

# Impact of aquaculture training on farmers' income: Cluster randomized controlled trial evidence in Ghana

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## Background

- Limited rigorous impact evaluation on what interventions or strategies work in improving productivity and incomes of small-scale farmers
- The aim of this study is to rigorously measure the impact of a 2-day training session on good aquaculture management practices

## Method

Cluster randomized controlled trial, with half of the producing districts randomly-assigned as the treatment and the rest as the control (Figure 1), complemented by qualitative interviews.

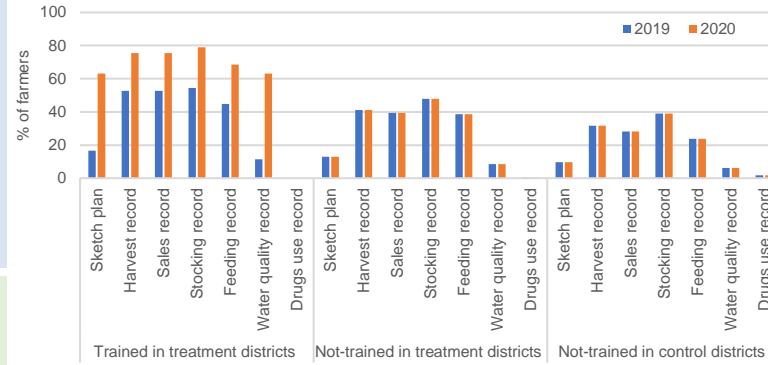
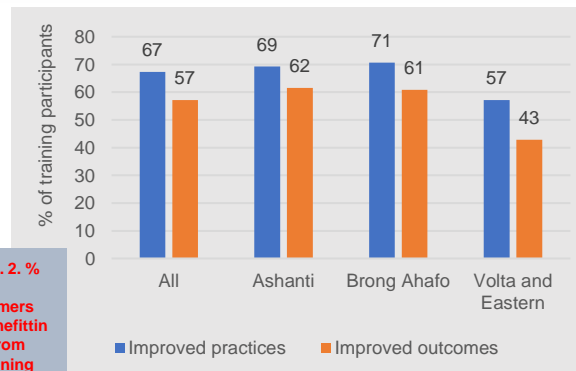
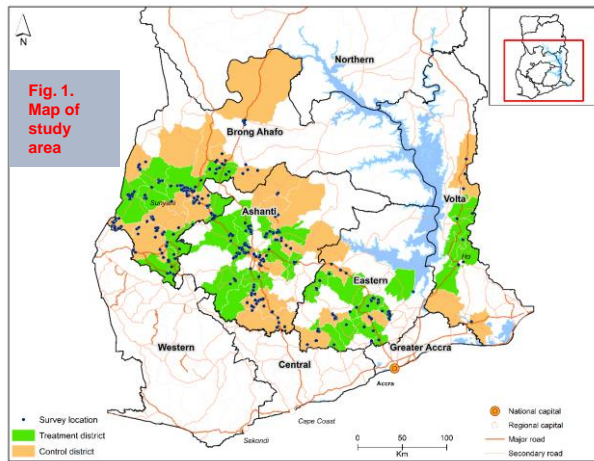
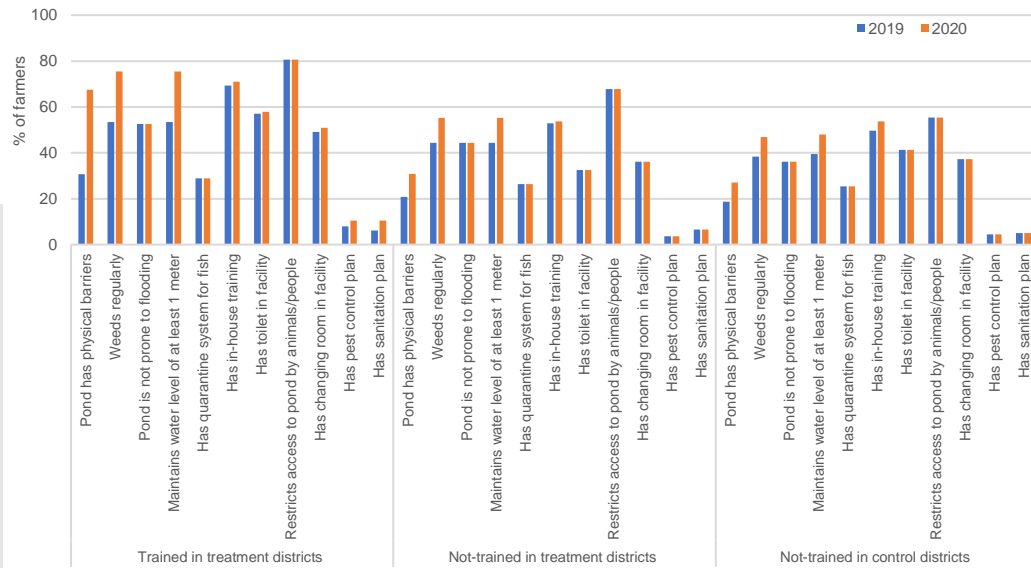


Fig. 3. % of farmers by training participation and management practices, comparing 2019 and 2020



## Results

- One year after the trainings, results show positive impacts on the adoption of good record-keeping, water management, and some biosecurity practices, and on productivity and incomes (Figure 2).
- Half of the trained farmers experienced lower fish mortality, faster growth, and heavier fish at harvest.
- Trained farmers improved their record keeping, water management, biosecurity practices, reduced overstocking, reduced inbreeding, and followed advice and recommendations on feeding practices (Figure 4).
- Trained farmers followed and adopted more good management practices than farmers that did not participate in the trainings (Figure 3).
- The training has led to an increase of 0.48 more kilogram of fish harvested per square meter, or 4.8 ton/ha, or USD627 additional income per trainee per year on average
- Compared to the training costs of roughly USD110–USD200 per trainee (depending on the attribution of personnel and project costs), the training provides a 300 percent to 600 percent rate of return on investment after a year.
- Replicating and scaling out these trainings make economic sense.

## Recommendations for future trainings and support needed by farmers

- Farmers suggest adjusting the trainings to be more practical and to include more hands-on training sessions and longer field visits to model farms.
- Farmers suggest continued monitoring of their progress and regularly upgrading of their skills and knowledge.
- Farmers recommend credit or input support, especially through the Aquaculture for Food and Jobs program, for those potentially productive farmers who face liquidity and credit constraints.
- Farmers suggest the provision of market access support including the construction of fish markets in regions that currently do not have them.

