



## Accelerating the Recent Innovation of Aquaculture Research and Marine Biology

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Fishing in lakes, rivers, and oceans has been a key source of food, employment, and other economic benefits for humankind since ancient times. Aquaculture is currently regarded as the world's fastest-growing food-producing sector. Seafood consumption is increasing as people become more aware of the health benefits and nutritional value of seafood. Furthermore, increased demand for fish oil in various industries such as healthcare, pharmaceuticals, food, and nutritional supplements, among others, contributes considerably to market expansion. The combined effect of global aquaculture growth and population growth has resulted in a tenfold increase in the average yearly per capita supply of edible fish for human consumption over the last two decades.

Due to a shortage of naturally available varieties of fisheries collected in natural environments, fisheries and aquaculture is the world's fastest growing food production system.

Seafood intake has increased as people become more aware of the dietary benefits and nutritional value of seafood. Aquatic products, especially cultured salmon and shrimp, are extremely healthy sources of protein, vitamins A, B, D, and Niacin, as well as minerals such as iron, iodine, zinc, and phosphorus. These foods are also high in Omega-3 fatty acids like docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) (EPA).

According to projections, the global aquaculture business would develop at a 4.46 percent annual rate between 2018 and 2022. According to the report, the CAGR in 2018 will be 3.72 percent, followed by 4.12 percent in 2019, 4.50 percent in 2020, 4.83 percent in 2021, and 5.15 percent in 2022.

### **Aquaculture and fishing**

Fish consumption in the EU increased for practically all of the major commercial species around the world. It increased by 3% from 2018 to 24,33 kilogram per capita. Aquaculture employs over 85 000 people and accounts for around 20% of total fish production. The majority of the SMEs or micro-enterprises in this sector are located in coastal and rural areas. Aquaculture in Europe is renowned for its high quality, long-term viability, and consumer protection requirements. Since 2000, the EU's overall output has remained relatively steady in volume, whereas worldwide production has grown at a rate of over 7% per year.

### **Global Aquaculture:**

According to recent studies, farmed fish produced more than wild-caught fish in 35 nations in 2014. With a population of 3.3 billion people, this group of nations accounts for 45 percent of the world's population. The top five manufactures in this category are China, India, Vietnam, Bangladesh, and Egypt. Asia accounts for 89 percent of global aquaculture output, with China alone accounting for half of it.

The aquaculture industry faces challenges from climate change and fluctuation, urbanisation, and associated social and economic developments. As a result, the only option to meet rising fish demand while maintaining environmental sustainability is to support sustainable aquaculture intensification, which entails "producing more with less" by increasing aquaculture productivity and efficiency while lowering resource consumption and avoiding negative environmental and social consequences.