



# The Role of Pisciculture in the Growth of Economy

Kevan Boxman\*

Department of Aquatic Animal Health, University of Duke, Beaufort, NC, United States of America

## DESCRIPTION

Fish farming or Pisciculture involves commercial farming of fish, usually for food, in artificial enclosures such as aquariums or fishponds. This is a particular type of aquaculture, the controlled aquaculture and harvesting of aquatic animals such as fish, crustaceans, and mollusks in the natural or pseudo-natural environment. Some facilities have been provided to grow juvenile fish into a wild for recreational fishing or to supplement the natural population of the species are commonly referred to as fish hatchery. The world's most important fish species produced by aquaculture are carp, catfish, salmon and tilapia.

Global demand for edible fish protein is increasing, overfishing is widespread in wild fishing, and in some areas fish stocks are significantly reduced or even completely depleted. Fish farming is isolated from the sustainable productivity of wild fish, so it is usually unaffected, with proper food, protection from natural predators and competitive threats, access to veterinary services, Population that allows the establishment of artificial fish colonies with ease of harvesting when needed. Fish farming is practiced all over the world, but China alone accounts for 62% of the world's farmed fish production. As of 2016, more than 50% of seafood comes from aquaculture. Over the last three decades, aquaculture has been the main driver behind the increase in fishing and aquaculture, with a compound annual growth rate of 5.3% between 2000 and 2018, a record 82.1 million in 2018.

However, raising carnivorous fish such as salmon does not always reduce the pressure on wild fishing. Such farmed fish are usually fed with fishmeal or fish oil from wild forage fish. Global aquaculture revenues recorded by FAO in 2008 totaled 33.8 million tones, equivalent to approximately US \$ 60 billion.

Such systems are free to increase fish production per unit area as long as sufficient oxygen, freshwater and food are provided. Large-scale water treatment plants need to be integrated into fish farms due to the need for sufficient freshwater. One way to achieve this is to combine hydroponic horticulture with water treatment.

The input cost per unit fish weight is higher than extensive farming, mainly due to the high cost of fish feed. It should contain a much higher protein content (up to 60%) and a balanced amino acid composition than cattle feed. These higher protein content requirements are the result of higher feed efficiency in aquatic animals (higher Feed Conversion Ratio [FCR] i.e., kg of feed per kg of animal produced). The FCR of fish such as salmon is about 1.1 kg of feed per kg of salmon, while chicken is in the range of 2.5 kg of feed per 1 kg of chicken. Fish keep warm and do not consume energy to eliminate some dietary carbohydrates and fats needed to provide this energy. However, this can be offset by the reduction in land costs and increased production that can be achieved with advanced input control.

Water aeration is essential because fish need sufficient oxygen levels to grow. This is achieved by bubbling, cascade flow, or aqueous oxygen solution. Because catfishes can breathe the atmospheric air and withstand in presence of more pollutants than trout and salmon, it reduces the need for aeration and water purification, and these Clarias species are especially suitable for intensive fish production. In some Clarias farms, about 10% of the water volume can be fish biomass.

Animals are at risk of infection by parasites such as fish lice, fungi, hookworms, pinworms, Intestinal parasites (nematodes, trematodes, etc.), bacteria etc.), and protozoa (dinoflagellates, etc.) is similar to that animal husbandry, especially when the population density is higher.

However, livestock is a larger and more technologically advanced area of human agriculture and has developed better solutions to the problem of pathogens. Intensive aquaculture requires adequate water quality (oxygen, ammonia, nitrite, etc.) to minimize stress on the fish. This requirement makes it difficult to control the problem of the pathogen. Intensive aquaculture requires strict oversight and a high degree of expertise from the fish farmers.

**Correspondence to:** Kevan Boxman, Department of Aquatic Animal Health, University of Duke, Beaufort, NC, United States of America, E-mail: kevanbox@wisc.edu

**Received:** 04-Mar-2022, Manuscript No. JARD-22-16418; **Editor assigned:** 07-Mar-2022, PreQC No. JARD-22-16418 (PQ); **Reviewed:** 21-Mar-2022, QC No JARD-22-16418; **Revised:** 28-Mar-2022, Manuscript No. JARD-22-16418 (R); **Published:** 04-Apr-2022, DOI: 10.35841/2155-9546-22.13.675.

**Citation:** Boxman K (2022) The Role of Pisciculture in the Growth of Economy. J Aquac Res Dev. 13:675.

**Copyright:** © 2022 Boxman K. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.