

Dominican study evaluates sustainable tourism in Coral Triangle

Researchers at Dominican University of California have developed a systematic approach to evaluate the sustainability performance of the tourism industry in the Coral Triangle region, an area in the western Pacific Ocean that is home to about 75 percent of the world's coral species.

The results show that Indonesia had the best relative performance amount countries in the region, followed in descending order by Papua New Guinea, Malaysia, Philippines, Timor-Leste, and the Solomon Islands. These countries have collaboratively committed to a regional plan in 2007 to protect their coastal biodiversity.

The work by Dominican University of California scientists Yuti Huang and Vania R. Coelho was published online this month in the peer-reviewed journal *Tourism Management*. This is the first study to use a systematic approach in order to select key indicators focusing on coral reef protection while analyzing the sustainability performance of the tourism industry. The study also developed optimization models to assess industry performance.

The study comes as “sustainable tourism development is being recognized at an international level as a solution to optimize the use of environmental resources, respect the socio-cultural perspective of local communities, and ensure long-term economic gain,” notes the article.

“An approach to evaluate the sustainability performance of the tourism industry is necessary in order to ensure that its overarching goals are being met,” state the authors.

“Coral reef based tourism in the Coral Triangle region is responsible for economic benefits but also for negative social and environmental impacts. An approach to evaluate this industry's sustainability performance is valuable.”

The authors selected 10 key indicators, out of 681, that were directly relevant to the economic, social, environmental, and wildlife impacts of tourist activities on coral reefs. They then developed efficiency, inefficiency, and overall models to reassess relative sustainability performance focused on coral reef protection by the tourism industry.

The 10 key indicators selected included: overall expenditure by the tourism industry; solid materials generated to support tourist activities; number of employers in tourism; fish volume to support tourist activities; land use per year by tourist activities; ecological footprint; average length of stay; number of visitors; percentage of live coral cover; and coral species richness.

Dr. Huang is a postdoctoral researcher and instructor in [Dominican's Department of Natural Sciences and Mathematics](#). Her research focuses on sustainability environmental systems analysis engineering and management. Dr. Coelho is a tenured professor in the Department of Natural Sciences and Mathematics. Her current research focus is on coral reef ecology and sustainability; she is particularly interested in management strategies that can help mitigate the effects of climate change on corals. Her past research funding included grants from the National Oceanic and Atmospheric Administration and the National Park Service.

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