

## ABSTRACT

*Development in coastal areas and environmental degradation have resulted in socio-economic-ecological changes that have an impact on the community's lives. Therefore, this study aims to analyze the profile of the research area, social-economic-ecological changes, the vulnerability of the livelihoods and welfare of small-scale fishermen, adaptive responses, and management of conservation areas. A total of 215 small-scale fishermen were selected as samples using the multi-stage sampling technique. Furthermore, a mixed methods approach was used to answer the research objectives.*

*Batang Regency is located on the north coast of Java with a beach length of 38.75 km, a conservation area, and construction site of 2x100 MW Coal-fired power plant (PLTU). The socio-economic-ecological changes experienced in this coastal area were not only caused by climate change. It is also due to the PLTU construction, which can be seen from the construction of buildings, human activities, as well as the emergence of food stalls, bicycle storage areas, boarding houses, ATMs and others. Meanwhile, the ecological changes that occur on both land and waters of coastal areas include damage to sea pines, mangroves, and coral reefs, as well as water conditions which have an impact on decreasing fish resources as a source of livelihood for fishermen.*

*The level of vulnerability of fishermen's livelihoods shows the category of "Moderate" the most vulnerable component is dependence on the fisheries sector. The highest level of vulnerability occurs in West Roban fishermen. Meanwhile, the average value of the welfare index for the fishermen was 61.94 in the "medium" category. The ability of these fishermen to gain access to capital and welfare can produce resilient small-scale fishing communities. This can consequently push the fishermen from being vulnerable to becoming viable. Therefore, the governance model chosen is collaborative with an institutional establishment transaction fee of IDR 151,700,000 and an effectiveness ratio of 0.155. This indicates the transaction costs are relatively effective.*

*Keyword: social-economic-ecology change, vulnerable, welfare, MPA, Batang*