

Potential for developing marine turtle tourism as an alternative to hunting in Bali, Indonesia

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Introduction

Despite the policies and laws that prohibit the trade of marine turtles in the Indo-Pacific, Limpus (1988) estimates 100,000 green turtles (*Chelonia mydas*) are harvested from within this region each year to supply local and overseas markets. Up to 25,000 of these turtles have been reported to be transported to Bali every year, and are subsequently slaughtered for their meat, eggs, shells and leather (Marinos, 1997; Animal Conservation for Life, 2001), making Bali one of the largest traders in marine turtle products. Eighty percent of these turtles are consumed in Indonesia, whereas the remainder are exported to Japan, Singapore, Hong Kong, China and Taiwan (Animal Conservation for Life, 2001). Consequently, the adult green turtle population has declined to a state where juvenile turtles are becoming more commonly caught (Animal Conservation for Life, 2001). World Wildlife Fund for Nature (WWF) Wallacea warns “marine turtles will disappear from Indonesian waters within 30 years if the current scale of turtle exploitation continues” (P. Mustika, *pers. comm.*).

In Bali, where the majority of people practise Hinduism, green turtles have been sacrificed for religious purposes for centuries (Putra, 1996). However, Hindus have become accustomed to eating green turtles as a common food source and a means to survive, rather than strictly for religious Hindu ceremonies (Putra, 1996). Humane Society International (HSI) argues that the turtle trade has become more lucrative in direct response to increased poverty in Indonesia and the necessity for a stronger economy that is competitive with developed countries (M. Kennedy, *pers. comm.*).

Despite efforts by Indonesian government authorities to control the illegal turtle trade,

harvesting of marine turtles continues to prosper. Therefore, it has become apparent that research into alternative methods of conserving turtles is needed. A representative of WWF Wallacea, Puta Liza Mustika says “the turtle trade industry is not sustainable, and therefore has no long-term benefits for Indonesia, however, turtle tourism would be a sustainable industry depending on adequate management”.

Turtle-based tourism as a conservation tool

In recent years, the role of tourism as an alternative to turtle hunting has been well documented (Vieitas *et al.*, 1999; Godfrey & Drif, 2001). The Marine Turtle Specialist Group (MTSG) has also endorsed ecotourism, as a solution on a global scale, for the problems facing conservation programs, particularly in developing countries (IUCN, 1995). Many developing countries, such as Sabah Marine Park in Malaysia; Fiji in the South Pacific; Tortugero National Park and Rio Oro in Costa Rica; Bahia Magdalena in Mexico; and Zakynthos in Greece are at various stages of developing turtle-based tourism as a conservation strategy. The concept of utilising tourism as a tool for achieving management objectives relating to conservation has become more acceptable, with increasing interests in augmenting tourist visitation to nesting beaches in the form of turtle-based ecotourism (Godfrey & Drif, 2001).

The main attraction of developing turtle-based tourism in less developed countries is that it can substitute the wages lost from hunting and contribute to the conservation of marine turtles at the same time (Vieitas *et al.*, 1999). Other benefits include the development of community amenities; community capacity building; education and awareness of the environment; maintenance of cultural identity; potential opportunities for

generating revenue for the local economy; and conserving marine turtles and the natural environment (Nichols *et al.*, 2000). One of the most successful marine turtle conservation programs is Projecto TAMAR-IBAMA in Brazil, where turtle-based ecotourism has been used as an alternative to hunting marine turtles (Godfrey & Drif, 2001). The success of the program is based on local participation of the community in educational programs, tour-guide training, festivals, and the employment of former egg poachers to patrol the beaches and protect the nests (Marcovaldi & Marcovaldi, 1999). In this way, turtle-based ecotourism has become an extremely useful tool in providing an alternative income for hunters and the community, whilst conserving marine turtles for future generations.

Potential for developing marine turtle tourism in Bali

Within the tourism industry worldwide, ecotourism is one of the fastest growing sectors (Newsome *et al.*, 2002). In the Asia-Pacific region, this is certainly the trend (Lindberg, 1997). In particular, the growth of the tourism industry in Bali has been expeditious, and has increased from 30,000 visitors in 1969 to more than half a million in 1990 (McCarthy, 2001). In Bali, the infrastructure for expanding the scope of ecotourism already exists, however the potential for developing turtle-based ecotourism for the purpose of substituting the turtle harvesting industry has not yet been recognised. This makes Bali an ideal candidate for investigating the use of tourism as an alternative to turtle hunting, and could be used as a benchmark

Literature Cited

Animal Conservation for Life. 2001. *Final Report: KSBK's Investigation on turtle trade in Bali. June 2001*. Humane Society International (HSI) and Animal Conservation for Life (KSBK), Indonesia.

Godfrey, M.H. & O. Drif. 2001. Developing sea turtle ecotourism in French Guiana: Perils and Practicalities. *Marine Turtle Newsletter* 91: 1-4.

IUCN. 1995. A Global Strategy for the Conservation of Marine Turtles. IUCN-World Conservation Union, Gland, Switzerland.

for other developing countries facing similar issues.

A study conducted by Waayers (2001) explored the potential for developing turtle-based tourism in Bali, by establishing whether tourists are actually interested in participating in turtle-based tourism, and whether the tour operators based in Bali are willing to integrate turtle tours into their business. The results indicated that the majority of tourists were willing to participate in tourism based on marine turtles in Bali, whilst operators were open to including marine turtle tourism as a specific tour. However, several tour operators were reluctant to undertake turtle tours because of their lack of knowledge of marine turtle biology and behaviour and the unreliability of sightings of nesting female turtles.

Conclusion

Although these results are encouraging for the development of marine turtle tourism in Bali, there are a number of factors that need to be addressed concurrently. These factors include creating economic incentives for local people and former hunters to become involved in the development of marine turtle tourism, educating and training operators and former hunters in best practice operations, and preparing and implementing a marketing strategy which promotes marine turtle tourism as a conservation tool in Bali. In order to implement these strategies, a management framework that integrates scientific research and traditional methods of conservation such as the Banjar system needs to be developed.

Lindberg, K. 1997. Economic aspects of ecotourism. In: *Ecotourism: A Guide for Planners and Managers*. (eds K. Lindberg, M. E. Wood and D. Engeldrum), pp. 87-117. The Ecotourism Society, Vermont.

Marcovaldi, M.A. & G.G. Marcovaldi. 1999. Marine turtles of Brazil: the history and structure of Projeto TAMAR-IBAMA. *Biological Conservation* 91: 35-41.

Marinos, R. 1997 Letter to the minister of environment regarding trading and slaughter of green sea turtles in Indonesia. Online at:

<http://darwin.bio.uci.edu/~sustain/bio65/indonesia/turtles.html>. [Accessed: March 26, 2001]

McCarthy, J. 2001. *The fourth circle: A political ecology of Sumatra's rainforest frontier*. PhD. The Asia Research Centre, Murdoch University, Perth, WA.

Newsome, D., S.A. Moore & R.K. Dowling. 2002. *Natural Area Tourism: Ecology, Impacts and Management. Aspects of tourism*. Channel View Publications, Clevedon.

Nichols, W.J., K.E. Bird & S. Garcia. 2000. Community-based research and its application to sea turtle conservation in Bahia Magdalena, BCS, Mexico. *Marine Turtle Newsletter* 89: 4-7.

Putra, K.S. 1996. Awareness and Education Programme on marine turtle conservation in Bali: Incorporating conservation themes into Balinese culture. In: *Workshop on Marine Turtle Research and Management in Indonesia*. (eds Jember), WWF - Indonesia Programme, Bali, East Java.

Vieitas, C.F., G.G. Lopez & M.A. Marcovaldi. 1999. Local community involvement in conservation: the use of mini-guides in a program for sea turtles in Brazil. *Oryx* 33: 127-131.

Waayers, D.A., 2001. *Conservation of marine turtles in the Indo-Pacific: An investigation into the role of ecotourism*. Masters dissertation. School of Environmental Science, Murdoch University, Perth.