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Veröffentlichungsversion / Published Version  
Zeitschriftenartikel / journal article

#### Empfohlene Zitierung / Suggested Citation:

Ivchenko, V. V., & Teplitsky, V. A. (2012). The innovative aspects of the fishing fleet development in the Russian exclave region. *Baltic Region*, 3, 110-112. <https://doi.org/10.5922/2079-8555-2012-3-10>

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THE INNOVATIVE  
ASPECTS OF FISHING  
FLEET DEVELOPMENT  
IN THE RUSSIAN  
EXCLAVE REGION

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*Our country has set a course for the economy modernisation on the basis of innovative development. In the post-war period until 1991, the exclave of Russia — the Kaliningrad region — showed high rates of socioeconomic development due to the establishment of a large-scale sea fishing industry. Such success rested on research and innovative activity.*

*This article analyses the successful innovative development of the fishing fleet in the historical perspective: new vessels, the development of new equipment, introduction of innovative forms of fishing organisation. The authors offer data on the efficiency of such innovative initiatives. This historical experience is of great importance given the revival of industrial fishing in the Kaliningrad region.*

**Key words:** fishing fleet, fishing enterprises, innovative development, marine fisheries, exclave region of Kaliningrad Region

A striking example of successful innovative development of marine fishing companies in the region is the establishment of a fishery cluster of the Kaliningrad Region. From 1948 to 1991 the cluster served as the basis for all social and economic development of the region. By the time of the USSR demise in 1991, the Kaliningrad fishing industry comprised 23 large and medium-size enterprises (including fishing port complexes), over 350 large vessels (including 70 transport refrigerators, ship tenders, tankers and other types of vessels); several major education institutions, research institutes, marine engineering bureaus, scientific development and production centres. In 1991, the catch of fish and seafood by the vessels of this complex amounted to 760 thousand tons, which was equal to the annual fish catch in such a powerful maritime country as Britain.

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*Received on May 15, 2012.*

doi: 10.5922/2079-8555-2012-3-10

The collapse of the Soviet Union and the subsequent prolonged economic crisis caused tremendous damage to the fishing industry of the region. By early 2012 it includes 24 large and medium size fishing vessels and about 100 small coastal fishing vessels (trawler boats, motorboats, etc.). In 2011 the catch was about 230 thousand tons of fish (taking into account coastal fishing).

The fishing industry, including fishing fleet and coastal infrastructure enterprises (ports, fish factories, research institutes, education institutions etc.) employs about 11 thousand people. Thus, labour productivity in this sector, in spite of heavy losses during the crisis, remains relatively high — more than 22 tons of fish per employee per year. This can be explained by the inertial effects of the large-scale innovative development and a massive investment in this sector during the Soviet period.

In view of the above, it is necessary to analyse the whole evolution of scientific and technological innovation and development of the marine fishing fleet in the post-war period, until 1991 from a historical perspective. With certain assumptions, three stages can be identified:

**The first stage (1948—1975).** Formation of a mass medium-capacity herring fishing fleet which consisted of medium-size trawlers. Ships of this type had deadweight of 600 to 800 tons and were quite simple and reliable in operation. But at the same time they were characterized by a relatively low cruising capacity. Therefore, for effective work in the North Sea, the Norwegian Sea and the North-West Atlantic the forwarding fishery organization scheme was used: catch and processed fish products were transferred from trawlers to transport vessels directly in the fishing areas for further shipment to the port. Along with that, two very effective net-hauling and net-shaking machines were designed and immediately installed on the vessels. These innovative factors contributed to the 10-fold increase in production compared to the traditional fishing vessels of this type.

**The second stage (1957—1983).** Formation of large-capacity fleet comprising large freezer stern trawlers of various modifications. Those were fundamentally new trawlers for that period. It should be noted that this type of vessels made, so to speak, a revolution in ocean fishery. There was an opportunity to produce a wide range of ready-made frozen fish production, canned food and fishmeal right at sea, on board the vessels, which made it possible to develop rich fish stocks off the coast of West Africa, South and South-East Atlantic Ocean by means of the forwarding fishery organization scheme. The first two "Pushkin" type fishing freezer trawlers arrived in Kaliningrad in 1957 and demonstrated high efficiency. In subsequent years several dozens of large freezer trawlers of various modifications were used.

**The third stage (1977—1991).** Formation of a massive fishing fleet comprising super trawlers of various modifications. During this period, the Kaliningrad region began to receive a series of powerful new super-trawlers "Moondzund", "Stralsund" and others. They had a high cruising and production capacity for fish catch and processing. Manufacturing facilities with new production lines made it possible to produce a wide range of finished fish products and ensure a complete fish processing waste recycling. New fishing vessels were able to catch fish in remote ocean areas — in the South Atlantic and the South-east Pacific.

For its time, the fishing fleet of the USSR had a high innovation potential, high performance and capacity of fishing in remote areas of the world ocean. Thanks to this technical capacity and a wide use of marine-related research, the fishing industry of the Kaliningrad region made great strides in increasing fish-catching and fish production over these years.

New innovative equipment installed on fishing vessels and in coastal fish processing facilities enabled the Kaliningrad fishing enterprises to take a leading position in labour productivity in those years. To a large extent this was facilitated by the introduction of innovative forms of organization and fishing fleet management: the forwarding organization of fish catch, crew replacement at sea, location of operational headquarters for fleet management directly in the fishing area. All these significantly reduced the time of vessels going from the ports to the fishing area and back and increased their presence in the fishing areas, thus increasing productivity. In addition, a wide range of innovations and new technologies were developed; vessel maintenance improved; a variety of new food fish products were manufactured, etc.

It should be noted that at present, in spite of heavy losses, the fishing industry cluster of the Kaliningrad region managed to save its potential. Seeing the historical experience, this creates a prerequisite for the preservation and, to a certain extent, the revival of marine fisheries in the region, which would create thousands of new jobs and ensure sustainable replenishment of the regional budget.

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