ABSTRACT

Indonesia, as one of the largest archipelagos in the world, is rich in natural resources, particularly in the fisheries sector. This research focuses on the cultivation of white snapper *(Lates calcalifer)*, a species known for its high economic value and nutritional benefits. The study aims to analyze the nutritional content of white snapper raised in ponds in the coastal area of Dewantara, North Aceh, and evaluate the impact of water quality parameters on the fish's nutritional value. Primary data collected includes moisture, protein, fat, ash, carbohydrate levels, and water quality metrics such as pH, temperature, salinity, dissolved oxygen, nitrate, phosphate, and turbidity. Results reveal significant differences in fish weight, length, and nutritional composition across various sampling stations, indicating that environmental conditions play a role in fish growth and health. Optimal conditions in one area resulted in higher protein and fat content, while less favorable conditions led to lower nutritional values. This highlights the importance of maintaining good water quality to enhance the overall nutritional profile of white snapper and underscores the necessity for effective management practices in aquaculture to support sustainable development. Understanding the relationship between water quality and fish nutrition is vital for improving aquaculture practices, especially in regions facing environmental challenges. This research contributes valuable insights that can aid local farmers in optimizing production methods and improving the quality of their aquaculture products, ultimately benefiting both the economy nad the community.

Keyword: Aquaculture, Dewantara district north Aceh, nutritional quality, water quality, white snapper.