A Proposed Methodology for Measuring the Economic Value of Cultural Monuments

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Introduction :

Well known historical monuments such as the pyramids of Egypt, Taj Mahal of India, Borobudr Temples of Indonesia and the Sigiriya frescoes and palace complexes of Sri Lanka, while being symbols of national pride, demonstrate the rich and complex civilisation which existed during ancient times. Furthermore, they are of vital importance to the economic of developing nations on account of such cultural sites becoming nodal points of tourist travel, both local and foreign.

While it is accepted that the contribution from cultural tourism to the economies of countries boasting unique historical monuments and sites is significant, national Governments have neglected to quantify these benefits due to one or more of the following reasons :

(a) lack of reliable data on national revenue generated on account of cultural tourism and/or inability to interpret available data.

(b) a perception that cultural monuments and sites are low in the priority list of attractions for business and leisure travellers.

(c) non-availability of a mathematical model capable of measuring the economic value of cultural monuements.

If one were to value cultural monuments in terms of merely building material or any other tangible material used in its creation, it would indeed be a meaningless exercise. A more pertinent means of valuing a monument would be to answer the hypothetical question – what would be the loss of national revenue in the event of the total destruction or, decay of a well known monument or, stated another way had the monument not existed in first place ?

While devising a methodology for measuring the economic value of cultural monuments would be a complex exercise and involve mathematical modelling and econometric techniques. It is by no means an impossible task. This paper does not attempt to venture into detailed quantitative techniques, but intends to emphasise the *need* to devise a methodology for the above prupose and presents a rough approach for carrying out this task. The next few paragraphs describe two examples of quantitative techniques used to highlight one significance of cultural sites in Sri Lanka.

National Return From Cultural Tourism - The Sri Lanka Experience

In order to highlight the usefulness of quantitative techniques in estimating the economic value of cultural sites, this section presents a simple analysis carried out on data maintained by the Tourist Board of Sri Lanka. For example, the following information is maintained by the Statistics Division of the Tourist Board.

Total annual tourist (international) arrivals.

* Total tourist receipts per annum.

* Total Number of tickets sold to tourists visiting cultural sites within the "Cultural Tringle" (e.g. Anuradhapura, Polonnaruwa, Sigiriya and Kandy), and revenue there from received by the central Cultural Fund (CCF).

* Average duration of stay in Sri Lanka per tourist.

* Average number of days spent at the Cultural Sites (based on periodic random surveys of tourists).

The available data is sufficient to analyse the relationship between cultural and national tourism. For example, by using a basic formula one can estimate the "National Return from Cultural Tourism", which is an estimate of total tourist receipts attributable to the cultural sites. The formula used for this computation is as follows :

A Methodology for Justifying Additional Investments in Restoring and Preserving , Cultural Sites – The Sri Lankan Experience

In 1981, Sri Lanka embarked on the Cultural Triangle Programme under the administration of the CCF to carry out, inter alia, a systematic archaeological investigation of sites by field

National Return from Cultural Tourism (Rupees per annum) =

Total receipts from tourism (Rs. × Proportion of tourists visiting × No. days spent at cultural sites
per annum)   cultural sites   as a proportion of avg. duration
                                                                of stay

An analysis showing the respective annual national returns from cultural tourism between 1984 and 1990 is given below :

Computation of National return from Cultural Tourism

Description	1984	1985	1986	1987	1988	1989	1990
			Year Ended December 31				
Total tourist arrivals	317,734	257,456	230,106	182,620	182,662	184,732	297,888
Total tourist receipts (Rs. million)	2,670	2,233	2,300	2,415	2,438	2,750	4,903
Total revenue to CCF from sale of tourist tickets (Rs. thousands)	16,348	13,496	18,878	13,787	14,177	19,065	44,722
No. tourist tickets sold	149,600	133,632	93,884	76,645	74,062	79,683	117,751
Percentage visiting cultural sites	47.1%	51.9%	40.8%	42.0%	40.5%	43.1%	39.5%
Average duration of stay (nights)	8.9	0.2	10.9	13.2	12.6	10.7	10.8
Average No. of days at cultural sites	3	3	3	3	3	3	3
National return from cultural tourism (Rs. million)	424	378	258	230	235	333	538

* *Source* : Ceylon Tourist Board.

the following important facts are noted from the data presented

(a) A very significant portion – on average 44% of all tourists arriving in Sri Lanka between 1984 and 1990 – visited the Cultural Triangle sites. (This does not count tourists visiting sites elsewhere for which tickets are not sold).

(b) Based on the formula cited above, the National Return from Cultural Tourism is estimated at Rs. 538 million for 1990 *alone*. (It is noted that this amount is greater than the Rs. 424 million actually spent on developing the Cultural Triangle over a *ten* year period).

Therefore, based on the above *interpretation* of published data, the economic benefits from cultural sites, in its present ruined state, have been shown to be significant in quantitative terms.

excavations, preservation of excavated areas through accepted conservation norms and an integrated approach for the presentation of monuments. This US $ 50 million Programme, originally estimated to conclude by 1990, remains only a third completed, primarily due to a shortfall in funding and domestic inflation.

In order to address the issue of justifying additional investments in restoring and preserving existing cultural sites, it is important to present a quantitative analysis to show Governments and international donor agencies that funds spent on cultural preservation are essentially developmental in nature, with tangible economic returns.

For the purpose of rationalising the additional Rs. 1,650 million required to complete the Cultural Triangle Programme by 1996, an *increment* cost – benefit analysis can be adopted.

This methodology assumes that the completion of the Cultural Triangle Programme would result in *incremental* tourism arrivals and *incremental* income, *directly attributable to the restored sites*. The argument here is that typically, restoration means a larger number of visitors spending longer periods, and importantly, more sophisticated tourists in higher income bracket, often with specific cultural invests visiting these sites. Hence, the average tourist after completion of the Programme, can be assumed to spend significantly more time and *more* money than the visitor before restoration.

While an inevitable degree of arbitrariness is attached to the above assumption, in the context of past trends in cultural tourism in Sri Lanka, it would seem reasonable to assume that the conclusion of the planned scope of work within the Cultural Triangle Programme can result in the following :

(a) an increase in the proportion of tourists purchasing tickets to visit the sites from the present average of 44% to say 60%. (A rate achieved prior to the ethnic disturbances of 1983)

(b) An increase in the number of days spent at cultural sites from the present average of 3 to say 5.

(c) An increase in total tourist arrivals, over and above the normal arrivat rate, say by 40,000 per year, directly attributable to this project.

If the above assumptions are quantified for 1997, the year immediately following the completion of the Programme, the *incremental* National Return from Cultural Tourism attributable to the Cultural Triangle can be estimated at about Rs. 1,300 million. If the Net Present Value (NPV) of incremental returns from cultural tourism is computed for projected period of 5 years from 1997 to 2001, discounted at 18% to 1991 (the risk-free cost of capital in Sri Lanka), the NPV figure obtained is approximately Rs. 1500 million. This is roughly equivalent to the total investment within the Cultural Triangle for the 1991-1996 period.

Therefore it can roughly be stated that on a basis of discounted incremental national returns, the pay back for the envisaged investments within the Cultural Triangle is 5 years from the year of completion (1996).

The Benefits of a Quantitative Approach

The above paragraphs describe two basic models for quantifying :

(a) the national returns from cultural tourism, which is an indicator of gross annual national income derived from cultural sites.

(b) the payback from incremental investments in archaeological excavation, conservation and site presentation.

A quantitative approach can therefore provide national Governments and Donor Agencies the basis for measuring the economic value of cultural monuments and deciding whether grants or loan funds are appropriate for maintenance, restoration, excavation, conservation, layout and infrastructure development within and around the site. Stated another way, quantitative techniques provide the means for evaluating the financial feasibility of investments in cultural development, utilising similar methods used in evaluating the viability of development projects.

Approach for Developing a Comprehensive Model for Measuring economic Value

As stated previously, the examples cited in this paper for estimating national returns from cultural sites is a very basic model utilising only readily available data. This approach does not necesarily measure the true economic impact of cultural sites. This section attempts to present an approach to designing a more comprehensive mathematical model for measuring economic value.

It is first necessary to define what is meant by "economic value" of a cultural site and then define the parameters/ variables that determine this value. Arguably, a logical definition can be given as follows, based on the theory that

if a "product" has no "market" it has no value. Thus the value of a cultural monument must necessarily be *directly proportional* to its, "marketability" or its relative standing as a "marketable product". Accordingly the economic value of a cultural monument would be a function of its archaeological/historical significance, relative degree of patronage by visitors as well its *potential* for attracting visitors.

The above definition does not consider the value of a monument in terms of economic factors of production (materials, labour etc., *but primarily as a determinant of its present economic benefit and its potential economic benefit to the country.*

The paragraphs below briefly exmine the determinants of economic value :

Relative Archaeological/Historical Significance

This yardstick of measurement is intangible and pertains to the relative *global* standing of a given monument in terms of its :

* historical significance and context.
* age.
* design.
* visual impact and size.
* architectural and engineering sophistication.
* Other.

In mathematically modelling the above, a uniform rating scheme can be adopted to rank each attribute.

Present Economic Benefits

This would be a measure of the site's benefit to the national *in its present state,* in terms of economic values. The parmeters which can be included in this measurement are :

* number of tourist visits per defined time period.
* number of hotels in the vicinity of the site.
* employment impacts, direct and indirect.

* time spent in and around the cultural site.
* private direct and indirect investment impacts around the cultural site.
* distance and accessibility to site from other tourist attractions and major business districts.
* other.

Potential Economic Benefits

It is inevitable that most cultural sites of the world have *not* reached its optimum tourist absorbtion level. This refers to the optimum tourist traffic per given time period that the site can accommodate without causing damage to the site and causing inconvenience to visitors. The computation of the optimum absorption level would depend greatly on the physical characteristics of the site itself. Once this level is determined, it would then be possible to estimate any *incremental* investments that would be needed to reach the optimum absorption level and the incremental economic benefits therefrom. Incremental investments to reach desired absorption levels could be incurred for one or more of the following :

* road network (approach from business district and vicinity of site)
* rest, recreation areas and other amenities.
* lighting.
* Landscaping.
* excavation.
* conservation.
* presentation and layout of monuments.
* marketing.
* other.

The above incremental investments would then naturally lead to incremental revenue generation, indirect investment, employment and other economic benefits. This can lead to the computation of an appropriate rate of return on the incremental investment as an indicator of project viability.

Derivation of Total Annual Economic Value

It should be noted that for obvious reasons modelling techniques can vary from country to country and site to site. Nevertheless, the approach outlined in Section 5.0 would result in the computation of a total of 4 broadly defined indicators useful for respective Cultural Ministries of various countries, economic planners and Donor Agencies. These indicators are:

(a) A global standard for numerically ranking significant historical monuments. (as described in paragraph 5.1)

(b) Economic returns per annum to a nation from cultural sites in their present state (paragraph 5.2)

(c) The Economic Rate of Return (ERR) from incremental investments to reach desired tourist absorption levels (paragrpah 5.3)

(d) The TOTAL ANNUAL ECONOMIC VALUE of a Cultural site can then be derived by appropriately aggregating (utilising mathematical modelling techniques) the values from (a), (b) and (c) above, net of incremental investments, maintenance, debt service marketing and other running costs.

Marketing Strategy for Cultural Monuments

Increment investments on infrastructure alone is insufficient for cultural sites to reach optimum visitor absorption levels. A very important element in maximising economic returns from cultural monuments is marketing. Although the market potential of each cultural site and nation would vary, common factors which need to be incorporating cultural tourism includes :

(a) research and data collection on local and global tourism trends,

(b) itemising country-wise and monument-wise comparative advantages,

(c) tourism target market analysis.

(d) rationalisation of prices charged for tourist tickets.

(e) determination advertising and promotion strategies.

Conclusion

As stated previously, quantitative techniques provide the means for evaluating the financial viability of investments in cultural development. Such techniques become essential in negotiating for grant or loan funding for investments in cultural projects. *In the case of loan funding, the revenue generation capacity and debt service capacity of special cultural development projects can be shown using quantiative methods.* It should be noted here that investments in cultural development not only encompass archaeological works and site layout, but also include construction of access highways, hotels and recreation facilities.

In concluding it is pointed out that this would mostly outlines a basic approach for measuring the economic value of cultural sites. It is proposed that this approach be further refined and developed into a globally accepted methodology.