ENVIRONMENTAL IMPACTS OF HERITAGE TOURISM:  
PHYSICAL AND SOCIO-CULTURAL PERSPECTIVES  
(DAMPAK LINGKUNGAN DARI KEGIATAN TURISME PENINGGALAN SEJARAH,  
DILIHAT DARI SUDUT RISIKO DAN SOSIAL BUDAYA)  

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ABSTRAK  
Tempat-tempat berasal adalah salah satu sumber daya turism terpenting dan ada di muka-mana di dunia. Perjalanan untuk mendekatkan tempat-tempat yang berasal itu dikenal sebagai turism peninggalan sejarah.坎坞基料来自旅图。sereare yam sarjuyai aspek fisik dan sosial budaya telah berasa diketahui dan diajak, namun dampak dari kegiatan tersebut peninggalan bersejarah pun selalu diketahui dan dibicarakan. 
Dengan menanggapi kontoh-kontoh sungguh, makalah ini mengcupas dampak fisik dan sosial budaya, baik yang bersifat positif maupun negatif dari suatu kegiatan turism pada suatu panduan yang berada di sekitar pusat-pusat industri turis dengan daya turism peninggalan berasal-Jawa yang dibine.  

ABSTRACT  
Historic sites are one of the most important and ubiquitous tourism resources in the world. Travel for the purpose of experiencing such attractions is known as heritage tourism. Although a great deal is known and has been written about the physical and socio-cultural impacts of tourism generally, there has been very little discussion about the impacts of heritage tourism in particular. Therefore, using real world examples, this paper examines some of the most significant positive and negative physical and socio-cultural impacts of tourism in communities whose tourism industry centers around built heritage attractions.  

INTRODUCTION  
Throughout history people have traveled for the purpose of experiencing great monuments of ancient civilizations and cities famous for their culture and classical antiquities. The Grand Tour, for example, popular with  
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the upper-class elite of Europe during the sixteenth and seventeenth centuries as an educational and culturally refining travel experience, including visits to historic cities such as Milan, Florence, Venice, Rome, Naples, and Paris (Trower, 1989).

In modern times, although there exists a general lack of empirical data regarding heritage-based tourism specifically in much of the world, it is clear that historic sites still rank as some of the most important international tourist attractions. Indeed, they often provide the most fundamental appeal for many tourist trips. In order to gauge the magnitude of the importance of historic attractions in many tourist regions, one needs only to look at the large masses of tourists who congregate at the Pyramids of Egypt, the Colosseum in Rome, and the castles and cathedrals of Great Britain every year.

In its broadest sense, heritage can be defined as the natural landscape, the built environment, cultural works, and cultural traditions which have been inherited from the past (Herbert, 1989). Natural heritage includes the natural history of a place and is primarily concerned with ecological matters such as protecting the physical environment, the flora, and the fauna of an area. Historic buildings and sites are the best examples of the built environment, and cultural heritage includes a nation’s art treasures, its musical traditions, and its customs and ways of life. This includes cultural celebrations, religious practices, folklore, social customs, agricultural patterns, and the local people themselves (Zepper and Hall, 1952). Daskalakis (1984) simply defines built heritage as any human artifact which is a tangible expression of culture. For the purpose of this paper, the term heritage is taken to mean the historic built environment, including historic buildings and structures, monuments, archeological sites, and museum artifacts.

Owing to its complex and ubiquitous nature, heritage in the context of tourism is difficult to examine. It is one form of cultural tourism and is often studied collectively with tourism centered around festivals, cultural events, performing arts, folklore, art, and pilgrimages under the umbrella of special interest travel (Pou and Zeppelin, 1980; Zeppelin and Hall, 1991, 1992).

Cultural reminders of the past, such as historic buildings, monuments, ancient ruins, industrial relics, artifacts in museums, and battlefields, are examples of historic features which constitute much of the resource base for heritage tourism (Konrad, 1982; Zeppelin and Hall, 1992). Heritage tourism is one of the most pervasive types of tourism in the world. Butler (1980) recognizes this in his claim that “Heritage is, in its widest sense, the focus and raison d’être of most tourism” (p.52). Heritage tourism refers to travel which is motivated by the desire to experience the past by visiting such historical sites as those mentioned above. Owing to its ubiquitous character, heritage tourism is difficult to measure, and its impacts are often widespread.

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There has been a general failure to develop a set of theories and/or models of environmental impact in spite of the numerous studies of individual cases (Edwards, 1989). This is especially true in the case of heritage sites and heritage tourism. This is owing in large part to the lack of acceptable tourism typologies which have resulted in the grouping of heritage tourism with all other types of tourism despite the fact that it has its own set of motivations, associated experiences, and impacts. Heritage tourism could be more effectively studied if within a universal typology were developed. Wall (1983) has addressed the need for more research and discussion on tourism typologies expressly for this purpose.

As masses of heritage tourists continue to increase and to visit the same places repeatedly, a number of physical, socio-cultural, and economic impacts begin to appear in destination areas. Despite the multiplicity of impact studies which have been conducted, few have discussed the impacts specifically attributable to heritage tourism. This paper attempts to fill this gap by reviewing many of the physical and socio-cultural impacts of tourism generally, and by examining similar positive and negative impacts of heritage-based tourism specifically.

ENVIRONMENTAL IMPACTS OF TOURISM

Environment has been broadly defined as all aspects of the world around us (Nelson and Butler, 1974). This takes into account not only the physical environment, but the socio-cultural and economic environments as well. In the broadest sense then, the environmental impact of tourism is the way tourists affect a specific site or area and affect that area’s physical environment, social structures, cultural traditions, and economics. These impacts have been discussed at great length elsewhere (see Mathieson and Wall, 1982; Sedran, 1993; Wall and Wright, 1971). Most studies of the impacts of tourism on the environment have focused on its negative/undesirable effects. As a result, though tourism has been considered essentially harmful to the maintenance of environmental quality, this is commonly the case; however, a number of positive impacts exist as a result of the growth of tourism. Both negative and positive physical and socio-cultural impacts will be examined in the remaining sections of this paper.

Physical Impacts

Tourism and recreation have had major effects on the physical environment. Wall (1989) has suggested that not all physical environmental impacts are negative; however, even though the word impact usually has a negative connotation. He says that the environment is often positively modified so

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that the requirements of human beings may be met more satisfactorily (although not all researchers would view this as positive). To make a region more attractive to tourists, measures are often taken to improve the environment. The creation of greens belts in urban areas and between tourist resorts (Tangi, 1977), as well as garbage removal, are examples of environmental improvements. Perhaps one of the most noted examples of positive environmental modification is the establishment of national parks throughout the world. While allowing visitors to enjoy the natural landscape, the flora, and the fauna of an area, national parks are an important part of the larger conservation movement (Nelson, 1987; Nelson and Butler, 1974).

Mass tourism can have major negative impacts on the physical environment. It often disturbs wildlife and vegetation with its accompanying automobile exhaust, excess garbage, people trampling through forests, and increased risk of forest fires. Most research on the physical impacts of recreation and tourism has focused on soils and vegetation. However, other components of the natural environment which are affected by masses of tourists include air, water, bedrock, and wildlife (Wat, 1989). Cohen (1978) has identified four variables which influence the physical impacts of tourism: intensity of tourist visits, the resilience of the ecosystem, the time perspective of tourism developers, and the transformational character of tourist developments. Each of these factors influences the degree to which tourist activities affect the physical environment.

Socio-cultural Impacts

The growth of tourism brings with it certain social and cultural implica-
tions. Communities change, people's attitudes and behavior usually change, and local culture is often modified to fulfill the needs and wants of tourists. Tangi (1977) has suggested that art, religion, and human relations are the three cultural spheres which are most strongly influenced by tourism. Keogh (1989) suggests that tourist behavior and attitudes may be influenced by their motivations for visiting an area. He also asserts that the experience sought is exhibited in the way a traveler organizes his/her trip, the method of travel, and socially speaking, the person's ability to adapt to local stand-
ards and their desire for contact with the host population.

Tension often exists between local residents and tourists as locals feel that they are being encroached upon by outsiders. This type of conflict can be partially explained by Doxey's (1978) model of tourist irritation. Doxey proposed, from his research in Niagara-on-the-Lake, Ontario, that local resi-
dents undergo a process of attitude change towards tourists. He suggests that resident attitudes change from an initial feeling of euphoria concerning their tourist resources to the beginning to a level of apathy, then to irritation, antagonism, and finally, they reach a level where they have forgotten that
what they revisited in the first place was what appealed to the tourist.

The introduction of foreign ideologies and ways of life can cause permanent changes in societies where tourism has been previously unknown (Mathieson and Wall, 1982). Tourists often introduce new life styles and wasteful consumption patterns which can have negative impacts upon the traditional societies of indigenous populations, and which local people may strive to imitate (Tangi, 1977).

Migration is another significant result of tourism development (though not tourism alone), especially in the developing world. The rural to urban migration is accelerated as young villagers are drawn to cities in search of work in the tourist industry. Tangi (1977) submits that this would not be entirely negative if only tourism could provide employment security. Jobs are not always available, however, and once in the city, many people are forced to live in unhealthy squatter settlements. This internal migration often takes away from traditional agricultural and fishing practices, and drains the villages of capable young men and women. It also disrupts traditional kinship and community bonds (Mathieson and Wall, 1982).

One of the most undesirable effects of tourism on the host community's social environment is the degradation of moral standards (Arcier, 1978). Most studies of this nature focus upon crime, prostitution, and gambling. Although tourism alone cannot be attributed to the increase in these social ills, it is believed to be one of the most important stimulators of such activities. Sex tourism in Southeast Asia, for example, has contributed to a great deal of social problems, including sexually-transmitted diseases, in South Korea, the Philippines, Taiwan, and Thailand (Hall, 1992).

'Terms of material culture, artifacts which were originally produced for religious purposes are now mass produced for sale to tourists (Mathieson and Wall, 1982). In addition, it is commonly believed that tourism has been a primary cause of the development of quasi-authentic, lower-quality, arts and crafts. It has also been noted that mass manufacturing for tourism has resulted in a decline in the traditional meaning of production (Batstone, 1976). Handicraft production in Greenland is increasing as more tourists arrive. Indigenous carvings are becoming collector's items for tourists, but so are mass-produced carvings patterned after Canadian models. Patterns which are not indigenous art to Greenland (Smith, 1982). Many of the bivalves of northern Thailand have learned that selling their traditional clothing to tourists is a lucrative business, while their own use of traditional dress has diminished (Lee, 1983).

Tourism is also commonly blamed for the loss in meaning and authenticity of cultural ceremonies and traditions. This is in part a result of tourist demands to participate in these rituals, to photograph such sacred rites, and to have them performed in hotel lobbies, rather than in their true settings.

On a more positive note, Mathieson and Wall (1982, p.175) have stated:

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that "whenever tourism becomes an important component of the local economy there is an increase in interest in native arts and crafts". In other words, tourism is believed to revive artistic and cultural traditions which have either disappeared completely or which were on the verge of disappearance. Tourism is sometimes viewed as conducive to the survival of traditional culture in part by stimulating interest in the past among the younger indigenous population. In Greenland tourism is attributed to a renewed sense of ethnic identity among the indigenous Inuit population (Smith, 1982), and in Hawaii tourism seems to be a primary source of renewed interest by locals in their traditional language and lifestyles, even if the modern definition of Hawaiian culture is somewhat colored by non-native expectations of what it should be (Linnekin, 1982).

ENVIRONMENTAL IMPACTS OF HERITAGE TOURISM

Physical Impacts

Serious damage can occur to historic site environments as a result of excessive visitor pressures. Sadly enough, the behavior of heritage visitors and their sheer numbers are slowly destroying the very things which attract- ed them in the first place. Wall (1989, p.201) addressed this problem and noted that "it is a paradox that participants in recreation are drawn to attractive environments, whether natural or built, but that their mere presence is likely to result in the modification of those environments. There is a real possibility that the environment can be loved to death".

The most important aspects of physical damage at historic properties are wear and tear and litter/pollution. The wear and tear experienced by a site can range from very minor to very significant. Climbing/tourist at ancient monuments, such as the Egyptian pyramids, Hadrian's Wall, and Stonehenge, have played a major role in the deterioration of the sites them- selves. A number of cathedrals have reported deterioration of stairs, paving stones, and memorials as a result of thousands of tourist feet, while other site managers are concerned with the slow disappearance of decorative motifs and carvings due to thousands of hands touching the delicate artwork (English Tourist Board, 1979).

Vandalism is another problem in many areas. Graffiti can become a permanent part of a heritage property as a result of careless thrill-seekers, as in the case of Stonehenge and the Temple of Fostilidon in Greece. This author recently observed the tragic impacts of spray-painting vandals on several sixteenth-and seventeenth-century tombstones within the ruins of St. Paul's Church in the historic district of Melaka, Malaysia. Environmental damage of this nature is often irreversible; however, even if a clean-up is
possible, historic relics are difficult to clean since the process may cause additional damage to the delicately carved stone surfaces.

A similar problem faces by many site managers in souvenir hunting. Gleaning artifacts and more historic properties, either loose ones or by means of breaking and chopping, may cause irreversible damage, and can make the process of restoration much more difficult and costly. At Westminster Abbey, for example, small shields are regularly stolen from the monument to the Marquess of Winton and require continual replacement (English Tourist Board, 1973). Furthermore, pieces of mosaic at the same site are periodically broken off by visitors, while hands and other movable objects are frequently stolen from the figures.

Managers have responded to site deterioration in a number of ways. Managers must decide which approaches they will adopt for the preservation of each individual site. Restricted access (i.e., admitting large groups only on certain days of the week), roping off sensitive areas, covering up artifacts requiring the use of overshoes, the use of replicas, and staff controls have all been found effective in a number of well-known English cathedrals (English Tourist Board, 1978). Hall (1974, p. 395) has identified four additional methods of control at heritage properties: 1) the regulation of visitors admitted to an attraction; 2) pricing can often sift out the less-desirable tourists; 3) additional man-made features can serve to lure crowds away from the original attraction; and 4) changing the information available to tourists can help guide them away from the most sensitive areas. Guide books can be useful in placing emphasis on other less susceptible attractions. In France, managers at Chartres are encouraging tourists to recognize the cultural and historical value of the entire city and region, not just the cathedral itself. Their hope is that the cathedral will be viewed as part of a whole historic community rather than a wonder in itself. Similarly, Versailles is introducing a project which aims to integrate the château into the broader context of the historic community. According to site managers, this should help to alleviate some of the physical pressures of the properties by disbanding the concentration of tourists at one specific site (Culture Plus, 1982).

...Perhaps one of the most well-known examples of wear and tear and subsequent management response is Stonehenge. After experiencing years of clambering tourists, often numbering more than 2,000 per hour during the summer, Stonehenge began suffering visible degradation. Many of the stones were being worn smooth by thousands of hands, and the earthworks around them were being heavily trampled. This was beginning to result in irreversible changes to the site such as leaning formations and stone deterioration. In response to these negative impacts, the British Department of the Environment (DOE) erected a perimeter fence in the spring of 1978 to protect the site. Though not allowed inside the fence, visitors to Stonehenge are permitted to wander freely outside the barrier for a fairly close-up view of the stones. Furthermore, as a result of an increase in unnecessary erosion
caused by layers of gravel on the ground around the stone, the DOE replaced the gravel with turf (Bainbridge, 1979).

Litter is another negative effect of tourism at heritage sites. Fast food containers, cigarette butts, broken bottles, and soda pop cans can not only ruin the ambiance of an attraction, but also are expensive to clean up. At Canterbury Cathedral in England, the garbage left on the grounds fills at least three trash bins every week during the summer (English Tourist Board, 1979). In the interiors of certain building, ice cream, candy, and chewing gum often cause a sticky mess which, if not cleaned up immediately, can leave permanent stains on some delicate surfaces.

In addition to wear and tear on the artifact itself, it is vital to examine the effects of tourist congestion on local vegetation and grounds. Several cathedrals in England have suffered from worn out lawns and floor beds near sidewalks where people are forced to work as a result of congested conditions (English Tourist Board, 1979).

Though fewer in number than negative effects, a few positive impacts of heritage tourism can be noted. The need to offer historic attractions to visitors has led to the maintenance and protection of monuments, buildings, and other artifacts (Tangi, 1977). Niagara National Historic Sites (comprised of a number of properties operated by the Canadian Parks Service along the Niagara River) have recently undergone environmental changes in order to become more “green,” to meet the needs and concerns of visitors, and to present a more accurate nineteenth-century setting which will add to the tourist experience (Sward-Harram, 1993). If the experience of tourists is a positive one, they will probably be more inclined to preserve the site rather than contribute to its degradation. Landscaping the grounds around historic structures can add enjoyment to tourist visits as long as it is done in an appropriate manner. The purpose of landscaping is to enhance the main attraction(s) as a heritage property. Hence, every effort should be made to prevent the landscaping and additional structures (e.g., museums, offices, restaurants, gift shops, and ticket booths) from distracting the attention of visitors away from and obscuring the view of the main attraction (Goonar-wota, 1992). It is suggested here that the manicured grounds (Taman Wisata) around the Prambanan Temple complex in Central Java represent quality landscaping which does not take away from the tourist experience, but rather adds to the ambiance of the entire complex.

Tension often exists between conservation and the use of heritage sites by tourists. Many people favor direct experiences with the past by engaging in activities which provide opportunities to see, touch, utilize, and even climb on historic artifacts. Some people, however, consider this hands-on tendency of tourists to be potentially disastrous to the preservation of antiquity (Kon- rad, 1982). On the other hand, several writers have argued that, through education, entertainment, and the proper use of heritage attractions, it is possible to instill a spirit of conservation awareness in visitors (Butler, 1990).
1981; Cossons, 1959; Millar, 1989). If the use of heritage sites is to build awareness and a spirit of conservation, then education based largely upon interpretation is probably the most credited method for accomplishing this. Education forms much of the basis for interpretation and involves a learner (the visitor) and a teacher (the interpreter, Dewar, 1989). It uses heritage properties and objects to demonstrate the past to the visitor in hopes of increasing their understanding and appreciation of the resource being presented (Herbert, 1989b). Interpretation can be provided in the form of personal guidance or by the use of non-personal services such as exhibits, pamphlets, and signs. The presentation of heritage through the use of guides, signs, re-enactments, and recorded messages both entertains and educates the visitor. Interpretation assists a site in competing for the public's leisure time by adding appeal to a heritage property (Dewar, 1989). Furthermore, it raises conservation awareness and can be effective in directing tourists away from sensitive areas of the site (Millar, 1989). Good interpretation will raise the value of a property in the eyes of tourists, and greater value will lead to a greater realization of the need to preserve and protect (Herbert, 1989b). About the importance of interpretation as educator, Tildan (1977, p.39) has said, "He that understands will not wilfully deface, for when he truly understands, he knows that it is in some degree a part of himself."

**Socio-cultural Impacts**

The improvement of many historical sites into tourism objects often disturbs the lives of locals who have established their homes and sometimes their entire communities within the historic site itself or immediately outside its confines. Conflicts often occur between residents and government bodies involved in the restoration and conservation of such sites. Examples of this have been observed by this author at several properties in Indonesia in the provinces of Central Java and Yogyakarta, including Ratu Boko (palace complex) near the Prambanan Temple complex and at Taman Sari (Water Palace) in the city of Yogyakarta. These two sites have excellent potential for tourism, and the government has taken steps to develop them further. However, conflicts have arisen between the modern-day inhabitants of the ruins and the development agencies. Questions of community relocation and adequate compensation have been raised, but they have not yet been resolved. Confrontations of this type often take years to resolve and usually involve a great deal of monetary exchange.

Similarly, the development of a tourism industry which utilizes religious relics of the past may cause further friction between locals and/or out-of-town pilgrims who still use the site for religious purposes. Many of the most historic temples in Southeast Asia are still used for worship by adherents to Buddhist and Hindu beliefs. Some of the most impressive Buddhist temples

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in Thailand, for example, serve not only the needs of believers, but also attract large masses of tourists. Bolsterous tourists and flashing cameras may be considered a major disturbance to many temple worshippers, thereby increasing discord between tourists and residents.

On a positive note, as people in the developing world realize the monetary value of ancient monuments and historic areas as attractions for affluent tourists, they have become more enthusiastic about preserving them. There is often limited appreciation among a developing country's native population for its natural beauty and historic features until tourism raises such an appreciation (Cohen, 1978, p. 219). Soemarwoto (1992) claims that if the local people could benefit economically from these kinds of restoration projects, they would feel that it would be in their best interest to support it. He also suggests that such local involvement may create a sense of ownership of the sites within the community, and residents would become its stewards and guardians.

CONCLUSIONS

The growth of tourism and numbers of visitors at historic sites can present serious problems of physical wear and tear unless properly managed, while garbage buildup and vandalism have long-lasting effects both on the physical features of a site and on tourist satisfaction. Managers have a variety of approaches they can adopt to help protect the physical environment of their historic properties, including such extremes as covering up the artifacts or merely diverting the tourist's attention away from the primary attractions. Positive impacts include among other things, the improvement of heritage properties for tourism and stronger conservation efforts. Interpretation education can also help instill a spirit of conservation awareness in visitors.

Tourism can be disturbing to religious adherents whose worship often takes place in temples and shrines which are of historic and cultural interest to tourists. This can result in elevated friction between tourists and local residents of heritage communities. Furthermore, the development of tourism at some sites, especially in the developing world, disturbs the lives of people who have lived in and utilized ancient relics for many generations. Developing agencies want to relocate residents for purposes of restoration and conservation, but residents are often unwilling to move. Contentions of this nature between local residents in heritage tourism communities, tourists, and developers can create long-lasting problems which are difficult to resolve. In many cases, the development of heritage tourism can have positive effects. Perhaps one of the most obvious is that, as people begin to realize the monetary value of ancient monuments as tourist attractions, they often become more enthusiastic about preserving them, and they often become advocates of conservation.

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This paper has provided only a brief overview of many of the issues relating to the development of heritage tourism. It does no claim to have discussed every positive and negative impact associated with the growth of heritage tourism, because these vary from site to site. There is a real need for more research on the physical, economic, and sociocultural environmental impacts of heritage-oriented tourism. This can be done most effectively on a case study basis in communities where heritage sites dominate the local tourism industry.

In order to preserve the cultural past, one of the world's most valuable non-renewable resources, better management strategies must be adopted which will address not only the physical characteristics of a tourist area, but also the social and cultural elements of the environment as well.

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