

## Evaluating Aquaculture Farmers Responses to Climate Change and Sustainable Practices in Kenya

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**Abstract :** The growing demand for farmed fish by underdeveloped and developing countries as a means of contributing positively towards eradication of hunger, food insecurity, and malnutrition for their fast growing populations has implications to the environment. Likewise, climate change poses both an immediate and future threat to local fish production with capture fisheries already experiencing a global decline. This not only raises fundamental questions concerning how aquaculture practices affect the environment, but also how ready are aquaculture farmers to adapt to climate related hazards. This paper assesses existing aquaculture practices and approaches to adapting to climate hazards in Kenya, where aquaculture has grown rapidly since the year 2009. The growth has seen rise in aquaculture set ups mainly along rivers and streams, importation of seed and feed and intensification with possible environmental implications. The aquaculture value chain in the context of climate change and their implication for practice is further investigated, and the strategies necessary for an improved implementation of resilient aquaculture system in Kenya is examined. Data for the study are collected from interviews, questionnaires, two workshops and document analysis. Despite acclaimed nutritional benefit of fish consumption in Kenya, poor management of effluents enriched with nitrogen, phosphorus, organic matter, and suspended solids has implications not just on the ecosystem, goods, and services, but is also potential source of resource-use conflicts especially in downstream communities and operators in the livestock, horticulture, and industrial sectors. The study concluded that aquaculture focuses on future orientation, climate resilient infrastructure, appropriate site selection and invest on biosafety as the key sustainable strategies against climate hazards.

**Keywords :** aquaculture, resilience, environment, strategies, Kenya

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