

“Ecotourism and the Pacific Islands Environment – impacts, potential and implications for management.”

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Abstract

Ecotourism demonstrates the potential for direct economic gain inherent in the non-extractive use of the natural environment based on its aesthetic and educational value. It requires for the natural environment to be intact and relatively pristine in state. Properly managed, ecotourism and nature conservation will complement and reinforce each other. But there are challenges in translating the ideal of ecotourism into an economically and ecologically viable venture for operators and owners of local sites and resources.

One challenge is the poor understanding of the nature of the natural environment by many in the tourism sector and of what is required to sustain ecotourism. Tourism's perception of the natural environment tends to be limited to the boundaries of the site that provides the tourism attraction or to the specific group of individuals of a species that is visible to tourists in a specific location. Little is there any holistic appreciation that these sites and species cannot be protected *in-situ* in isolation from the larger ecosystems of which they are a part.

As ecotourism continues to grow and the tourism sector continues to be a major stakeholder in the use of the natural environment, so too is the need for them to extend their role from mere users to proactive advocates for nature conservation. Likewise, greater understanding of what makes the Pacific environment unique will lead to a better understanding of its potential as a tourism product. This is critically important as nature conservation agencies reach out for strategic partnerships with other agencies of higher profile within Pacific Islands governments with whom they share mutual interests.

Introduction

The plethora of definitions in the literature on the term 'ecotourism' is indicative of the wide diversity of perspectives and interests in the ecotourism phenomenon. There has also been a notable evolution in how it has been conceptualized from being a form of outdoor tourism to a holistic view that embraces concepts of social responsibility for the well-being of local communities and their cultures. Recent views are also advocating the elevation of culture alongside nature as the two cornerstones of ecotourism's foundation. Certainly in the Pacific Islands context, this is a growing sentiment (Helu-Thaman, 1992).

The diversity of perspectives also extent in other directions. Some writers argue that ecotourism is a principle and an ethic for relating to the environment. Others go even further to dispute ecotourism's legitimacy as a branch of tourism branding it a passing bandwagon of the green-is-marketable school. This view seems to have struck a chord with certain elements of the Pacific Islands tourism industry (Akolo. L, pers. comm. 2001).

Be that as it may, the diversity of perspectives and definitions brings home the importance of defining one's underlying assumptions and biases when talking about ecotourism.

The following presentation is prejudice in favour of nature conservation. It assumes from the outset the following views which are declared upfront to facilitate a better understanding of the arguments made later in this paper –

- Ecotourism is a non-extractive use of biodiversity, and in this regard, is complementary to nature conservation.

- Where it is economically feasible, ecotourism reinforces conservation objectives and provides for local communities and tour operators a strong incentive to preserve the natural features that constitute the main tourist attraction.
- It follows therefore that nature is the basis for ecotourism and its conservation the necessary prerequisite for ecotourism's sustainability.

These biases are framed within the broader context of the following generally accepted views. Firstly, nature or biodiversity conservation is an integral and inseparable part of sustainable development. Secondly, nature conservation via *in-situ* approaches is not necessarily restricted to national parks and reserves. Many other approaches of varying degrees of strictness in their management of biodiversity encourage the sustainable use of natural resources and complementary economic activities.

The proposed context of definitions and of ecotourism's place in sustainable development provides the framework for examining ecotourism from an environmental viewpoint. Moreover, given the growing interest of Pacific Islands in this form of tourism, this paper gives an overview of the natural environment of the Pacific Islands, makes the case for its potential as a tourism product and provides a rationale for greater involvement of the tourism sector in its protection.

Ecotourism – the ideal versus the reality

In this paper, two definitions are offered and discussed as a basis for the observations and views argued.

A succinct definition is offered by the International Ecotourism Society – ecotourism is responsible travel to natural areas that conserves the environment and sustains the well-being of local people (cited by UNEP, 2001).

The World Conservation Union (IUCN) 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 negative impacts, and provides for beneficially active socio-economic involvement of local populations' (ibid.).

Both definitions depict an activity that is environmentally friendly and sustainable. It assumes an elite class of traveler, one that is well-educated, environmentally enlightened and committed to nature conservation. The IUCN definition includes culture where it is part of the local environment and advocates for extending the role of local communities from being mere beneficiaries to key players having an active and direct involvement in the ecotourism venture.

The emphasis of both definitions on 'responsible' travel borders on the ideal and can easily mislead the naïve to believe that there is no cause for concern about environmental impacts, given the degree of enlightenment and respect for the environment of the visitors. The reality of ecotourism as practiced in the Pacific Islands verges on the ecologically and economically unsustainable. Ecologically, it demands close monitoring and the continuous mitigation of negative impacts.

At what point does the reality depart from the ideal?

Ecotourist types and numbers

Three points of departure can be discerned. Firstly, the ideal 'ecotourists' are grossly outnumbered by the less-discriminating visitors. Fagence's (2001) distinction between the deliberate, opportunistic, incidental and adventure ecotourist provides a plausible explanation for this disproportionate ratio. Many visitors to natural sites in the Pacific Islands are of the opportunistic and incidental category, those whose primary interest is not the natural environment but for various reasons including the availability of time and opportunity, end up on nature-based tours. The Palau experience presents an interesting case (Olkeriil, I.U., 2001; C. Mersai, 1999: pers. comm.). Numbers jumped dramatically from 14,000 in 1986 to 73,000 in 1999 (Olkeriil, op. cit., PCS, 1999). Most of these are opportunistic and incidental ecotourists from Taiwan who are attracted by Palau's marine attraction for water sports, snorkeling, and scuba diving. Many are keen but seriously without experience, have language difficulties and cannot swim. Reports (ibid.) of lack of sensitivity and respect for the basic nature-friendly etiquette and codes of behaviour for natural sites abound. As a result, littering, trashing, vandalizing of corals for souvenirs, illicit collection of site 'souvenirs' are commonplace. Due to their inexperience in activities like hiking, jet skiing, scuba diving and snorkeling, many inflict damage to live corals and other terrestrial and underwater flora while participating in these activities (Olkeriil, op.cit.).

Ecotourism as a business venture - profits versus ecology

The second point of departure is inherent in the business nature of the ecotourism venture. Maximizing profits is the objective and profits in ecotourism depend on numbers. Economic rationality dictates that operators cater to all visitors who are willing to pay, and often ignore carrying capacity concerns.

The conflict between the dual objectives of economic and ecological sustainability is accentuated by a number of factors. Firstly, it is difficult to define the carrying capacity of any natural site or that number of visitation that a site can support without compromising its integrity. While the more commonly applied approach is empirical and based on many years of close monitoring, observations and practical experience, many ecotour operators do not have this experience.

Secondly, most ecotour operators deal with small volumes, thus the margin for profit is small. Under these circumstances, foregoing income by turning down visitors due to ecological considerations is irrational and does not make good business-sense.

Thirdly, the nature of many impacts is a complicating factor. Many are not immediately visible and only manifest themselves at a much later time. When they are, they tend to be ignored as small and insignificant. And although there should be some warning signs to be alert to, monitoring remains difficult. The serious impacts therefore manifest themselves with little forewarning when the degradation has set in as the many small impacts collectively add up to a critical mass. This tyranny of small numbers is difficult to guard against when the ecotourism operation is under pressure of sustaining itself financially.

Ecotourism infrastructure and activities design

The third point of departure from the ideal of ecotourism is poor design and management of the ecotourism activity and infrastructure. This oftentimes is due simply to ignorance of proper design

and building guidelines, the lack of proper impact assessments, or in most Pacific Island Countries where EIA legislation is non-existent, indifference to adverse environmental impacts.

Impacts of ecotourism activities and their management

Waste accumulation

Waste accumulation is a major impact. Sightseers, hikers, campers often leave trash of all kinds – cigarette butts, food wrappings, leftover food, food and drinks containers, and the like. This directly affects the scenic and aesthetics features of the areas and degrades their attractiveness. Improper disposal and management of human waste is a common problem for many coastal sites using septic tanks too close to beaches, and leakage to lagoons, snorkeling and swimming areas is a threat. Likewise improper burial of waste in forests, or where it is too near water streams can be problematic for downstream users, or when it happens within catchment areas.

Site degradation

Degradation of natural features is a major concern in the Pacific Islands. Impacts resulting from overused tracks lead to soil compaction or erosion. Carefree visitors who pay little attention to simple ecotourism etiquette inflict damage to vegetation by not staying on marked tracks, camping off designated areas or camping too near water sources. Palau's experience suggests this to be related to opportunistic or incidental ecotourists having little experience in the activities on offer, such as snorkeling, kayaking, diving, and canoeing. Incidences wherein ecotourists deliberately vandalize live corals and similar parts of the natural feature for souvenirs have also been reported from Palau (Mersai, op cit.).

Introduced non-invasive plants and animals

Invasive alien species can be introduced by unwitting tourists through soiled shoes, unclean clothes and camping gear, which can easily contain seeds, spores and other live microorganisms. The introductions may be difficult to detect but the impact can be dramatic. Forests in Guam where 9 species of native birds have been extinct (including 5 endemics) as a result of the invasive brown tree snake (Thorsell, 1989), is a dramatic example of the severity of impacts from invasive species.

Excessive disturbance to fauna/wildlife and flora

Fauna such as birds, whales, turtles are major attractions for ecotourists. The ecotourism industry in Vavau Tonga for instance, revolves around whale watching. Likewise, in Kiritimati Atoll in the Line and Phoenix Islands of Kiribati, game fishing based on bonefish, trevally and billfish is the islands' main attraction. The Cook Islands Takitumu Conservation Area has a popular forest walk and bird watching tour based on the kakerori (Rarotonga flycatcher). These species exist in their natural habitats and properly designed tours should provide for visitors a rewarding experience of watching nature in action, without disturbing animals in the wild.

Excessive disturbance usually results when groups are too big thus tend to be too noisy, not familiar with appropriate stalking behaviour or when over-keen visitors succumb to the urge closer than an animal's recommended escape distances (Ecotourism Society, 1993). Many visitors try to hand-feed animals in the wild. Photography using flashes upsets animals especially bird fledglings.

Especially sensitive periods in the life cycle of animals are the breeding seasons, and immediately after that when parents are nursing young calves or fledglings which can be easily traumatized by human disturbances.

Management of direct impacts

Direct environmental impacts of ecotourism are the result of irresponsible tourists behaviour and the non-compliance of ecotour operators to specifications for design of activities and infrastructure. This information is generally widely available or may be obtained through environmental agencies, or on websites of many international agencies and organizations dealing with ecotourism.

For tour operators, the objective is to improve the behaviour of ecotourists. Proper instructions and awareness raising is a critical part of achieving this, before visitors embark on tours or the activities. Many tourists have language difficulties. Operators should consider having properly translated instructions (e.g. into Japanese for many visitors from this country).

Skilled tour guiding is essential to minimizing impacts. Guides should be well informed on environmentally friendly behaviour to encourage amongst tourists, familiar with the site and of the biological sensitivities of species involved and be an effective communicator. It is helpful for tour groups to be small to be more manageable in the field.

Information on codes of behaviour for different types of ecotourism activities is widely published and available. For instance the International Ecotourism Society has published model guidelines for tourists for different activities based on the survey of some 70 different guidelines from as many operators and organizations.

Impacts resulting from the improper designs of infrastructure can be addressed through the proper enforcement of legislation for environmental impact assessments (EIA) and by providing assistance with resource management planning. In the Pacific Islands, this role normally falls on the local environmental agency which, is often understaffed and under-resourced. This is thus a difficult issue.

Indirect environmental impacts of ecotourism

Indirect impacts are usually not visible but pervasive and with lasting consequences, oftentimes irreversible. Take, for instance, the gradual change in the composition and character of a forest as alien invasive species of plants are established and spread. Many secondary forests in the higher volcanic Pacific Islands are now dominated by fast growing invasive species such as *Albizia spp.*, *Lucaena spp.*, *Eleocarpus spp.* and *Castilloa elastica*. Often they do not have complex interrelationships with epiphytic plants and fauna species as food sources or hosts. Thus their dominance will either support fewer and different wildlife species or none at all. In this way, the character of the forest will change.

A commonly cited example of the impact of an invasive species in the Pacific Islands is the brown tree snake in Guam. Since its' introduction, 9 bird species including 5 endemics have been extinct (Thorsell, op cit.) and the remaining forests is devoid of the birdlife that once enriched it. Another example is of ship rats (*Rattus rattus*) which were introduced into Rarotonga by some of its very first visitors. *R rattus* fed on the *kakerori* (Rarotonga flycatcher *Pomarea dimidiata*) - a species that is unique to the Cook Islands - and led to its near decimation. In 1989, with only 29 individuals remaining, the *kakerori* was one of the 10 most endangered bird species in the world (H. Robertson, 1999). Timely recovery work by SPREP and NZ-Department of Conservation has rebuilt the population back to 181 at the end of 1999 (ibid.). The decline in fauna population over

time is therefore a significant indirect impact of ecotourism activities, where ecotourists inadvertently introduce aggressive predators or more effective competitors that pose a threat to native species.

The full implications of these impacts on ecotourism are better understood by an appreciation of the larger context of the Pacific environment and what it represents in terms of regional and international biodiversity. The following section of this paper presents an overview of this bigger picture and discusses the impact of tourism and the future implications for ecotourism development.

The Pacific Islands Environment – overview and context for ecotourism development

Rich, diverse and of regional and international significance

The Pacific Islands region covers 38 million square kilometers of the Pacific Ocean in their national waters and Exclusive Economic Zones. Of this, less than 2% is land, scattered over thousands of large and small islands (SPREP, 1998). Within this vast area are 22 island nations and territories and an incredibly diverse array of traditional cultures that are heavily dependent upon their natural resources for survival (ibid.). This environment is in part an acknowledged hotspot of global biodiversity with exceptionally high concentrations of many different species and the existence of local endemism, which have evolved as a result of millions of years of species evolution in isolation from populations on continental landmasses. A. Dahl (1985) estimated that as high as 80% of species are native. Parts of this biodiversity include the most extensive and diverse coral reef systems in the world, the healthiest remaining populations of many globally threatened species including whales, sea turtles, dugongs and sea crocodiles, as well as large blocks of undisturbed forests in high volcanic islands (SPREP, op cit.).

A study by Thorsell (1989) provides a glimpse of the relative importance of many of these places in a global context. Examining 226 islands, Thorsell identified over 400 sites of nature conservation importance that were not under any form of protection. He also identified 30 sites having regional and international significance within this group, scattered over 17 Pacific Island countries and territories (ibid.).

The flip side of the coin portrays a Pacific Islands environment at risk. Dahl (op cit.) estimated that over 50% of the region's biodiversity is at risk and this figure – 15 years on - is likely to be already exceeded. Species that have evolved on islands are generally known to be fragile with a narrow genetic base to draw on for resistance against aggressive invasives. The major threats are over-harvesting, habitat loss, waste contamination and invasive species. Newer threats noted by SPREP (1998, op cit.) include illegal bio-prospecting and destructive harvesting methods used by live reef fish trading collectors.

Tourism impact on the environment

The World Conservation Union's Red List of Threatened Species (IUCN, 2000) identify the major threats worldwide on flora and fauna. Its latest edition (ibid.) noted Development as the third major threat category to loss of habitat. Under the 'development threat' category, tourism is ranked third behind 'industry' and 'human settlement' and ahead of 'infrastructure development'. The same source places 'Recreation/Tourism' as the number one source of human induced indirect effects that is threatening biodiversity.

Where are we today with protecting the Pacific Islands environment?

Oceania is one of the world's eight biogeographical realms. Within the Oceania realm, Dahl (op cit.) surveyed and recognized 19 biome types and 20 provinces. Dahl further identified 2000 ecosystems types within the Pacific Islands (Oceania). He estimated at the time (1980) that only 20% of these ecosystems are under some form of protection. This figure is yet to be updated but SPREP (1998, op cit.) identified that 233 areas enclosing a total area of 25,533 sq. km or 4.5% of the total Pacific land area are under some form of protection. (The total marine area remains to be surveyed).

Within individual islands the percentage of land area under protection varies with Easter Islands already a World Heritage Site, to Tuvalu with 32%, FSM with 15%, Palau (6%), Samoa (4%), Fiji (2%) to name a few. (SPREP op cit.).

This total area is on the rise with increasing regional and international interest in the protection of the Pacific Islands marine areas. For instance, the World Heritage Committee (WHC, 2000) identified Oceania as the single most significant gap yet to be adequately represented in the World Heritage List of natural and cultural sites of outstanding universal significance. There is concerted effort underway to get more Pacific Islands accede to the World Heritage Convention, and studies to explore the potential of sites as possible candidates for consideration as WH sites.

This call seems to have been heeded with three Pacific Island Countries – Niue, Samoa and Vanuatu - acceding to the WH Convention over the last 12 months, making the total of Pacific Island parties six (with Fiji, PNG and Solomon Islands).

On another front, Pacific Island Countries have been actively pursuing the establishment of a South Pacific Whales Sanctuary with the International Whaling Commission (IWC), a proposal that was not accepted in the IWC's 2000 Meeting but is expected to be raised again in future. There is also continuing and additional new initiatives through regional conservation projects such as the International Waters Project, to set up community-based marine conservation areas in a number of Pacific Island Countries.

The Pacific Environment and its implications for Ecotourism

The Pacific environment is the foundation for ecotourism. It cannot be sustained without this foundation being brought under effective conservation management. Its richness and diversity however, is belied by a fragility and extreme vulnerability to human induced and natural threats that can easily degrade it beyond any tourist value.

Since the emergence of ecotourism, the sector has been merely a user of the natural assets that are deemed of attraction. The conservation of nature was a function conveniently assigned to natural resources and environmental management agencies. This attitude needs to change. Ecotourism operators and agencies should be more proactive in nature conservation. In many Pacific Island Countries, they enjoy higher political profiles than their environmental counterparts. They should use this prominent position to lobby in support of nature conservation and should work hand in hand with nature conservation agencies in promoting awareness and appreciation of the ecotourism value of natural areas and the need for these areas to be managed effectively.

Tourism agencies and operators also need to review their perspective of the natural asset that is the basis for ecotourism. The natural environment is not simply the little pocket of accessible beach, reef or forest that receive tourists. It is not simply the handful of individuals of a species such as the kakerori or hawksbill turtle or whales that ecotourists pay to see in nature. The natural environment is the total package. Fauna species cannot be protected in isolation from their habitats and the larger ecosystems of which they are an integral part. This implies the protection of large areas of ecosystem rather than of little pockets that are the main attractions. This ecosystem-based approach involves large areas, public and local communities involvement in designing and management and is inclusive and integrative of other initiatives of economic, social and cultural nature that is ecologically sustainable.

There are potential benefits to be gained from the World Heritage Convention for nature conservation and ecotourism in the Pacific Islands. Sites including those identified by Thorsell (op cit.) should be targeted for immediate protection where they are not already the case. Pacific Island Countries should also further explore their potential for possible nominations as World Heritage sites. The necessary prerequisite however, is for countries that are yet to be parties to the WH Convention to accede to it. Tourism and environmental agencies alike should work together to advocate for this action to be taken by their national governments.

Conclusions

Ecotourism is an evolving concept but nature remains a firm part of its foundation. This foundation needs to be strengthened further by the selective expansion of the existing protected area system of the Pacific Islands region to areas of regional and international significance that are yet to be brought under any form of protection.

Ecotourism in the Pacific Islands will continue to be dallying with ecological unsustainability for several reasons. The number of incidental and opportunistic ecotourists who are less committed to nature conservation and through inexperience more likely to cause damage to sites, will continue to be significant. The low volumes and small profit margins for operators will continue to encourage the predominance of economics over ecological considerations. Laxity in environmental legislation and enforcement encourage the high degree of non-compliance of operators to proper codes of conduct, guidelines and specifications for the sustainable design and implementation of activities and infrastructure.

The natural environment is a total package. Sites of tourism value are part of ecosystems and should be managed as such. This perspective calls for a fully integrative land-use and resource planning process that engages all key users of resources and the environment and takes into account the full range of values natural sites offer.

There are clear possibilities for Pacific Islands in the World Heritage Convention. Sites previously identified by Thorsell (op cit.) to be of regional and international significance should be targeted and brought under conservation management if they are not already. Acceding to the World Heritage Convention for Pacific Islands will open the door to assistance in documenting and further examination of potential areas, and possibly their being accepted and inscription on the World Heritage List. Regional initiatives such as the South Pacific Whale Sanctuary proposal should be viewed and support for the potential it holds to support and sustain whale watching activities.

The Pacific Islands environment is still under-protected. Tourism has a vested interest in an expanded protected area system for this region. It should be proactive in advancing and promoting this agenda.

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