



Ecotourism: towards congruence between theory and practice

Sheryl Ross*, Geoffrey Wall

Faculty of Environmental Studies, University of Waterloo, 200 University Avenue West, Waterloo, Ont, Canada N2L 3G1

Abstract

This paper and its successor examine the gap between ecotourism theory as revealed in the literature and ecotourism practice as indicated by its on-site application. A framework is suggested which, if implemented through appropriate management, can help to achieve a balance between conservation and development through the promotion of synergistic relationships between natural areas, local populations and tourism. The framework can also be used to assess the status of ecotourism at particular sites. © 1999 Published by Elsevier Science Ltd. All rights reserved.

Keywords: Biodiversity; Conservation; Development; Ecotourism; Local involvement; Natural areas

1. Introduction

The purpose of this and a complementary paper (Ross & Wall, 1998) is to address the growing gap between ecotourism as espoused by its advocates and its application and manifestations on the ground. This paper concentrates upon the formulation of a conceptual framework for ecotourism whereas the paper which follows establishes the utility of the framework through application to three sites in North Sulawesi, Indonesia. The papers have been written at a time when the literature on ecotourism is burgeoning and the meaning ascribed to the term is becoming increasingly varied to the extent that it is becoming discredited (Wall, 1997) but only limited information is available concerning means for assessing whether a site is meeting the multiple goals associated with ecotourism.

Ecotourism is often considered to be a potential strategy to support conservation of natural ecosystems while, at the same time, promoting sustainable local development. Yet, ecotourism is defined in many ways in the tourism and environmental literatures and it is being advocated in the absence of widespread recognition of the practical conditions under which it may be best promoted, managed and evaluated. In spite of the exist-

ence of a substantial literature highlighting its potential benefits, there is a growing amount of case-study research reporting the failure of ecotourism to achieve the ideal goals upon which it should be founded. In other words, ecotourism *theory* has often not been successfully put into *practice*. Although prescriptions and guidelines have emerged to promote successful implementation (Lindberg & Hawkins, 1993), standardized or widely utilized methods to identify the potential and gauge the progress of ecotourism sites have yet to emerge. In this situation, the availability and application of a framework with which to define and evaluate the functions and status of ecotourism at the site level may assist in understanding gaps between ideal prescriptions and ground-level failure, and encourage and facilitate the achievement of goals for ecotourism at an operational level (Bottrill & Pearce, 1995).

In recognition of such gaps, this paper will present and elucidate a framework which, if implemented through appropriate management, can help to achieve a balance between conservation and development through the promotion of synergistic relationships between natural areas, local populations and tourism. The framework can also be used to assess the status of ecotourism at particular sites. This paper concentrates upon the presentation and justification of the framework: a subsequent paper will demonstrate its utility through application to three ecotourism sites in North Sulawesi, Indonesia (Ross & Wall, 1999, in press).

*Corresponding author. Fax: 001 519 746 2031.

2. The nature of ecotourism

2.1. What ecotourism is

Ecotourism is usually considered to be more than just tourism to natural areas. However, the absence of a widely accepted definition of ecotourism is associated with a lack of consensus concerning the distinctiveness of ecotourism and the extent to which it differs from other forms of tourism. Since the formal introduction of the term by Ceballos-Lascurain almost two decades ago, controversy over appropriate uses for the term and inconsistency in its application have hindered the development of the concept and its practical realization at specific sites (Reid, 1991; Scace, 1992; Nelson, 1994; Bottrill & Pearce, 1995; Lindberg et al., 1997). Throughout the 1980s and 1990s, widespread environmental interest fostered trendy “environmental opportunism” and encouraged loose uses of the pre-fix “eco” (Cater & Lowman, 1994). Promotion of eco (-) tourism, with or without a hyphen, and in the absence of a clear indication of meaning, often resulted in use of the term being little more than a marketing tactic to give businesses an apparent green edge on the competition. However, at the same time, world-wide, a growing expanse of land and sea has come to be exploited to cater to the demands of an expanding number of people seeking nature for pleasure and it has become clear that such tourism ultimately relies on the availability and quality of natural areas and, therefore, must be considered alongside strategies for maintaining and protecting nature.

Those at the forefront of ecotourism research and development now provide definitions which address the fundamental goals of *conservation* of natural areas and *local development*. For example, The Ecotourism Society defines ecotourism as

“purposeful travel to *natural areas* to understand the culture and the natural history of the environment; taking care not to alter the integrity of the ecosystem; producing economic opportunities that make the conservation of the natural resources beneficial to the *local people* (authors’ italics) (Epler Wood et al., 1991, 75)”.

The World Conservation Union’s (IUCN) Commission on National Parks and Protected Areas (CNPPA) defines ecotourism as

“environmentally responsible travel and visitation to relatively undisturbed *natural areas*, in order to enjoy and appreciate nature (and any accompanying cultural features – both past and present) that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of *local populations* (authors’ italics) (Ceballos-Lascurain, 1996, 20)”.

The above definitions indicate that ecotourism is a complex phenomenon, involving integration of many actors including tourists, resident peoples, suppliers, and managers and multiple functions (Ceballos-Lascurain, 1993). They also suggest that, in ecotourism, natural areas and local populations are united in a symbiotic relationship through the introduction of tourism.

The authors’ perspectives on ecotourism are congruent with the above definitions (Fig. 1). Ecotourism is viewed as a means of protecting natural areas through the generation of revenues, environmental education and the involvement of local people (in both decisions regarding appropriate developments and associated benefits). In such ways, both conservation and development will be promoted in a sustainable forms (all malleable and contested concepts!).

Unfortunately, on the ground, distinction between ecotourism and other forms of tourism are often not evident and are widely debated. Discrepancies are a result of the variety of different perspectives and criteria used to distinguish ecotourism. These include the motivations for initiating ecotourism (e.g. as a conservation strategy, a business venture, or as part of an environmental education campaign), the motivations of users (are they committed to the conservation ethic or otherwise?), the presence and scale of environmental, social and economic impacts (e.g. can Yellowstone National Park, US, receiving approximately 3 million visitors per year, and Tangkoko Duasudara Nature Reserve, Indonesia, receiving 2500 tourists annually, both be considered ecotourism destinations?), and the presence and quality of services offered. Proponents of ecotourism have attempted to overcome such differences by developing value-laden ethical principles as criteria for distinguishing ecotourism (Wight, 1993; Cochrane, 1996).

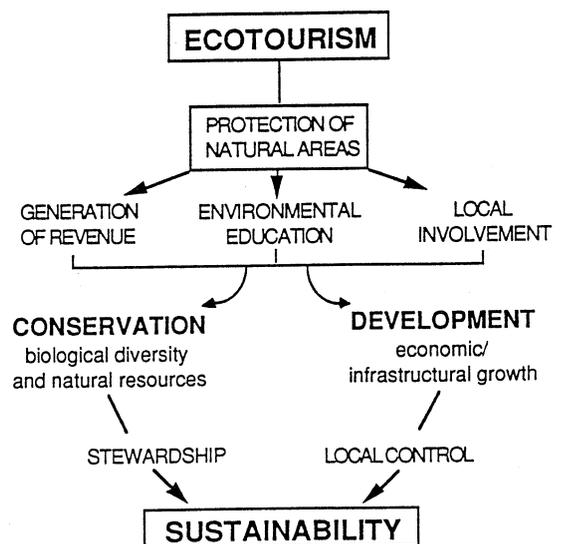


Fig. 1. Ecotourism protects the environment while contributing to socio-economic development, and thus strives for sustainability.

Ecotourism, by some definitions, requires embodiment of “intrinsic rather than extrinsic values” reflecting a “bio-centric rather than homocentric philosophy” (Butler cited in Scace, 1993, 65 and 73). In addition to ascribing to environmental ethics, tourists themselves are described as “purposeful” and “environmentally responsible” travelers. However, such descriptors do not address the *functions* of ecotourism and what it is expected to achieve, nor do they lend themselves readily to measurement and evaluation. In addition to a definition of what ecotourism is, there should be consideration of what is to be *achieved* through ecotourism.

2.2. What ecotourism does

While providing an enjoyable experience in nature, the fundamental functions of ecotourism are *protection of natural areas, production of revenue, education and local*

participation and capacity building (Pedersen, 1991). Each of these functions is basic to the overall success of ecotourism and, together, they can lead to the fulfilment of more specific objectives (Table 1). These objectives are intertwined because success or failure to achieve one objective may influence the success or capacity to achieve others. If all of the objectives are met, then ecotourism will have contributed to the resolution of many of the conflicts associated with tensions between resource *exploitation* and resource *conservation*. Furthermore, it is implied that true ecotourism can be a sustainable, benefiting from natural resources which can continue to be enjoyed and “used” for generations to come (Fig. 1).

2.3. How ecotourism does what it is prescribed to do

If a consensus can be achieved on what ecotourism is and what it is meant to *do*, the challenges then lie in

Table 1
Objectives for ecotourism and possible indicators

Function	Objective	Examples of variables indicating achievement of objective
Protection of natural area	1. Provision of local socio-economic benefits	Increased employment opportunities Local distribution of tourism revenues Improved local infrastructure (transportation, communications, access to and provisions of goods and services) Improved access to social benefits (e.g. health care, education) Improved intercultural relations and appreciation (through positive interactions from host and tourist) Local capacity building towards self-sufficiency/decentralization/local empowerment
Generation of money	2. Provision of environmental education services	Passive and active learning through interpretive services in protected area or ecotourism site Involvement and participation of local communities, committees and schools in environmental education or interpretive services and programs Heightened awareness and nature appreciation (transformative values) for visitors and local residents
Education	3. Conservation of the natural area	Money generated from tourism revenues to contribute to maintenance, protection and management of natural area and its inhabitants Protection which occurs from concerned participants in ecotourism and conservation (through donations or through active involvement) (<i>Heightened if objectives 1, 2 and 4 are fulfilled</i>)
Quality tourism	4. Provision of a high-quality experience	<i>If objectives 1–3 are fulfilled</i>
Local participation	5. Increased foreign exchange 6. Promotion of environment stewardship/advocacy	By receiving international tourists who contribute to the local economy Both tourists and local residents support conservation of natural resources because of transformative values nurtured from positive experiences with nature, and <i>by achieving objectives 1–5</i>

operationalizing the concept at specific sites; in other words, managing the strengths, weaknesses and potentials in particular situations. Some authors have suggested prescriptions and guiding principles under which, they suggest, ecotourism should function (Kusler, 1991; Moore, 1991; Boo, 1992), yet there have been few practical assessments of the status of ecotourism in specific locations, partially because standardized, evaluative criteria have yet to be developed (Pearce, 1992; Hvenegaard, 1994; Bottrill & Pearce, 1995; Ceballos-Lascurain, 1996).

Methods to assess and monitor the social and biophysical impacts of tourism include environmental impact assessment (EIA), estimations of carrying capacity, limits of acceptable change (LAC), cost–benefit analysis (CBA) and visitor impact management (VIM). Other evaluations, specifically developed for ecotourism, have measured the degree to which a site achieves the ideal principles often ascribed to ecotourism (Wallace & Pierce, 1996; Lee & Snepenger, 1992). Because each of these methods require measurements against thresholds of tourist impacts, or measurements of change, indicators are employed for site-specific assessments. Indicators may be an effective means for site-evaluations provided they are practical, facilitate prediction, sensitive to temporal and spatial variation, and are relevant to a valid conceptual framework (Kreutzwiser, 1993). Standardized assessment and monitoring could greatly improve the understanding of ecotourism dynamics, the ability to identify strengths and limitations, and, most importantly, make contributions to planning, management and decision-making regarding ecotourism.

Unfortunately, thorough measurements of all aspects and implications of ecotourism are almost impossible to acquire given the multitude of interrelated variables involved (Wall, 1996). Recalling the fundamental functions of ecotourism discussed above, the success of a site re-

flects the extent to which it is able to protect natural resources and biodiversity, generate money to finance conservation and contribute to the local economy, educate visitors and members of local communities and, thereby, encourage environmental advocacy and involve local people in conservation and development issues. In an ideal ecotourism situation, local residents, protected resources and tourism may each benefit the others in an interrelated, symbiotic fashion (Fig. 2).

The framework presented in Fig. 2 implies that tourism, much like any industry striving to be sustainable, should be considered in the contexts of both the natural environment and the aspirations of local communities. Although simple, the framework emphasizes the significance of fostering positive links between people, natural resources or biodiversity and tourism. The strength or weakness of any one link has implications for other links. Theoretically, the qualities that emerge from application of the framework (e.g. local empowerment, environmental stewardship, intercultural appreciation) make the ecotourism paradigm “whole” greater than the sum of its parts. An examination of the relationships that exist, or have the potential to exist, between local communities, natural resource or biodiversity and tourism may be a good starting point from which to evaluate an ecotourism site, using a list of relevant indicators informed by consultation with stakeholders (Wallace & Pierce, 1996). Each relationship is discussed in more detail below, with examples of characteristics and indicators that can be used to assess them.

3. Ecotourism interrelationships

In a symbiotic relationship between local populations and protected area resources or biodiversity, local residents act as stewards of the natural resources and, in

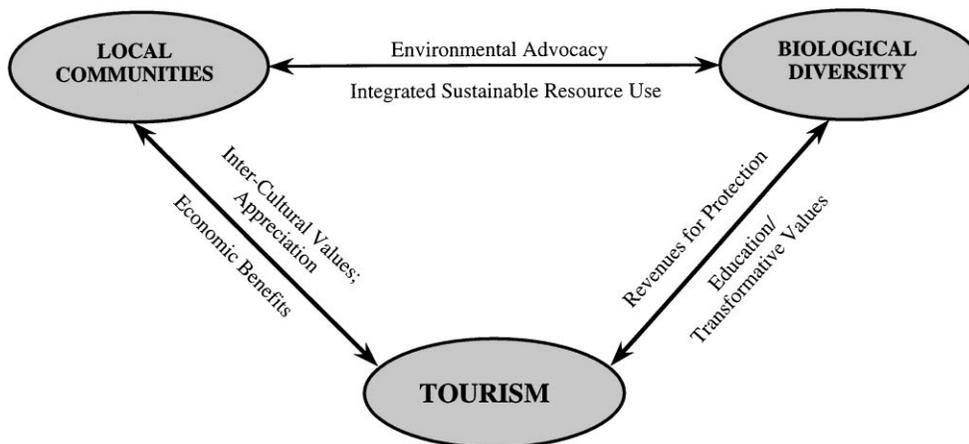


Fig. 2. The ecotourism paradigm: in successful ecotourism, the dynamics between people, resources and tourism are such that each makes positive contributions to the others.

return, they benefit from protected areas through sustainable harvesting, integrated and multiple use zones, and protection of important resources such as water catchments. Often, the relationship between local communities and resource use, particularly in the peripheral locations common to many ecotourism sites, is one where dependence on resource exploitation is high and, thus, attempts to regulate or prohibit resource use may be unrealistic and antagonistic to local people (Mackinnon et al., 1986). Livelihoods based on activities such as slash and burn agriculture, cattle farming, hunting, fishing, wood collection, timber harvesting and mineral extraction require substantial amounts of natural resources (water, trees, game, minerals and, most of all, land and soil) to sustain large populations. Implementation and enforcement of use restrictions may foster confusion and resentment on the part of local people accustomed to using such lands and resources (Olindo, 1991; Ziffer, 1989). In such situations, local people may become opponents of tourism and undermine its operation. Such obstacles to the success of ecotourism can often be countered by involving local people in planning and management processes, whereby they have some control over and agreed-upon access to the resources they require. Even so, it is quite possible that in some circumstances local people may not welcome tourism at all and that view should be respected, but in many developing countries and in peripheral locations in the so-called developed countries, tourism is often seen to be one among a limited number of development options.

One of the essential elements of true ecotourism is the participation and involvement (a “buying in”) of the local communities and peoples residents in and in close proximity to a site (Drake, 1991a, b; Boo, 1992; Brandon, 1993; Ceballos-Lascurain, 1996). Local participation can be defined as “the ability of groups of individuals to influence the direction and outcome of development programs that will affect them” (Paul cited in Drake, 1991a, p. 252) and, one might add, to be beneficiaries of the ecotourism initiative. Local input may help to accomplish the following important objectives: maintenance of a dialogue to permit understanding of and address local needs and concerns; avoidance of decisions which may impact negatively on local residents; encouragement of a form of empowerment or decentralization which allows people some control over decision-making that affects them; creation, clarification and consolidation of stakeholders; encouragement of the development of sympathetic community leaders (spokespersons, trainees, supervisors, advisors); strengthening links between conservation and development goals with local benefits; facilitate the local distribution of benefits; and provide a local capacity to monitor and evaluate progress of projects (Brandon, 1993).

Table 2 suggests examples of indicators which may be used to assess the status of relationships between people and protected areas. Relationship indicators are measurable variables which may be used to reflect antagonistic or symbiotic links between people and resources. An evaluation employing such indicators can provide

Table 2
Examples of indicators which may be used to assess the status of relationships between people and protected areas

Community characteristics	Characteristics of natural area ecosystems and their inhabitants	Examples of relationship indicators
Population sizes (e.g. per sq km)	Size of protected area	Degree of dependence on natural resources
Livelihood strategies	Ecosystem health (including extent of external impacts)	Local attitudes towards conservation
Social welfare of residents (including health, safety and education)	Number of endangered species/habitats	Extent of local participation in conservation (number and types)
Social structure/values <i>Religion</i> <i>Culture</i> <i>Traditional values</i> <i>Familial cohesion</i> <i>Exposure/flexibility to change</i>	Population dynamics/statistics and composition of flora and fauna (minimum viable populations)	Nature of relationship between locals and protected area employees
Local uses of protected area	Inherent ecosystem sensitivities <i>disturbance/succession regimes</i> <i>soil qualities</i> <i>predatory-prey relationships</i> <i>interdependent links among species</i>	Integrated use zones? (frequency of use)

insight into the challenges and possibilities for local development, capacity building, and ecotourism. The characteristics of communities will influence the extent to which ecotourism affects social changes and attitudes towards tourism and conservation. For example, social and familial cohesion may encourage the spreading of positive attitudes (if an individual benefits, it may be viewed as a benefit to the broader community), in contrast to a community where individuals are only concerned for their own personal benefits (Lindberg & Enriquez, 1994). Furthermore, communities already exposed to outside influences, exogenous technological advances or other forms of change, will likely respond differently to development opportunities than populations which have not experienced such changes (Brandon, 1996). Similarly, characteristics of ecosystems reveal a natural area's capacity to withstand activities such as resource harvesting, which may be required or desired by local communities.

In addition to the benefits which may accrue from protection of resources, local residents may receive a variety of benefits from becoming host communities for ecotourists. By participating in ecotourism, communities can receive tangible economic, infrastructural and social benefits – benefits which are less likely to leak out of the community if participation is local (Cater, 1994) (Table 3). In turn, experiences of tourists may be enhanced by opportunities to interact with local people.

If positive attitudes to ecotourism are to be fostered, residents living in or adjacent to a protected area should be receiving economic and social benefits or compensations which will support or complement their livelihoods (Lindberg & Enriquez, 1994). Local economic benefits

from ecotourism have been documented both in the form of increased employment opportunities and incomes, community sharing in the distribution of revenues, and compensations. Lindberg and Enriquez (1994) cited several examples of local earnings from tourism-related employment surrounding protected areas in Belize, Nepal, Costa Rica and Australia. For example, in Nepal, two-thirds of Sagarmatha National Park's resident families receive income from guiding, selling local goods and clothes, and providing accommodations for tourists (Wells, 1993). In addition to economic benefits, tourism may also contribute to improved intercultural appreciation and understanding both for host communities and for tourists (McNeely et al., 1991). Tourism may instill a sense of local pride to villagers (Cater, 1994) and may promote or strengthen cultural heritage (Brandon, 1996). Examples of such positive contributions have been documented for Thailand (Brockelman & Dearden, 1990), Annapurna, Nepal (Gurung & De Coursey, 1994), and Switzerland (Grahn, 1991).

Thus, the introduction of ecotourism can encourage socio-economic development, *if it is desired by the community*. External judgments and assumptions about the benefits of development, however conceived, should be avoided. Miller (1980) pointed out that "Whether increased economic activity or changes in the educational system of a rural area are needed or desirable may be a point of dispute". Such a perspective emphasizes again the importance of involving members of destination communities as stakeholders in tourism planning and decision making. The interrelatedness of people–resource–tourism relationships is likely to be evident in the attitudes of local peoples: if local people are already

Table 3
Possible economic, infrastructural and social benefits to local people from ecotourism

Type of benefit	Form of benefit	Examples of indicators
Economic benefits	Increased employment opportunities (guides, transportation, construction; protected area employees; restaurants, motels, shops, retail, etc.) Entrepreneurship Distribution of tourist revenues	Number of Locals employed in tourism-related employment Number of local entrepreneurs (restaurants, shops, entertainers, accommodations); Ratio of locals to outsiders
Infrastructure benefits	Access to goods and services Quality/access to health care; education Communication infrastructure Transportation infrastructure	Distance of nearest town for goods and services including health care/education provisions (Quality of) mail delivery, telephones, electricity supply? Quality of roads, public transportation?
Social welfare benefits	The indirect benefits of improved infrastructure, tenure, and socio-economic status Status of environmental conditions Intercultural appreciation Strengthening of cultural pride heritage	Health and education levels of residents, effects of increased disposable income Nature of local–tourist interactions Locals attitudes towards tourists and tourism Authentic or commodified opportunities to view or experience local culture

disgruntled about resource-use restrictions from protected area regulations, it is likely that this negativity may influence attitudes towards tourism development. However, communities should *not be encouraged* to become solely dependent upon ecotourism: rather, ecotourism ideally should complement other activities and help to diversify an economy. Tourism of any type should not be viewed in isolation and its development should be considered as part of a broader plan for the use of resources. The challenges in developing such plans should not be underestimated for reasons as diverse as the fact that powerful interests may benefit from the absence of a plan and governments in some locations have withdrawn from many planning functions in favour of the operation of an unfettered market. Strengthening the capacity of host communities to achieve other forms of positive change, if desired, should be considered alongside tourism development.

The contributions which ecotourism can make to biodiversity and the integrity of natural areas are as important as the potentially positive affects on adjacent communities. The provision of environmental education through enhancement of opportunities to appreciate nature is fundamental to the success of ecotourism. Biodiversity and natural areas can provide this service in return for economic revenues which can contribute to protected area conservation. Each of these contributions will be discussed in more detail below.

3.1. Environmental education

Many people who travel to natural areas do so specifically to indulge in experiences with nature, regardless of what activities they choose to do. It is the responsibility of the managers of a protected area to ensure the quality of the available natural experiences and to work towards instilling “transformative values” (values which, through a learning experience with nature, yield greater environmental awareness, appreciation and respect for nature (Norton, 1987)). Protected areas can be viewed as natural laboratories, living museums, retreats, havens, and outdoor schools, and provide unique, interactive opportunities for promoting environmental stewardship for both locals and visitors. Education, through passive (in the form of reading materials, maps, signs, information centres) and perhaps active interpretation (such as guided tours, talk groups, theatre), if not too intrusive and depending upon program objectives, are forms of tourist management in themselves. They also can add to the visitors’ experiences, direct people towards appropriate behaviours (Orams, 1995; Bottrill & Pearce, 1995) and, again, encourage appreciation of natural areas which can result in environmental advocacy. Furthermore, people who enjoy a high-quality experience in nature will be more willing to pay fees which can be used to maintain the protected area.

3.2. Revenues from tourism for protected area conservation

Tourism revenues can make a substantial contribution to the costs of managing protected areas. Lindberg (1991) cites many examples of the positive effects tourism revenues. At Saba Marine Park in the Netherlands, royalties and low entrance fees of \$1.00 were earmarked and allowed the park to be financially self-sufficient. A surplus from tourism revenues (over \$560 000/year) at Galapagos National Park, Ecuador, allows some funds to be redistributed to other protected areas in Ecuador. However, the magnitude of revenues depends largely on the type of management objectives sought (e.g. cost recovery or profit maximization) (Lindberg & Huber, 1993) and the type and amounts of revenues pursued (Table 4).

There are many other factors apart from those at the site level, which influence the capacity for effective environmental education and revenue capturing. National and regional policies will dictate the limits of possible contributions from tourism revenues (e.g. legal limits to chargeable entrance fees; flow of money to central agencies) and the quality of support available to implement management strategies. Often it is not possible to earmark revenues which must be remitted to central governments and are not returned to the protected area responsible for their collection.

4. Management

Unfortunately, ecotourism will not be successful without effective management (Boo, 1993) and the framework which has been presented will be of little consequence in the absence of adequate institutional arrangements and administrative commitments. The development of positive relationships between people, resources and tourism is very unlikely to occur without implementation of effective policies, management strategies, and involvement of a wide range of organizations, including NGOs and, in developing areas, conservation and development assistance agencies. (Fig. 3). The qualities of protected area policies and of those who are employed to carry them out

Table 4
Options for revenue collection (adapted from Lindberg & Huber)

-
1. Entrance fee
 2. Admission fee (for facility use)
 3. Use fee (for gear rentals, camping spots, etc.)
 4. License/permit (e.g. hunting, fishing)
 5. Sales, concessions, royalties
 6. On-site donations
 7. Collection from tour operators
 8. Collection from other sources related to tourism sector (hotels; tourism agencies; transportation taxes)
-

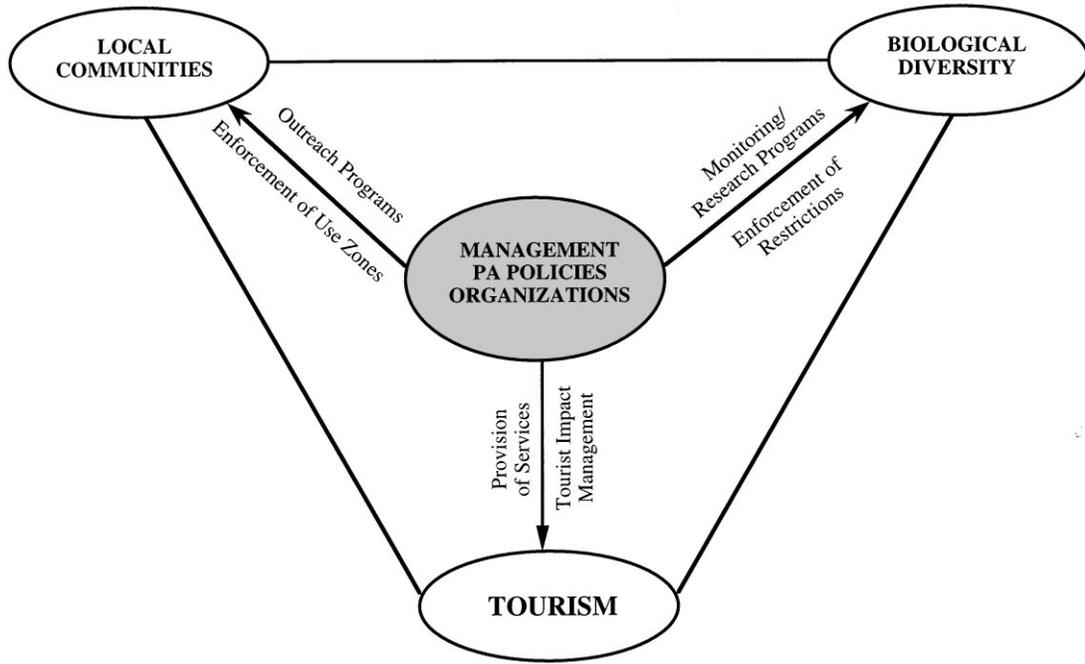


Fig. 3. Management agencies, protected area policies and other organizations such as local NGO's or development assistance agencies influence the attainment of symbiotic relationships.

Table 5
Some factors which may influence the success of ecotourism

Policies	Management strategies	Protected area employee duties	Characteristics of managers and employees
Entrance fee/permit policies (\$ amount; two-tiered; collection format)	Active management plan? Annual updates of: <i>species, habitats numbers of tourist surrounding community statistics, conflicts threats, strategies</i>	Species/habitat monitoring Tour guiding Park patrolling Law enforcement	Training: Resource conservation Ecology (scientific research) Public relations Law enforcement Educational training Economics
Concessions/royalties	Integrated use zones	Research coordinating	
Taxes Required remittance (earmarking?)	Community outreach programs Participatory planning	Public relations Community interfacing	
Protected area regulations and use restrictions	Active/passive interpretation	Fee collection	
Punishments	Tourist management (controlling activities, group sizes, carrying capacities, behaviours)		
Zoning systems and buffers required			
Budgets			
Training of employees required			
Support for community involvement			

may influence everything from the extent of resource exploitation which occurs, to the amount of revenue generated and the quality of interpretation (Table 5). NGOs, research teams and conservation and develop-

ment-assistance agencies have important roles to play, particularly in rapidly developing tropical countries where funding for the preparation of management plans or community development programs may be insufficient

and personnel with the necessary knowledge, skills and training may be lacking (Mackinnon et al., 1986). Such agencies may assist in developing data bases for natural areas and also can provide opportunities for education and local capacity building through the hiring and training of local people.

5. Conclusion

Ecotourism is neither a simple concept to define nor a straightforward phenomenon to implement and evaluate. Ecotourism should be regarded as being more than tourism to natural areas and should be viewed as a means of combining the goals of resource conservation and local development through tourism in a synergistic fashion. This means that care should be taken to ensure that the goals of tourism development do not interfere with the goals of protecting natural areas and biodiversity.

Ecotourism should function under the premises that, among other things, natural resources are finite and their appreciation and protection can be fostered through education, and the presence of supplementary sources of income from tourism will encourage residents to become stewards of their environment (Fig. 2). Ideally, local populations may become advocates for protection of their natural resources and take pride in the unique surroundings which attract outsiders. Yet stewardship will not emerge if local people perceive unacceptable costs associated with tourism and protected area restrictions, or if positive links to host communities are not strong and direct (Lindberg & Enriquez, 1994). Furthermore, if planning and decision-making do not involve local populations, then ecotourism will not succeed, and may even be detrimental to local communities (Ziffer, 1989).

Many interrelated processes influence the potential and success of ecotourism within a protected area and links between natural areas, local people and tourism have been highlighted in this paper. Although there is no standard comprehensive method to evaluate the achievements of an ecotourism site, several approaches which assess tourism impacts by using measurable indicators have proven useful. A framework has been presented to guide the establishment of ecotourism such that synergistic relationships between natural areas, local populations and tourism may be achieved. The framework can also be used to assess the status of ecotourism at particular sites. Indicators informed by theory, and validated by stakeholders, can facilitate assessment of the status of ecotourism at a given site, and aid in identifying existing strengths, weaknesses and opportunities to be explored. This will be demonstrated in a subsequent paper in a forthcoming issue of *Tourism Management* (Ross & Wall, 1999, in press). Ultimately, both the utility of the framework and successful ecotourism depend upon the

existence of committed institutions and individuals empowered by effective protected area policies and management strategies.

Acknowledgements

The research reported in this paper was funded in part by a grant from the Social Sciences and Humanities Research Council of Canada.

References

- Boo, E. (1992). *Wildlands and human needs*. WHN Technical Paper, Washington DC: WWF and USAID.
- Boo, E. (1993). Ecotourism planning in protected areas. In: K. Lindberg, & D. Hawkins (Eds.), *Ecotourism: A guide for planners and managers*. (pp. 15–54). North Bennington: The Ecotourism Society.
- Bottrill, C., & Pearce, D. (1995). Ecotourism: Towards a key elements approach to operationalising the concept. *Journal of Sustainable Tourism*, 3(1), 45–54.
- Brandon, K. (1993). Basic steps toward encouraging local participation in nature tourism projects. In: K. Lindberg, & D. Hawkins (Eds.), *Ecotourism: A guide for planners and managers*. (pp. 134–151). North Bennington: The Ecotourism Society.
- Brandon, K. (1996). *Ecotourism and conservation: A review of key issues*. Environment Department Papers No. 033, Washington, DC: World Bank.
- Brockelman, W. A., & Dearden, P. (1990). The role of trekking in conservation: A case study in Thailand. *Environmental Conservation*, 17(2), 141–148.
- Cater, E. (1994). Ecotourism in the third world – problems and prospects for sustainability. In: E. Cater, & G. Lowman (Eds.), *Ecotourism: A sustainable option?* (pp. 69–86). Chichester: Wiley.
- Cater, E., & Lowman, G. (1994). *Ecotourism: A sustainable option?* Chichester: Wiley.
- Ceballos-Lascurain, H. (1993). Ecotourism as a worldwide phenomenon. In: K. Lindberg, & D. Hawkins (Eds.), *Ecotourism: A guide for planners and managers* (pp. 12–14). North Bennington: The Ecotourism Society.
- Ceballos-Lascurain, H. (1996). *Tourism, ecotourism and protected areas*. Gland, Switzerland: IUCN.
- Cochrane, J. (1996). The sustainability of ecotourism in Indonesia. In: M. J. G. Parnwell, & R. L. Bryant (Eds.), *Environmental change in South-East Asia: People, politics and sustainable development*. (pp. 237–259). London: Routledge.
- Drake, S. (1991a). Development of a local participation plan for ecotourism projects. In: J. Kusler (Ed.), *Ecotourism and resource conservation* (pp. 252–267). Selected papers from the 2nd International Symposium: Ecotourism and Resource Conservation, Madison: Omnipress.
- Drake, S. (1991b). Local participation in ecotourism projects. In: T. Whelan (Ed.), *Nature tourism: Managing for the environment* (pp. 132–163). Washington, DC: Island Press.
- Epler Wood, M., Gatz, F., & Lindberg, K. (1991). The Ecotourism Society: An action agenda. In: J. Kusler (Ed.), *Ecotourism and resource conservation* (pp. 75–79). Selected papers from the 2nd International Symposium: Ecotourism and Resource Conservation, Madison: Omnipress.
- Grahn, P. (1991). Using tourism to protect existing culture: A project in Swedish Lapland. *Leisure Studies*, 10(1), 33–47.
- Gurung, C. P., & De Coursey, M. (1994). The Annapurna Conservation Area Project: A pioneering example of sustainable tourism? In: E. Cater, & G. Lowman (Eds.), *Ecotourism: A sustainable option?* (pp. 177–194). Chichester: Wiley.

- Hvenegaard, G. (1994). Ecotourism: A status report and conceptual framework. *The Journal of Tourism Studies*, 5(2), 24–35.
- Kreutzwiser, R. (1993). Desirable attributes of sustainability indicators for tourism development. In: J. Nelson, R. Butler, & G. Wall (Eds.), *Tourism and sustainable development: Monitoring, planning, managing*. (pp. 243–247). Department of Geography Publication Series No. 37, Waterloo, Ontario: University of Waterloo.
- Kusler, J. (1991). Protected area approaches and ecotourism. In: J. Kusler (Ed.), *Ecotourism and resource conservation* (pp. 14–13). Selected papers from the 2nd International Symposium: Ecotourism and Resource Conservation, Madison: Omnipress.
- Lee, D., & Snepenger, D. (1992). An ecotourism assessment of Tortuguero, Costa Rica. *Annals of Tourism Research*, 19(2), 366–371.
- Lindberg, K. (1991). *Policies for maximizing nature tourism's ecological and economic benefit*. Washington DC: World Resources Institute.
- Lindberg, K., & Enriquez, J. (1994). *An analysis of ecotourism's economic contribution to conservation and development in Belize*. (Vol. 2, p. 82) Washington DC: World Wildlife Fund.
- Lindberg, K., & Hawkins, D. (Eds.), (1993). *Ecotourism: A guide for planners and managers*. North Bennington: The Ecotourism Society.
- Lindberg, K., & Huber, R. (1993). Economic issues in ecotourism management. In: K. Lindberg, & D. Hawkins (Eds.), *Ecotourism: A guide for planners and managers* (pp. 82–115). North Bennington: The Ecotourism Society.
- Lindberg, K., Enriquez, J., & Sproule, K. (1997). Ecotourism questioned: Case studies from Belize. *Annals of Tourism Research*, 23(3), 543–562.
- Mackinnon, J., Mackinnon, K., Child, G., & Thorsell, J. (1986). *Managing protected areas in the tropics*. Gland, Switzerland: IUCN/UNEP.
- McNeely, J. A., Thorsell, J. W., & Ceballos-Lascurain, H. (1991). *Guidelines for development of terrestrial and marine national parks and protected areas for tourism*. Gland, Switzerland: IUCN.
- Miller, R. (1980). *Evaluative research in rural development: Concepts, methods, issues*. Ithaca: Cornell University.
- Moore, A. (1991). Planning for protected areas. In: J. Kusler (Ed.), *Ecotourism and resource conservation* (pp. 563–574). Selected papers from the 2nd International Symposium: Ecotourism and Resource Conservation, Madison: Omnipress.
- Nelson, J. G. (1994). The spread of ecotourism: Some planning implications. *Environmental Conservation*, 21(3), 248–255.
- Norton, B. (1987). *Why preserve natural variety?* Princeton: Princeton University Press.
- Olindo, P. (1991). The old man of nature tourism: Kenya. In: T. Whelan (Ed.), *Nature tourism: Managing for the environment* (pp. 23–38). Washington DC: Island Press.
- Orams, M. B. (1995). Using interpretation to manage nature-based tourism. *Journal of Sustainable Tourism*, 4(2), 81–94.
- Pearce, D. G. (1992). Alternative tourism: concepts, classifications and questions. In: V. Smith, & W. Eadington (Eds.), *Tourism alternatives: Potentials and problems in the development of tourism* (pp. 15–30). Philadelphia: University of Pennsylvania Press.
- Pedersen, A. (1991). Issues, problems, and lessons learned from ecotourism planning projects. In: J. Kusler (Ed.), *Ecotourism and resource conservation* (pp. 61–74). Selected papers from the 2nd International Symposium: Ecotourism and Resource Conservation, Madison: Omnipress.
- Reid, L. J. (Ed.). (1991). Tourism-environment-sustainable development: An agenda for research. *Conference Proceedings*. Travel and Tourism Research Association Canada.
- Ross, S., & Wall, G. (1999). Evaluating ecotourism: The case of North Sulawesi, Indonesia. *Tourism Management* in press.
- Scace, R. (1992). *Ecotourism in Canada*. Ottawa: Canadian Environmental Advisory Council.
- Scace, R. (1993). An ecotourism perspective. In: J. Nelson, R. Butler, & G. Wall (Eds.), *Tourism and sustainable development: Monitoring, planning, managing* (pp. 59–82). Department of Geography Publication Series No. 37, Waterloo, Ontario: University of Waterloo.
- Wall, G. (1996). Ecotourism: Change, impacts and opportunities. In: E. Malek-Zadeh (Ed.), *The ecotourism equation: Measuring the impact*. (pp. 206–216). Bulletin Series 99, New Haven: Yale School of Forestry and Environmental Studies.
- Wall, G. (1997). Is ecotourism sustainable? *Environmental management*, 21(4), 483–491.
- Wallace, G. N., & Pierce, S. M. (1996). An evaluation of ecotourism in Amazonas, Brazil. *Annals of Tourism Research*, 23(4), 843–873.
- Wells, M. P. (1993). Neglect of biological riches: The economics of nature tourism in Nepal. *Biodiversity and Conservation*, 2(4), 445–464.
- Wight, P. A. (1993). Sustainable ecotourism: Balancing economic, environmental and social goals within an ethical framework. *Journal of Tourism Studies*, 4(2), 54–66.
- Ziffer, K. (1989). *Ecotourism: The uneasy alliance*. Working Paper Series, Washington, DC: Conservation International.