

FishBiotec. Co., Ltd.



Development and demonstration projects of the Production Management System with farm-raised tilapia utilizing a digital transformation (DX) for building the aquaculture economics in Cambodia

Object of the project

The purpose of this project is to build an aquaculture economy in Cambodia and enrich the lives of local producers, by promoting the development of an aquaculture management system and the introduction of its platform. The production volume of Tilapia is the world's third largest among aquaculture products, and we believe that it is a growth industry because demand is expected to increase in the future. If that happens, the number of tilapia producers will increase, and there is a high possibility that the economy will develop, centered on tilapia, including processing plants and exports.

Cooperation with local companies/governments

Rainbow Progress Enterprise Co., Ltd. operates tilapia farming and tilapia processing plants in Cambodia. In order to promote the DX of tilapia farming in Cambodia in this project, they utilized the farming management system developed by our company at a farming facility in Cambodia (Cambodia Fresh Farm) to demonstrate farming as a subcontractor of our company. This is because the HACCAP factory, which is right next to the pond where the tilapia is bred, is able to process and ship fillets, making it possible to secure fresh processed products and specimens. We thought that we could further expand the possibilities of tilapia farming in Cambodia by DXing the tilapia farming using the farming solutions we are developing in Japan, so we decided to collaborate.

Targeted economic/social issues

Tilapia farming produces 2.5 million tons of tilapia annually (the second largest among fish) in the world (according to a survey by the Food and Agriculture Organization of the United Nations (FAO)). Besides the fact that the breeding is so easy, it is expected that tilapia farming will increase in various countries around the world in the future.

Aquaculture in Cambodia has many challenges as it is run as a side business for farmers or as an individual business, and productivity is low due to lack of modernization.

On the other hand, it is a blessed land suitable for raising tilapia and has abundant water resources, it is easy to start farming of tilapia, and it is less likely to get sick. Because it is easy to do, despite the potential to develop into a big industry that brings a lot of profit, there is a lack of obsession with greater efficiency, shipment structuring, learning opportunities, and manuals, and thus a low growth rate.



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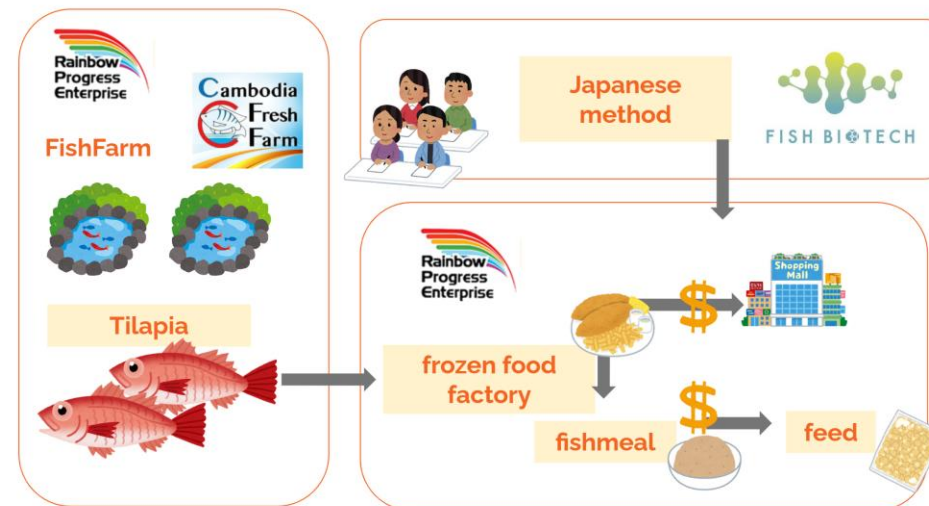
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Details of demonstration

In this project, we have developed the aquaculture method cultivated in Japan at [Cambodia fresh farm] to improve productivity, to produce fish meal that can be upcycled as feed from tilapia processing residue. By sharing our company's mackerel farming know-how, we have made efforts to increase the added value of processed products.

Regarding the improvement of productivity with the introduction of our company's technology, it seems that the number of production has increased, but since there are no production records from the previous year or before that, it is not possible to make the comparison. Based on the data for 2022, we believe that future growth rates can be estimated.

Regarding the upcycled feed from tilapia processing residue, we were able to produce the product as originally planned, so we believe that we can scale it up in view of mass production and sales channels.



Project outcome / Future plans

Through this project, we found that the rearing and breeding cycle of tilapia raised in Cambodia differed from the literature and information available in Japan. We believe that this is due to Cambodia's climate and growing environment, and it is necessary to carefully cultivate tilapia for about three years, follow their daily growth, and understand their ecology. If we can create a manual for tilapia farming that anyone can learn to do, such as the slow feeding amount suitable for the growth cycle of tilapia, the next start of breeding, and the rotation plan of the pond, etc., with which we believe we can increase the production volume. We will continue to make efforts to prepare this manual.

In addition, since the current production volume is small, it is necessary to increase the number of ponds and expand sales channels for high-value-added products to increase profitability. Once the Internet environment is ready, it will be possible to introduce ICT equipment to monitor water quality in real time, and to predict signs of abnormalities by accumulating data.