

ORL-F&PI-06 Biofloc Fish Farming in Nepal

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Biofloc fish farming was introduced in Nepal in 2019 by Yuva Agro farm and research center. Fish farming in Nepal is mostly done in two ways, one is pond culture and another raceway culture. Both fish farming techniques need big land size as well as expensive to build. Therefore, Biofloc fish farming was introduced in Nepal to tackle the land problem as well as high feed cost. This technology can be easily adopted in urban areas.

The benefits of Biofloc fish farming are: ecofriendly farming, reduction in environmental impacts, low food conversion ratio (FCR) and high production. Biofloc fish farming uses less land and also reduces the exploitation of natural resources. The Technology uses limited or zero water exchange which helps the farmers to save water resources. Bio security is high in this technology which helps the farmers to tackle with water borne diseases.

Biofloc is a system of aquaculture that uses "microbial biotechnology" to increase the efficacy and utilization of fish feeds, where toxic materials such as nitrogen components are treated and converted to a useful product, like a protein for using as supplementary feeds to the fish.

In high nitrogen environments, the beneficial heterotrophic bacteria are typically limited by carbon levels. Therefore, adding a readily available source of carbon allows the bacteria to simultaneously take up a greater portion of nitrogen (contributing to better water quality) as well as generate biomass that then serves as food for the cultured animals.

Tilapia, Pangasius and African Catfish are major types of fish species cultivated in Biofloc fish farming in Nepal. The main goal of Yuva Agro farm and research Centre is to train and educate the youths and farmers to use new techies and technology used in aquaculture. This technology is also considered as BLUE REVOLUTION since nutrients can continuously recycle and reuse in a culture medium, benefited by minimum or zero water exchange.



Figure 1: Red Tilapia grown in Biofloc



Figure 2: Yuva Agro Farm and Research Center