

# **MASTER THESIS**

## **Quantifying Pond and Labor Productivity of Small-holder Aquaculture Farmers in the Central Dry-Zone of Myanmar**

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## **Abstract**

To date, aquaculture in developing countries is still largely based on unimproved fish species. As a result, indigenous fish species often show poor growth rate, high fish mortality, and may have high labor production costs. By introducing Genetic Improvement of Farmed Tilapia (GIFT) in Myanmar, WorldFish aims to increase pond and labor productivity such that smallholder farmers earn more from aquaculture from their scarce land, capital and labor resources. The case study presented below purposely selected fish farmers for a micro-economic and partially technical study on labor and pond productivity in aquaculture. Quantitative and qualitative research methods were used to obtain very detailed data allowing me to estimate pond and labor productivity under existing smallholder farmers conditions in Myanmar. The research region was the Central Dry Zone of Myanmar, an area close to those hatcheries which have been identified by World Fish and national research partners. The case study assesses the current productivity and income from pond aquaculture derived by smallholders and provides crucial baseline information for the planned study during 2020/21 to assess the food security, productivity, and income effects of introducing improved tilapia to these smallholder farmers. Information collected during the study regarding problems faced by smallholder aquaculture farmers in the Central Dry Zone will be useful to ensure better delivery of future projects and objectives. Investment scenarios included in the case study aim to provide a demonstration of how future changes to the practices of smallholder aquaculture farmers could impact their profitability. A more productive smallholder aquaculture sector in Myanmar could help to reduce the availability and prices for fish which is a major source of protein and micronutrients for the people of Myanmar.