



Food and Agriculture
Organization of the
United Nations



Improvement of tilapia seed production and grow-out culture management in Myanmar

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HIGHLIGHTS

Target Area: National project

Donor: FAO Technical Cooperation Programme

Contribution: USD 204 000

Project Code: TCP/MYA/3606

Government Counterpart (s): Department of Fisheries (DoF) of the Ministry of Agriculture, Livestock and Irrigation (MoALI)

Beneficiaries: The small-scale to medium-scale aquaculture farmers and hatchery operators, Staff of the DoF and members of MFF

Implementation Period: 2.5 years (February 2017 to July 2019)



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BACKGROUND

Myanmar's economy relies on agriculture, including fisheries and forestry, and the sector accounts for nearly half of the total economic output of the country and employs more than 60 percent of the total labor force. There are enormous resources for the expansion and growth of aquaculture and culture based fisheries, nevertheless, the full potential for further development of its contribution to food security, employment and rural and national economy has not yet been fully realized and documented in Myanmar.

In the past, tilapia species were cultured in shallow, narrow and temporary water bodies and were targeted only for rural populations. Nowadays the tilapia, particularly hybrid and mono sex species, are widely cultured in intensive farms as a result of the high demand from local consumers and an increasing demand from restaurants and barbecue shops. Tilapia culture in Myanmar is constrained by seed production and seed quality as well as other management problems. Government hatcheries in 2012–2013 produced freshwater fingerlings and the main species were rohu (549.20 million), tarpian (127.86 million) and common carp (45.58 million), whereas the tilapia seed production was 13.06 million, only 1.65% of total seed production of different kinds of freshwater fish species.

FAO has been involving in earlier normative field work of tilapia farming, in addition, recently implemented a number of country field projects to improve seed production and farming practices of tilapia and other inland fish species in the Philippines, Sri Lanka and Nepal. The implementation of the project will greatly benefit from the experiences, knowledge and lessons gained from the implementation of the past relevant country projects.

FAO Strategic objective 2



**Make agriculture, forestry and fisheries
more productive and sustainable**

FAO Strategic Objective 3

Reduce rural poverty



OBJECTIVE

The project aims to provide technical assistances to Myanmar on introduction of advantaged tilapia strain/breeds, building fish broodstock management, fish breeding system, hatchery management and culture technique in order to resolve the key issues in every step of tilapia production procedure.

PROJECT DESCRIPTION

The project will contribute to the National Midterm Priority Framework (NMPF) Priority outcome 1: Increasing production to ensure food security. In particular, the project achieve the outcome by increasing fish production through providing essential support services, development of rural infrastructure, intensive peri-urban food production system, and by developing freshwater aquaculture by taking genetic management and improvement of broodstock through utilization of good quality broodstock, selection for better food conversion ratio.

Tilapia is an important fish species in national food security and nutrition, and the potential of export has attracted more attention of the government.

The project encompasses the following outputs:

1. Strengthening of human capacity of different stakeholders for tilapia broodstock management, quality seed production and applying appropriate culture technologies and good management practices for production of high quality tilapia through appropriate trainings and study tour
2. Significant improvement of tilapia broodstock through successful introduction of advantaged tilapia strains/breeds supported with good broodstock management practices
3. Enhancement of the capacity of pilot government and private tilapia seed production centers (hatcheries)
4. Successful demonstration of appropriate technology and good management practices for growout culture through implementation at selected farms
5. Development of standard operational guidelines on tilapia broodstock management, seed production and culture



KEY ACHIEVEMENTS

The project brought important achievements below:

- Survey on existing broodstock status and culture technique in Myanmar.
- 42 participants from Fishery Stations of the Department of Fisheries (DoF), private farmers and lecturers from Yangon University were trained during the “Training on Tilapia broodstock management, seed production and intensive culture technique.”
- During the study tour to nuclear hatcheries and demonstrative farms in China, 3 participants from the Department of Fisheries (DoF) studied the “Tilapia Seed Production and Culture Technology” at Freshwater Fisheries Research Center of China.

The ongoing processes of the project are:

- Cultivation of introduced tilapia fries and fingerlings, rearing and culture of introduced superior-quality tilapia fingerling to broodstock, and broodstock selection for mating are ongoing process. Broodstock management, pond or cages preparation for seed production, broodstock selection and mating, incubation of fries and fingerling cultivation will be implemented. The produced fingerling will be disseminated to core farmers in Mandalay and Yangon as demonstrative private farms to provide the technology for local tilapia farmers.
- For the improvement of tilapia broodstock through successful introduction of advantaged tilapia strains/breeds supported with good broodstock management practices, the improved tilapia population from China was already imported and tilapia seeds are distributed to 2 fishery stations (Lay Daunk Kan in Yangon Region and Kume in Mandalay Region) of Department of Fisheries.

The project will implement the activities summarized below:

- Documentation of broodstock management, seed production, intensive fry and fingerling, intensive tilapia adult fish culture, and finalization of the standards
- Demonstration and on-site training of technology and management practices for grow-out culture for core selected farmers
- Culture pond preparation and stocking quality tilapia fingerlings
- Harvest of adult fish.

The project supports achievement of

