Zeitschrift: IABSE reports = Rapports AIPC = IVBH Berichte
Band: 70 (1993)

Artikel: Social and economic aspects of monument preservation
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DOI: https://doi.org/10.5169/seals-53278

Social and Economic Aspects of Monument Preservation

Aspects sociaux et économiques de la conservation des monuments

Soziale und wirtschaftliche Aspekte der Denkmalpflege

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SUMMARY

The architectural heritage is part only of the general heritage of mankind. Various types of preservation works are presented under the title 'conservation'. A special case of urban renewal illustrates the economic decisions that need to be taken as a preliminary to the conservation. In these decisions, the cost side is familiar to engineers but the value side is not, so that some indication is given of measuring value in practice. A distinction is drawn between an analysis of costs and benefits in financial and economic terms. In order to reach a decision in the public interest, a method of comparison termed community impact evaluation is offered.

RÉSUMÉ

Le patrimoine architectural n'est qu'une partie de l'héritage laissé à l'humanité. Différents travaux de conservation sont présentés. Un cas particulier de rénovation urbaine illustre les décisions économiques qui doivent être prises avant les travaux. Dans de telles décisions, l'ingénieur est familier avec l'aspect 'coût' mais pas avec l'aspect 'valeur', de sorte qu'il doit être conseillé dans la pratique. Une distinction est faite dans l'analyse des coûts et des bénéfices, en termes financiers et économiques. Afin d'effectuer un choix dans l'intérêt général, une méthode de comparaison appelée "évaluation de l'impact sur la collectivité" est proposée.

ZUSAMMENFASSUNG

Denkmalpflege ist Teil des gesamten Erbes der Menschheit. Verschiedenartige Unterhaltsarbeiten werden unter dem Begriff "Erhaltung" angeboten. An einem städtebaulichen Renovationsbeispiel wird gezeigt, welche wirtschaftlichen Entscheide vor der Arbeitsaufnahme notwendig sind. Bei diesen Entscheiden ist der Ingenieur zwar mit dem Faktor Kosten, jedoch nicht mit dem des Wertes vertraut. Dafür braucht es Erfahrung. Es wird zwischen einer Kosten- und Nutzenanalyse in finanzieller und wirtschaftlicher Hinsicht unterschieden. Um eine allgemeingültige Wahl zu ermöglichen, wird ein geignetes Verfahren vorgeschlagen: "Auswirkungen auf das Gemeinwohl" .

1. Focus of Paper

As the title of this symposium conveys, the engineer's concern with the architectural heritage relates primarily to structural preservation. In this he will at least intuitively have regard to the economic aspects to be borne in mind in the structural design, in terms of what is generally termed "engineering economics". But in this he will look to the contribution of economics from specialist members of the team involved in the project. Their possible contribution is wide and there is room here to introduce only a limited number of considerations.[1]

I start by showing that the architectural heritage is part only of the general heritage of mankind (2) and the special characteristics of the architectural heritage (3). Then comes an enumeration of the various types of preservation works that can be carried out, with the suggestion that they all can be subsumed under the title "conservation" (4). Such conservation is best seen as a special case of urban renewal (5) which leads on to the economic decisions that need to be taken as a preliminary to the conservation (6). In these decisions, the cost side is familiar to engineers but the value side is not, so that some indication is given of measuring value in practice (7). A distinction is then drawn between an analysis of costs and benefits in financial and economic terms (8). This leads to a display of the wide array of gainers and losers in conservation, bringing with it a need to weigh them up to reach a decision in the public interest, by a method of comparison termed community impact evaluation (9). There are various methods of evaluation, so that particular decision takers would need to choose that which serves their interests, or else reach false conclusions. The paper ends with a typology of various decision takers/makers that could be involved in conservation, with an indication of the costs and benefits they would consider and therefore of the method of evaluation that they would choose (10).

2. The Architectural Heritage is Part of the General Heritage

The term heritage denotes all that which is inherited by any generation from previous generations. Such heritage can be very diverse, as the following typology will show: [2]

Physical Stock

(a) natural resources: land, with its minerals, agriculture and timber products, animal and bird life; the water, with its fish and plant life; the environment in sun, air, rain, climate;

(b) man-made: works and buildings which are attached to the land (immobile);

(c) man-made: works which are not attached to walls and building (mobile).

Activities

(a) consumption: quantity and kind of goods and services available to people for their standard and quality of life;

(b) production: way in which society has learned to provide the goods and services for consumption;

(c) religion: relation with the God(s) of the country and the institutions which service that relation;

(d) arts: graphic, music, dance, literature, film, plays;

(e) knowledge: accumulated and transmissible through education and training of all kinds;

(f) Folklore: collective memory of past generations, absorbed through the family, teachers, etc.;

(g) Tradition: carrying out activities in a manner reminiscent of previous generations.

3. The Special Characteristics of the Architectural Heritage

From this it is seen that the architectural heritage is one element of the physical stock which is inherited, namely the man-made works and buildings which are attached to the land, and thereby immobile.

However, not all this general architectural heritage can be said to be cultural. This term relates to a minor part of the man-made general heritage in works and buildings which expresses some indefinable but recognisable element which current society values especially, and which it wishes to make special efforts to pass on to posterity. The division between what is to be passed on or not is obvious in certain instances (for example traditional cooking versus harmful drugs) but not in others (for example classical versus jazz music). This distinction is not hard and fast over time but is made by successive generations in some kind of consensus of elite choice, as for example the paintings and objects which find their way to private or public museums. Such choice is reviewed by successive generations. In this it follows that any efforts of preservation by a particular generation may be either welcomed or rejected by succeeding generations. Thus even if the well known conservation ethic persists, that our cultural heritage belongs not to us but to our children for whom we are trustees, it could well be that the children may not appreciate or cherish the bequest that they have had. Such, after all, is the privilege of all children.

The "architectural heritage" with which our symposium is concerned clearly relates to buildings which have architectural merit. But this is part only of what is more generally termed the cultural built heritage. In this can be found a wide array of isolated objects such as archaeological sites; ancient monuments (buildings which remain in whole or ruins which are typically not occupied nor capable of occupation); individual buildings or groups; streets and ways connecting the groups; objects such as single standing columns or statues; or whole areas, be they ones which in themselves have a heritage value or, having no such value, are nonetheless of importance because they are surrounding or nearby part of the cultural built heritage itself. Within this, it will be seen, or can be found, buildings or groups of buildings which are occupied for contemporary uses; or archaeological sites, ruined churches or statues which are not.

This array of examples brings out one unique feature of the cultural built heritage. The cultural aspects, be it derived from architecture, history, association with important events etc. is an integral part of the buildings and structures in which it is found. From this four facts flow. First, in order to protect and preserve the heritage it is necessary to protect and preserve the man-made works themselves. Second, the carrying out of protection and preservation of the structure

itself could result in either a diminution or enhancement of the cultural element. Third, the man-made works, be they in private or public ownership, are typically the property of some legal entity thus, fourth, the works of preservation must be carried out in accordance with the law relating to real property (i.e. of land and buildings).

All these characteristics make for special problems in the preservation and conservation of the cultural built heritage.

4. Preservation is Part of Conservation

Preservation of the cultural built heritage can take many forms, as the following typology shows: [3]

(1) prevention of deterioration (indirect conservation); by for example a sound maintenance programme and controlling environmental pollution;

(2) preservation: keeping the object in its existing state of repair to prevent further decay;

(3) consolidation: adding or applying supportive materials into the actual fabric in order to ensure its continued durability and structural integrity;

(4) restoration: reviving the original concept, either or both in relation to the fabric or use (also called restitution);

(5) rehabilitation: adapting the building to a contemporary use which will be capable of sustaining it (also called reconditioning, renovation, remodelling, adaptive use);

(6) reproduction: copying and existing artefact in order to replace some missing or decaying parts; or in extreme circumstances moving the object to a more suitable environment;

(7) reconstruction: rebuilding anew in imitation of the old, as necessitated by disasters such as fire, earthquake or war. The reconstruction could take place on the same site or in extreme cases, another.

From the list it is seen that the "preservation" of the cultural built heritage can take many forms, each attracting its own terminology. While the differences are important in practice, for our purposes they can all come under the umbrella of 'conservation', a term we now adopt.

5. Conservation as a Special Case of Urban Renewal

One generalisation can be made about all elements of the cultural built heritage. By definition, they tend to be fairly aged, having been constructed in the past, and thereby subject to the fate of all man-made structures, namely obsolescence. This characteristic is not only the familiar one of physical decay of any structure exposed to the elements, but also from other causes. It may relate to function, as where the initial design is no longer suited to contemporary usage. It may be locational, as where contemporary social and economic activities have outmoded the original site,

as could happen in a cattle market. And finally there is the environmental obsolescence, as where the twentieth century increase in motor traffic has made a building unusable for an office or school.

Faced with such obsolescence, the owners and occupiers would inevitably consider taking remedial action, by modernising, remodelling, refurbishment or perhaps demolition for a new structure. In this they will primarily follow their economic interests. But when the conservation/preservation restriction is applied their freedom to do so is undermined. They must follow the rules prescribed by the conservation authority. Should they wish to renew they must do so with conservation/preservation as a constraint.

6. The Economic Decision

All these remedial actions are open to the owner occupier in making decisions to carry out renewal against obsolescence. Their decisions lie inherently in economics. This means that in any of these actions they will consider the relationship of the input of resources (costs) and output of values (benefits), by means of cost benefit analysis. Of particular relevance here on the output side is the alteration (diminution or enhancement) in the quality of the cultural built heritage.

Controversy arises in conservation, on the relationship of these costs and benefits. Should conservation be based on the axiom that since it has aimed at a cultural not commercial value it is to be carried out regardless of cost? Or is conservation, like all other things in life, subject to the necessity, on the following propositions, of achieving "value for money". If costs are ignored, and the decision based simply on the cultural values, it could follow that a significant share of total available resources would be needed for a comparatively insignificant enhancement in total cultural value. If on the other hand only minimal costs are employed it could be that there would be unacceptable erosion of cultural quality. Since the resources available for conservation are invariably limited (in the sense that they cannot match up to all the requirements) we need to be sure that they are used with discrimination for the conservation objectives. Any fixed budget should be spent to achieve the maximum possible value in heritage quality; it should be made most effective in achieving heritage quality.

We thus need to explore the conventional economics relationship between cost and value (benefit). This relationship is tested by three classical questions, which are also familiar in engineering:

(a) Should the project be carried out at all? Generally speaking it should not, unless the value of the output exceeds the cost of the input.

(b) Should the project be carried out in the way proposed? Generally this can be answered only as a result of applying the first question to a series of options, which would bring out that in which the excess of value over costs is the greatest.

(c) Should the project be carried out now? Or would conditions sometime in the future provide a more favourable answer to the preceding 2 questions?

The tests can be applied to the cultural heritage in two senses:

(a) To the property in question, including the heritage element, as in conventional real estate valuation [4]. In essence, what is the property worth in the market in its current condition? And would the costs of the proposed works exceed or not by sufficient margin the added value which results to justify the work and risk of the investment? If not, the project should not be carried out, unless someone (e.g. Government by grant) is willing to meet the shortfall in order to conserve the heritage quality.

(b) Since the purpose of the project is preservation/conservation of the heritage, the same approach is applied simply to the cultural element of the property above and not the property itself. For this purpose it is necessary to establish the level of cultural value in the property as it stands, and then to consider whether the difference in cultural value as a result of the works would be negative or positive, and by how much. If negative, then from the cultural viewpoint the project should not be pursued. If positive, is the amount of added cultural value justified in relation to the cost incurred.

To pursue the latter question, it is necessary to be able to assess the level of quality in the heritage, before and after. More strictly the contrast should be "without" and "with", where the former answers the question: what would happen to the cultural quality in the future under the conditions where no expenditure, or only minimum expenditure, were carried out.

Difficulties arise however in assessing the value of the cultural element, simply because in itself it is not bought or sold in the market, and therefore has no identifiable market price to indicate the value. For example, a listed building in everyday use as an office could have considerable market value related to that use, which only reflects in part the cultural value. Conversely, a former cotton mill could have significant cultural value as industrial archaeology but may have negative market value as property, since it is functionally obsolete and not functionally suitable for new uses. A more extreme example is the ruined castle or monument, which must be kept that way because of its considerable heritage but has no use value and thereby no market value.

7. Valuing the Heritage Quality

We now proceed to consider how the cultural valuation can be estimated.
The logic behind the method can be grasped by considering the everyday valuation of a house or flat for purchase for say $250,000. In offering or paying this price the purchaser in a sense is accepting that the attributes of the dwelling (number of room, adequacy of bathrooms and kitchen, size of private garden or terrace, aspect of the house, freedom from traffic noise etc.) can be expressed by the index of market price, with differences in price reflecting differences in quality of attributes. But where there is no price, the implicit reasoning can be applied: what are the comparative attributes of the cultural quality in question compared with others?

In illustration is presented one such method which has been well articulated in Canada for in grading the quality of the cultural built heritage when making decisions as to whether or not include the property on the list for protection [5]. Diagram 1 illustrates. On the left are shown five basic criteria (A-E), each with sub-criteria (totalling 20), which have four sub-divisions. Each attracts its own score in points, allocated within a predetermined maximum, as follows: The five basic criteria are allocated a maximum of 100, which are respectively weighted 35, 25, 10 and 15. Each of the sub-criteria is then graded by points which are allocated to the following

verbal description, the points distribution reflecting a geometric rather than arithmetic progression in order to distinguish more sharply between the different qualities:

E	Excellent
VG	Very Good
G	Good
F/P	Fair or Poor

8. Financial and Economic Costs and Benefits [6]

In considering the economic decision on 6 above we have taken account of the costs and benefits which would fall on the agency concerned with carrying out the conservation project. However, when the costs and benefits are considered from the viewpoint of the community the estimating basis is different. The costs are not considered as those financial costs falling upon the promoting agency but as economic costs falling on the community as a whole. In essence, the estimates are made in terms of shadow prices, which reflect the social value of the costs incurred and we now pursue the distinction for costs and their benefits.

Costs

a) Direct:

- Interest on money invested is ignored, since this is simply the cost which is transferred between the borrower and lender, so that the economy as a whole is no worse off as a result.
- Whereas to the financial investor it is important to accumulate the financial resources needed to replace the asset when it is scrapped, to the economy as a whole what matters is the use of resources when replacing the assets. Thus investment to accumulate financial funds to command those resources at the appropriate time are not relevant.
- Import or export duties imposed by government on materials used for the preservation/conservation do not relate to the real inherent cost and are thereby ignored.
- Should unemployed labour be utilised on the project, the cost is ignored because no extra call on economic resources is made for that purpose.

b) Indirect:

The promoting agency will of necessity ignore the costs which it has to incur and benefits for which it cannot charge. These are nonetheless of concern to the community as a whole, since by definition they must be borne by others. Some examples are:

- Noise and disruption on amenity of the site itself, caused by its use for the construction and by visiting lorries for discharge of materials.

- Should the lorry traffic to the site be so considerable as to disrupt traffic, and possibly cause accidents, then costs would fall on the community in terms of additional traffic control, hospitalisation etc.

Benefits

In parallel there would be a difference on the benefits side. Some examples are:

a) Direct

- Where the heritage in question is visited by tourists, tourist income would be generated such as admission prices, expenditure on memento's, books etc.

- Even if the cost of unemployed labour were ignored, there would be psychic benefits from employment to the persons involved and saving to government in welfare payments.

b) Indirect

- The conservation could, by introducing stability into an area whose future was in doubt, also increase the values of surrounding properties and of surrounding land for new development.

- The employment of skilled craftsmen on the preservation/conservation could add to the supply of such workforce which would be available for other projects.

From this comparison it is seen that the conclusions on the conservation project could produce different numerical answers when seen from the viewpoint of the promoting agency or the community as a whole. Thus while the two approaches to the investment decision are similar in intent they are distinguished in practice in the methodology they use, namely financial or investment appraisal on the one hand and cost benefit analysis on the other.

9. Gainers and Losers in Conservation

From the preceding it is seen that the costs and benefits of preservation/conservation can be wide-spread, and have different impacts for different groups in the community. In essence there will be both gainers and losers. This incidence can be seen from Diagram 2 which follows, taken from a case study which compared by community impact evaluation the options for conservation (A) or redevelopment (B) of a site in Jerusalem [7].

For ease of comprehension, the sectors who are impacted are divided between those who can be seen to be contributing towards the production and operation of the conservation project, and those who would be consuming directly or indirectly the consequential outputs. Against each of the 16 sectors are indicated the type of impact, namely Direct (b) and indirect (AF for associated financial and AR for associated real).

From this it follows that when a community needs to decide on a particular conservation project it needs to weigh up and balance the differential spread of impact in order to reach a view as to what is in the community interest; and by the same attempt it can trace through the non-cultural advantages and disadvantages of the investment made in the cultural project. Diagram 2

introduces the form in which this can be done. In column 6 is posed the sectoral objectives of each of the community sectors and in column 8 the differences to those sectors when conservation (option A) is compared with redevelopment (option B). This leads to the preference being shown in columns 9 and 10, as a basis for the judgement on net benefit to the community.

10. The Choice of Evaluation Method

From the preceding it is apparent that different methods of evaluation of preservation/conservation are available, according to the viewpoint of those raising the question. Each is interested in a particular array of costs and benefits, and each would wish to form a conclusion based upon that selection. It is these requirements which dictate the method. Put another way, any particular method of evaluation which is adopted, with its implied selection of costs and benefits, would decide the answer.

This is illustrated in Diagram 3 which shows on the left-side are the array of costs and benefits/disbenefits which potentially could arise in any conservation project. In the columns are shown eight different possible decision takers who could be concerned. each would select from the possible costs and benefits/disbenefits to suit their own interests. For example:

Column 1-2: the owner and developer/entrepreneur is primarily interested in the financial analysis of costs and benefits.

Column 3: the occupier might be also interested in the cultural benefits.

Column 4: the municipality would be interested in financial costs but on the benefit side would be concerned with the fiscal impact and the cultural impact, their analytic tool being cost revenue analysis.

Column 5-6: the conservation society which is a pressure group for the cultural qualities would be concerned primarily with that. This would interest also the conservation authority who would also be concerned with the financial cost to them. Their tools would be cost effectiveness or cost benefit analysis.

Column 7: the planning authority, needing to make its decision in the public interest, would be concerned with all possible costs and benefits, using for the purpose community impact analysis.

Column 8: the government would also have a wide interest, but would be more restricted. It would be concerned with financial and economic costs and benefits/disbenefits, together with cost revenue analysis.

The choice of a particular method by any decision taker/maker clearly shows that how different parties will reach different conclusions on the decisions of any particular project.

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(7) LICHFIELD Chapter 15 and Part IV (1988).

DIAGRAM 1
EVALUATION OF CULTURAL QUALITY IN BUILDINGS BY POINTS SCORING

A	Building Evaluation Sheet with numerical scores				
	Name				
	Location				
	Reference Number				
B	Architecture	(Maximum 35)			
	1. Style	20	10	5	0
	2. Construction	15	8	4	0
	3. Age	10	5	2	0
	4. Architect	8	4	2	0
	5. Design	8	4	2	0
	6. Interior	4	2	1	0
C	History	(Maximum 25)			
	7. Person	25	10	5	0
	8. Event	25	10	5	0
	9. Context	20	10	5	0
D	Environment	(Maximum 10)			
	10. Continuity	10	5	2	0
	11. Setting	5	2	1	0
	12. Landmark	10	5	2	0
E	Usability	(Maximum 15)			
	13. Compatibility	8	4	2	0
	14. Adaptability	8	4	2	0
	15. Public	8	4	2	0
	16. Services	8	4	2	0
	17. Cost	8	4	2	0
F	Integrity	(Maximum 15)			
	18. Site	5	3	1	0
	19. Alterations	5	3	2	0
	20. Condition	5	3	2	0
	Total Score	A	B	C	D

DIAGRAM 2

Table 15.9 *Evaluation of options (on completion)*

No.	Community sector Description	No.	Project variables	Impact type	Sectoral objective	Units	B–A	Preference for Sub-sector	Preference for Sector
1	2	3	4	5	6	7	8	9	10
	PRODUCERS/OPERATORS								
1	Current landowner of site		1, 2, 3	D	Increase land value (net of betterment tax)	£	–	A	A
3	Developer/financier		3	D	Increase development profits	£	+	B	B
5	Municipality on site								
	(1) Roads/utilities		1	D	More municipal services		0	=	
	(2) NHM		2	D, AF	–do–		–	A	
	(3) Grove		2	D	–do–		–	A	
	(4) Open space		2	D	–do–		+	B	
	(5) New flats		3	AF	More Betterment Tax	£	+	A	A
					Preference for Sector 5				A
7	Government on site								
	National heritage		2	D	Conserve heritage		–	A	A
9	Municipality off site		1	AR	Reduce traffic congestion		0	=	=
11	Other landowners:								
	(1) adjoining		3	AR	Increase land value	£	0	=	
	(2) elsewhere		3	AF	Increase land value	£	–	A	
					Preference for Sector 9				
13	Jerusalem economy								
	(1) Employers/firms		2, 3	AR	More business		–	A	
	(2) Urban services		1	AR	More accessibility		0	=	
			2	AR	More business		–	A	
			3	AR	More business		+	B	
					Preference for Sector 15				N/C
13	Government budget		3	AF	Greater financial contribution to Sha'arey Tsedek Hospital from landowner	£	–	A	A
	CONSUMERS								
2	Current occupiers of site		1, 2, 3	D	Minimise disturbance		0	=	=

4	Residents in flats	3	F	Secure flats in good location		+	B	B
6	Users of site							
	(1) traffic on site	1	D	Minimise traffic nuisance		0	=	
	(2) visitors to NHM	2	AR	Enjoy NHM		−	A	
	(3) visitors to grove	2	D	Enjoy grove		−	A	
	(4) visitors to open space	3	D	Enjoy new open space		+	B	
	(5) passers by	3	F	Enjoy new view over town		+	B	
				Preference for Sector 6				A
8	Tourists and visitors	2	AR	Enjoy the cultural built heritage		0	A	A
10	Traffic							
	(1) to site		AR	Reduce congestion		0	=	
	(2) general		AR	Increase accessibility		0	=	
				Preference for Sector 10				=
12	Other occupiers:							
	(1) adjoining	2, 3	AR	Increase occupation value		0	=	
	(2) elsewhere	2,3	AF	Maintain occupation value		−	A	
				Preference for Sector 12				A
14	Jerusalem economy							
	(1) workforce	1, 2, 3	AR	Greater number of jobs		?	N/C	
	(2) nearby residents – air/visual	2, 3	F	Greater environmental attraction		−	A	
	(3) downtown users	2, 3	AR	Greater interest		−	A	
	(4) users of urban services	2, 3	AR	Greater accessibility		+	B	
				Preference for Sector 14				N/C
16	Taxpayers	2,3	Af		£	−	A	A

Notes: Col. 7 : the gap shows measurement other than in £
8 : +, B is better than A
−, B is worse than A
0, B equals A
9 : ?, non-certain
9 & 10 : A & B are equal
N/C, preference not certain

DIAGRAM 3
SCHEMA FOR COSTS AND BENEFITS/DISBENEFITS CONSIDERED BY DIFFERENT MAKERS AND TAKERS OF DECISION ON A PROJECT

	DECISION MAKER/TAKER							
Kinds of Costs and Benefits/Disbenefits	Owner	Developer/ Entrepreneur	Occupier	Municipality	Conservation Society	Conservation Authority	Planning Authority	Government
	1	2	3	4	5	6	7	8
COSTS/RESOURCES								
Financial	x	x	x	x		x	x	x
Economic							x	x
BENEFITS/DISBENEFITS								
Financial	x	x	x				x	x
Fiscal				x			x	x
Economic							x	x
Social							x	
Health							x	
Cultural			x	x	x	x	x	x
Environmental							x	
Traffic							x	
Possible Analytic Tool	FA	FA SFA	FA	CRA	CE	CBA	CIA	SFA SCBA CRA