

DIVERSITY OF FISH FARMING SYSTEMS IN INLAND WATER PONDS

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Abstract. *This article provides information on the diversity of the fish farming system in inland waters and the issues of providing the population with high-quality feed, increasing the volume of fish farming by adapting new fish species to local conditions.*

Keywords: *fish productivity, reservoir, fish farming, technology productivity, extensive system, intensive system.*

Fish is considered an extremely valuable source of food for mankind, and its importance for the human body is incomparable. For this reason, the norm necessary for a person's healthy growth is defined by medicine as an average of 16 kg per year. By 2010, the global consumption of fish and fish products reached 19 kg and continues to grow. Judging from the norm established by medicine, the current need of the population of Uzbekistan for fish and fish products is 450-500 thousand tons. If we take into account that 85 thousand tons of fish were produced in the republic in 2017, we will be able to observe the shortage of this product, and the solution of this issue will be of both medical and social importance.

Since the 1960s, fisheries development programs have been introduced into the republic's fisheries network, including creation of fisheries science, training of specialists, creation of infrastructure structures, provision of equipment and raw materials. More than 25,000 tons of fish, lost due to the destruction of the Aral Sea, have been collected from 20,000-hectare ponds throughout the republic. Technologies for growing carp fish in polyculture conditions have been developed and, depending on financing, 20-28 thousand tons of fish per year have been produced. Even the years of low water did not affect this indicator.

Since in the first years of independence, the main attention was focused on problems such as establishing an independent state and ensuring the integrity of its borders, the fishing industry has faced certain difficulties, the communication regarding the supply of raw materials, fishing equipment has stopped, and as a result, the volume of fish production has also decreased. Despite difficulties in privatization issues, complete reorganization of economic activities, fishermen of the republic managed to preserve the technologies used [1.4].

As the country developed, issues such as providing the population with quality food, creating new jobs, and developing economic stability began to gain priority. In this direction, special attention is paid to increasing the production of fish products, which is reflected in the resolution of the President of the Republic PR- No.2939 of May 1, 2017 "On measures to improve the management system of the fishing industry". In this decision, the task of increasing the volume of fish breeding by effectively using the existing natural and artificial reservoirs, their comprehensive research, adaptation of new fish species to local conditions is assigned [2]. At the same time, independence has set completely new requirements that we need to consider deeply that:

- Uzbekistan is located in the middle of the largest continent, far from the seas and oceans, which are the main source of fish in.
- The republic has only inland water bodies with low fish stocks, but they are reserved for the full irrigation network.
- The issue of water and land use becomes tense.
- It is necessary to provide the population with fish products and create new jobs through the development of fisheries.
- Developed technologies are required to be highly profitable and attractive to private investors.

Currently, the fish productivity of the ponds is 20-30 tons/ha. If we use the technologies currently in use to the maximum extent, we will be able to grow 85-125 thousand tons of fish per year on average. In order to meet the needs of the population by cultivating fish in this direction, we will need to build an additional 200 thousand hectares of ponds, unfortunately, there is no such possibility [3].

It can be noted that fish farming in the republic seems to have reached another theoretical dead end, and this situation is manifested during the development of technology branches in turn. This means that we have to look for the qualitative development of new technologies from their theoretical development, or we have to prove that the specified technology is theoretically impossible. A new intensive level of fish farming technologies is needed, technologies that allow us to achieve a hundred times higher productivity than the currently used technologies.

- **Extensive system** - fish feed mainly on the natural nutrient base of the water body, but the fisher can use mineral fertilizers or provide additional feed to increase the natural nutrient base.
- **Semi-intensive system** - the fish are fed both natural and artificial feeds (mostly soft feed).
- **Intensive system (industrial fishing)** - fish are fed only artificially balanced soft feed.

In addition, a number of fish farming systems are distinguished in fisheries: pasture, pond, cage, pool aquaculture, indoor water supply device, gam, aquaponics, etc. Until now, only pond fishing has been developed in Uzbekistan. Other systems require research, mastering and are considered new for the conditions of the republic. Different types of fish farming can use different intensive levels of fish farming.

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