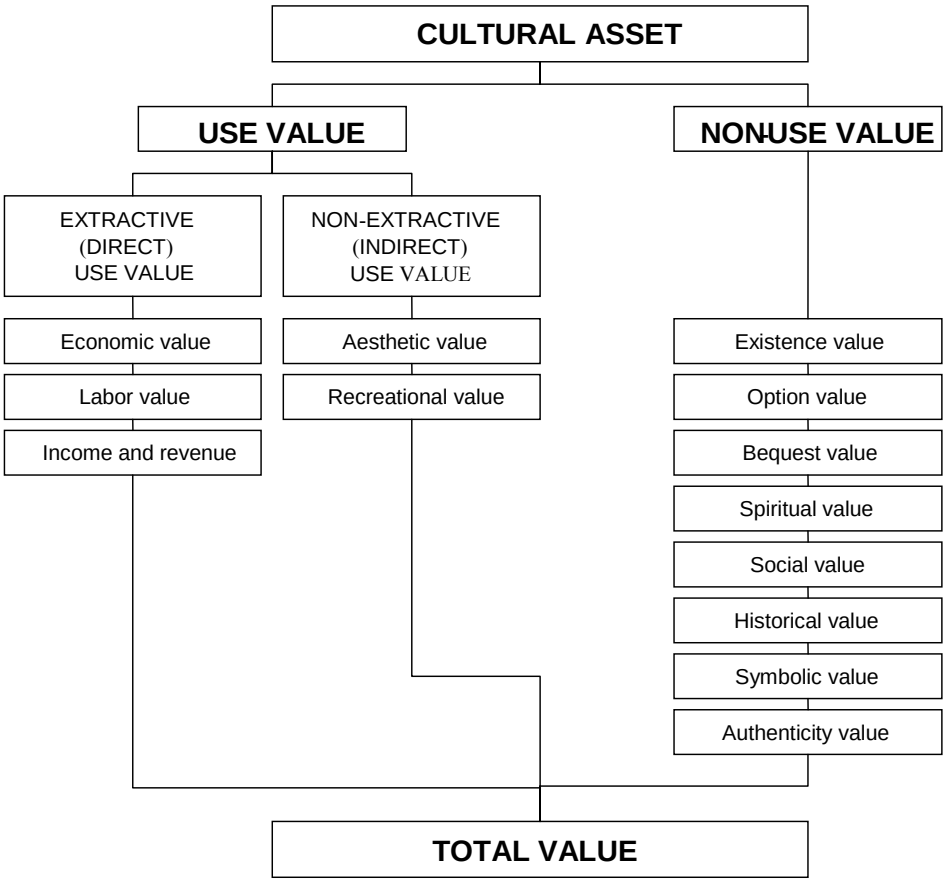
Differently form extractive use value, non-extractive use value, also known as indirect or functional value, is much harder to measure because it derives from the services the asset provides. For example, cultural parks and archeological sites provide opportunities for recreation and visitors to a historic part of a city might enjoy the scenery without spending money. The use of the place is not captured by transactions in markets unless there is an entrance fee or ticket. Among non-extractive use values economists identify aesthetic value and recreational value. Aesthetic benefits are obtained when sensory experience is separate from material effect on the body or possessions. Recreational value is a result of different services, which a site might provide, and depends on the nature, quantity and quality of these services such as meditation spots, shopping bazaars and, of course, monuments. The enjoyment derived form these services will depend on factors such as cleanliness of the surroundings (Serageldin, 1999).

Use value, whether extractive or non-extractive, can be derived only when using a particular good. Non-use value, on the other hand, does not necessarily require the use of the good.

Economists divide non-use value into the following three types as defined in Throsby (2001, p. 78):

i) *Existence value*: People may regard the mere existence of the heritage item under consideration to be of value to themselves or to the community, even if they do not enjoy benefits from it at first hand themselves. For example, citizens of the world may value the existence of the pyramids even though they may never have been to Egypt.

**Figure 1**
**TYPOLOGY OF VALUES ATTRIBUTED TO CULTURAL ASSETS**




**Source:** Developed by the author based on Serageldin (1999) and Mason (2002).

ii) *Option value*: People may wish to preserve the option that some day they, or someone else for whom they have concern such as their children, may wish to consume the asset's services – for example, by visiting a particular cultural site at some time in the future. This option provides people with recognizable benefit.

iii) *Bequest value*: People may gain benefit from the project through the knowledge that the cultural asset will be passed on to future generations.

Other scholars identify additional types of non-use or cultural values. The most important of them are defined in Throsby (2001, pp. 28-29) as follows:

i) *Aesthetic value*, i.e. properties of beauty, harmony, form and other aesthetic characteristics of the work as an acknowledged component of the work's cultural value. There may be added elements in the aesthetic reading of the work, influenced by style, fashion and good or bad taste.

ii) *Spiritual value* may be interpreted in a formal religious context such that the work has particular cultural significance to members of a religious faith, tribe or other cultural grouping, or it may be secularly based, referring to inner qualities shared by all human beings. The beneficial effects conveyed by spiritual value include understanding, enlightenment and insight.

iii) *Social value* – the work may convey a sense of connection with others and contribute to a comprehension of the nature of the society, in which we live, and to a sense of identity and place.

iv*)* *Historical value* reflecting the conditions of life at the time it was created and illuminating the present by providing a sense of continuity with the past.

v) *Symbolic value* – artworks and other cultural objects are also repositories and conveyors of meaning. If an individual's reading of an artwork involves the extraction of meaning, the work's symbolic value embraces the nature of the meaning conveyed by the work and its value to the consumer.

vi) *Authenticity value* refers to the fact that the work is the real, original and unique artwork, which has a value per se in addition to the other sources of value listed above.

The non-use value of a cultural asset covers an important part of its total value and is the most difficult to value. When a cultural asset of national or international significance becomes extinct, many people would feel a sense of loss due to the above values. As noted by Klamer (2001) destruction of the ancient Mostar bridge during the war in Bosnia in 1993 seemed to be more upsetting than the human lives lost that day. Destruction of two giant Buddha's in Afghanistan by the Taliban in 2001 came as a disaster to everybody, even those who have never seen or new of their existence before. Research conducted in Australia determining the non-use values of cultural goods from 1982 to 1986 concluded that two thirds of the respondents stated that the cultural goods yield utility also to those people who do not use them. 95%-97% of the respondents acknowledged an existence, prestige and education value of culture. Similar results were found in Canada.[13] In addition, the Canadian study revealed that much importance was attributed to the option value even by taxpaying non-users of cultural goods and services.

## 3. Valuation methods

As discussed above cultural assets provide many benefits to society. Many of them are traded in the markets, but many are not and, thus, do not have directly observable market price. In the latter case it is oftentimes difficult or impossible to find an appropriate traded substitute, complement or surrogate good either. Even in the case of traded cultural assets the directly observable market price does not reflect the whole value of the cultural asset. Lichfield (1988) provides an illustrative example. A listed Georgian house used as an office could have a considerable market value relating to that use, but its cultural value is only part of this market value. Conversely, former cotton mills have significant historical value but may have no market value as a property, since they are no longer useful for their original function, are not suitable for new uses and require significant maintenance expenditures.

When the market price is available it is used for estimating the asset's value. For example, the revenue from a site entrance fee provides a measure of the value people place on visiting the site. However, it is important to keep in mind that market prices very often are distorted by government policies. Some assets have close substitutes that can be used to estimate their own value. 'The value of using a historic building as a school might be estimated using the cost of the next best way to obtain the necessary space – for example, the cost of building and equipping a suitable structure.[14] Culture may also induce a variety of economic activities, e.g. tourism industry (hotels, restaurants, shops), which can be assessed using standard techniques applied in other sector for valuing such benefits. However, as indicated by Serageldin (1999, p. 30) the difficulty arises in

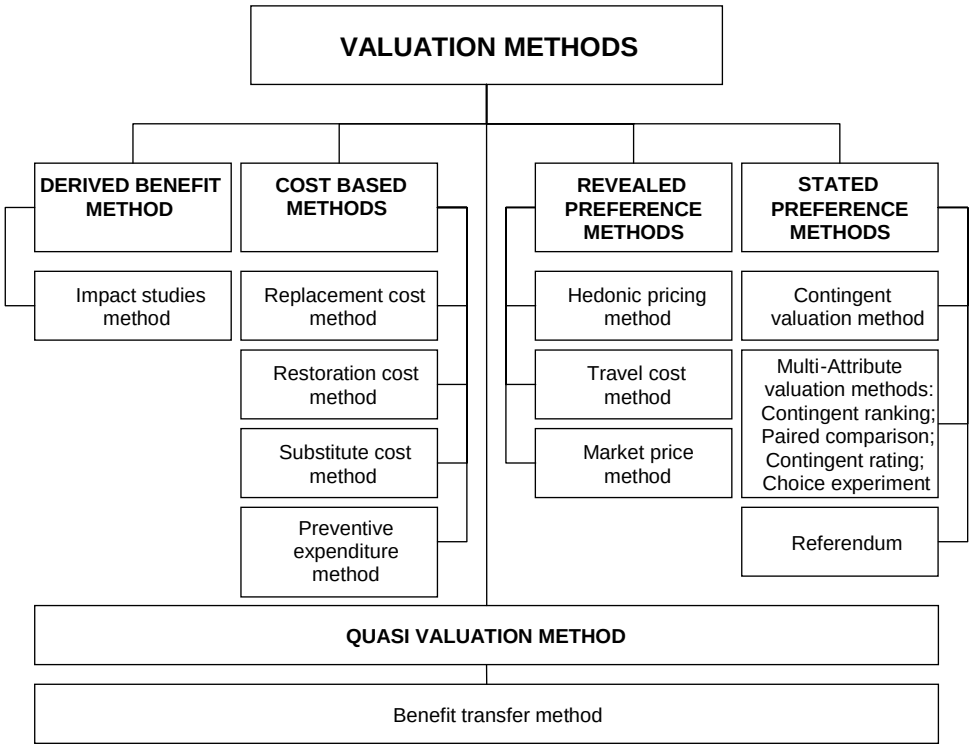
[13] Frey and Pommerehne (1989), p. 19.
[14] Serageldin (1999), p. 30.

predicting the impact that the changes in the cultural asset/site will have on the quantity of such related services.

In the absence of the directly observable market price the value of a cultural asset has to be assessed indirectly. A range of methods has been developed to estimate the total economic value of a cultural asset, many of them borrowed from environmental economics.

Although classification of valuation methods differs by author it is possible to distinguish five types of valuation methods: stated preference methods, revealed preference methods, cost based valuation, derived benefit method and quasi valuation method (see figure 2).

**Figure 2**
**TYPOLOGY OF VALUATION METHODS**




**Source:** Developed by the author based on Mason (2002), Pagiola (1996) and Serageldin (1999).

While the stated preference methods involve estimation of values from people's responses to hypothetical questions, the revealed preference methods estimate the value based on the observations of behavior in the markets for related goods such as travel costs, market prices and others.

The basic assumption of the cost based valuation methods is that the costs (e.g. replacement and prevention costs) can be used as a proxy for the value of an asset. Derived benefit method focus on the linkages between the cultural assets and the broader economy (e.g. generation of employment and additional revenues to restaurants, hotels, etc.).

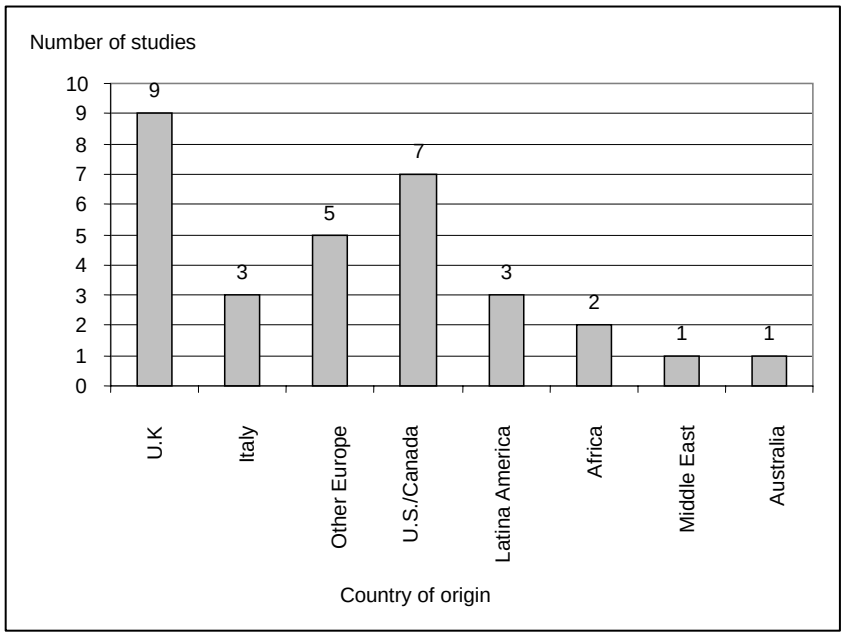
The benefit transfer method assesses the value of a good or service based on an assessed value of an appropriate substitute that has been obtained through some of the above valuation methods. Thus, this can be considered as a quasi valuation method.

The main methods are discussed in more detail below, including their limitations as well as providing the exiting examples of their application.

## a) Contingent valuation method

Contingent valuation method (CVM) is the most frequently used stated preference method. CVM first emerged in the 1960s when questionnaires were used to estimate the benefits of outdoor recreation in Maine backwoods area.[15] Since 1970s it became widely used to measure variety of goods, including culture, particularly, in UK, US and Canada (see figure 3).

**Figure 3**
**CONTINGENT VALUATION STUDIES OF CULTURAL HERITAGE BY COUNTRY**




**Source:** Mourato and Mazzanti (2002).

CVM is mostly used to estimate non-use values, which are not traded in markets and, thus, have neither market price nor any traded substitutes. However, it can also be used to estimate use values. While CVM is most widely used in environmental economics, with slight modifications the method can be applied also in estimating the value of cultural goods as they share many of the same characteristics as environmental goods.

In the CV studies respondents are asked about their willingness to pay (WTP) for the benefits of a particular good or their willingness to accept (WTA) compensation for the loss of the benefits arising from a particular good. The following are the main stages of this process:

i) Determining the good or the service to be valued;

ii) Determining the way the survey will be conducted. Although most contingent valuation studies can be conducted by mail, phone or electronically through internet to reach different segments of the population and wider audience, the best results can be obtained through communication in person. However, it is also more expensive. As estimated from the study in Alaska, the cost of a single complete interview is $300 to $400 (Carson et al., 1994);

[15] Mitchell and Carson (1989), p. 9.

iii) Determining and developing the structure and format of the survey (Mitchell and Carson, 1989). For example, it can consist of open-ended questions, where respondents indicate the amount of money they are willing to pay or state their willingness to accept. Another scenario is using dichotomous choice elicitation, where respondents are given the option to choose from a list of alternatives by saying 'yes' or 'no';

iv) Implementing the survey;

v) Collecting the data and analyzing the results.

*Contingent Valuation Studies in the Arts and Culture: An Annotated Bibliography* (Noonan, 2002) compiles a review and an annotated bibliography of CV studies curried out in the field of arts and culture starting from early 1980s. Many other case studies describing CVM used in valuing cultural public goods are compiled in *Valuing Cultural Heritage: Applying Environmental Valuation Techniques to Historic Buildings, Monuments and Artifacts* by Navrud et al, (2002). Two of the CV studies are summarized in box 1.

**Box 1**

**NEUCHATEL, SWITZERLAND**

The study by Grosclaude and Soguel (1994) estimates the value of damage to 16 historical buildings in Neuchatel, Switzerland. CVM was used to estimate the damage caused to buildings by traffic related air pollution. Respondents were presented with recent photographs of each building showing the dirtiness of the façade and a map to show the building locations. Respondents were first asked to indicate, which of the 16 buildings should be maintained in their opinion. Then an open-ended WTP question was asked about an annual contribution to a fund to maintain the buildings. The study concluded that the annual WTP to avoid damage to historic buildings was SFr121 per household, which suggested that damage to historical buildings was considered by the residents to be a significant problem. Based on that the annual damage was assessed to be SFr1.7 million for the whole town or SFr283 per building.

**Source:** Grosclaude and Soguel (1994).

**MEXICAN ARCHAEOLOGICAL SITES (TEMPLO MAYOR, CHOLULA AND CACAXTLA)**

CV study was used to determine the value of three Mexican archaeological sites (Templo Mayor, Cholula and Cacaxtla) for both their visitors and Mexican society. At the time of CV study visitors paid 13 new pesos during the week and admission was free during weekends. At each site, three hundred questionnaires were filled out, half of which were by paying visitors. The results showed that the average willingness to pay was higher than the admission fee charged by the Mexican authorities - 17.3 (nonpaying visitors) and 23 (paying visitors) for Templo Mayor, 15.1 and 21.4 for Cacaxtla, and 9.20 and 8.80 for Cholula. A noticeable revelation of the study was that the nonpaying visitors were actually willing to pay for the admission.

**Source:** Klammer and Zuidhof (1999), p. 35.

Although CVM is one of the most frequently used methods, it is also one of the most criticized and controversial ones. There are several biases that affect the data validity of CVM and they are extensively discussed in the economic literature (Throsby, 2001; Kerr, 1986; Mitchell and Carson, 1989; Arrow et al., 1993). The following is a summary of the most important criticisms:

a) *'Free-rider problem'*, i.e. people have an incentive not to reveal their true preferences for a public good if they know that they can not be excluded from enjoying its benefits once the good is provided. This is a particularly important issue in developing countries as indicated by Alberini and Cooper (2000, p. 8.). Coverage of a small geographic area has sometimes resulted in the target community's awareness that a study is being conducted and in subsequent attempts by community leaders to use their influence to manipulate survey responses in hopes of influencing the provision of the commodity. Also in many locations in Asia and Africa respondents distrust the government and it is reflected in their low WTP for commodities or services. Similarly, Kerr (1986, p. 18) indicates that individuals who attempt to maximize their own welfare may have incentives to misrepresent their real preferences. For example, if respondents believe that everybody will have to pay the mean 'bid' should a project proceed, then those willing to pay more may have an incentive to overstate their value in an attempt to raise the mean to their own true value to ensure the projects completion;

b) Respondents may not consider such studies *seriously* and state very low or very high WTP and WTA;

c) *Difficulty to provide adequate and complete information* to respondents and the inability of respondents to completely visualize all changes or predict the actions of others may also result in overestimation or underestimation of WTP or WTA;

d) Taking into consideration the overall concept of culture and the characteristics of public good it might be *difficult to identify the exact beneficiaries* of a cultural asset;

e) *Hypothetical markets* tend to overstate WTP and people do not always behave as they say they would in a hypothetical situation. There is no incentive in CV studies for the participants to determine their own preferences, which may be onerous at times. This is summarized in the old saying 'ask a hypothetical question, get a hypothetical answer'. Any change must be believable and fully understood by respondents. Respondents must also believe that their action in accepting or paying compensation will be considered in decision making. In other words, the situation must be made as real as possible to encourage people to behave as they would if faced with the situation in real life;

f) As most cultural goods are public goods their benefits may include many segments and broad spectrum of population, it might be very *difficult and expensive* to carry out CV studies. In this situation *Delphi technique*, i.e. questioning only experts in the field may be more appropriate.

A number of techniques have been developed and successfully applied to mitigate the above biases. For example, the free-rider problem may be controlled for by deliberately providing respondents with incentives to understate or overstate their WTP through altering their assumed liability to pay their nominated amount. As a result, those respondents who free-ride can be distinguished from those who do not and the bias can be estimated (Throsby, 2001; Kerr, 1986).

Kerr (1986, pp. 19-20) emphasizes that in well-designed CV studies the biases are of no significance and several comparative studies have been carried out employing CVM along with other valuation methods. The comparisons have shown that differences sometimes do exist (CV underestimates WTP and overestimates WTA), but usually these are of a minor nature.

CVM came under a particularly scrupulous review in early 1990s in connection with the litigation about environmental damage caused by the Exxon Valdez oil spill in 1989. CVM was used to measure non-use value of environmental damages. In this regard the United States National Oceanic and Atmospheric Administration (NOAA) carried out an assessment of CVM and published the *Report of the NOAA Panel on Contingent Valuation* in 1993.[16] The report concluded that CV studies convey useful information and can produce reliable estimates for the starting point

[16] Arrow et al., (1993), pp. 4601-14.

of a judicial process of damage assessment, including lost non-use values. The report also provides CVM guidelines for obtaining valid data and positive results (Arrow et al., 1993).

Application of CVM in the cultural sector and possible biases were discussed in detail among cultural economists, policymakers and arts advocates from a range of cultural and policy contexts at the University of Chicago in 2002.

Despite the possible biases and difficulties, proper application of CVM and use of techniques to mitigate the bias can provide valuable information not only to donor agencies when valuing cultural assets, but also to local governments and policy makers when considering interventions and investments in cultural sector.

Use of CVM in damage assessment of cultural assets can be very useful in assessing the total value of the damaged asset including use and non-use values. Besides, use of hypothetical scenarios helps to better construct possible alternatives and reconstruct the damaged cultural assets for the respondents. However, it is necessary to pay much of the attention to the design of the survey, as the results of the study in the later stage of damage assessment might be influenced by the post-disaster psychological state of mind of the respondents.

### b) Use of referenda

Referendum is usually conducted by asking people to vote on one or another public expenditure question, which allows to make important policy decisions. Referendum method can also be used in cultural sector. While such decisions are usually made by the ministries of culture or education or other cultural institutions such as cultural councils depending on a country, there are a few cases when public referenda have been used. For instance, in Switzerland public referenda take place quite often and many are devoted to cultural policy decisions. 108 out of 1,809 referenda carried out in Switzerland during 1950-1983 were on cultural expenditure decisions (Frey, 1989). Referenda in the cultural sector have been used also in Austria, USA and other countries. Four such examples are provided in the box 2 below.

The researchers indicate several factors that influence the results of the referenda. The three most important ones are income, education and distance (access to cultural asset) of the voters. The experience in Basle-City where two referenda were carried out on public subsidies to the municipal theatre (see box 2) showed that there is some balance between importance of cultural asset to the public and amount of the resources required. It also indicates the knowledge and seriousness of the attention the voters pay when casting their votes. This is in a stark contrast to the general opinion of many cultural specialists that general public does not pay attention to such issues and/or do not have sufficient understanding of the culture and arts to make appropriate decisions.

Research by Getzner (2004) on the voting behavior in the referendum on construction of a new theatre building in Austria (see box 2) revealed that employed and those with higher education had greater support for the new theater, while increasing opportunity costs of going to the theater (e.g. for those living further away from the city of Linz) lead to lower support.

As the electorate's preferences for cultural goods are highly correlated with the above mentioned social-economic variables and political attributes, it could be expected that referenda on cultural policy decisions in developing countries with poor socio-economic conditions would lead to negative results. However, such hypothesis remains to be tested as there have been no known referenda on cultural issues in the developing countries as of now.

Although referenda can be used as a democratic decision making tool they are expensive and are limited in use as only one or two questions can be asked. However, a referendum asking constituency to vote on a public expenditure for the culture or a specific object that has been identified through a CV study would combine a hypothetical (i.e. an object or expenditure identified

to have the highest value to the CV respondents) and actual valuation (i.e. actual responses to a referendum question(-s)).[17]

**Box 2**

**REFERENDUM ON PICASSO'S PAINTINGS (SWITZERLAND)**

The Basle Art Gallery was offered two Picasso's paintings for SFr8.4 million. The government and the parliament of the canton Basle-City decided to donate SFr6 million to buy these paintings. The remaining SFr2.4 million were raised by individuals and private firms. However, the decision was subject to the obligatory popular referendum, which was carried out in 1967 after a lively discussion about the value of art for the community. The outcome of the referendum was 53.9% 'yes' votes.

**PUBLIC SUBSIDIES TO MUNICIPAL THEATRE IN BASLE-CITY (SWITZERLAND)**

Basle-City carried out a referendum on the proposed increase in public subsidies to the municipal theatre in 1973. The proposal suggested an increase of the annual public subsidy from SFr10 million to SFr13 million. The proposal was rejected by a majority of 57% votes. The second referendum undertaken in 1974 suggesting SFr12 million public subsidy resulted in an approval by 59.9% of votes.

**Source:** Frey and Pommerehne (1989), pp. 167-177.

**REFERENDUM ON CONSTRUCTION OF NEW THEATRE (AUSTRIA)**

The referendum on construction of a new 'Linzer Musiktheater' in Linz (Upper Austria) was carried out in 2000. This was the first referendum of its kind in Upper Austria and the first one on cultural policy in the whole Austria. The new building would have constituted a new landmark on the banks of River Danube, but the estimates of costs were EUR 87.2 million. The referendum resulted in 59.70% negative votes.

**Source:** Getzner (2002).

**REFERENDA IN COLORADO (USA)**

In Colorado, USA, referenda are carried out for broader expenditure decisions. Due to the 1992 'Taxpayers' Bill of Rights' amendment to the state constitution, localities whose tax revenues exceed the constitutionally prescribed growth limits must either rebate the surplus to citizens or seek their permission to keep it, via referendum. Thus, in a referendum in Colorado voters are asked, if they would rather have a lump-sum dollar amount to be added to the general budget or a particular type and amount of public good.

**Source:** Kling et al., (2000).

Applicability of referenda in damage assessment of cultural assets is very limited. While in some instances it can be a useful tool, the process is very expensive and time consuming. Thus, referenda would not be an efficient approach when time is limited as might be the case for post-disaster damage assessment. However, referenda can be conducted during the later stages of making decisions in regard of reconstruction and obtaining information on voters' preferences. For example, it might help to determine whether people prefer the cultural asset to be reconstructed or

[17] Klamer and Zuidhof (1999), p. 34.

that a new contemporary asset is created. If financial components are included in the referendum question(-s), it would help to determine the voters' WTP. Thus, the value attached by individuals to the particular cultural asset could also be determined.

## c) Use of multi-attribute valuation methods

Multi attribute valuation methods are 'a family of surveys-based methodologies for modeling preferences for goods.[18] Respondents are presented with various alternative descriptions of a good differentiated by attributes and attribute levels. Respondents are asked to rank or rate the various alternatives or choose their most preferred version. If price/cost is included as one of the attributes, people's rankings, ratings, or choices will also indicate their willingness to pay.[19] The names of the multi-attribute valuation methods differ within the field of economic studies as well as among researchers and authors. For the purposes of this paper the classification for the multi-attribute valuation methods proposed by Castelló (2003) is used, which includes choice based (*choice experiment* and *contingent ranking*) and preference based (*contingent ranking* and *paired comparison*) methods, each of which is briefly reviewed below.

*Choice experiment method* was developed in the field of marketing to measure consumer preferences for different characteristics of goods. In this case respondents are presented with a series of choices about alternative options. Each choice set has a number of profiles describing the alternatives. One of the profiles describes a present (or future) status quo and remains constant in all choice sets. Other profiles vary among sets and respondents are asked to make choices in regards of each set.[20] Table 1 below provides an overview of each stage of choice experiment method.

**Table 1**

**STAGES OF CHOICE EXPERIMENT METHOD**

| Stage | Description |
|---|---|
| Selection of attributes | Literature reviews and focus groups are used to select the attributes of the good to be valued that are relevant to people. Expert consultations help to identify the attributes that will be impacted by the policy. A monetary cost is typically one of the attributes to allow the estimation of WTP. |
| Assignment of levels of the selected attributes | The attribute levels should be feasible, realistic and span the range of respondents' WTP values. A baseline (the status quo level) is usually included (e.g. a non-payment level in the case of WTP). |
| Choice of experimental design | Statistical design theory is used to combine the levels of the attributes into a description of number of alternative scenarios. |
| Construction of choice sets | The scenarios identified by the experimental design are then grouped into choice sets to be presented to respondents. Choice sets can have two or more alternative scenarios. |
| Measuring of preferences | Respondents are typically asked to choose their most-preferred alternatives out of each choice set, or to rank the alternatives in order of preference. |

**Source:** Mourato and Mazzanti (2002).

As indicated in Serageldin (1999) based on these choices the researcher can identify:

i) Attributes, which influence choice significantly;

ii) Implied ranking of attributes;

[18] Castelló (2003), p. 7.
[19] Castelló (2003), p. 7.
[20] Rolfe and Windle (2003), p. 87.

iii) Marginal WTP for a change in an attribute;

iv) Implied WTP for a plan, which changes more than one attribute.[21]

Value of a good is inferred from hypothetical choices or tradeoffs that people make rather than directly asking people's WTP as it is in CVM. Furthermore, the choice experiment method can be designed to detect also the value attached to the people's preferences and different alternatives. In that case, the choice experiment evaluation would present respondents with a series of alternative options and values attached to the presented alternatives and attributes, and ask respondents to choose the most preferred one relative to a baseline, i.e. status quo.

Mourato and Mazzanti (2002) point toward choice experiment method as a new economic tool for valuation of cultural assets, although the application of this method is relatively new and the results are untested. Economic literature suggests that choice experiment method has several advantages over CVM. It allows for easier estimate of the value of the individual attributes of a good as well as avoids the 'yea-saying' problem of CVM as respondents have to choose one of the alternatives or rank them (Hanley et al., 1998). In environmental economics the multi-attribute valuation methods have been found to be more appropriate than CVM in remote rural communities in the developing world, where people may have relatively little exposure to the market economy (Mazzanti, 2003).

Choice experiment method was successfully used in a study on customer preferences by the Galleria Borghese National museum in Rome. The museum was closed from 1984 to 1997 for renewal, restoration and refurbishment works. When it opened the museum management was completely unaware of and uninformed as to the people's preferences, the degree of their satisfaction and general user opinions of the museum's services. Thus, the aim of the research was to study user preferences with reference to alternative supply options using the choice experiment approach.[22]

The other multi attribute valuation methods —contingent ranking, contingent rating and paired comparison— have much narrower applicability for assessment of cultural assets, particularly, in the case of post-disaster damage assessment.

*Contingent ranking* is a choice based stated preference method where respondents are asked to rank a number of alternative options from most to least preferred. Number of attributes with differing values characterizes each alternative and respondents are asked to rank the options according to their preferences (Castelló, 2003). The research by Foster and Mourato (2002) comparing results obtained from contingent ranking and contingent valuation methods found that differently from the CVM the contingent ranking method was more appropriate for evaluating individual and specific characteristics of an object rather than comparison of two objects.

In a *contingent rating method* respondents are presented with a number of scenarios one at a time and are asked to rate each one individually on a semantic or numeric scale (Castelló, 2003). This method does not involve a direct comparison of alternative choices. Thereafter, the ratings must be transformed into a utility scale.

In the environmental sector contingent ranking method has been used to value multi-purpose tree resources in Zimbabwe, where respondents were asked to rank and score ten categories of associated non-market benefits. Monetary values were assigned indirectly by including one or more 'anchor' goods with known market values. It has also been used to value a range of use benefits of forests (timber, fuel wood, grazing, etc.) to rural households in Kenya, including the use of several monetary 'anchors' (a radio, bicycle or cow) (Bishop ed., 1999).

[21] Serageldin (1999), p. 32.
[22] Mazzanti (2003).

In a *paired comparison method*, respondents are asked to choose their preferred alternative out of a set of two choices and to indicate the strength of their preference in a numeric or semantic scale. This approach combines elements of choice experiment (choosing the most preferred alternative) and rating exercises (rating the strength of preference) (Castelló, 2003).

Use of multi attribute valuation methods in damage assessment of cultural assets can be very useful, when there are several cultural assets damaged and it is necessary to set priorities and determine, which of the cultural assets is the most valuable to respondents. Including the price/cost as one of the attributes, people's rankings, ratings, or choices will also indicate their willingness to pay, thus, the value of damaged cultural asset. However, this is also a rather time and resource consuming approach, and might be more applicable during an in-depth damage and needs assessment rather than initial estimates.

### d) Use of travel cost method

People visiting cultural sites derive some benefit from the visit suggesting that it has a positive net value, i.e. the benefits equal or exceed the costs of travel, entry, etc. Thus, these costs can be used as an approximation of the lower boundary of the benefit value of the cultural asset. The travel cost method (TCM) was designed for valuing the benefits of recreation. It can also be applied to assessing recreational use value of the cultural assets.

TCM is one of the revealed preference methods. It uses surrogate market approach to obtain information on visitors' total expenditure to visit a site and derive demand curve for the site's services based on that. The total expenditure usually includes not only the entry fee to the site, but also all costs incurred traveling to and from the site as well as possibly lodging and food. From the obtained demand curve the total benefit obtained by visitors can then be calculated.

There are several variations in applying TCM. One of them is *zonal travel cost approach*, which uses mainly secondary data. It is based on the information on the number of visits to the specific site from different distances. As the travel and time costs will increase with distance the obtained information allows to calculate the number of visits 'purchased' at different prices. The information then is used to construct the demand function for the site and estimate the consumer surplus or economic benefit of the site. It is the simplest and least expensive approach.

The second approach is *individual travel cost approach*, which uses survey data from individual visitors rather than data form each zone in the statistical analysis. The approach is similar to the previous but it requires more data collection and will also give more precise results.

The third approach is *random utility approach*, which can be used to estimate benefits for specific characteristics of or changes in the site rather than for the site as a whole. This approach assumes that individuals select the site to visit they prefer most, making tradeoffs between sites and the costs of travel to the site. This approach requires information on all possible sites that a visitor might select, their characteristics and travel costs to each of them. This approach allows to observe the choices of visitors and factors that determine them, however, it is also very costly.[23]

There are several limitations to the TCM (Centeno and Prieto, 2000). One of the difficulties, which arises in estimating the costs of travel lies in the fact that many trips are often multi reason and for multi destinations. It would be difficult to divide the travel costs among the various purposes and, thus, the value of a site might be overestimated. TCM can be applied best when the cultural asset is isolated. For example, Petra, a historic site in Jordan carved into the living rock, which is also UNESCO World Heritage Site. It is partially isolated and is a premium tourism

[23] Ecosystem Valuation (2005).

attraction in Jordan. Estimating the economic benefits revealed that each visitor to Petra generates about $48 in rents during their average stay of 1.25 days.[24]

TCM has been used extensively, especially in richer countries, to estimate environmental benefits of different recreational sites (including wildlife services, special trekking areas and beaches).[25] Unfortunately, only few studies refer to cultural goods (see box 3).

**Box 3**

**VALUATION OF HISTORIC AND CULTURAL HERITAGE OF THE CASTILE-LEÓN REGION (SPAIN)**

Study by Centeno and Prieto (2000) applied TCM to the valuation of the historic and cultural heritage of the Castile-León region in Spain. Using the TCM the researchers calculated the value of consumer surplus for four different cultural goods/services in the region. Namely, a cultural artistic event, a village comprising a historic ensemble, a museum located in a provincial capital and a cathedral. The TCM allowed ranking of the relevance of each event/asset and making observations on the factors that were most relevant in affecting the demand.

**Source:** Centeno and Prieto (2000).

**VALUATION OF SPECIAL EVENTS (AUSTRALIA)**

A study by Prayaga et al., (2002) portrays the importance of special events in tourism and recreation choices in Australia. The study uses the TCM to estimate the value of special events in different regional areas. The examined event is an annual four-day Gemfest in the sapphire fields of central Queensland, Australia. The main conclusion of the TCM study was that special events, in this case it was Gemfest, are important sources of tourist attraction and result in higher tourist spending. This in turn benefited not just those who participate in the event, but to all the members of the society. Furthermore, determining such an economic impact through the benefits accruing from and the value of special events and festivals help to justify the expenditures of agencies funding the events/site.

**Source:** Prayaga et al., (2002).

Use of TCM in damage assessment of cultural assets can be limited to countries and places where the data on the total expenditure of visitors to the sites are available and has been collected prior to the occurrence of the damage. Such data might also help to determine the significance of cultural asset according to the demand curve. However, lack of such data in developing countries might limit the use of TCM. Differently from the above discussed stated preference methods the TCM would provide a more objective representation of the asset's monetary value to the consumers. At the same time it fails to capture most of the non-use value of the asset, e.g. option, bequest and other values.

## e) Use of hedonic pricing method

Similarly to many other cultural valuation methods, hedonic pricing method has also been borrowed from environmental economics, where it is used to estimate economic values for ecosystems or environmental services. Described by many economists (see Palmquist, 1991; Rosen,

[24] Dixon (1998).
[25] Bishop (1999).

1994; Rose, 1998; Freeman, 1993; Kerr, 1986; Navrud and Ready, 2002) hedonic pricing method can be summarized as follows:

The price of a marketed good includes and reflects its characteristics. As suggested by Navrud and Ready (2002), in the context of cultural heritage goods, the most likely market good for such an analysis is housing, either privately-owned or rented. For example, the price of a house or an apartment reflects the characteristics of the particular unit. The characteristics might include not only the size of the unit, construction materials and general condition, but also closeness of cultural institutions, view at the cultural landscape, etc. Closeness of a national historic monument will affect the price of the apartments or houses nearest to it. A historic house may also sell for more than an equivalent modern one. Hedonic methods allow to measure these effect holding other factors such as size and amenities constant. In essence, the technique estimates the implicit prices for various attributes that together make up the sales price (Serageldin, 1999, p. 31).

Hedonic pricing model assumes a housing market where consumers are mobile and there is a variety of housing units with different combinations of characteristics. The individual consumer chooses the house that maximizes his/her utility making tradeoffs between price and the various characteristics. It is, thus, assumed that, if there are enough different types of housing units available, then each of these tradeoffs will be optimal and reveal the consumer's preferences. In particular, the consumer will find a housing unit where his/her willingness to pay for the 'cultural heritage good' equals the marginal implicit price. While each consumer prefers a different housing unit, each will purchase 'additional cultural heritage' up to the point where their marginal WTP equals the marginal implicit price (Navrud and Ready, 2002, p. 14).

To carry out hedonic pricing method the first step is to collect as much information as possible on the sales/rents of a specific group of assets, e.g. residential property, in the specific area for a given period of time. The information might include each unit's sale or rental price, characteristics of the unit that may affect such a price, for example, number and size of rooms, lot size, etc, as well as the unit's location and accessibility. When the data are collected the next step is to make statistical estimates using regression techniques to develop a model that would explain differences in housing unit prices. This can also be referred to as the implicit price function consisting of variables that determine the unit's price and associated coefficients ($\beta 1$, $\beta 2$, etc.):

$$\text{Price} = \alpha + \beta 1\ (\text{Size}) + \beta 2\ (\text{Age}) + \gamma 1\ (\text{School Quality}) + \gamma 2\ (\text{Historical Buildings}) + \varepsilon$$

The coefficients (i.e. slope parameters of the equation or marginal implicit prices) represent the marginal increase or decrease in price that would be expected from a change in the respective housing unit's characteristic. For example, $\gamma 2$ is the marginal implicit price for historical buildings.[26]

The single greatest advantage of hedonic pricing method is that it determines the actual market price of a cultural asset / characteristic as revealed by the actual transactions in the market. However, it is most likely to capture only part of the total cultural value of the asset and is most likely to include aesthetic, historic and symbolic values, but not others such as spiritual and social values.

Nevertheless, hedonic pricing method has also several limitations. Being a market based method it can be used efficiently only when sufficient statistical data are available for a broad range of factors, including not only the attributes of the good, but also data about each of these attributes. Therefore, hedonic pricing method may be very difficult to use in developing countries. In addition, hedonic pricing method can be used when valuing cultural assets of a local significance. Using it for valuing cultural assets of international importance may not be appropriate because housing prices do not reflect the importance of the cultural attributes of an asset to foreign tourists and visitors.

[26] Navrud and Ready (2002).

Although hedonic pricing method is commonly used to value different environmental goods and amenities, as well as aesthetic benefits (see Braden and Kolstad, 1991) there is little information on the use of this method to value cultural goods. A brief review of some of the available examples of the use of this method is provided in box 4 below.

Use of hedonic pricing method in damage assessment of cultural assets similarly to that of TCM can be limited to countries and places where the detailed data and information on the residential property are available. It also does not capture most of the non-use values of the cultural assets.

**Box 4**

**ESTIMATING THE VALUE OF RESIDENTIAL ARCHITECTURE IN BOSTON (USA)**

A study by Moorhouse and Smith (1994) investigated the market for residential architecture in a specific row house neighborhood in Boston's South End. It is one of the largest Victorian residential neighborhoods in the United States consisting of approximately 3,500 houses built and sold between 1850 and 1872. The study captures five sets of characteristics – lot and house size, construction materials, location amenities within the neighborhood, architectural style and individual unit's architectural features – that affect the price of a house. The study found that architecture matters not only aesthetically, but also financially, i.e. the Victorian style buildings were sold at a premium relative to the comparable non-historic buildings.

**Source:** Moorhouse and Smith (1994).

**THE VALUE OF "GOOD" ARCHITECTURE IN CHICAGO (USA)**

A study by Hough and Kratz (1983) explores whether the positive externality of "good" architecture can be internalized. In particular, if the value of "good" architecture is reflected in the rental rates of commercial office structures in downtown Chicago (USA). Using hedonic pricing method the study concluded that tenants were willing to pay a premium to be in a new and architecturally significant office building, but apparently saw no benefits associated with old office buildings that expressed a recognized aesthetic excellence.

**Source:** Hough and Kratz (1983).

**ESTIMATING THE PREMIUM FOR HERITAGE-LISTING IN THE HOUSE MARKET IN SYDNEY (AUSTRALIA)**

A study by Deodhar (2004) discusses an empirical study conducted in Sydney's upper North shore with the primary aim of estimating the market price differential between heritage-listed and regular, unlisted houses using the hedonic pricing method. The study also examined the relationship between market price and the level of significance of heritage. The study concluded that heritage-listed houses had a 12% price premium on average compared to unlisted houses. This premium reflects the combined value that the market places on the heritage character, architectural style elements and the status of statutory listing as a heritage house. The market also appeared to differentiate among varying levels of heritage significance by conferring a higher premium to houses with a higher level of significance to the society.

**Source:** Deodhar (2004).

## f) Use of cost based valuation methods

There are several cost based valuation methods, for example, *replacement cost*, *substitute cost*, *restoration cost* or *preventive expenditure* methods among other. Cost based methods are methods that estimate value based on costs of replacing, substituting, restoring goods or services, assuming that the value of cultural goods or services is equal to such costs. As the cost based methods do not directly extract people's WTP or WTA and cultural values inherent to cultural assets, they oftentimes underestimate (rather than overestimate) the value of the cultural asset. The underlying premise of all the cost based methods is that consumers are willing to bear the costs associated with the particular asset.

Thus, the different studies (see also Asabere et al., 1989; Ford, 1989) indicate a significant correlation between the price and the cultural heritage characteristics. The hedonic pricing method is a very useful tool to estimate the associated market premium.

The following is a brief overview of the different types of costs used for cost based valuation of assets and services:

i) *Replacement cost method* estimates the cost of replacing the good or service, which is then used as a proxy for the good's/service's value. In regards of cultural assets the problem arises from the fact that most cultural goods are unique and can not be replaced preserving the total value (use and non-use) of the original. In some cases, of course, it is possible to replace a damaged or lost cultural asset using materials, which are as close to the original as possible, and using old restoration and reconstruction techniques to obtain a replica that is as close as possible to the original and its values.

ii) *Restoration cost method* attempts to assess the value of a good or service by estimating the costs of restoring the good or service to its original condition. The difference from replacement cost method is that restoration costs can be used when the cultural asset is only partially damaged.

iii) *Substitute cost method* focuses on establishing the market price of an asset that could be a substitute to the damaged one.

iv) *Preventive expenditure method* also known as *mitigation or defensive expenditure* method focuses on the costs of preventing the damages or losses from occurring. For example, the costs of maintaining and providing even temperature and humidity within the premises of a museum or cathedral could be used as one of the proxies for the value of that museum or the cathedral.

The above cost based methods are frequently used in many sectors, including for post-disaster damage assessment purposes. However, their application to the cultural sector requires caution as by the definition these methods include only costs and not the value, which in the case of cultural assets may be very different, particularly, the non-use values. As already mentioned above, the replacement of damaged or lost cultural asset is essentially impossible as its value is embodied in the original. Once the original has been destroyed or lost it has also lost its embodied values and using old materials and techniques only a copy of the original might be constructed, which would not provide all the values encompassed by the original.

These methods also imply that the more degraded the cultural asset, the greater its value[27] as the costs of maintaining the asset are higher, which may or may not be the case.

Nevertheless, the cost based valuation methods can be applied when there is limited time and resources available and only very approximate estimates are necessary.

To address the above issue of inability to recreate / restore the original an alternative approach —*enhanced replacement cost method*— could be used. In this case the costs of replacing

[27] Sergeldin (1999), p. 30.

the damaged or lost cultural asset with a new and enhanced cultural asset are assessed and used to value the damaged / lost cultural asset. The enhanced replacement cost method in addition to all the general steps involved in the process of assessing the value of a cultural asset as discussed in Chapter 4 below would include also:

a) Organization of competition of new projects for the replacement asset/service after the most important benefits/values attributed by the key stakeholders to the damaged/lost asset have been identified. The scope of the project is determined by the characteristics of the lost or damaged cultural asset and the values attributed by the stakeholders. It is important to make sure that the replacement includes similar type and level of benefits as those previously provided by the lost or damaged asset;

b) Selection of the project through the application of one of the multi-attribute valuation methods, asking respondents to rank, rate or choose their most preferred option among different alternatives. By including price as one of the characteristics respondents WTP could be ascertained indirectly as well;

c) Assessment of the value of lost or damaged cultural asset based on the respondents' WTP as a proxy. It is possible also to use general replacement cost method to find the proxy for the value. However, it will not include the people's WTP and, therefore, the value of cultural asset to the respondents.

While the enhance replacement cost method provides for a greater flexibility and allows for creation of new and contemporary cultural value, it also most time and resource consuming than a standard replacement cost method. Therefore, it would be more appropriate in situation when time is not of a crucial concern, i.e. during a thorough and detailed assessment of damages and funding needs, rather than during the initial rapid assessment.

## g) Impact studies

As outlined in World Bank (2005) 'culture is a resource for economic and social development. Poor communities helped in recognizing and preserving their cultural assets are provided with new economic opportunities and enabled to build development on their diverse social, cultural and physical background. The possibility of employment, reduces poverty, stimulates enterprise development by the poor, fosters private investment and generates resources for environmental and cultural conservation.' Studies of such economic impact have become an important tool of cultural policy since the early 1980s not only to justify and increase public expenditures in the cultural sector, but also to strengthen the role of the cultural sector among the other sectors of economy.

There is a broad agreement among cultural economists and cultural advocates that cultural sector has a broad range of economic and non-economic types of impact that have been generally defined in the Cultural Heritage and Development (World Bank, 2005) as follows:

a) Positive economic impact on:
   - poverty reduction;
   - national employment levels;
   - level of the total output and revenue form cultural and service industries;
   - foreign exchange earnings;

b) Beneficial non-economic impact on:
   - educational level and identity cultivation;
   - social cohesion, inclusion and development of social capital;

- continuous expansion of the nations' cultural patrimony;
- safeguarding and conveying the heritage to future generations in a sustainable manner.

The European Task Force on Culture and Development at the European Commission has somewhat different perspective on economic contribution of the arts and culture to the society as summarized in table 2 below.

**Table 2**
**ECONOMIC CONTRIBUTION OF THE ARTS AND CULTURE TO THE SOCIETY**

| Type of impact | Description |
|---|---|
| Direct economic impact | • The arts and culture serve as a main source of contents for the cultural industries, the media and value-added services of the telecommunications industries.<br>• The cultural sector creates jobs and significantly contributes to the GDP.<br>• Cultural institutions, events and activities create locally significant economic effects through multipliers both directly and indirectly.<br>• Works of art and cultural products have their own autonomous 'value-adding' markets (e.g. gallery sales and fine art auctions), which often give them good investment potential. |
| Indirect economic impact | • The arts are 'socially profitable' in that they offer cultural credit or esteem for people and institutions (e.g. financiers, sponsors, collectors or connoisseurs).<br>• Works of art and cultural products create national and international stocks of ideas or images, which can be exploited by the cultural industries (e.g. in advertising or cultural tourism).<br>• Works of art can enhance and so add value to the built environment (e.g. by adorning buildings and in urban design). |

**Source:** Reeves (2002).

Economic impact studies assess economic significance of a cultural asset/service based on the direct and indirect income that it generates. There is a wide variety of research both national and international in the field of cultural impact studies that uses different approaches and covers different cultural goods and services. As a result, it is not possible to carry out any comparative analysis of the results of such studies. A review by Reeves (2002) provides a detailed overview of robust research evidence not only on economic, but also social impacts of culture and sports such as personal and community development, social justice, health, education and audience development. The review concludes that various economic appraisals and evaluations of different cultural organizations, events and industries demonstrate direct and indirect economic impacts on local areas, community and beyond as reviewed below.

According to Bluestone et al., (1999) one dollar invested in cultural heritage asset has a multiplier effect of 1.2 on the economy. Economic impact studies in Netherlands (Klamer and Zuidhof, 1999) showed that each dollar invested by the government in restoration of monuments lead to a total investment of $2.78, i.e. private investments, sponsoring and/or donations contributed additional $1.78. Furthermore, direct economic benefits yielded government $0.74 in the form of income taxes of the labor involved and VAT on materials used on each dollar it granted. Hence, a $1 investment in the heritage costs the state only $0.26. When looking at indirect effects at an

economy wide scale the study found that $1.10 was returned via tax receipts on each dollar invested by the government.

A more general study by the Bureau of Economic Analysis of the U.S. Department of Commerce measured the impact of a variety of economic activities at individual state level. It revealed, for example, that in California rehabilitation of buildings in the cultural sector outperformed manufacturing in terms of additional employment, income and value added generated by the sector (see table 3). Such results are particularly interesting as often it is assumed that manufacturing has the greatest economic impact.

The Task Force also identified types of social contribution by the arts and culture to the society as summarized in table 4 below.

**Table 3**
**INPUT-OUTPUT MULTIPLIERS IN CALIFORNIA (USA) INDUSTRIES**

| Indicator | Benefits from 1 million dollars invested in | |
|---|---|---|
| | Manufacturing | Building rehabilitation |
| Number of additional jobs created | 21.3 | 31.3 |
| Additional household income generated (dollars) | 553 700 | 833 500 |
| Value added to the economy's output (dollars) | 1 109 665 | 1 402 800 |

**Source:** World Bank (2001): Cultural Heritage and Development: A Framework for Action in the Middle East and North Africa.

**Table 4**
**SOCIAL CONTRIBUTION OF THE ARTS AND CULTURE TO SOCIETY**

| Type of impact | Description |
|---|---|
| Direct social impact | • The arts and culture provide 'socially valuable' leisure activities, 'elevate' people's thinking and contribute positively to their psychological and social well-being and enhance their sensitivity. |
| Indirect social impact | • The arts enrich the social environment with stimulating or pleasing public amenities and are a source of 'civilizing' impacts and of social organization (e.g. amateur arts).<br>• Artistic activity enhances innovation by stimulating creativity and a disregard for established models of thinking, enhance innovation.<br>• Works of art and cultural products are a collective 'memory' for a community and serve as a reservoir of creative and intellectual ideas for future generations.<br>• Arts and cultural institutions improve the quality of life and so in urban areas enhance personal security and reduce the incidence of street crime and hooliganism. |

**Source:** Reeves (2002).

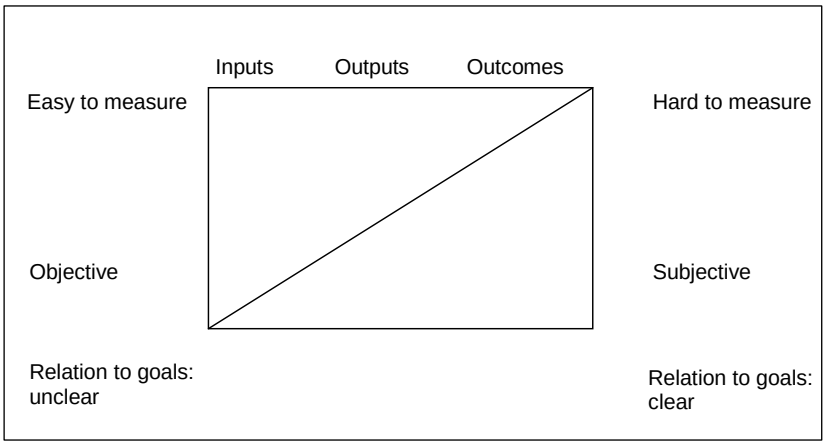
Similarly, to hedonic pricing and travel cost methods impact studies derive the value of culture based on objectively observable statistical data. However, impact studies differently from the other two approaches capture a wider spectrum of economic indicators and cultural values. Furthermore, impact studies allow for assessing the economic impact of an individual sector such as culture relative to others and providing more objective measurement and indication of the sector's/asset's value. In most developed countries such data are rather readily available from

secondary sources and usually no primary data collection is required. This, however, differs from developing countries where data availability in the cultural sector is limited.

Nevertheless, impact studies have several limitations. Lack of common definition of industry boundaries is one of them. As mentioned by Throsby (2004, p. 2) 'efforts are being made to harmonize definitions across different jurisdictions through the development of new international standards for industry classification, due for implementation by the year 2007'. Another issue is the difficulty of obtaining data as there is no common and standardized database or often information on the cultural sector is included within the frameworks of some other sector (e.g. education).

The third difficulty arises from determining linkages between the inputs and outcomes and measuring them. The measurement spectrum developed by Reeves (2002) (see table 5 below) illustrates this very well. Measuring inputs is relatively easy and 'objective', while it becomes more difficult and subjective with measuring outputs and, particularly, the outcomes. At the same time measuring outcomes is by far more important in assessing the achievement of stated goals than measuring inputs.

**Table 5**
**THE MEASUREMENT SPECTRUM OF INPUTS, OUTPUTS AND OUTCOMES**




**Source:** Reeves (2002).

A broad overview of different aspects concerning cultural impact studies (e.g. cultural impact assessment methods, gaps in empirical evidence, future research agenda as well as list of studies in the field) is compiled in the Michelle Reeves work *Measuring the Economic and Social Impact of the Arts: A Review* (2002). See also Annexes II and III.

While this method would allow for a rather quick and objective assessment of the use values of the cultural assets, similarly to the other two revealed preference methods discusses above (TCM and hedonic pricing methods) it requires availability of detailed statistical data. It also does not capture most of the non-use values of the cultural assets.

## 4. Quasi-valuation method

Benefit transfer method estimates the value of goods and/or services based on an already assessed value of another good/service. For example, an estimate of the benefit obtained by tourists viewing wildlife in one park might be used to estimate the benefit obtained by tourists form viewing

wildlife in a different park.[28] As this approach requires that an appropriate substitute asset has already been evaluated using one of the previously discussed methods, it is considered here as a quasi valuation method. However, in most of economic literature it is considered as one of the primary valuation methods.

The benefit transfer method requires identification of appropriate existing study(-ies) that may be applicable also in the particular case. This requires a careful review of the assessed values to determine whether they are transferable to the asset in question. It is also important to evaluate the quality of the study to be transferred, as the results of the new assessment are highly dependant on the quality of the transferred study. The next step includes adjustment of the data from the identified appropriate study(-ies) to the available information and data of the new study. The final step includes estimation of the total value of the asset being evaluated using the obtained adjusted data and information.

Although each cultural asset differs from any other in its uniqueness and provides different benefits to the society, benefit transfer method can provide valid and reliable estimates under certain conditions – the commodity or service being valued is identical to that in the other location and the affected population has identical characteristic. However, because cultural heritage sites are rather unique, meeting these conditions may prove to be difficult.

This also imposes limitations on the use of this method. The results may not be accurate due to the difficulties to find precisely equivalent study carried out using the exact characteristics. Kirchoff et al., (1997) found that benefit transfer errors across recreation sites can have either overestimate or underestimate errors. The majority of the studied transfers had errors of less than 50%. Similar, a study in health sector by Ready et al., (2004) exploring transfer of benefit estimates among countries found that average errors were in the range of 37%-39%.

It might also be difficult to find an appropriate study in the particular case of cultural assets, as there are not many studies to choose from.

Although primary research is the best strategy to gather information about the particular good and/or service for the purposes of post-disaster damage assessment that imposes rather severe time limitations and budget constrains, the benefit transfer method can serve as a useful tool for obtaining at least preliminary estimates.

## 5. The process of damage assessment

Although all valuation methods differ in their approaches, their application would include the following general steps:

*Identification of the cultural asset.* The first stage in the valuation process of cultural assets is to identify the asset or parts thereof to be valued. One of the problems, which might arise is the multi faceted characteristics of the cultural asset due to clustering. The cultural site may have more than one heritage asset as illustrated by Ebbe and Harper (2000). Unexcavated half of a site containing a Roman amphitheater in the City of Chester (UK) is occupied by a large townhouse of 18$^{th}$ century. The Roman amphitheater is a Scheduled Ancient Monument, while the townhouse is a Listed (Protected) Historic Building. Excavation of the whole site would provide the city with a major tourist attraction, but would necessitate the destruction of a building of historic significance.

*Determining the level of significance* of the lost or damaged cultural asset (local, national or international). For the purposes of identification of the level of significance a reference approach can be used, i.e. frequency, with which the particular cultural asset is used in a particular area of literature.

[28] Serageldin (1999), p. 33.

*Identification of beneficiaries*. The next step is the identification of the beneficiaries to whom the benefits from the cultural assets accrue. In the case of use benefits the direct beneficiaries may be relatively easy to distinguish. For example, if the project involves redevelopment of a historic site visited by tourists, visitors would clearly comprise one of the main groups directly affected by the project. In the case of non-use benefits, on the other hand, the project's effects are likely to be more diffused. Furthermore, the more significant the heritage asset in question is in terms of geographic area (i.e. nationally or internationally) the more widespread these beneficiaries are likely to be. For the Egyptian pyramids, for example, non-use beneficiaries probably exist all over the world. Thus, in practice the empirical investigation would be limited to a more feasible group of beneficiaries.[29]

Identification of beneficiaries might be carried out with the help of focus groups or experts in the particular area.

*Identification of benefits.* Identification of benefits can be done simultaneously with identification of beneficiaries. It would examine not only use and non-use values, but also the level of significance of the benefits and, thus, the significance of the cultural asset.

More detailed categorizations of both the level of beneficiaries and significance of each benefit to each group of beneficiaries can be constructed according to necessity. In the above hypothetical case (table 6) local residents could be further subdivided into religious and non-religious residents, businesses, local government and others. Serageldin (1999), for example, identifies beneficiaries as residents (making a distinction between renters and owner-residents), absentee landlords, investors in businesses in the historic area, who may or may not be residents, visitors to the historic city (nationals, others international visitors) and non-visitors (national and international), which could be called 'the world at large'.

Identification of benefits and beneficiaries can also be carried out with the help of focus groups and/or experts in the particular area.

*Identification of valuation method.* As most methods have different advantages and weaknesses it is difficult to choose any single one to avoid the possibility of large errors. In order to obtain better results, particularly in the case of valuing cultural assets, it would be necessary to use a complimentary approach and assess the value of the cultural asset based on the results of several methods. Thus, methods would complement each other allowing capturing all the aspects of cultural asset. However, it is important to ensure that such calculations do not capture the same benefit more than once (i.e. avoid double counting). Application of several methods would, of course, be also more time and resource consuming.

**Table 6**

**IDENTIFICATION OF BENEFITS IN A HYPOTHETICAL EXAMPLE OF A RELIGIOUS BUILDING OF A NATIONAL SIGNIFICANCE**

| Level of significance | Benefits to local residents | | Benefits to national residents | | Benefits to international residents | |
|---|---|---|---|---|---|---|
| | Direct | Indirect | Direct | Indirect | Direct | Indirect |
| Significant | X | | | X | | |
| Moderate | | X | | | | |
| Insignificant | | | X | | X | X |

[29] Throsby (2001).

Taking into consideration the scope and characteristics of the cultural asset the identification of method might be suggested by cultural economists who specialize in the field of valuation.

*Valuation and compilation of the results.* The final step is carrying out the study using the selected method(-s). The research can be conducted by mail, phone or electronically using internet to reach different segments of the population and wider audience. However, best results can be obtained through communication in person.

Taking into consideration the scope and characteristics of the cultural asset, the implementation of the research and compilation of the results can best be done by researchers who specialize in the field of valuation.

# 6. Conclusions and recommendations and areas for future research

Although cultural assets differ from other goods in that they have characteristics of both public and private good as well as generate different use and non-use values for the society, they are not isolated from the surrounding world and are a part of daily social, political and economic interactions. They also are not protected neither from natural nor human brought disasters. Therefore, valuation of cultural assets is very important for the creation and development of their adequate role in the everyday activities. However, the perception of the characteristics of the cultural assets and their values differs from one individual to another, from one geographical region to another as well as changes over time, it is particularly difficult to assess the value of such characteristics.

The discussion of the different valuation methods has only recently started and only some of these methods have actually been used for valuing cultural assets. As most of these methods have been borrowed from other industries such as environmental protection, they have their strength and weaknesses when applied to culture. Thus, many cultural economists suggest using a combination of various methods in order to capture as many values of cultural asset as possible and compare the obtained results. For example, economic impact studies will capture the use values, but not the cultural values of the asset. CVM, on the other hand, will mainly capture the cultural values, but not the use values.

However, usually researchers resort to using only one of the methods. Exception is the study to estimate the total value of cultural heritage in Cebu City, Philippines, where both the travel cost (revealed preference) and contingent valuation (stated preference) methods were used (see Parumog and Primitivo, 2005). However, in such cases it is important to avoid the twin dangers of underestimation and double counting.[30]

For the purposes of post-disaster damage assessment when time is usually under high pressure, the *benefit transfer method* may be most appropriate approach. It also requires small financial resources. Since cultural assets are unique the crucial task when using benefit transfer method is to find the most appropriate 'substitute' with as similar characteristics of the cultural asset to that which needs to be valued as possible.

The next easiest approach appears to be the *replacement cost method*, particularly, if reconstruction of the lost or damaged asset is considered the most appropriate approach. The *enhanced replacement cost method* would be most suitable, if creation of a new contemporary cultural asset of an equal value to replace the lost or damaged asset is decided to be appropriate. The latter method not only allows for greater flexibility, but it also acknowledges the fact that replacement of a damaged or lost cultural asset is impossible as at least a part of the asset's value is

[30] Serageldin (1999), p. 33.

embodied in the original and can not be replaced. The major drawback of any cost based method is that it is based on an assumption that the cost of replacing the cultural asset or service is equal to the value of the asset or service. However, in reality it may or may not be true. As the enhanced replacement cost method is more time and resource consuming than the standard replacement cost method it can be carried out either in situations when time is of a lesser concern or for the purposes of the more detailed damage and, particularly, needs assessment after the initial estimates have been carried out.

The *contingent valuation method* (CVM) is the most frequently used approach and has been used to estimate both non-use and use values in cultural sector for some time. Although it should be bared in mind that CVM may influence the respondents' willingness to pay (WTP) and willingness to accept (WTA). Kling et al. (2001) indicates that although marginal WTP and WTA should be about equal, numerous studies show that measured WTA significantly exceeds measured WTP. Furthermore, the greater the lack of substitutes for the good under evaluation, the greater is divergence between WTA and WTP. As cultural assets are very hard or impossible to be substituted, it is highly likely that WTA and WTP disparities will prevail when valuing such assets. Experimental evidences also indicates that other intrinsic factors such as sentimentality, moral obligation and irreversibility, particularly in the case of damaged or lost cultural asset may further increase the disparity between WTA and WTP. Use of CVM in damage assessment of cultural assets can be very useful and the value attached by individuals to the particular cultural asset will reflect not only use but also non-use values of cultural asset, thus reflecting total value of damaged cultural asset. However, use of CVM in damage assessment of cultural assets will be very expensive and time consuming similarly to that of *referenda* and *multi attribute valuation methods*.

Other methods, such as *travel cost*, *hedonic pricing* and *impact studies*, are limited to value damage of cultural assets in the places and countries where the necessary information and data are readily available from the secondary sources and can easily be obtained in the post disaster period. However, if such information is available, these methods would provide more objective monetary value of the damage as they are based on actual revealed preference of consumers. They would also require limited time and resources for damage assessment.

Although the research has examined the main valuation methods, which might be applied when assessing the value of damaged cultural assets there is lack of information about the cases where these methods have actually been applied, with exception of CVM. However, it appears that most of the methods have been extensively applied in evaluation of environmental amenities. As culture and environment share many of the same characteristics and uniqueness further research of environmental evaluation literature and cases would hopefully provide additional insights in applicability of these methods in culture.

At a broader level the development of standardized data collection system within and among different countries would increase the transferability of evaluation from one case to another. It would also allow for easier applicability of different revealed preference methods and, thus, more objective assessment of cultural assets and damages thereof. This would benefit the developing countries most, where such information is scarce.

# II. Application of contingent valuation method in the case of Fes Medina (Morocco)

The contingent valuation study conducted in Morocco to assess the value of Fes Medina to foreign visitors was conducted by the World Bank in 1997. It is one of the best examples of valuation studies in the cultural sector. Although the study focuses on the foreign visitors and non-visitors to Morocco and Fes Medina rather than the local residents and other Moroccans, it clearly details the applicability of one of the valuation methods – CVM – when valuing cultural assets.

The Kingdom of Morocco lies on the northwestern coast of Africa, bordering the North Atlantic Ocean and the Mediterranean Sea. The city of Fes is one of the oldest cities in Morocco established around 789 A.D. and became a major Islamic city by the 11$^{th}$ century. In 1976 Fes Medina's historical and cultural importance led UNESCO to declare it the World Heritage Site being the first such site in Morocco.

Like the rest of Morocco's 30 Medinas, the Fes Medina was largely overlooked for much of the 20$^{th}$ century as investment concentrated in areas outside traditional urban centers. As a result, by 1990s many of the city's cultural assets (e.g. oldest mosque in the northern Africa, Islamic university founded in 859 A.D., Royal Palace, traditional houses and other important cultural assets) were in serious disrepair and jeopardy, threatened by a crumbling infrastructure, devastating pollution and poverty. The decline was further reinforced by increasing population growth resulting in high population density consisting mostly of residents with income levels below the national average.

In 1980 UNESCO launched an international safeguarding campaign, which raised awareness about the site's importance, but did not succeed in generating the necessary financial support to carry out any significant rehabilitation works. Subsequently, contingent valuation (CV) was carried out in 1997 with the financial support of World Bank to estimate the use and non-use values of cultural assets in Fes Medina. The aim of the study was to provide rational arguments for attracting financial support for conservation and rehabilitation of the Fes Medina.

CV was carried out in Fes, Casablanca and Tangier. Besides, a Delphi approach was carried out in Europe asking CV researchers to provide their best professional guess of the likely results of undertaking a CV survey in Europe.

For the CV component of the study a sample of 600 adults was surveyed representing both tourists and those visiting Morocco for business or other purposes during June – July 1997. 400 out of the total of 600 interviews were conducted in Fes, 120 in Casablanca and 80 in Tangier. The interviews were conducted in two languages (i.e. French and English), which according to the visitor information are two languages accounting for the largest portion of visitors to Fes.

For the purposes of the study a three-stage sampling design was used. First, two other cities (i.e. Casablanca and Tangier) were randomly selected. Second, hotels from the list of each city's one-star and higher standard hotels were sampled. Third, guests identified by the hotel as French, American, British or Canadian nationals were sampled.

Three interview forms were used – one for interviews conducted in Fes, one for the Casablanca-Tangier interviews, who had visited or intended to visit Fes, and one for those, who did not intend to visit Fes. Each of the forms included four sections that each used a different instrument. The first section of the survey consisted of sixteen questions on the respondent's visit to Morocco and to Fes. Section two provided respondents with information about the situation in Fes using a short narrative supplemented by show-cards featuring colored photographs of the Medina. The purpose of this section was to inform respondents about the character and condition of Fes Medina at a time and the fact that without proper rehabilitation efforts it will continue to decline and deteriorate. The third section presented a plan for rehabilitating the Fes Medina that would accomplish three things. First, it would improve the Medina's appearance (i.e. buildings, streets, sewers and public spaces, monuments would be repaired and cleaned up). Second, it would preserve the Medina's traditional character and cultural heritage for future generations. Third, it would ensure that the Medina would continue to be a productive and vibrant living city. The respondents were also informed about payment vehicles and choice mechanisms and were asked how much they would be prepared to contribute through a special fee to help finance the above plan. The last section of the survey consisted of questions about the respondents' background (e.g. age, income, education, etc.).

Similar questions were used in the Delphi study to further investigate the benefits perceived by non-visitors and estimate their willingness to pay. Delphi study involved solicitation of the opinions of experts rather than consumers. Most Delphi studies administer one or more questionnaires interspersed with relevant information to a group of experts. Usually experts are polled one or more times and between pollings information about the opinions of the expert group as a whole is disseminated among the group members. Due to budget constraints a sample of thirty CVM experts was surveyed in order to obtain their estimates of the possible mean and median willingness to pay for the Fes rehabilitation project among European residents.

The results of the study showed that the estimated economic benefits deriving from the project were very high once the use and non-use values of the cultural heritage were considered. It is important to mention that benefits of the Fes Medina rehabilitation project were divided into five categories depending upon the beneficiary. In category 1 were benefits accruing directly to residents of Fes; in category 2 were those accruing to Moroccans who are not residents of Fes; in category 3 were those accruing to foreign visitors to Fes; in category 4 were those accruing to foreign visitors

to Morocco who do not visit Fes; and in category 5 were those accruing to non-Moroccans who do not visit Morocco. However, the study did not consider any of the potential benefits to Moroccans (category 1 and 2) and concentrated on quantifying as far as possible the potential benefits likely to accrue to non-Moroccans, if the project was undertaken.

Extremely conservative estimates (based on the CV and Delphi analysis) showed that the total annual value of the Fes Medina project was equal to about $11 million for foreign visitors to Fes. Almost $47 million for non-Fes foreign visitors to Morocco and several hundred million dollars for European households.

Even if only a fraction of the above benefits received by visitors (an annual total of about $58 million) could be captured by, for example, increased tourist tax, it would generate substantial annual revenues. This funding could be used to finance the required conservation investment in Fes and even other sites and far outweigh the estimated project cost of $14 million.

With the approval of two loans for a total of $14 million in 1998 the World Bank contributed to the international effort to restore and rehabilitate the walled city, while preserving its artistic, spiritual and cultural prominence.

The Rehabilitation of Fes Medina project supported by the World Bank was to assist in preserving and improving the Medina of Fes with particular attention to the historic housing stocks and the quality of urban environment through direct intervention and efforts to increase private conservation efforts. As the project is still ongoing and the evaluation of the results will most likely be available in 2006 it is not possible to know whether the project objects have been achieved yet.

Source: UNESCO (2000, p. 136); Navrud and Ready ed. (2002. p. 118-141); World Bank (1998).

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# Annexes

**Annex I**

**SUMMARY OF VALUE TYPOLOGIES**

| **Reigl (1902)** | **Lipe (1984)** | **Burra Charter (1998)** | **Frey (1997)** | **English Heritage (1997)** | **Randal Mason** |
|---|---|---|---|---|---|
| Age | Economic | Aesthetic | Monetary | Cultural | Socio-cultural values: |
| Historical | Aesthetic | Historic | Option | Educational and academic | Historical; |
| Commemorative | Associative-symbolic | Scientific | Existence | Economic | Cultural/symbolic; |
| Use | Informational | Social (including spiritual, political, national, other cultural | Bequest | Resource | Social; Spiritual/religious; Aesthetic. |
| Newness | | | Prestige | Recreational | Economic values: |
| | | | Educational | Aesthetic | Use (market) value; Nonuse (non-market) values: - existence; - option; - bequest. |

**Source:** Mason (1999).

**Annex II**

## MECHANISMS OF CULOTURE IMPACT

| | Individual | | | Community | | |
|---|---|---|---|---|---|---|
| | **Material/ Health** | **Cognitive/ Psych.** | **Interpersonal** | **Economic** | **Cultural** | **Social** |
| Direct Involvement | Builds interpersonal ties and volunteering, which improves health.<br>Increases opportunities for self-expression and enjoyment.<br>Reduces delinquency in high-risk youth. | Increases sense of individual efficacy and self-esteem.<br>Improves individual's sense of belonging or attachment to a community.<br>Improves human capital: sills and creative abilities. | Builds individual social networks.<br>Enhances ability to work with other and communicate ideas. | Wages to paid employees. | Increases sense of collective identity and efficacy. | Builds social capital by getting people involved, by connecting organizations to each other and by giving participants experience in organizing and working with local government and nonprofits. |
| Audience Participation | Increases opportunity for enjoyment.<br>Relieves stress. | Increases cultural capital.<br>Enhances visuo-spatial reasoning (Mozart effect). | Increases tolerance of others. | People (esp. tourists/visitors) spend money on attending the arts and on local businesses. Further, local spending by these arts venues and patronized businesses has indirect multiplier effects. | Builds community identity and pride. Leads to positive community norms, such as diversity, tolerance and free expression. | People come together who might no otherwise come into contact with each other. |
| Presence of Artists and Arts Organization and Institutions | Increases individual opportunity and propensity to be involved in the arts. | | | Increases propensity of community members to participate in the arts.<br>Increases attractiveness of area to tourists, businesses, people (esp. high skill workers) and investments. Fosters a 'creative milieu' that spurs economic growth in creative industries.<br>Greater likelihood of revitalization. | Improves community image and status. | Promotes neighborhood cultural diversity.<br>Reduces neighborhood crime and delinquency. |

**Source:** Guetzkow (2002).

**Annex III**

## PRIMARY AND SECONDARY BENEFITS OF CULTURE

**Primary benefits:**

**Prices paid** – for conservation goods and services including any evidence of willingness to pay for consumer goods and services such as admissions, cultural tourism expenditures, purchases of cultural goods and properties, grants and donations (net of tax deductions), etc.

**Local visitor values** – consumer surpluses, values in excess of prices paid, the estimated maximum willingness to pay for conservation goods and services.

**Shares of consumer surpluses appropriated by suppliers** – gained by higher prices over and above equilibrium market prices.

**Economic development impact** – net incomes to producers and suppliers of cultural goods and services after taxes.

**Net indirect effect incomes to the suppliers of cultural producers and suppliers** – of cultural goods and services, net of taxes.

**Net indirect effect incomes to expenditures by employees of cultural producers and suppliers** – incomes to employees and to the suppliers of the cultural providers.
Induced effect incomes – from expenditures in indirect effect round.

**Taxes paid in all rounds.**
**Net job creation arising from direct, indirect and induced rounds.**

**Secondary benefits:**

Secondary benefits of conservation projects:

Land value spillover effects;

Increases of land tax base;

Energy conservation;

Stimulation of private investment;

Potential decrease for protection expenditures;

Potential decrease in police expenditures;

Potential reduction in the economic costs of crime;

Potential reduction in schooling costs;

Potential reduction in sanitation expenditures;

Improves public services;

Higher business formation rates;

Lower business failure rates;

Potential increase in accessibility;

Potential reductions in congestion;

Potential increases to open space.

**Annex III (Conclusion)**

**Secondary benefits that could be expected to be greater for conservation projects than competing redevelopment projects:**

Improved aesthetics of the area;

Reduction in densities;

Increases in arts and crafts employment;

Neighborhood cohesiveness;

Stronger neighboring associations;

Economic stabilization of neighborhoods;

Potential magnet effects for further high quality development;

Cluster effect of business and amenities;

Community image;

More tourists (more employment but perhaps at lower wages);

Attraction of high earnings labor market (in residents and tourists);

Public goods benefits;

Option values;

Secondary consumer surplus generation;

Merit goods benefits;

Minimize disturbances in development.

**Source:** ICOMOS (2005)

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