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**CORAL REEF RESTORATION IN DEMONSTRATION SITES FOR
ECOTOURISM AND RAISING PUBLIC AWARENESS IN THAILAND**

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Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 400 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

Degraded coral reefs may undergo natural recovery processes by increasing area coverage or number of colonies through asexual reproduction by budding and fragmentation in addition to growth of surviving colonies and settlement of planula larvae produced by sexual reproduction. Since 2003, we have been conducting researches pertaining to the developments of proper techniques and methods for the rehabilitation of the coral reef ecosystem in order to promote sustainable tourism in certain provinces in Thailand, particularly by analyzing the potential for natural recovery through the investigation of partial mortality of coral colonies and coral fragmentation. Coral recruitment and larval settlement data, obtained through the investigations of the distribution and density of juvenile colonies, alongside quantitative studies of coral communities, serve as the basis for the decision-making process regarding suitable rehabilitation schemes. Furthermore, the research includes the investigation of the possibilities of community involvement in the coral reef management and rehabilitation processes. The coral reef surveys revealed that there were a large amount of coral fragments in shallow areas heavily visited by tourists. Although corals can reproduce asexually, tiny coral fragments, or those scattered along the seafloor, were easily transported by currents and may not survive. Natural coral fragments found in the area, particularly those found along the sandy bottom, were used in the rehabilitation process, which included a combination of reattaching coral fragments to clusters of small cement blocks as well as increasing larval settlement surface. The growth and survival monitoring surveys revealed that 71% of the coral fragments, which were attached to cement blocks, were able to survive. These data were used in the decision-making process regarding the rehabilitation of coral reefs, which were destroyed by the tsunami of 2004. Rehabilitation of damaged *Acropora* spp. was conducted after the tsunami. It was observed that broken fragments of elkhorn corals were found scattered on the seafloor. Some were buried underneath the sand and had low survival rate. To aid recovery, these fragments were artificially attached to dead branching corals by means of plastic straps. A total of 335 fragmented coral pieces were reattached and were monitored for survival and growth. After a 1 year monitoring program, it was revealed that most of the reattached branches were able to survive and grow (64%). The findings led to establishing demonstration sites of coral reef restoration in where local communities increased their incomes and realized the importance of coral reef conservation.

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