



# Methodological Evaluation of Manufacturing Plant Systems Adoption in Ethiopian Fisheries

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## Abstract

In Ethiopia's agricultural sector, there is a growing interest in adopting manufacturing plant systems to enhance productivity and efficiency. A randomized controlled trial was conducted, where participants were randomly assigned to either adopt or not adopt the manufacturing plant systems. Data on production outcomes, farmer attitudes, and system performance were collected over one year. The adoption rate of the manufacturing plant systems among participating fisheries producers was found to be 45%, with significant improvements in fish yield observed in adopted farms ( $p < 0.01$ ). This study provides evidence on the effectiveness of adopting manufacturing plant systems in Ethiopian fisheries. Further studies should explore scaling up these findings and consider implementing cost-sharing programmes to facilitate wider adoption. Manufacturing Plant Systems, Adoption Rates, Randomized Controlled Trial, Fisheries, Ethiopia The empirical specification follows  $Y = \beta_{0+\beta} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** African agriculture, adoption rates, randomized controlled trial, sustainability, yield enhancement, bioeconomic models, participatory approaches

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