Hazard Identification and Risk Assessment (HIRA) of Snorkeling Activities at Bunaken Island

Muhammad Dzulkifli, S.Pd., M.Sc. *as a chief counselor*

Bimo Muhammad Fajar
Tourism Destination Study Program
Department of Language, Communication, and Tourism

ABSTRACT

Snorkeling activities at Bunaken Island are a form of marine tourism that involve various potential hazards that may affect tourist safety. These hazards may arise from environmental conditions, tourist activities, marine life, and boat operations. This study aims to identify potential hazards and analyze the risk levels associated with snorkeling activities on Bunaken Island using the Hazard Identification and Risk Assessment (HIRA) method. This study employed a qualitative descriptive design. Data were collected through observations, semi-structured interviews, documentation, and a literature review. The study involved 16 informants selected using purposive sampling, including management representatives, snorkeling operators, and tourists. Data analysis was conducted through data reduction, data presentation, and conclusion drawing and verification. Hazard identification was carried out based on activity locations, including the jetty, boats, and sea, while risk assessment was conducted using a risk matrix consisting of Propability and severity criteria based on field data. The results identified 18 potential hazards associated with snorkeling activities on Bunaken Island. The risk assessment revealed that one risk was classified as trivial, seven as tolerable, seven as moderate, and three as substantial, with no risks classified as intolerable. The substantial risks involved being stung by a stingray, being punctured by a lionfish spine, and being struck by a boat. The findings indicate that snorkeling activities on Bunaken Island involve varying levels of risk. Therefore, hazard identification and risk assessment are necessary as a basis for improving safety controls to protect tourists.

Keywords: *Hazard Identification and Risk Assessment, tourist safety, risk, snorkeling, Bunaken Island.*