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Directions of technical and technological renovation of the fisheries sector of Magadan region

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Abstract

The necessity of modernization of the fisheries sector and processing equipment is given based on the analyses of the material and technical resources of the Magadan Region. The trends of technical and technological modernization are reasoned and possible sources of financing of this process are offered.

Keywords

Fisheries sector, material and technical resources, modernization, leasing, accelerated amortization.

Introduction

Improving the competitiveness of the fishing industry in the Magadan region largely depends on the successful solution to the problem of overcoming the technical and technological backwardness specific for production and

processing of aqua-biological resources, which in turn is determined by the state of the material and technical base of the industry. It is represented by the fleet, as well as by processing equipment of coastal enterprises located on a vessels' board. Their predominant share accounts for their active part, as far as the struc-

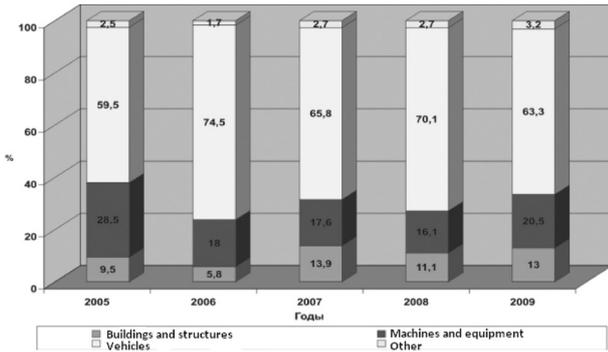


Fig. 1. Fund structure of the main fishing enterprises

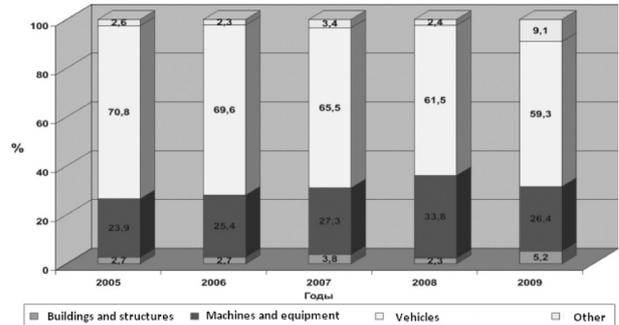


Fig. 2. Fund structure of the main processing enterprises

ture of fixed assets is concerned (Fig. 1 and 2)¹.

Fishing industry and technological capabilities of modernization

This specific structure of fixed assets is typical of fishing enterprises, and it can be considered optimal. However, to be competitive the industry must constantly update and modernize an active part of fixed assets. In its turn, the technical capacity of the fleet and processing equipment will allow the use of modern fishing and processing technologies that already exist or are under development.

Analyzing the material and technical base of the fishing industry in the region demonstrates an overall deterioration of its condition. Thus, Fig. 3 shows the

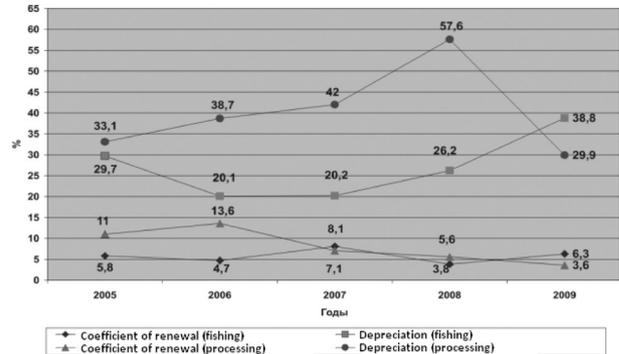


Fig. 3. Indexes demonstrating the state of the main funds specific for fish industry

dynamics for the coefficient of fixed assets renewal and depreciation of fixed assets.

Coefficient of fixed assets renewal, both for fishing and for fish processing plants, is low. For processing enterprises, its dynamics has been negative over the past five years, which indicates a further slowing of modernization for coastal processing base of the industry. For fishing companies the coefficient of replacement increased by 0.5% during the analyzed period, which is not enough to change the situation of technical backwardness for the better.

¹ Fishing industry in the Magadan region: Statistics digest [Rybolovstvo v Magadanskoj oblasti: Stat. sbornik], Magadanstat, Magadan, 2010, p. 15.

Depreciation of fixed assets remains high. As far as fishing enterprises are concerned, it grows throughout the analyzed period. 80% of the vessels have been in operation from 20 to 35 years, and this is a critical period for vessels operating in such adverse natural climatic conditions, as the Sea of Okhotsk. Using obsolete vessels in market conditions limits their effective fishing.

Depreciation coefficient decreased for fish processing enterprises in the last two years from 57.6 % to 29.9 %. However, when the coefficient of renewal for the same period fell from 5.6% to 3.6%, this trend of depreciation coefficient would only indicate an overall reduction of fixed assets value specific for fish processing plants, but not the installment of new equipment on them. Thus, the number of coastal processing enterprises decreased over the same period from 47 to 29, and the value of assets involved in them fell from 124.2 million rubles to 52.2 mln².

Obsolete equipment is usually of unfavorable technological structure. Most of this equipment stock is designed for simple technological operations and is not able to provide any level of labor productivity and competitive finished products.

² Ibid. P. 7.

The volume of production depends on the loading level of processing equipment (Fig. 4)³. The most complete load of equipment is achieved in the production of caviar (average utilization rate for the reporting period is 90.9%). Average load of equipment for the production of frozen fish is 76.5 %. Level of capacity utilization for the production of frozen herring declined over the past five years from 100% to 73.5%. High level of underutilization is observed in the production of smoked, dried and balyk products as well as in the fishmeal production (average utility rate is respectively 24.4% and 45.9 %). All this adversely affects the economy of the industry. Maintenance of unused facilities, current repair and overhaul of obsolete equipment increases companies' costs; impede investments in renovation of the basic industry funds.

Another indicator of the negative trends in the development of material and technical base of the fishing industry is the coefficient of fixed assets renewal equaling zero for the last five years (statistical agencies provide such information only on fishing enterprises). Given the fact that there is an imbalance between the fishing capacity of the fleet and stocks of MLR (marine living resources)

³ Ibid. P. 16.

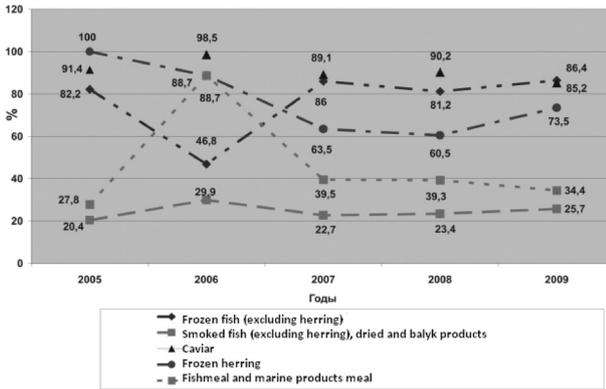


Fig. 4. Loading level of processing equipment in Magadan region fish industry

in the region, this situation requires immediate attention because it leads both to economic and environmental losses.

One of the main reasons for constant technical and technological backwardness is the low level of investment activity. Dynamics of investments is shown in Fig. 5⁴. This unequal distribution of investment on an annual basis is caused by the fact they were allocated from the internal funds of enterprises, with these not having regular opportunities to update and modernize the fleet and processing base.

Over the past five years large and medium organizations spent 512.4 million rubles of investments in fixed assets on the development of the fishing industry, with over 90% of these having been used to purchase equipment for fish processing plants and modernize the fishing

4 Ibid. P. 17.

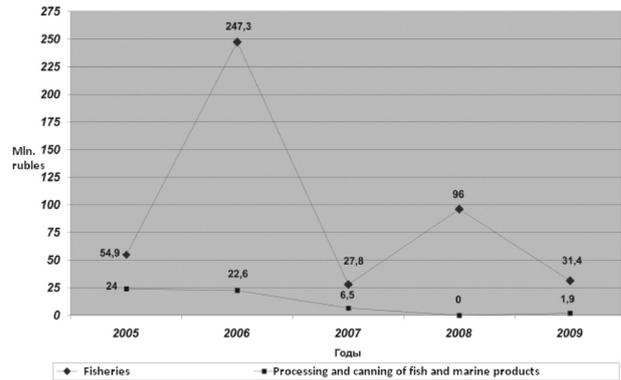


Fig. 5. Dynamics of investments in Magadan region fish industry

fleet. However, the funds that businesses may allocate to renew fixed assets, are insufficient. Complicated financial situation of fishing organizations stymies their turning to banking institutions for the loan to construct or acquire vessels. Banks do not consider fishing enterprises as creditworthy borrowers due to the lack of collateral base bank may be interested in, as well as the lack of working capital and revenue.

Changing the issue of fishing industry production potential will depend on the introduction of new techniques and new technologies. The process of fixed assets renewal in the fisheries of Magadan region should follow the path of bringing the fleet's and equipment's TOU (time of use) to the regulatory depreciation period. One needs to provide the necessary renewal and replacement of obsolete assets. Intensification of production requires new fixed assets' being

intended primarily to refund obsolete ones and not to expand fixed assets.

To implement the intensification of production one should develop financial, legal, economic mechanisms contributing to optimization of the fishing fleet structure in accordance with the fishery resources provision. The solutions can be different.

A possible measure may be a practice of eliminating the old fleet through allocation of funds aimed to purchase inefficient fishing vessels. This practice is widely used, for example, in the EU countries. However, the Russian government does not consider such measures even as promising.

In our opinion, it is necessary to develop a regional program for modernization of fixed assets in fishing industry. In this program one should justify a list of vessels to be replaced, with a classification being developed according to the date of their retirement, as well as quantity and specifications of newly acquired vessels. Financial support of the program can be built on the principles of co-financing from the federal and regional budget, as well as internal and borrowed funds of enterprises. Fishing enterprises' participating in such a program will provide orderly process of acquiring new ships. Enterprises-program participants

should be selected on a competitive basis according to specific parameters: available quotas for MLR fishing, social importance for the region, and the real need for vessels' replacement. To obtain federal funding it is necessary to strive for the inclusion of the regional fishing industry in the federal target program "Development of civil marine engineering, 2009-2016 years." The basis for allocation of funds derived from the regional budget may be the fact that the industry is an important source of tax revenue, which amounted to 196.98 million rubles in 2009.

Means allocated from the Special Economic Zone fund (Magadan) could be used as an additional source of investment support for modernization program. The fund's participation in the program could be seen as an incentive for fishing companies' joining Magadan in the SEZ, if membership in the SEZ will be subject to the allocation of the fund's means for the modernization of industry production base.

In cases when the government decided to subsidize lease payments under lease agreements for the purchase of processing, refrigeration and freezing marine equipment, one could consider the establishment of a leasing company in the Magadan region. Activities of re-

gional leasing company should be aimed at updating the fishing fleet, which consists of 87.5 % medium – and low-tonnage vessels in the Magadan region. Since there are no shipbuilding facilities in the region, the leasing company may purchase foreign or domestic vessels of new construction on the basis of the best "price – quality" value. For the smooth functioning of such a company, it is important to solve the issue on consolidation of resources sufficient for the purchase of new vessels. The administration of Magadan Region, the Union of Fishermen of Magadan Region, the regional office of "Agricultural Bank" could join the membership of founders. On the basis of requests made by aquatic bioresources users the leasing company could enter into contracts for the construction of fishing vessels with domestic or foreign shipbuilders. The vessels having been registered as the property of leasing company ships would be transferred to industry enterprises under leasing contracts. The payment scheme under the lease agreement may be similar to the one the RFFA (Russian federal fisheries agency) offers for the national leasing company: 10-15% of the ship value is transferred to leasing company by signing leasing agreement. Subsequent payment for a new ship (depending on the

type) shall be made in the period of 10-15 years⁵.

It would be possible to acquire not only ships, but also fish processing, refrigeration and technological marine equipment through a leasing company. Feasibility of establishing a leasing company is now increased due to the influence of the regional target program "Innovative development of the Magadan region in 2009-2011", which provides support for innovative projects in the form of reimbursement of expenses from paying lease payments under lease agreements.

Profitability of the leasing business in the fishing industry has been increasing under the action of the Special Economic Zone of Magadan Region, as there are customs privileges on its territory reducing the costs of equipment and other fixed assets. The existence of such a company in the Magadan region would strengthen the manufacturing sector of fishing industry and arrange conditions for accelerated development of the industry stimulating the flow of capital.

The main problem associated with the borrowing of funds for the pur-

5 Krainii, A., "Actual problems of fishing fleet" ["Aktual'nye problemy rybopromyslovogo flota"], *Ryba i moreprodukty*, available at: <http://www.fish-seafood.ru/news/detail.php?ID=26102>

chase of new vessels and equipment is collateral. Banks are not interested in old worn vessels as collateral. To find the way out of this situation it is possible to fill gaps in the legislation related to circulation of the fishing rights – quotas of MLR. In the meantime, the Russian largest bank Sberbank, VTB and the Russian Bank for Development declare that there would be no problems of lending under condition of providing quotas for fishing as collateral.

Solving the problem of production facilities modernization can be achieved through the cooperation of enterprises within the framework of the cluster type. Currently, more than 90% of fishing enterprises are small businesses, which account for over 40% of fished and processed bioresources. It is especially difficult for small businesses to seek out funds to modernize equipment and vessels. Consolidating several companies' funds to address this problem shall be more efficient.

Only by performing optimization of the fishing fleet structure, modernization of fishing vessels and processing equipment one may switch to the problem of establishing and widely introducing new products and technologies. In the meantime, there are only four organizations in the Magadan region which are

engaged in innovation in the field of fishing, processing and reproduction of marine biological resources – Federal State Unitary Enterprise "MagadanNIRO", LLC "Tihrybkom", LLC "Magadanryba", LLC "Okeanbioekoprodukt", the last three ones are fishing and processing enterprises using developed innovations in their practice.

Enterprises of fishing industry carry out technological innovations which can be divided into product and process ones. Product innovation is the development and production of new products, new services and application of new materials, semi-finished products and components. Process innovation is a new production technology, a higher level of automation, new methods of production in relation to new technologies.

On the enterprise "Tihrybkom" LLC product innovations have been implemented in the form of product improvement, i.e., their new structural embodiment, based on new technologies. It should be noted that the company's average production of basic goods was 15 years until their replacement and major modification.

LLC "Magadanryba" introduced process innovations related to the installation of additional equipment on ship

factories, which increased the amount of raw material processing.

LLC "Okeanbioekoprodukt" started the production of innovative product BAA "Tyulenol" from Okhotsk seals' fat based on the technology of cold-press.

Over 2008-2010, the total cost of fisheries' technological innovation amounted to only 2.6 million rubles. For three years these enterprises shipped goods of their own production to the amount of 4,037,600,000 rubles, the share of innovative products ranged from 3.4% to 4.3%. Thus, the activity of innovative companies was aimed at meeting the demand of domestic consumers; innovative products from the Russian Federation were not exported.

Introducing innovations in activities of fisheries enterprises in the Magadan Region is prevented by various factors. Among the most crucial of them shall be the lack of own funds. Nowadays, only internal funds of organizations are the source of innovation financing. Gradually the value of such factors inhibiting the innovation increases as a high cost of innovation and a high economic risk of innovation.

Among production factors that hinder innovation, it is necessary to distinct a low innovation potential of organizations defined by low level of the

research base development in frames of facilities, the unwillingness of organizations to the development of scientific and technological achievements.

Sources of fishing enterprises' funds, aimed at the development of innovative activities are profit and depreciation. In this regard, it would be advisable to take advantage of such effective measures as accelerated depreciation. Accelerated depreciation has been applied for the first time in the U.S. in 1942 then began to be used in other countries in 1948 – Germany in 1960 – France, in 1962 – United Kingdom.

The Budget Message of the President of the Russian Federation for 2009-2011 refers to the need to liberalize the depreciation policy for tax purposes, including the expansion of opportunities for accelerating depreciation of production equipment and the introduction of additional measures to stimulate scientific research and development efforts⁶. Use of accelerated depreciation mechanism allows businesses to compensate the cost of fixed assets acquisition in a

6 "Budget message of the President of Russian Federation to the Federal assembly on budgetary policy in 2009-2011" ["Byudzhetnoe poslanie Prezidenta Rossiiskoi Federatsii Federal'nomu sobraniyu Rossiiskoi Federatsii o byudzhetnoi politike v 2009-2011 godakh"], <http://www.pfo.ru/?id=16950>

shorter time than their obsolescence occurs, and to use accumulated depreciation funds for modernization. However, since the income tax reduced simultaneously, the state should use a balanced approach to the use of this measure as a tool for investment policies to create an enabling business environment. The modern Russian tax legislation has greatly facilitated the enterprises' switching to accelerated depreciation of equipment operating in hostile environments, which are confidently fishing fleet and equipment involved in the production of fish products. Of course, this mechanism has only be considered as a promising measure, the use of which will be possible when the industry will begin to get vessels of new construction.

Conclusion

Thus, technical and technological re-equipment and modernization of fishing industry in the Magadan region, in our view, can be achieved by the following:

- developing the production base of fishing industry not in terms of its expansion but compensating retirement of obsolete existing fixed assets;

- bringing structure and composition of the fishing fleet in accord with the existing resource base;

- solution to the problem of modernizing equipment and fleet by program methods that give the process an orderly and controlled nature and will attract budget sources of funding;

- to accelerate renewal of fleet and processing equipment using such mechanisms as leasing, accelerated depreciation, market forms of cooperation between enterprises by type of cluster.

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Направления технико-технологического обновления рыбной отрасли Магаданской области

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Аннотация

В статье на основе анализа показателей состояния материально-технической базы рыбной отрасли Магаданской области обосновывается необходимость модернизации флота и перерабатывающего оборудования предприятий. Обосновываются направления технического и технологического перевооружения отрасли и предлагаются возможные источники финансирования данного процесса.

Ключевые слова

Рыбная отрасль, материально-техническая база, модернизация, лизинг, ускоренная амортизация.

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