



Economy and Environment Program
for Southeast Asia
Tanglin PO Box 101
Singapore 912404

Phone: (65) 6831-6854
Fax: (65) 6235-1849
E-mail: eepsea@idrc.org.sg
Web site: www.eepsea.org

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: Cambodia, China, Indonesia, Lao PDR, Malaysia, Papua New Guinea, the Philippines, Sri Lanka, Thailand, and Vietnam. Its goal is to strengthen local capacity for the economic analysis of environmental problems so that researchers can provide sound advice to policymakers.

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Tourism Makes Conservation Pay: The Recreational Value of the Hon Mun Islands in Vietnam

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One of the major challenges facing environmental economics is to show how environmental protection can be reconciled with – and even drive – economic development. Eco-tourism is often cited as one way in which this goal can be achieved. A recent study from Vietnam provides important evidence of why such an approach can make economic sense. The report is by Pham Khanh Nam and Tran Vo Hung Son from the Environmental Economics Unit of the University of Economics, Ho Chi Minh City. →

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P 41

A summary of EEPSEA Research Report 2001-RR17, *Recreational Value of the Coral-surrounded Hon Mun Islands in Vietnam*, by Pham Khanh Nam and Tran Vo Hung Son (Environmental Economics Unit, Faculty of Economics, University of Economics, Ho Chi Minh City; contact: khanhnam@hcmueco.edu.vn).

Benefits from tourism *exceed those from port expansion*

→ It looks at the economic importance of tourism for the Hon Mun islands, an area of national environmental significance. Nam and Son found that the islands are already a valuable economic resource because of their recreational value. They also discovered that the islands' economic worth could be significantly boosted if tourism is sensitively developed.

In addition, the researchers found that the planned expansion of a nearby port would reduce tourism-generated revenue. They predict that this loss would dwarf any economic gains from the port expansion program itself. They therefore recommend that the expansion plans be reconsidered.

Island Tourism vs. Port Expansion

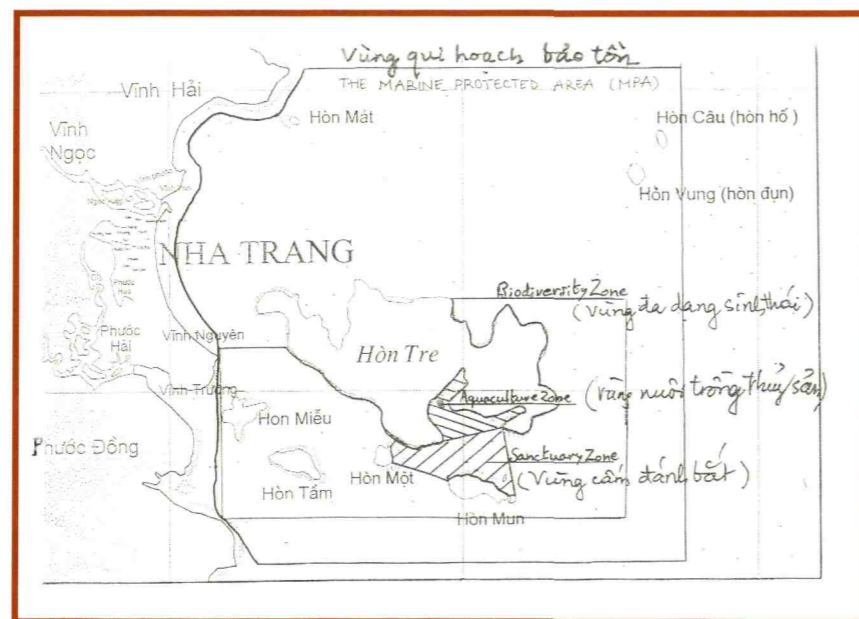
Hon Mun island is located in the south of Nha Trang Bay, one of the most important tourism sites in Vietnam. In 2000, there were about 397,000 visitors to the main city in the region, Nha Trang. About 70% of these took a boat trip to the island and enjoyed the recreational activities available. The islands support a variety of habitats and ecosystems, including fringing coral reef, mangrove and sea grass, with an adjacent deep-water upwelling that supports the local fishing industry. Hon Mun island also supports a very lucrative edible

birdnest swiftlet colony and, according to the Vietnam Biodiversity Action Plan, has the highest level of marine biodiversity in the country.

In recent years, destructive exploitation, such as ship operations, dynamite use and coral harvesting, has seriously affected the marine ecosystem around the islands. Furthermore, there are plans to expand the nearby Nha Trang port. The port is about 3 km from the nearest of the islands and receives 640,000 tonnes of goods and 18,000 passengers annually. If this plan comes to fruition, the water quality in Hon Mun will decrease dramatically. According to Nam and Son, this leaves policymakers with two options: recreational activities or the port.

Valuing Recreation

In order to investigate the economic impact of the two options, Nam and Son set out to estimate the recreational value of the Hon Mun islands and compare it to the potential benefits of the proposed port expansion. Since Hon Mun is a public site, with no admission fees or charges, it is impossible to use market prices to directly measure the value of the site. The researchers therefore used the Individual Travel Cost and the Zonal Travel Cost methods to estimate the islands' recreational value. Nam and Son also asked visitors what they would be willing to pay as a user fee to help fund the recently established Hon Mun Pilot Marine Protected Area (MPA). This four-year project aims to combine marine



Map of the Hon Mun Islands

Recreational Value of Hon Mun Islands in 2000 (in million VND)

	Consumer surplus		Price paid		Recreational	
	All visitors	Per visitor	All visitors	Per visitor	All visitors	Per visitor
Domestic visitors	21,654	0.13	35,728	0.22	57,382	0.33
Foreign visitors	23,810	0.25	178,657	1.88	202,467	2.13
Total	45,464		214,385		259,849	

conservation with poverty alleviation through the development of sustainable fisheries. General information was collected from statistical records, while information on environmental issues was provided by the Institute of Oceanography in Nha Trang and Khanh Hoa's Department of Science, Technology and Environment. Information on visitors' recreational behaviour, travel experiences and costs was collected through a survey of more than 800 people.

The researchers found that over half of domestic visitors were visiting Hon Mun for the first time, probably due to the fact that holiday-making in Vietnam is not an annual habit. Not surprisingly, foreign visitors had significantly higher incomes than local residents. The total expenditure for tourists came to over VND 215 million (over VND 36 million for domestic tourists and more than VND 179

million for foreign tourists), with transportation costs making up the bulk of all visitors' expenditures. (For domestic visitors, these represented over half of the total costs; for foreign visitors they were about 85%.) The amount of money that the local people on the island actually received — for boat tours, boat rentals, diving services, visits to fishing villages, and so on — was only VND 49 million, a small percentage of the total tourist expenditure.

Using the Individual Travel Cost method, the researchers were able to calculate that, for domestic visitors, the annual consumer surplus per visitor was over VND 422,000 and the annual recreational benefit per visitor was VND 652,000. Based on the number of visits to the island in 2000, this means that the total recreational benefit was VND 127 billion per year. Using the Zonal Travel Cost method (which allowed analysis of foreign visitors), it was

about VND 260 billion annually.

Contingent valuation showed that visitors' willingness to pay for a Marine Protected Area project was VND 6 billion annually. The low value of this figure (in comparison to Nam and Son's other findings) was attributed to methodological problems such as language difficulties, "free rider" problems and possible scepticism about management of the fund.

Port Problems

To compare the economic value of the islands with that of the proposed Nha Trang Port upgrading, the researchers reviewed the port project's feasibility study. This stated that the annual revenue of the new port would be about 46 billion VND. Although a full cost-benefit analysis was beyond the scope of Nam and Son's study, they estimated that tourist visits to Hon Mun islands would decline by 20% due to the extra pollution the expanded



port would produce. Given the recreational value calculated for the islands, this means that the regional economy would actually be negatively affected by the port expansion.

Tourism Solutions

These results show that the Hon Mun islands are clearly a valuable environmental resource and that tourism is a significant source of economic benefit. To further develop this resource, Nam and Son recommend expansion of tourist facilities, marketing and other services. For example, 4,000 tourists a year go scuba diving to look at the islands' coral reefs. Compared to the number of people visiting the islands, this figure seems small. The researchers suspect that this is because the cost of diving tours is high, that some of the reef

has been degraded, and that marketing and advertising are not well done. They predict that demand for the Hon Mun islands would increase — and their tourism value rise — if coral reefs are protected and activities such as scuba diving better promoted.

Since only a small part of the overall recreational value of the islands actually goes to the local community, Nam and Son also recommend that a benefit-sharing program should be instituted to distribute a portion of the income derived from tourists to the management and conservation of the islands by local residents. This could be done through a fund financed by user fees, or by other means.

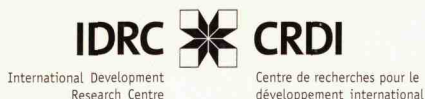
As for the Nha Trang port expansion, there are alternatives. Cam Ranh port, 60 km south of

Nha Trang City, has been slated for possible future development because it has the required natural characteristics. In stark contrast, there is no substitute for the Hon Mun ecosystem or its recreational features.

Given these facts, and the potential adverse impact of the port project, the researchers advise that plans to expand the port should be reconsidered. By conserving the unique environment of the Hon Mun islands, policymakers can fulfil their goals for economic development and environmental protection at the same time.

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