Ecotourism: Change, Impacts, and Opportunities

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ABSTRACT
Ecotourism is an agent of change. Measurement of the impacts of tourism is fraught with similar challenges to those involved in assessing impacts in general and tourism in particular. Research on the impacts of tourism has not been cumulative because of the adoption of an inappropriate paradigm and inadequate attention to the contexts in which impacts occur. It is suggested that aggregated information is more useful than summary measures and the characteristics of useful indicators for measuring impacts and monitoring change are described.

INTRODUCTION
Ecotourism, under whatever definition, is an instigator of change. It is inevitable that the introduction of tourists to areas seldom visited by outsiders will place demands upon the environment associated with new actors, activities, and facilities. Ecotourism will forge new relationships between people and environment, and between peoples with different lifestyles. It will create forces for both change and stability. These forces act at a diversity of scales from global to local.

Change is desired by most of the players involved in ecotourism, many of whom would like to see what they regard as an improvement of the existing situation. Tourists want a change from their everyday existence and wish to acquire special experiences, which are only available in special places. Entrepreneurs wish to gain a livelihood and encourage tourists to visit before it is too late. They are often abetted by governments who strive to “develop” peripheral regions and to increase foreign exchange and tax revenues. Other commercial interests may see the opportunity to sell transportation, hiking boots, binoculars, diving equipment, experiences, and memories. Permanent residents living in or adjacent to potential ecotourism destinations may desire to improve life opportunities for themselves and their children and may see ecotourism as generating jobs, stimulating incomes, diversifying economies, and enhancing standards of living. Even the conservationists, who would like to see endangered ecosystems and species perpetuated, seek change in order to ensure their sustenance: changes in resource allocation and utilization, and changes in management regimes.

Although most of the players involved in ecotourism desire change, there is usually considerable disagreement concerning
which changes are desirable. In fact, there are likely to be tensions and contradictions between the outcomes desired by the various participants in ecotourism, as between those directly involved and those indirectly affected by its introduction and operation. Thus, compromise and trade-offs must be sought among the legitimate aspirations of different people.

CHALLENGES FOR TOURISM IMPACT ASSESSMENTS

There are several challenges to measuring the impacts of tourism. They have been discussed in more detail elsewhere (Wall and Wright 1977), but some of them apply to all forms of impact assessment and include:

- the difficulty of establishing a base level against which to measure change;
- the difficulty of disentangling human-induced change from natural change;
- spatial and temporal continuities between cause and effect;
- the complexity of environmental interactions—primary impacts induce secondary impacts and tertiary impacts and so on.

Other challenges are more specific to tourism and include:

- the diversity of activities involved;
- the diversity of environments in which tourism occurs;
- the mobility of tourists so that impacts occur en route as well as on-site;
- Cumulative impacts.

Furthermore, there are three main methods by which impact assessments are undertaken:

- after-the-fact analyses
- monitoring of change through time
- simulation

Each of these three requirements differ with respect to costs of time and money, produce results with differing characteristics and, consequently, different degrees of managerial utility.
CRITICISMS OF EXISTING APPROACHES

Much work on the impacts of tourism is simplistic. If understanding is to be advanced, a more sophisticated perspective is required. Much of the criticism here focuses on inadequate specification of the contexts in which impacts occur. This has two aspects: the adoption of an inappropriate paradigm for impact analysis and incomplete consideration of the factors involved. Each will be considered in turn.

AN INAPPROPRIATE PARADIGM

Either explicitly or, more often, implicitly, tourism is viewed as an external force imposed upon a static community, causing change in that community and leading ultimately to the establishment of a new equilibrium. This is what Wood (1980) has termed the billiard ball assumption. In fact, none of the components of the billiard ball assumption is usually tenable. First, tourism is not simply an external force and may in fact be sought and welcomed by members of destination areas. In practice, it is extremely difficult to distinguish between internal and external forces of change. Secondly, few communities are static. Vibrant cultures are likely to be in a continual state of flux for a diversity of reasons—not simply because of the onset of tourism. It is virtually impossible, and perhaps unrealistic, to separate the consequences of tourism from other causes of change which may be occurring in the same place at the same time. However, since it is usually impracticable to study everything at the same time, it is often pragmatic to abstract tourism from the broader context of change to make investigation more manageable. However, the milieu in which those changes occur should not be forgotten and, ideally, should be incorporated into the analyses. Thirdly, residents of destination areas are not simply acted upon: some respond to opportunities and thus play an active role in contributing to and directing change. Thus, in this post-modern world, destination areas are exposed to global and local forces of change as well as factors operating at intermediate scales making the attribution of cause and effect a particularly difficult challenge.

FACTORS CONTRIBUTING TO AND MEDIATING IMPACTS

The impacts of tourism can be viewed as arising from the type or types of tourism involved, the characteristics of the communities in which tourism is taking place, and the nature of resident-visitor encounters. Furthermore, investigations of tourism cycles suggest that impacts in a destination area are likely to change with time as the nature of tourists, the community and resident-visitor interactions also change (Butler 1980). Furthermore, much change associ-
ated with tourism may be cumulative as a number of small enterprises develop in sequence and in close proximity, each having a minor impact when viewed alone, but together having far-reaching consequences. Cumulative impact assessment is a challenging topic which is beginning to attract the attention of those charged with conducting and evaluating impact assessments, although it has yet to receive much recognition in the tourism literature (Shoemaker 1994).

While much work has documented the impacts of tourism, often under economic, environmental and socio-cultural headings (Mathieson and Wall 1982), few authors have taken the trouble to document adequately the types of tourism, the community characteristics, or the nature of host-guest encounters which give rise to these impacts. In fact, it would be worthwhile to review the tourism impacts literature in an attempt to establish more precisely the contexts in which authors have documented specific impacts. Failure to provide such information or to take note of it adequately has resulted in:

1. Communication failures. If one person is thinking of impacts of downhill skiing, while a second is concerned about sunbathing on a beach, and a third is contemplating visiting a natural area, is it any wonder that they come up with differing evaluations of impacts and talk past each other?

2. Contradictory findings. The findings in the literature are not consistent. Thus, for example, some authors lament the destruction of natural areas through tourism whereas others promote the potential of ecotourism to protect such areas. Who is correct? Of course, both perspectives may be correct but in different circumstances and to varying degrees. However, as suggested above, little attempt appears to have been made to ascertain what types of tourism in what type of community and in what type of host-guest interaction give rise to specific impacts.

3. Limited policy relevance. The general failure to specify adequately the contexts in which impacts occur means that the impacts literature provides limited guidance to decision-makers. In general, it fails to indicate how many people, of what type, doing which activities, in communities with specified characteristics, in specific forms of host-guest interaction result in particular consequences. This is not the same as calculating carrying capacities, which has its own problems (Wall 1982). An understanding of use-impact relationships is essential for establishing carrying capacities.
(if you believe they exist!) and limits of acceptable change (Stankey and McCool 1984), or for implementing concepts such as the tourism or recreation opportunity spectrum (Driver et al. 1987).

While this is not the place to review the carrying capacity literature, it is worth pointing out that the determination of appropriate levels of use is as much a value judgment, related to the goals set for the site, as a technical problem. Many researchers have eschewed the search for a magic number which can be approached with impunity and exceeded at peril, recognizing that management is required from the time that the first tourists arrive, if not before, and that trade-offs will be required. However, many managers still seek a simple solution to a complex problem through belief that a single inherent capacity exists and that this number can be determined by technical means. Such a perspective puts power in the hands of consultants who are hired as experts to determine the non-existent number. On the other hand, perspectives such as limits of acceptable change have the potential to empower local people if they are permitted to provide input on the acceptability of possible trade-offs.

4. Culture brokers. Resident-visitor interactions may be mediated by culture brokers with implications for social, environmental, and economic impacts. While a literature on culture brokers is emerging slowly (Lew 1992) and an extensive literature on interpretation exists (Machlis and Field 1984), very little of this deals explicitly with the role of culture brokers in influencing impacts of tourism in destination areas.

5. Saliency. The saliency of impacts refers to the importance of impacts, usually according to the views of residents of destination areas and usually ascertained through public opinion surveys. The interpretation of survey results is often facile. For example, because most people acknowledge that increased tourism is likely to be associated with increased litter and few people spontaneously identify changing land values, it does not follow that litter is a more important problem than land values. Furthermore, the litter problem is not difficult to resolve (for people can be paid to pick it up) when compared with land values which may be expected to increase or decline depending upon one’s perspective and are very difficult to manage.
Thus, it is suggested that the existing impacts literature has a number of deficiencies and, as a minimum, there is a need to:

1. Verify the tourist typologies which exist, most of which have not been based upon detailed empirical investigations (Murphy 1985);
2. Develop classifications of destination area communities;
3. Examine the nature of resident-visitor interactions including the extent to which they are mediated by culture brokers;
4. Place the recording and monitoring of impacts in the context of all of the above;
5. Assess the utility of widely-discussed related planning and management concepts.

If such steps were taken, the quality of impact analyses and their comparability would be greatly improved and the body of knowledge might be cumulative rather than a series of case studies as is presently largely the case. The resulting investigations might also be more useful to planners and managers.

A MULTI-DISCIPLINARY PERSPECTIVE

In addition to providing positive experiences for tourists, ecotourism, if it is to be sustained, must be economically viable, environmentally appropriate, and socio-culturally acceptable. If positive experiences are not available, then tourists will cease to come—there will be no tourism! If ecotourism is not economically viable, then the facilities and services required by most ecotourists will not be provided and the potential economic benefits of ecotourism for both industry providers and local residents will not be achieved. If the environment and its treasures are not maintained then the resource base for ecotourism is destroyed—if tourism continues, it is unlikely to be ecotourism unless one can persuade visitors to come to restore a severely degraded environment. If the ecotourism is not culturally acceptable and local people do not benefit from its existence, they will be hostile towards and may work to undermine it. Thus, economy, environment and culture are all involved. One is not more important than the other—they are all vital to the successful introduction, operation and perpetuation of ecotourism.

The three-fold division of change domains or impact types into economic, environmental and socio-cultural categories is artificial but convenient. It is artificial because they are interrelated. For example, money can be spent to protect, manage and restore the...
Environment; the acquisition of new forms of employment can have implications for family relationships and community structure; and aspects of the environment may have particular cultural values. Thus, conflict and the potential for trade-offs may exist between, as well as within, these broad categories of phenomena. Furthermore, it follows that the impacts of ecotourism span all three areas and measures should be sought from each.

THE INADEQUACIES OF COST-BENEFIT ANALYSIS

The logo for this meeting highlights costs and benefits. Of course, one person’s costs may be another person’s benefit and this directs attention to the problems of equity (who gains and who loses?), which, along with intangibles and incommensurable, are among the more challenging problems with which cost-benefit analysis is not well-equipped to deal. However, it is worthwhile to consider ecotourism briefly in the context of cost-benefit analysis and not only because the importance of intangibles and incommensurable is particularly large in most ecotourism situations.

Cost-benefit analysis is essentially an accounting procedure in which the costs and benefits of an initiative are compared for a specified time period and weighted partially through the application of selected discount rates. If the benefits exceed the costs, then the initiative may be worth undertaking.

In the case of ecotourism, as indeed in many other areas of endeavor, the adding up and comparison of costs and benefits is confounded by the diversity of phenomena to be considered and different ways each is measured. Thus, economic impacts are usually measured in units of currency or jobs. Environmental attributes may be measured through population counts, species diversity, production of biomass, coliform counts, biochemical oxygen demand, the presence or absence of indicator species or using a host of other variables which do not vary together in a linear fashion and whose significance may be debated by lay persons and experts alike. Furthermore, there is no widely-accepted way of converting these into dollars or jobs or, of course, vice versa. Socio-cultural change, similarly, has a diversity of measures, potentially including such items as infant mortality rates, proportion of women in the workforce, or the percentage of respondents answering “perhaps” to a question on a survey. In such situations it is virtually impossible to come up with a single summary measure and to determine whether the benefits exceed the costs.

Fortunately, the above observation, while clearly correct, is, in most circumstances, a red herring (which is not an endangered
species!). There are several reasons for this. One is that in most ecotourism situations, the decision to proceed or desist is not made on the basis of a global evaluation of benefits and costs. Rather, it is more likely to be a reflection of access to power, authority, resources and information. Even if it were possible to aggregate the information to arrive at a single measure, such a measure would not be helpful in informing most ecotourism decisions which, as suggested above, involve compromise and trade-offs. To make such decisions, disaggregated information is required. Managers need to know whether the populations of particular species are changing, whether occupancy rates in accommodation for visitors are rising or falling, whether local residents are supportive of the directions which management is taking, and whether tourists are having a good time, as well as many other things, if they are to make wise decisions. Only with such information can the trade-offs and compromises required of decision-makers be made in an informed manner.

CHARACTERISTICS OF DESIRABLE INDICATORS

Given that disaggregated information is required for management purposes and a myriad of factors and interrelationships are involved in ecotourism, it will be impossible to measure or monitor everything. Information will never be comprehensive or complete. In such situations it is necessary to select a limited number of indicators of change. It is not possible to suggest exactly what these indicators should be. They are likely to vary with the character of the area, the goals set for the area by the management agency, and the resources and technical expertise available. However, useful indicators are likely to have the following characteristics: they must be sensitive to temporal change and variation, they should have a predictive or anticipatory capability, and they should have conceptual validity and relevance to management problems (Kreutzwiser 1993). Often relative measures may be more useful than absolute measures. For example, rather than population numbers or habitat area, a measure of population per unit area of habitat may be more relevant. They will also be more useful if references or threshold values for that indicator are established. Furthermore, the range of indicators which are selected should encompass economic, environmental and socio-cultural domains and, if the goals of the management agency are narrow, it may be necessary to extend the indicators beyond their narrow interests to encompass the interests of the neighboring communities and, possibly, other interests as well.
CONCLUSIONS

This paper has argued that to endorse ecotourism is to advocate change. However, the changes which are desired are controversial, vary between actors, and necessitate the search for trade-offs and compromises. Assessments of the impacts of ecotourism are not immune from the difficulties associated with measuring impacts in general, as well as those pertaining to tourism in particular. Much research on the impacts of tourism is not cumulative because of the adoption of an inappropriate research paradigm and an inadequate attention to the contexts in which impacts occur. A broad perspective involving economic, environmental, and social indicators is required, and for most purposes, disaggregated information is much more useful than single, summary measures which purport to indicate carrying capacity or whether benefits exceed costs.

REFERENCES


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Geoffrey Wall is a Professor of Geography and Recreation and Leisure Studies at the University of Waterloo. He has published numerous books and papers on tourism and recreation and has edited a number of volumes on the implications of global climate change. He has acted as a consultant for the Canadian International Development Agency, the International Joint Commission, Office of Technology (US), Environment Canada, Ontario Ministries of Culture and Recreation, and the City of Waterloo. Recent and current research projects include studies of the impacts of tourism on host communities, the development of economic impact models, assessment of the implications of the greenhouse effect for tourism and recreation, and contributions to studies of the formulation of a sustainable development strategy for Bali, Indonesia, aspects of tourism in North Sulawesi, Indonesia, and cooperative management arrangements for parks and historical sites. He was awarded the Roy Wolfe Award of the American Association of American Geographers in 1991 for his contributions to the understanding of tourism and recreation.

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