

# Using Factor Analysis to Interpret Properties of Water Quality during Development in Tapeng Lagoon

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## Abstract

After constructed the Tapeng Bay National Scenic Area, the most important things is to maintain an ecological aesthetics of high quality view and a high habitat's biodiversity. This work investigated water samples collected from Tapeng Lagoon. Factor analysis was performed to explain the characteristics and variation of water quality during taking the oyster frames and fishery boxes aquaculture apart. The result shows that the most important latent factors in Tapeng Lagoon are the ocean causes factor, primary productivity influence factor, and fishery pollution cause factor. The water quality gets better after taking the oyster frames and fishery boxes aquaculture apart. On the basis of environmental topography characteristic reason, making another entrance and exit way through ocean is the best way to raise the water quality in Tapeng Lagoon especially for eutrophication. These methodologies and results can provide useful information concerning habitat recovery and management in Tapeng Lagoon and may be applicable to other estuarine habitats with similar properties or experiencing similar environmental issues.

**Keywords:** Tapeng Lagoon, factor analysis, habitat conservation

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