



*Strengthening local capacity
in the economic analysis
of environmental issues*

The Economy and Environment Program for Southeast Asia (EEPSEA) was established in May 1993 to support training and research in environmental and resource economics across its 10 member countries (i.e., Cambodia, China, Indonesia, Lao PDR, Malaysia, Myanmar, Papua New Guinea, the Philippines, Thailand, and Vietnam.) It aims to strengthen local capacity for the economic analysis of environmental issues so that researchers can provide sound advice to policy makers.

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The Impact of Tourism in Marine Protected Areas – A Study from Viet Nam

One of the key environmental challenges facing Viet Nam and many other developing countries is ensuring that tourism does not degrade the natural environment or affect the well-being of local communities. A new EEPSEA study has looked at the impact of tourism on biodiversity and local communities in Viet Nam's first marine protected area (MPA), which covers Nha Trang Bay.

The study finds that tourism in the MPA is a mixed blessing. The tourism industry has had a negative impact on both marine biodiversity and on the region's local communities and culture. However, it has also provided employment and helped improve local infrastructure. The study highlights management problems in the MPA and recommends a series of steps that should be taken to make tourism in the area more sustainable.



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The sustainable tourism challenge

Tourism can have a wide range of positive and negative effects on local communities and the environment. In order to maximize the benefits that tourism can bring, the concept of “sustainable tourism” has become increasingly important, and many projects around the world have been set up to marry the twin aims of nature conservation and tourism development. In coastal areas, one important approach has been the establishment of marine protected areas (MPAs).

Viet Nam, like many other coastal states, has established a network of MPAs. Currently, there are nine such areas in the country. The first pilot project was launched on the island of Hon Mun in 2001, and this MPA was extended and renamed Nha Trang Bay Marine Protected Area (NTB MPA) in 2004.

The Nha Trang Bay Marine Protected Area

The NTB MPA is located south of Nha Trang City. It has a total area of 250 km², of which 38 km² is land, including 14 islands. This area is estimated to have the highest marine biodiversity in Viet Nam. It comprises a diverse array of tropical habitats, including coral reefs, seagrasses, mangroves, sandy beaches, and rocky shores.

Tourism now plays a central role in Nha Trang Bay. In 2014, 720,480 tourists visited the NTB MPA, up from 400,000 in 2004 (and only 30,000 in 1995). There are currently 114 travel service companies working in the MPA, of which 20 are international.

A general characteristic of the tourism industry in the NTB MPA is that it has been developed by companies from outside the area, not by local villagers.

The MPA was established as an ecotourism project to enable local island communities to improve their livelihoods and, in partnership with other stakeholders, effectively protect and sustainably manage marine biodiversity. The MPA has three regulated zones that include a number of strictly protected areas, which encompass the islands of Hon Mun, Hon Noc, Hon Cau, and Hon Vung and the sea in a radius of up to 300 m around these islands.

In the strictly protected areas, all marine resource extraction activities and aquaculture are strictly forbidden, as is any motorized watersports. The People’s Committee in Khanh Hoa province is responsible for the management of the NTB MPA. Daily operations are taken cared of by the Nha Trang Bay Authority along with a number of other agencies.



Collecting data on the MPA

The study set out to examine if the environmental protection and community welfare aims of the MPA have been met. The information required to make this assessment was collected in various ways. First, field observations were carried out to identify the activities that are taking place within the MPA. Second, in-depth interviews were conducted with tourism, fishing, research, and government representatives. Third, a semi-structured questionnaire was used to collect data from 140 local households.

The environmental impact of tourism

Snorkelling and diving in the NTB MPA are damaging coral reefs and have led to a reduction in hard coral cover (which has declined by 16% between 1994 and 2010). The quantities of all other types of corals and many other marine species have also dramatically decreased.

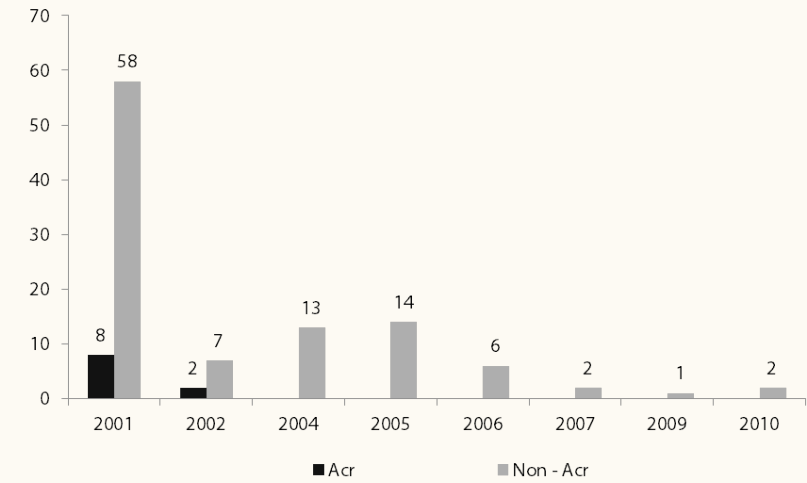


Figure 2. Changes in coral cover (%) of Acropora and non-Acropora in Hon Mieu, NTB MPA, 2001–2010

Boat anchors and boat groundings have also inflicted major marine damage. The densities of reef fish have increased in the core zones. Unfortunately, the restrictions imposed in these zones have had little beneficial effect on fish densities in neighboring areas.

Tourism and pollution

On average, it is estimated that each visitor to the MPA area generates 0.7 kg of solid waste and 96 liters of sewage per day. Unfortunately, much of this sewage is dumped into the sea without proper treatment. This causes nutrient enrichment, which favors certain species (algae in particular) at the expense of corals. Tour boats cause significant petroleum hydrocarbon pollution, especially when oil and fuel spills occur. These boats are also responsible for a considerable amount of sewage and waste.

Litter from tourists is also a problem in Hon Mun and Hon Mieu. Discarded plastic bags and drinking bottles are left on the islands and pollute the sea, as there is no formal mechanism for handling garbage on the islands. The construction of tourist

facilities (e.g., huts, lodges, and hotels) has also had a significant environmental impact. It is estimated that approximately 100 ha of the NTB MPA has already been cleared to make way for tourism projects.

The community impact of tourism

In the first years after the NTB MPA was established, the tourism boom brought few economic benefits to the people living there. Over the years, however, local residents have become more involved in various tourism activities, and tourism companies have begun to provide new infrastructure resources (e.g., a new hospital has been built and is now operational).

The household data collected by the survey shows that, of the 140 households, 41 have family members working in the tourism industry. Of these, 54% currently work full-time for tourist companies, whereas the rest are self-employed and earn money from the sale of products and the provision of services associated with tourism.

Overall, the study finds that tourism activities have a

significant impact on household income. However, the distribution of the household economic benefits from tourism is limited geographically and decreases dramatically as one travels away from Hon Mun.

Alongside these positive benefits, tourism has had several negative repercussions on the villagers, including the erosion of local culture and traditional livelihoods. When the MPA was set up, there were six villages located within the protected area. Of these, one has been relocated to the mainland, two are about to be closed and moved, and one is earmarked for relocation. Aquaculture farms have also been relocated. Among the local people interviewed, 32 respondents had been negatively affected by relocation caused by tourism developments. They had received little compensation and have found life on the mainland difficult.

There are other negative problems associated with the tourism industry. These include noise pollution and higher living costs and housing prices. Tourism is also placing increasing pressure on local resources: the MPA’s beautiful beaches are occupied by hotels and are reserved for their guests; they are, therefore, not available to the local people.

Have the MPA’s ecotourism aims been met?

It is clear that the ecotourism aims of the NTB MPA are being poorly achieved. Although some tourists are careful and conscientious in their actions, the majority demonstrate

little environmental concern. Some larger tourism operators have tried to subscribe to the principles of ecotourism by using trained guides and by adding educational components to their tours. However, several smaller operators undercut market prices and act as “free riders” on the ecotourism wave.

In addition, the NTB MPA tourist attractions have not fulfilled their potential in terms of delivering employment and income to local communities. A lack of clear policies to implement the concept of ecotourism has resulted in local dissatisfaction. If these challenges are not addressed, tourism in the NTB MPA will not be a driver for conservation, social inclusion, and poverty reduction; thus, it can not be classed as ecotourism.

Management and funding deficiencies in the MPA

Many of the problems apparent in the NTB MPA can be attributed to management deficiencies. Although both the NTB MPA management board and the other local government units involved in the area have made great efforts to improve the situation, problems still exist.

For one, there is slow progress on new legislation, overlapping regulations, guidance, and functions between government agencies. For instance, although bins and toilets have been requested on board all tour boats since 2013, these requirements have not been fully implemented. Likewise, enforcement and monitoring of

compliance are rather weak and funding is inadequate.

For another, the amount of money received for conservation is relatively small (USD 134,228 in 2014). This is partly due to lack of transparency in the collection of fees. Also, the government has not paid much attention and has not assigned a considerable amount to biodiversity conservation. At present, about 68% of the income received from the taxes levied on tourism operators is assigned to other sectors of the economy. Some earnings from entrance fees are not reported to the NTB Authority but are instead shared between ticket controllers and boat captains. Tourism operators have also taken the lion's share of the rent they earn and have paid back relatively little for conservation and community projects.

An obvious consequence of the lack of funding is the poor provision of appropriate training and research opportunities. Another consequence is the poor level of interpretation and education material. In addition, unsatisfactory income and working facilities have led to a lack of accountability—implementation and control are weak and violations are not sanctioned.

The way forward

It is clear that the NTB MPA is experiencing a destructive tension between mass tourism and ecotourism. Conflicts are likely to increase between competing industries and the threats to marine biodiversity in the region are growing.

It should also be clear that, unless the wildlife value of the NTB MPA is protected, future tourism earnings are likely to diminish. Therefore, precautionary measures should be taken.

First, it is important to increase funding for biodiversity conservation and management in the MPA. Additional funds could be raised by increasing entrance fees for tourists.

Second, limits must be imposed on visitors to the NTB MPA. An upper limit on the number of tourists that can be allowed to visit should be established by conducting carrying capacity studies.

Third, in order to enhance the involvement of local people with income-generating tourism activities, hospitality training should be provided to villagers who are interested in working in the tourism industry. Such courses would not only create potential employment for local people, but would also enable them to think of the MPA as their property and to recognize that they have an important stake in its conservation.

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