

**State Organization «Institute of Market and Economic&Ecological Researches
of the National Academy of Sciences of Ukraine»**

**Summary of scientific novelty for the research
«Organizational and economic mechanisms of aquaculture market formation
(by the example of the Ukrainian Black Sea region)»**

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The scientific novelty of the research results is as follows:

- Based on the analysis of global countries, contradictions in Ukraine's aquaculture market that pose threats to national economic interests have been identified. Ukraine belongs to the group of lower-middle-income countries, possessing the potential and opportunities to develop its own aquaculture production. However, it remains among the world's top fish importers. Scenarios for the development of Ukraine's aquaculture market potential have been revealed, grounded in the concept of glocalization, which combines global (foreign trade) and local (domestic production) sources of growth. This concept promotes the effective integration of local markets into the global economic space to realize the economic interests of the region or the state. The scenarios include: 1) unmet domestic demand, 2) import dependency, 3) the development of domestic production to meet the needs of the domestic market, and 4) export orientation. Scenarios 3 and 4 are identified as priorities for Ukraine.

- A methodological approach to assessing the capacity of regional fish markets has been developed. This approach is based on multiplying the indicator of national fish market capacity by the purchasing power index of the regional market. The index accounts for the share of expenditures on fish and fish products in the total consumer monetary expenses of the region's population, the region's share in the national retail turnover of fish, and the population of the region as a proportion of the national total.

- A methodological approach to assessing lost profits, particularly the volume of aquaculture losses by fish farms in Mykolaiv and Kherson regions due to Russia's military aggression, has been developed and tested. The method involves direct calculations of economic and environmental damages using remote methods and geographic information systems.

- Proposals for stimulating aquaculture production in Ukraine's Black Sea region have been developed. These are based on a regional assessment of the natural resource potential of the Danube Lakes and the Black Sea Limans, utilizing a functional principle that considers the structure and specifics of their resource use.

- The regulatory impact of legislative initiatives by the Ukrainian government

during the war on the development of the fishery sector has been assessed. Proposals for legislative regulation of identified shortcomings have been made, including ensuring the targeted use of funds generated by the sector and providing investment and financial-credit support to industry producers.

- Based on the requirements of European regulations and national rules for organic production and the circulation of organic products, key requirements for organic aquaculture have been formulated. These requirements are grouped by stages of the technological cycle: preventive measures, ecological and economic conditions, housing, feeding, treatment, processing, and transportation. On this basis, a roadmap for the development of organic aquaculture in Ukraine has been developed, along with proposals for improving institutional support.

- Conceptual principles for environmentally safe market-oriented development of the aquaculture sector have been advanced. These principles include the disclosure of interactions between ecological and anthropogenic factors in the sector and the environment. Tasks and groups of tools for relevant state policy have been identified: monitoring, institutional, financial, organizational, and economic tools. The feasibility and functions of ecological innovations, such as multifunctional aquaculture facilities and recirculating systems, have been substantiated.

- The model of sustainable development for the aquaculture sector has been further developed. Unlike existing models, it is built on mathematical simulation approaches. This allows for the prediction of improved economic and social performance of operations while reducing negative environmental impacts.

- Systemic principles for improving the organizational and economic support for aquaculture development have been identified. These principles are based on a resource-process matrix that integrates value chain processes in the aquaculture sector with the corresponding resources.

- The causal links behind low investment activity in Ukraine's aquaculture sector have been identified. To overcome these issues, a comprehensive value chain approach to aquaculture development– "preparation-production-processing-sale"– has been proposed. This involves forming a regional innovation-oriented complex for aquaculture production. Organizational and economic mechanisms for attracting investments to the aquaculture sector have been proposed. These mechanisms are systematized based on the resource-process approach, categorized by value chain stages (preparation, production, processing, sale) and input components (production factors) necessary for sector functionality.

- The species structure for import substitution of aquatic bioresources has been substantiated. Species with natural and climatic conditions suitable for aquaculture in Ukraine have been identified (Danube salmon, rainbow trout, brook trout), with the potential to replace up to 10% of domestic imports.

- Based on the study of global best practices and their prospects for implementation in Ukraine, organizational and economic foundations for specialized trading platforms for aquatic bioresources have been developed. These platforms are built on principles of transparency, inclusivity, direct sales, and digitalization. Operational rules, infrastructure requirements, and risks have been identified.

- A synergistic model of principles for developing a state program for fisheries and aquaculture has been proposed. This model incorporates the non-linear nature of the sector and UN expert recommendations on accounting for synergetic effects in state program management. Strategic imperatives for developing Ukraine's aquaculture sector have been refined. These include: a) urgent imperatives for preventing sector degradation, b) categorical imperatives for sector recovery, sustainable development, and establishing a comprehensive aquaculture complex, c) modal imperatives for achieving long-term goals such as innovation, and d) hypothetical imperatives for future-oriented goals, such as transforming Ukraine into a leading aquaculture producer.

- Pathways and directions for post-war recovery and accelerated development of Ukraine's aquaculture sector as a new innovative restructuring system for the national fishery complex have been scientifically substantiated. The urgent need for adopting a program-targeted approach to aquaculture development at the state level has been emphasized. This approach is oriented towards the comprehensive utilization of the Ukrainian Black Sea region's abundant resource potential, viewed as a strategic resource for economic development and ensuring national food security during the survival phase.

- The feasibility of developing an aquaculture program for the Odessa region has been scientifically justified. This program aims at comprehensively addressing the region's food security challenges through the rational use and reproduction of aquatic bioresources, increasing the output of high-value-added products, expanding markets for local producers, attracting investment resources into the regional economy, boosting tax revenues to the budget, and creating new jobs.

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