

BENCHMARKING TILAPIA AQUACULTURE SYSTEMS IN EGYPT: SYNERGIES, TRADE-OFFS, AND ENTRY POINTS FOR SUSTAINABLE DEVELOPMENT

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The growing demand for aquatic foods requires the sustainable intensification of aquaculture systems. However, policy and investment decisions for sustainable intensification of aquaculture systems are often hindered by a lack of benchmarking data related to performance of such systems. For example, whilst current interventions and research on aquaculture myopically focus on economic performance, recent sustainability research highlights that the sustainability performance cannot be univocally assessed because of multiple contradicting stakeholder perspectives and trade-offs between outcomes. Contributing to the sustainable aquaculture debate, this study uses primary surveys data from 402 aquaculture producers in Egypt, to benchmark the performance of tilapia production systems against three outcomes of aquaculture systems, namely, environmental, food security and on-farm performance. Using a combination of econometric models and inferential statistics, the study finds that while tilapia aquaculture systems and practices contribute significantly to improving aquaculture systems outcomes, trade-offs emerge both between and within these outcomes. The study generates several insights important for the sustainable intensification of aquaculture, namely; (i) investing in the collection of high-quality benchmarking data for evidence-based policy and investment decisions; (ii) supporting policies that enable investments in aquaculture systems; (iii) crafting win-win policy situations that acknowledges potential trade-offs; and (iv) the need to improve the targeting of aquaculture systems intensification interventions given the heterogeneity of outcomes between aquaculture systems.