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AGRICULTURAL SCIENCES

EFFICIENCY OF USE OF VARIOUS FERTILIZERS FOR DIRECT SOWING OF WINTER WHEAT IN THE SOUTH OF KAZAKHSTAN

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Abstract

The article presents the results of scientific research for 2019-2020 in the bogharic conditions of South Kazakhstan. It was found that the highest yield of winter wheat grain (37.7 q/ha) on average over two years of research was formed on the treatment with simultaneous application of phosphorus fertilizers at the rate of P_{45} kg/ha with direct sowing and feeding with nitrogen fertilizer at the rate of N_{70} kg /ha in early spring periods in the tillering phase of winter wheat, that is, the grain yield increased 2.9 times in comparison with the background without fertilizers. Optimization of the phosphate regime of winter wheat with the nitrogen fertilizers during the period of their greatest need in the tillering phase will balance nutrition. During the laying of productive organs in the phase of booting, stalking and formation of winter wheat grain, the reserves of productive moisture were good and fully satisfied the need of winter wheat for moisture during the indicated growing periods of plants, as a result, a consistently high yield of winter wheat grain was formed for rainfed conditions in the south of Kazakhstan.

Keywords: direct sowing, mineral fertilizers, micronutrients, growth stimulant, moisture reserves, weeds, herbicide.

Introduction. In the south of Kazakhstan, the main limiting factor of agricultural crops is soil moisture, since during the growing season there is an insufficient amount of atmospheric precipitation, and the moisture reserve in the soil due to autumn-winter precipitation does not satisfy the water demand of crops.

"The reserve of soil moisture for obtaining a high yield - as noted by K.A. Timiryazev [1] under our climatic conditions, with our frequent droughts, should be the subject of our concerns, perhaps even more significant than the supply of nutrients". At the same time, soil moisture during the growing season plays a certain role for the formation of productive elements of plant productivity.

It is known that one of the main limiting factors regulating the productivity of grain crops is the presence of plant nutrition in the soil. The cultivation of intensive varieties of cereals is characterized by increased requirements for the conditions of mineral nutrition and only with a full and balanced supply of nutrients is it able to form a high yield.

Agriculture of the Turkestan region (South Kazakhstan) is traditionally dominated by medium and small farms. The basis of agricultural production is irrigated agriculture. The bulk of the land has been privatized - it is owned mainly by agricultural enterprises and individual farms, several agricultural cooperatives, joint-stock companies, limited liability partnership, as well as a number of state-owned enterprises. Water scarcity remains one of the most important problems for irrigated agriculture in South Kazakhstan oblast. This area, with its low groundwater levels and saline soils, requires water-saving technologies and efficient irrigation systems to grow a variety of crops. Currently, cereals such as winter wheat and winter barley are continuously cultivated. In most cases, irrigation of fields under wheat and barley is carried out by flooding, which as a result causes the death of a significant part of the crop due to the high mineralization of groundwater and the formation of a crust on the soil. No-till is an effective alternative to reduce the effects of salinity.

An important reserve for increasing the efficiency of the technology of cultivation of agricultural crops is the optimization of conditions for plant nutrition. Many works are devoted to the use of fertilizers and the search for ways of their effectiveness. However, in the south of Kazakhstan, the problem of resource-saving technology for the cultivation of winter wheat with no tillage, that is, direct sowing is one of the many priority areas and is only being developed. The issues of mineral nutrition of winter wheat with direct sowing in rainfed conditions of the south of Kazakhstan are not touched upon, a more detailed study and justification of the use of fertilizers, micronutrient fertilizers, a growth stimulator and the identification of the most optimal

norms, the timing of their introduction in dry farming is an urgent direction of agricultural science. In the context of the use of soil-protective and resource-saving agriculture, the consumption of fossil fuels for agricultural production is significantly reduced and the burning of plant residues is completely eliminated, which also contributes to a decrease in greenhouse gas emissions. In addition, with no tillage, depending on the agricultural technique, the soil may emit less nitrous oxide (Izaurralde et al., 2001) [2]. Improving the physical and chemical properties of soil is an important task of both conventional agriculture and soil-protective and resource-saving agriculture, however, improving the biological properties is especially significant in the conditions of soil-protective and resource-saving agriculture, since the soil biological environment is highly degraded depending on the type and degree of soil cultivation, and soil-protective and conservation agriculture provides better conditions for improving biological health and soil functioning. For example, improving the biological potential of the soil under conditions of soil-protective and resource-saving agriculture affects the release of nutrients as a result of the decomposition of plant and animal debris and the subsequent increase in populations of beetles, other insects, worms, fungi and bacteria involved in the processes of decomposition and formation of humus. Therefore, the development of methods for the use of fertilization for direct sowing of winter wheat under dry farming conditions with the choice of the most rational norms of mineral fertilizers, micronutrient fertilizers and growth stimulants with testing of new generation systemic herbicides are of particular interest for science and have important practical significance in the production of winter wheat grain.

The purpose of this research was to study the norms and timing of the introduction of mineral, micronutrient fertilizers and plant growth stimulants and their use in different phases of growth, plant development, taking into account the biological needs of wheat and the peculiarities of the soil and climatic conditions of the south of Kazakhstan.

Material and research methods

Laboratory and field experiments were carried out at the stationary site of the Department of Agriculture and Crop Production of the South-West Research Institute of Animal Husbandry and Crop Production. Objects of research: zoned winter wheat variety Steklovidniy 24. Research, analyzes and accounting on winter wheat crops to study different terms, rates of application of mineral fertilizers , micronutrient fertilizers and plant growth stimulators with "no till" soil cultivation in the conditions of rainfed agriculture in the south of Kazakhstan. The soil cover of the study area is represented by ordinary sierozem, developed on a thick thickness of loess-like loam and sandy loam. The texture of the upper horizon refers to medium loam. The humus content in the topsoil (0-30 cm) is 1.29%, mobile phosphorus - 11.4 mg / ha, nitrate nitrogen - 19.2 mg / kg, exchangeable potassium - 268.1 mg / kg.

According to the degree of supply with nutrients, the experimental plots of rainfed agriculture are characterized by a low supply of nitrogen, phosphorus and medium supply of potassium. The reaction of the soil solution in the arable layer is slightly alkaline (pH - 7.47).

Field experiments on the use of fertilizers for direct sowing of winter wheat were laid down according to the following scheme:

1. Control - without fertilizers;

2. P_{30} kg/ha in active substances was applied when sowing winter wheat simultaneously to a depth of 10 cm;

3. P_{45} kg/ha was applied when sowing winter wheat at a depth of 10 cm;

4. P_{30} kg/ha when sowing winter wheat at the same time N_{50} kg/ha in the tillering phase in early spring periods;

5. P_{30} kg /ha when sowing winter wheat at the same time, N_{70} kg/ha in the tillering phase in early spring periods;

6. P_{45} kg /ha when sowing winter wheat at the same time, N_{50} kg/ha in the tillering phase in early spring periods;

7. P_{45} kg/ha when sowing winter wheat at the same time, N_{75} kg/ha in the tillering phase in early spring periods;

8. Seed treatment and growth stimulator "Vympel" 0.5 l/t + micronutrient fertilizer "Oracle" seeds 1.0 l/t + dressing agent, autumn treatment in the tillering phase of winter wheat "Vympel" 0.5 l / ha + "Oracle" »Multicomplex 2.0 l/ha, at a similar rate of consumption with the indicated preparations, crops were treated twice in the tillering phase of winter wheat in early spring periods and in the flag leaf phase.

Research results. In the conditions of the south of Kazakhstan, resource-saving technologies for the cultivation of winter wheat with direct sowing were studied under the guidance of Professor D. Sydyk and his followers, experiments were carried out since 2006. Over these years, the highest yield of winter wheat on dry land of 43.8 c / ha was formed with direct sowing with a SZS-2.1 seeder against the background of mineral fertilizers $P_{30}N_{50}$ kg / ha and with the use of the Target systemic herbicide at a rate of 1.0 l /ha . It was found that direct sowing of winter wheat over the years of research ensured a decrease in direct costs by 28-44% of fuel and lubricants by -36.5-38.6%, the cost price by 24.3-26.3% with an increase in conditionally net income by 16.7-31.5% [3, 4, 5.6]. The lack of moisture in the soil has been and remains one of the most pressing problems, therefore, it becomes obvious that under the current circumstances, the improvement of the crop sector should be achieved, first of all, on the basis of the use of moisture, soil, energy, resource and nature-saving technologies. It is this system of conservation agriculture that is today the key lever for the survival of farmers engaged in crop production. Conserving farming technologies also include minimal and zero-tillage [7].

The research results showed that the application of phosphorus fertilizers at the rate of P_{30} and P_{45} kg/ha accelerated grain ripening by 5-6 days compared to the option without fertilizers, and the use of phosphorus and nitrogen fertilizers at the rate of P_{45} N_{70} kg/ha in active ingredients extended the length of the vegetation the period of winter wheat up to 257 days or the maturation of winter wheat grain came 4 days later compared to the option without fertilization (253 days) and 9 days later compared to the background of phosphorus fertilization P_{45} kg/ha (248 days). Consequently, the use of phosphorus fertilizers accelerated the ripening of grain, and phosphorus-nitrogen fertilizers contributed

to the lengthening of the growing season of winter wheat plants with the formation of consistently high grain yields in comparison with other variants of the experiment. When using plant growth stimulants "Vympel" with micronutrient fertilizer "Oracle" of the multicomplex from sowing to grain ripening, the length of the growing season was 247 days, that is, these preparations accelerated the processes of grain ripening by 6 days in comparison with the treatment without fertilizers.

Table 1

Yield of winter wheat grain, depending on the norms of fertilization with direct sowing on bogharic lands in the south of Kazakhstan

Treatments	Grain yield, q/ha		Average grain yield, q / ha	Deviation from control, q/ha
	2019	2020		
1.Control	12.4	13.2	12.8	-
2. P_{30}	17.6	17.5	17.6	+4.8
3. P_{45}	20.1	19.1	19.6	+6.8
4. $P_{30}N_{50}$	31.9	31.7	31.8	+19.0
5. $P_{30}N_{70}$	34.8	34.3	34.6	+21.8
6. $P_{45}N_{50}$	35.8	35.4	35.6	+22.8
7. $P_{45}N_{70}$	38.5	36.8	37.7	+24.9
8.Microfertilizers+grouth stimulant	24.0	27.7	25.9	+13.1

When treating seeds with a growth stimulator "Vympel" at a rate of 0.5 l / t and micronutrient fertilizer "Oracle" at a rate of 1.0 l / t seeds with simultaneous dressing of grain "Dividend Extreme 115", this amount of a stimulant at a rate of 0.5 l / t with a working fluid consumption of 10 l / t before sowing, autumn leaf cultivation of winter wheat crops in the tillering phase with the Vympel growth stimulator - 2.0 l / ha, as well as early spring cultivation of crops in the tillering phase and in the flag leaf phase at the above rates the consumption of the growth stimulator and micronutrient fertilizers, the grain yield of winter wheat on average for two years amounted to 25.9 c / ha, or increased by 2.0 times in comparison with the unfertilized control treatment.

The use of growth stimulants and micronutrient fertilizers turned out to be an advantageous agro-technological method for direct sowing of winter wheat with a significant reduction in direct costs of growing winter wheat crops.

With the improvement of nutritional conditions, the mass of 1000 grains increased and their largest value, 37.5-37.2 g, was obtained against the background of mineral fertilizers P_{45} N_{70} kg / ha, significantly exceeding the indicators of the control variant (30.6-30.3 g), over the years of the experiments when using a growth stimulator and microfertilizers, the mass of 1000 grains was 35.1-34.6 g, significantly exceeding the background without fertilizers (control).

Against the background of phosphorus fertilizers P_{30} kg / ha with the introduction of nitrogen fertilizers at the rate of N_{50} and N_{70} contributed to an increase in grain yield by 19.0-21.8 c / ha compared to the control, forming a consistently high grain yield per hectare at the level of 31.8 and 34.6 centners / ha, that is, the use of phosphorus-nitrogen fertilizers, the nutritional regime is balanced with the satisfaction of their needs for the named elements of winter wheat during the entire growing season, and thus formed a high grain yield.

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CULTIVATION, STATUS AND PROSPECTS OF DEVELOPMENT OF APPLE ORCHARDS IN KAZAKHSTAN

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Abstract
At present in Kazakhstan the rates of development of the fruit growing industry and the existing assortment do not fully meet the modern requirements of intensification. In Kazakhstan, the apple tree occupies a leading place among industrial plantings. The increase in the gross production of fruits, berries and grapes should be carried out not only by expanding the area of plantations, but also by intensifying the industry on the basis of a correct varietal policy, scientifically substantiated distribution of species and varieties, modern technologies, financial and technical support of the industry.

Keywords: apple fruit production, yield, gross harvest, intensive gardening, introduced varieties, import dependence, dwarf and semi-dwarf rootstocks, scientifically substantiated distribution of varieties.

The most popular fruit in Kazakhstan, traditionally grown throughout the country, is an apple. Of course, the attention of farmers is also paid to other pome and stone fruits, but still the lion's share of supply and demand in the Kazakhstani market falls on apples. Therefore, the most demanded area of horticulture, including intensive, has become the production of this particular crop, in fact, a win-win option for Kazakh farmers. Most often, speaking of orchards, we mean apple orchards. Kazakhstan, due to the favorable combination of soil and climatic conditions, is the most important region for the development of commercial horticulture and viticulture. Gardening is an important branch of the national economy, which provides the population with high-vitamin products, which has a positive effect on human health and longevity. The condition for strengthening the food security of the Republic of Kazakhstan is to provide the population of the country with locally produced products. Unique genetic resources of plant agrobiodiversity of world importance are concentrated in Kazakhstan. They include 194 plant species that determine the genetic potential of 24 crops. A number of them are of significant value both for the development of agriculture and for expanding the export potential. Fruit agrobiodiversity and, above all, the wild apple tree, which is highly resistant to many diseases, high frost resistance, and wide ecological plasticity, has received worldwide recognition. The south- and south-eastern region of Kazakhstan is the center of origin of the apple tree culture, where exceptionally favorable conditions have developed for its cultivation. The apple tree is one of the widely grown fruit crops in the temperate zones of both hemispheres. The apple tree is commercially the most important fruit and the fourth most widely produced fruit in the world after banana, orange and grapes. The wide distribution and popularity of the culture is explained by its valuable taste, nutritional qualities, as well as economic and biological features. One of the branches of agricultural production, in which the needs of the population are not fully met, is fruit growing and viticulture. Consumption of fruit and viticulture products by the population determines the quality of nutrition. FAO has included the main fruit crop, the apple tree, in the list of crops that determine the food security of the state. Currently, among a wide variety of fruit crops, the apple tree is one of the most common not only in our Republic of Kazakhstan, but also in other countries of the world. In the general structure of pome and stone fruit plantations in Kazakhstan, the apple tree prevails - the area of plantations is 31,6 thousand hectares. In Kazakhstan, the apple tree occupies a leading place among industrial plantations, and it is also grown in large quantities in home gardens. Apple fruits are an essential food item in the human diet. With a relatively low energy value, apples are a source of vitamins, organic acids and mineral salts, aromatic substances, fiber and easily digestible carbohydrates, which play an important physiological role in metabolism. Their consumption should be uniform throughout the year. In modern conditions of human life and activity, the importance of fruits and berries has increased, since they are the most effective means of increasing the activity of nutrition in the fight against adverse factors that intensively affect a person. These foods are valuable because they contain carbohydrates, proteins, fats, vitamins, enzymes, hormones, minerals and other substances. Fruit production in the world is 86,14 million tons per year, and the area occupied by orchards is 4904,3 thousand hectares. The leaders in the production of apple fruits are China – 39233,4 thousand tons / year (2071,5 thousand hectares), USA – 4652,5 thousand tons (117,8

thousand hectares), Poland - 3999, 5 thousand tons (161,8 thousand ha). These leading countries have a very developed nursery system with the introduction of biotechnology and intensive horticulture, as well as mechanization and the production of chemicals. In the neighboring country, the Russian Federation, apple orchards make up 207,3 thousand hectares, which is 22% more than the area of Poland, and the gross harvest is 1859,4 thousand tons. Kazakhstan is increasing the production of fruits and berries. However, domestic production does not cover the country's needs for fruits and berries. In Kazakhstan, on average, 197,2 thousand tons of apples are produced, the area of orchards is about 32,0 thousand hectares. However, in Russia, as well as in Kazakhstan, intensive horticulture and the production of high-quality, healthy seedlings on a large scale are not developed, and there are no local varieties suitable for intensive horticulture. In the 90s of the last century, the area occupied by the apple tree culture decreased sharply, but recently, the plantations have been actively restored. However, the share of domestic varieties in industrial plantings is small, the main part of plantings are introduced varieties Golden Delicious and Starkrimson, new introduced apple varieties included in the State Register are poorly represented, and even more so new Kazakhstani varieties that have passed the State variety testing. The reason for the reduction in the area occupied by local varieties of apple trees is the import dependence of our agricultural producers, who are forced to import planting material from abroad. The country's annual demand for high-quality virus-free planting material for fruit crops for intensive horticulture is 7,0 million pieces, and 80% of the required amount is currently covered by imports.

In the message of the President of the Republic Tokayev K.K. "Constructive public dialogue is the basis of stability and prosperity of Kazakhstan" was told to the people of Kazakhstan: "Agriculture is our main resource, but it is far from being fully used. We have significant potential for the production of organic and environmentally friendly products that are in demand not only in the country, but also abroad." The tasks of the State Program for the Development of the Agroindustrial Complex of the Republic of Kazakhstan for 2017-2021 include ensuring the transfer of technologies and increasing the level of technical equipment and intensification of production in the agroindustrial complex. At present, in Kazakhstan, the pace of development of the fruit growing industry and the existing assortment do not fully meet the modern requirements of intensification. The share of imports of fruit products is steadily increasing, this trend may lead to the country's dependence on imports. At the same time, imported products entering the domestic food market do not always meet the requirements of quality, shelf life and health safety. The main suppliers are such countries as: China (23 million tons), USA (4,5 million tons), Poland (3 million tons), Turkey (2,3 million tons), Italy (2,1 million . tons), France (2,1 million tons), Germany (2 million tons). Fruits and berries are an indispensable source of natural vitamins, minerals, antioxidants, have healing and preventive properties. However, at present, the population of Kazakhstan is experiencing an acute shortage of fresh fruits and berries. With a scientifically based human need for fruits and berries of about 100-120 kg per year, the real consumption in Kazakhstan is 40-45 kg, and 35 kg of them are imported products and only 1/3 of them (10-15 kg) are products domestic manufacturers. In foreign countries, fruit consumption is much higher. Thus, in the USA 127 kg of fruits are consumed per capita, France - 135 kg, Germany - 126 kg, Italy - 187 kg. In the United States alone, the wholesale value of the apple harvest is nearly $4 billion. Among the many varieties, clear favorites stand out: consumers around the world prefer the crisp, sour green Granny Smith apples or the sweet and soft red Red Delicious fruits. At present, the main goal in Kazakhstan is to provide the population of the country with high-quality fruit and berry products of its own production. In Kazakhstan, most of the old apple plantations are in disrepair. The main reason is the lack of a complex of agrotechnical measures and elementary tree care, including pruning. As a result, the average yield throughout the country does not exceed 4-6 t/ha, which is 10-15 times less than in European countries. At the end of 2019, Kazakhstan can produce about 300 000 tons of apples worth 54 billion tenge, with a total market potential of more than 80 billion. Last year, Kazakh gardeners managed to grow 222 000 tons of this fruit, according to the reports of the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan. The main volume of apples was harvested by individual entrepreneurs and farms - more than 138,3 thousand tons: 62,5 thousand tons were given by households and 21,6 thousand tons - by agricultural enterprises. In other words, the main volume of Kazakhstani apples is grown by small farms. There are more than 31,6 thousand hectares of land under apple orchards in Kazakhstan. Kazakhstan began to grow more apples for several global reasons. Firstly, demand is growing, secondly, imports still make up a significant part of this industry, and thirdly, the state has begun to support domestic producers by subsidizing loan rates and returning part of production costs. On average, the state in one way or another helps gardeners to compensate for about 15% of production infrastructure costs. Favorable soil and climatic conditions of the south-east of Kazakhstan make it possible to obtain high-quality apple fruits. According to the state program «Agribusiness 2020», the laying and cultivation of intensive orchards is included in the list of priority investment areas for the allocation of investment subsidies. Horticulture today is in search of the most effective solutions, so the industry is massively switching to intensive orchards, which begin to produce apples already in the first or second year after planting.

In the Almaty region of Kazakhstan, the area of intensive apple orchards has reached 2222 hectares, in 2022 the figure is planned to be increased to 2600 hectares. At the same time, the region expects to receive 18,9 thousand tons of crops in 2020, and more than 31 thousand tons in 2022. As noted in the regional department of agriculture, today the area of orchards in the region is 996,1 hectares, of which 402,8 hectares are pome fruits, 431,2 are stone fruits, 161 hectares are berries, 1 ha are nuts and 0.08 ha are grape. As for the famous Aport apple variety, in 2012-2018, 214 economic entities of the region that planted apple trees of this variety on 728,8 hectares received 670,4 million tenge of subsidies from the local budget. Thanks to this, the area

of orchards with "Aport" has reached 2000 hectares. The number of seedlings is 416 thousand pieces. Varieties such as Fuji, Golden Delicious, Gala, Granny Smith, Starkrimson, Idared, Golden Superb and others are grown in intensive apple orchards. Joint work and exchange of experience on the use of modern apple technologies, planting material is carried out with specialists from Italy, Germany, Serbia, Poland, Holland, and Turkey.

According to the Committee on Statistics, in 2018 Kazakhstan imported almost 121 thousand tons of apples worth $56,2 million, mainly from China and Poland. At the same time, the export of apples in 2018 more than doubled compared to the previous year, but remained at an insignificant level - only 4 thousand tons for $1,3 million. Thus, the approximate capacity of the "apple" market in Kazakhstan is in general about 450 thousand tons and can potentially be estimated at 81 billion tenge. The natural conditions of the growing season in the south and southeast of Kazakhstan make it possible to grow crops of high quality fruits, both for fresh consumption and for processing. But, at the same time, the sharp continentality of the climate in the autumn-winter period often leads to freezing of plants, and at the end of spring (during flowering) as a result of return frosts, to the death of flowers and, ultimately, to the loss of a significant part of the crop, which is very strongly affects the economy of small farms specialized in fruit growing.

The industrial horticulture of Kazakhstan needs a radical increase in its profitability and competitiveness both in the domestic and in the world fruit market. Domestic and world experience shows that the solution of this problem in modern conditions is possible only through the creation of early-growing, highly productive and consistently fruitful orchards. Despite significant imports of fruit products, the population's need for it is not fully satisfied. The most important factor in achieving lost food security is import substitution, that is, partial or complete replacement of apple imports with domestic ones. For import substitution of fruits in the agricultural market, it is necessary to increase the gross harvest of fruits, which can be solved by using new technologies, the transition of this business to sustainable development. Intensive horticulture provides a high yield of products per unit area of plantations, a quick return on investment, an active variety change, which determines a favorable ecological and, in particular, phytopathogenic situation of the territory and an increase in the quality of fruit products. The main condition for the successful development of Kazakhstan fruit growing is the scientifically based placement of commercial plantations in natural areas, taking into account all socio-economic issues (material and technical capabilities, labor resources, storage and processing enterprises, sales markets, etc.), and scientifically based zoning territories for different breeds and varieties. Modern industrial horticulture requires considerable investment, besides, horticulture, like the agricultural business, has its own share of risk, and this primarily concerns weather conditions, a sudden drought, hurricane or severe frost can destroy the crop and the plantations themselves. But with the use of modern technologies, the percentage of risk can be reduced, the same drip irrigation will avoid the loss of seedlings and crops from sudden drought, and overhead irrigation will reduce losses from sudden spring frosts. Another very important point of the apple business is the payback period of investments, here the technology of growing an apple orchard plays an important role.

Kazakhstan exports very few apples compared to how much it imports, but there is serious progress and potential in export growth. Thus, the current state of horticulture in Kazakhstan, so far, lags behind in its development from many foreign countries. Accordingly, our republic needs the intensification of horticulture. It is necessary to have a network of specialized nurseries for growing healthy planting material, which must meet the basic requirements and quality standards. To pay more attention to the concentration of horticulture in specialized enterprises, to speed up the uprooting of old unproductive plantations and to increase the establishment of intensive orchards on dwarf and semi-dwarf rootstocks. To provide the farms with specialized gardening equipment, modern fruit storage facilities and to strengthen state support for the establishment and maintenance of perennial plantings. The increase in the gross production of fruits, berries and grapes should be carried out not only by expanding the planting area, but also by intensifying the industry based on the correct variety policy, scientifically based distribution of breeds and varieties, modern technologies, financial and technical support for the industry.

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EARTH SCIENCES

MEASURES TO PREVENT THE EVENTS REASONED BY NATURAL PROCESSES

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Abstract

The article involves the information about the actuality of the subject, itsinvestigatio object, material methodology and natural emergency cases in the autonomous public.

Firstly, the research paper tries to show that natural and man-made disasters have serious consequences and material damage, as well as environmental, socio-economic and other processes that cause great damage to human health, the environment, economy and society, also different negative events and global climate change and etc. The increase in the intensity of many natural processes and events in the environment are also reflected.

As a result, several proposals and recommendations were given for the implementation of organizational, engineering, information technology and systematic measures to prevent and resolve natural emergencies in the autonomous republic.

Keywords: flood, flooding, engineering and technical, natural and geographical factors, erosion, environmental estimation, anthropogenic.

Actuality

In different devoloping periods of time there were natural processes and now still continue. As the dangers of natural processes increase, depending on their scale and results the volume of social and material losses arealso increasing. Firstly, social losses are determined by the number of dead and injuredpeople (injured ones who have gained physical and pyschiological traumas), and economic losses are determined directly or non directly withmaterial losses.

Natural and man-made disasters, along with serious results and material losses, are accompanied by various types of negative events, environmental, socio-economic and other processes that cause great damage to human health, the environment, the economy and society as a whole. Global climate changes impacts greatly on the intensity of many natural processes and events in the natural environment [1, 3, 4].

Aim the natural environment accidents is caused by earthquakes, floods, strong winds, fires, as well as the release of chemical and biologically dangerous substances into the atmosphere in a man-made environment are accompanied by accidents, fires, explosions, radiation transport and hydrodynamic accidents, at as well as housing and communal services. The occurrence of traffic accidents have a serious threat in some cases [8].

For this purpose, the problem of prevention of natural disasters and elimination of their negative results in the autonomous republic should always be focused, and research in this area requires necessity.

The purpose of the investigation

The study work conducted in the Autonomous Republic firstly aims to propose precaution measures and to study the character and to analyze the causes of earthquakes, floods, storms, droughts and other disasters in the natural environment, as well as man-made accidents, material damage, various types of negative events, global climate change, environmental, socio-economic and other processes.

The methodology of the investigation

Work methodology was developed by the collecting field materials and references on the subject. During the development of the topic were used several monographs, methodical aids, map materials and work experience of scientists conducting research in foreign countries, including the Republic of Azerbaijan and the Nakhchivan Autonomous Republic at different stages of history [2, 5, 6, 7, 9].

Analysis and discussion

The most common emergencies occured in the Republic of Azerbaijan in peacetime are natural and man-made in caharacter. Most of the natural disasters are caused by floods and torrents. 17.6% or 119 floods in the country are shared bythe autonomous republic. Until 2021, 27 flowing rivers were registered in the territory of the autonomous republic. Thus, 17 in Nakhchivanchay, 12 in Ordubadchay, 10 in Akhurachay, 10 in Ganzachay, 9 in Jahrichay, 8 in Alinjachay, 8 in Gilanchay, 7 in Kilitchay, 6 in Vanandchay, 5 in Kukuchay, 5 in Chanakhchichay, 5 in Kotamchay and 3 strong floods occurred in Duylunchay damaged settlements and economic complex.

Analysis of these statistics shows that in the last 20 years, the recurrence of floods in the Autonomous Republic has increased 3 times, and the area of floods and their distribution areas have increased 1.5-2 times [6, p. 101-104].

As a result of the analysis of the researches, it was determined that 21 floods were registered in the territory of the autonomous republic during the flood period of 2006 (April-July and September-October). On April 28-29, as a result of a sudden rise in the water level in the Araz River, the backyards of 35 houses in the village of Tazakend, Sharur region were flooded.

As a result of the flood passing through Jahirchay, 2 vehicles and the newly built bridge were washed away [6, p.99].

During the last 25 years, the danger of flooding in the Autonomous Republic has arisen, especially in the

Sharur region, and since April 25, 2006, as a result of a sharp rise in the water level in the Araz River, 9 individual houses in Tazakend settlement of Sharur region have become completely unusable. (Figure 1).

Figure 1. Flooding of Tazakend settlement of Sharur district

The main reason of floods in the Autonomous Republic is due to the rapid melting of snow in river basins and heavy rains. In both cases, the critical level of water in the Araz River can flood a number of settlements and arable lands in Sharur and Sadarak districts [6, p. 98-99; 7, p.8-34].

Along with other natural processes in the Autonomous Republic, extreme swamps and saline areas are also found in the southern part of the Sadarak Plain due to flooding (Figure 2).

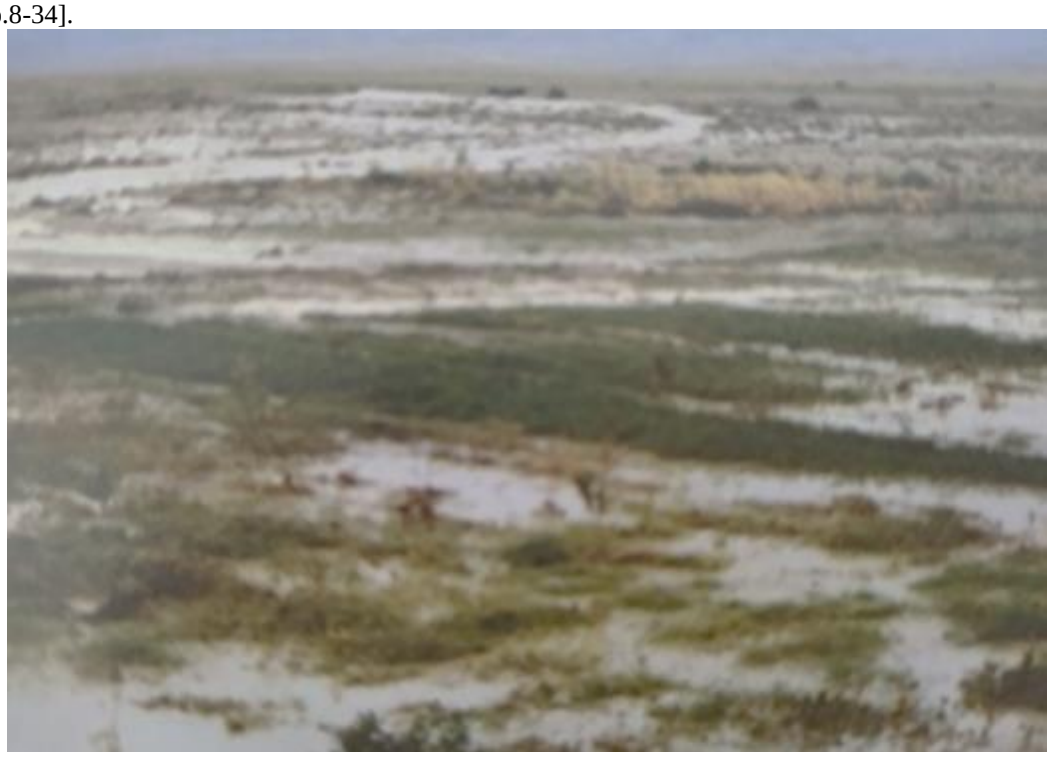

Figure 2. Extremely marshy and saline areas in the southern part of the Sadarak plain

During the possible severe flood in a settlement, the most important event is to stop the work and organize the evacuation of workers and employees from the dangerous area to a safer zone.The evacuation is planned, organized and carried out on the principle of territorial production. Evacuation of people employees, secondary and special education institutions, organizations working in the area of emergencies is conducted

according to the principle of territorial production; provides for the evacuation of the remaining population who do not work in production and services in the residential areas.

In wartime, evacuation of the population is one of the most important methods of emergency cases. Thus, evacuation done timely and liquefaction measures carried out on the instructions of government agencies, makes possible to save the vast majority of the population from possible nuclear strikes (modern conventional means of destruction) and thus reduce casualties.

The people who do not work and have no relation with production, education, culture, transport, communication, etc. in the settlements, that is evacuation of unemployed workers, employees and their family members is also organized on a territorial basis (at the place of residence) and on the principle of production (at the workplace of the head of the family). The evacuation process is organized by all MM chiefs and headquarters. Resettlement agencies are being set up to assist them in this area.

In peacetime, the population is temporarily relocated from settlements that may be flooded due to earthquakes and the destruction of water sources [8, p.78].

The evacuated and sparsely populated population, as well as the rescue and emergency response forces, are justly located in the suburbs. For this purpose, the development of transport roads, existing communication lines, the creation of the necessary housing stock, utilities, medical, cultural and household facilities, the discovery of facilities suitable for sheltering the population, increasing water sources, etc. preliminary measures are being taken.

The out-of-town zone is sometimes called the safe zone. The conventional line between the out-of-town zone and the probable destruction zone is called the boundaries of the zone (zone boundary).

The places that might be destroyed during the floodsare considered flood-prone areas including buildings, structures and industrial facilities. People living in such zones move to a safer zone 4-6 hours before the first wave of floods reaches that zone.

The evacuation process of the population is carried out only on the basis of a state decision. The evacuation must be conducted as soon as possible. For this purpose, all action plans should be prepared in advance. A combined method is used to solve such a complex and responsible task. The essence of this method is that all types of transport and pedestrian methods are used. The essence of this method is that all types of transportation are used. It is transported primarily by vehicles.

Evacuation of the population by a combined method is carried out on the principle of territorial production. This means that workers and employees, students and their family members are registered and transferred on the account of the enterprise where they work and study. The rest of the family members who do not work or study are registered and relocated by local housing and communal services. Dilution and resettlement are considered complete after the evacuation of the entire population, except for those working in areas of probable collapse during the war.

The out-of-town zone is defined as the zone that meets all the requirements during the military period. In this zone, the population evacuated from the settlements in danger of collapse is protected, and at the same time, the resting queues of the facilities that continue their work during the military period rest in this zone [8, p.79].

A zone that is suitable for the reception, accommodation and habitation of the population outside the destructive zones formed during an enemy attack or during emergencies is considered a safe zone. Such zones are determined by the size of the settlement, the population and, most importantly, the power of the nuclear weapon to be used by the enemy. During the war, the staffs at important facilities restin the suburbs.

In this case, it should be calculated that the time spent on their transportation will not exceed 4-5 hours. For this reason, control points established for recreation should be close to railways, transport, river and sea routes, depending on the conditions. Whenever possible, they are placed with the families of workers and employees. The principle scheme of evacuation and dilution is still planned and developed in enterprises, departments and organizations in peacetime.

Accommodation area: It is created in the suburban zone. Displaced people and MM forces are provided with the necessary tools and materials. This is developed by the Executive Power (municipalities) still in peacetime. The control boards are selected by agreement with the local executive authorities and the Civil Defense Headquarters.

Conclusion

We conclude from our study that it is expedient to implement the above-mentioned issues in order to prevent and minimize the emergency situation caused by floods, and other natural processes.

First of all, it is necessary to implement organizational, engineering, information technology and systematic measures to prevent floods and other natural processes. Such measures include monitoring of natural man-made processes that form floods, forecasting their probable scale, creating a system of shore protection devices, and informing the population about the situation on roads and their evacuation from potential flood areas, as well as preparing forces and means to eliminate the consequences of emergencies.

One of the most effective methods of flood control is the cleaning of sediments, construction of dams and planting of trees in flood-prone areas of rivers' banks. At the same time, evacuation of people and animals from dangerous areas to rescue and other urgent works during floods, restoration of roads and bridges in flood areas as soon as possible, search for victims using floats are among the key issues.

Besides these notes, timely delivering of water, food and clothing to the affected population, construction of earth dams to prevent the spread of floods, construction of irrigation canals, prevention of seizures, washing and cracks in existing dams, transportation of production equipment, property, utilities are important to eliminate damage to household networks, clean the

water in the houses, carry out restoration work in buildings and facilities in a short time and take other necessary measures.

In recent years, preventive measures have been taken in this direction in the autonomous republic, annual shore protection work has been carried out in the floodplains of the Araz River, construction of protective dams in rivers and streams has minimized the risk of floods.

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ECONOMIC SCIENCES

НАРЫҚ ТӘЖІРИБЕСІНІҢ МАТЕРИАЛДЫҚ МЕРЗІМІ РЕТІНДЕ ИНТЕЛЛЕКТУАЛДЫҚ МЕНШІКТІҢ МАҢЫЗДЫЛЫҒЫН АРТТЫРУ

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GROWING SIGNIFICANCE OF INTELLECTUAL PROPERTY AS A MATERIAL CATEGORY OF MARKET ECONOMY

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Аңдатпа

Мақалада бағалау, экономикалық айналым және интеллектуалдық меншік құқықтарын қорғау, соның ішінде Қазақстанның әлемдік және субөңірлік интеграциялық бірлестіктерге қатысуы тұрғысынан алғанда, қалыптасу, коммерцияландыру саласында туындайтын мәселелер мен проблемалар қарастырылған. Әлемдік тәжірибені талдауды ескере отырып, кәсіпорынның нарықтық құнын қалыптастыру үшін оның материалдық емес активтерін бағалау және интеллектуалдық меншік құқықтарын қорғау негізінде іс-шаралар жүйесі ұсынылды, онда өзара саудада және зияткерлік меншік саласындағы кедергілер мен бақылау кедергілерінің кіші жүйесі болып табылады және мүдделер ұстанымдарын тез арада шешу шараларын Қазақстанда әзірлеу. Интеллектуалды капиталдың қазіргі заманғы экономикадағы ролін түсіндіру, сондай-ақ ресейлік компаниялардың нарықтық экономикадағы ИҚ-ны басқару әдістері мен тәсілдері туралы практикалық зерттеулері қарастырылды.

Abstract

Raises questions and problems that occur in the sphere of formation, commercialization on the basis of valuation, economic turnover and protection of intellectual property rights, in particular, increasing in the context of Kazakhstan's participation in world and subregional integration associations. Taking into account the analysis of world experience, a system of measures is proposed to form the market value of an enterprise on the basis of an assessment of its intangible assets and protection of intellectual property rights, in which the key is a subsystem of monitoring barriers and obstacles in mutual trade and in the field of intellectual property and developing measures of prompt response from the positions of interests Kazakhstan. The interpretation of the role of intellectual capital in the modern economy, which is multidirectional, as well as practical studies of Russian companies on methods and approaches to managing the IR in a market economy are given.

Түйін сөздер: зияткерлік меншік, материалдық емес активтер, коммерцияландыру, кәсіпорынның нарықтық құны, ЕурАзЭҚ нарығы мен әлемдік нарықтардағы бәсекеге қабілеттілігі.

Keywords: intellectual property, intangible assets, commercialization, the market value of the enterprise, competitiveness in the market of the EAEC and world markets.

Меншік теориясы бірнеше жүз жыл бойы дамып келеді, сонымен бірге әртүрлі саладағы ғалымдар меншік санатын және зияткерлік меншікті (ЗМ) дамытуды жүзеге асырды және жалғастыруда, өйткені проблемалар мен мәселелер көп қырлы және әр түрлі сипатта болады.

Зияткерлік меншік теориясының негізгі принциптері 17 ғасырдың соңында, француз философтарының еңбектерінде қаланды, ал зияткерлік меншік категориясын түсінуде алғаш рет 1883 жылы Париж Өнеркәсіптік меншікті қорғау конвенциясында айтылды. Кейін Халықаралық зияткерлік меншік жүйесін, соның ішінде Дүниежүзілік зияткерлік меншік ұйымын (ДЗМҰ) құрған бірқатар басқа халықаралық келісімдер пайда болды.

Сонымен бірге зияткерлік меншікке тұжырымдамалық көзқарас қалыптасты, оны келесі ережелерде білдіруге болады: зияткерлік меншіктің мақсаты-зияткерлік қызмет өнімін нарықтық сату нәтижесінде кіріс алу; зияткерлік қызметтің соңғы нәтижелерін экономикалық қатынастардың объектісі ретінде пайдалану ерекшелігі оның материалдық емес табиғаты болып табылады.

Соңғысы зияткерлік жұмыстың нәтижелері рұқсатсыз пайдаланудан, көбейтуден және таратудан қорғалмайтын жағдайды анықтайды. Бұл зияткерлік қызмет нәтижелері иелерінің экономикалық мүдделерін қорғау нормаларын зияткерлік меншік құқығы түрінде мемлекет кепілдігімен бекітудің себебі болды.

Атап айтқанда, Ю. Князевтің пікірінше, " егер біз қоғамды қайта құру туралы айтатын болсақ, онда білім экономикасы туралы әртүрлі көзқарастар бар, олар негізінен екі қарама-қарсы позицияға дейін азаяды: бірқатар сарапшылар білім экономикасы индустриялық қоғамның экономикасынан айтарлықтай ерекшеленеді деп санайды.байлықтың жинақталуы материалдық активтермен байланысты

болған кезде. Олардың пікірінше, әл-ауқат материалдық емес активтерге (тәжірибе, ноу-хау, білім және т.б.) байланысты.

Басқалардың пікірінше, бұл индустриалды даму дәуірінің келесі кезеңі ғана, әл-ауқат өндірістік процестерге байланысты, ал материалдық емес активтер бәсекеге қабілеттілікті арттырады" [1].

Сонымен қатар, проблеманы кәсіпорындар мен ұйымдардың микро деңгейіне бейімдеу кезінде логика персоналдың адами капиталды тасымалдаушы ретіндегі рөлін түсінумен тығыз байланысты. Мәселен, мысалы, т. Синявец "XXI ғасырдың басынан бастап менеджерлер компанияның маңызды ресурстарының бірі-оның қызметкерлерін тиімді пайдалану проблемаларына жиі жүгінеді.

Бірақ олардың оны мүмкіндігінше тиімді пайдалануға деген ұмтылысы персоналды басқару нәтижелерінің компания қызметінің соңғы көрсеткіштеріне әсерін түсінбеуге тап болады. Мерзімді әдебиеттерде осы тақырыпта басылымдар жиі кездеседі және материалдық емес активтердің, зияткерлік меншіктің немесе адами капиталдың құнын ескере отырып, бизнесті бағалау бойынша даулар туындайды" [2].

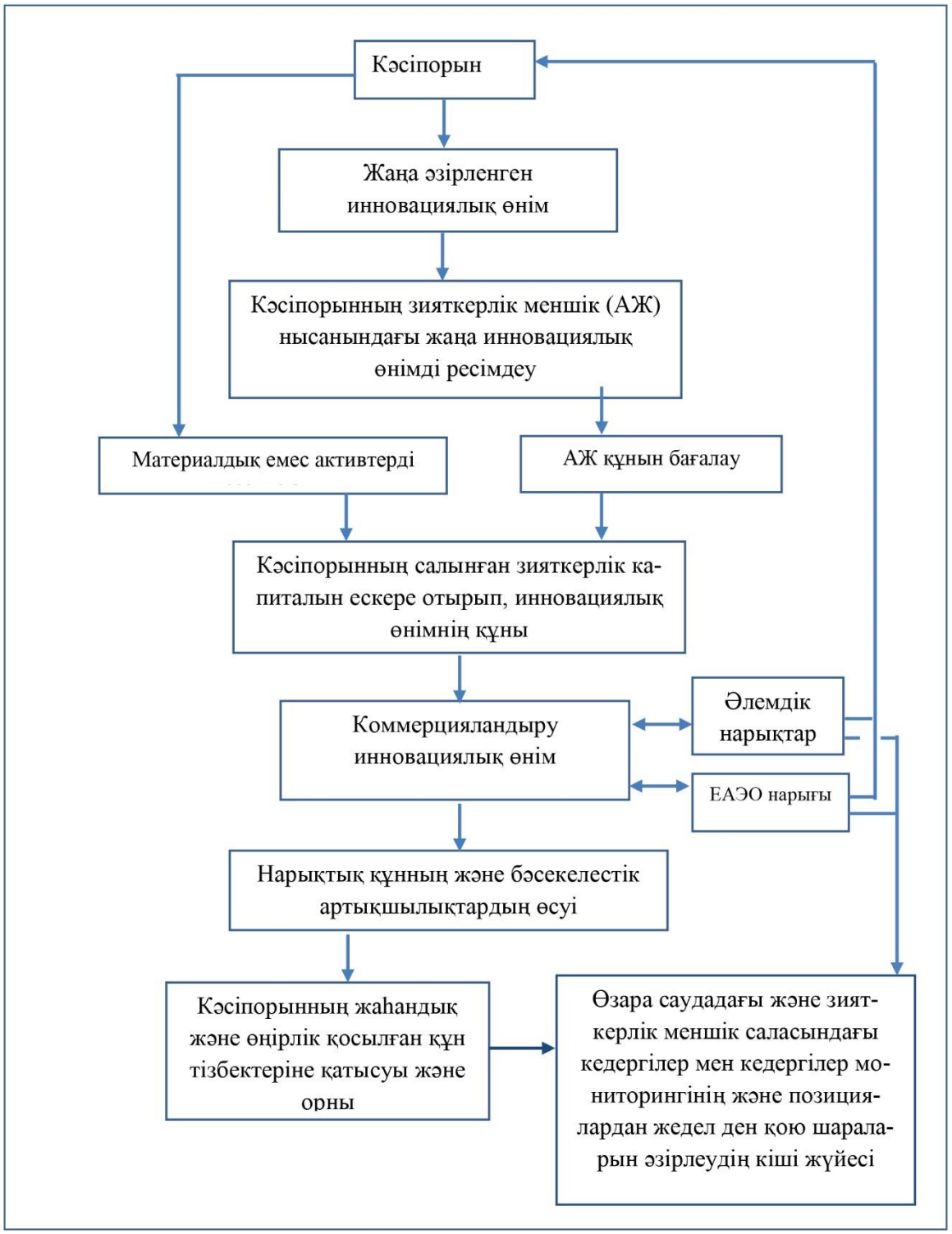
В. Наумов пен Э.Рагельс "зияткерлік меншікті басқару ғылыми талдау мен практикалық іске асыру үшін күрделі пән болып табылады"деп мәлімдеді. Алайда, сарапшылар зияткерлік меншікті пайдалану саласында (экономикалық санаттарда – материалдық емес активтер) компания басшылығы немесе меншік иелері түрлі басымдықтарды айқындай алатынына сенімді. Мысалы, қолданыстағы зияткерлік меншік есебінен компаниялар тобы активтерінің құнын ұлғайту, АЖ-ны қаржылық және салықтық мақсаттарда пайдалану, инвестициялар тарту, АЖ объектілерін кепілге салу, материалдық емес активтерді әкімшілендіруге және қорғауға арналған шығындарды қысқарту, оларды беру есебінен барынша біржолғы пайда алу немесе лицензиялар немесе концессиялар есебінен төлемдердің тұрақты түсуін ұйымдастыру [3].

Осы қазақстандық сарапшылармен тауар белгісіне құқықтарды аяқтаудың қандай да бір режимін таңдау көбінесе экономикалық орындылықпен, өз өндірушілерінің мүдделерін қорғаумен және нарықтағы бәсекелестіктің мақсатты деңгейімен анықталатындығымен келісу қажет.

Бұл ретте, - деп атап өтті сарапшылар, - "халықаралық тәжірибе құқықтарды сарқудың аралас қағидатын орнату және орнату мүмкіндігін көздейді. Халықаралық құқықтың сарқылу қағидаты көзделген елдерде экономикалық саясат шағын және орта бизнесті дамытуға, сондай-ақ әртүрлі өндірушілер арасында ішкі бәсекелестікті қамтамасыз етуге бағытталған. Жалпы, дамыған елдер параллель импортқа қарсы, ал дамушы елдер, керісінше, оны алға жылжытуға мүдделі деген жалпы пікір бар" [4].

ЕАЭО-да еларалық өзара қатынастардың тарифтік емес реттеуіштерін қолдану шеңберінде жасанды кедергілерді еңсеру бойынша бірлескен іс-қимылдың пәрменді шаралары әзірленбегендігіне есеп беру керек, онсыз әлемдік нарықтарда бәсекеге қабілетті бірлескен өнімді құру жөніндегі қосылған құн тізбегі сияқты тетіктердің негізінде және Инновациялық негізде Одақ елдерінің өнеркәсіптік кешендерін интеграциялаудың тиімді саясаты бола алмайды.

Осыған байланысты біз ұсынып отырған кәсіпорынның материалдық емес активтерін бағалау және АЖ-ның құқықтарын қорғау жөніндегі шаралар негізінде оның нарықтық құнын қалыптастыру жүйесі анағұрлым 1 суретте көрінеді.



Сурет 1. Кәсіпорынның материалдық емес активтерін бағалау және АЖ құқықтарын қорғау негізінде нарықтық құнын қалыптастыру жөніндегі шаралар жүйесі

Дереккөз: жарияланым авторы әзірлеген

Осылайша, одақтағы ішкі және сыртқы сауда-экономикалық қатынастардың жай-күйін талдау Одақтың барлық елдері, Беларусьті қоспағанда, ДСҰ мүшелері болып табылатынына және ДЗМҰ ережелерін сақтауға шақырылғанына қарамастан, зияткерлік меншік саласын қоса алғанда, ЕАЭО-ның ортақ нарығында тауарлардың еркін қозғалысы қағидатында бұзушылықтар орын алғанын көрсетеді.

Мемлекеттің ішкі және сыртқы нарықтардағы зияткерлік меншік объектілеріне құқықтарды қорғауға белсенді қатысуын болжайтын осындай көзқарас, біздің ойымызша, кәсіпорындарға (ұйымдарға, әсіресе ғылыми ұйымдарға) өнімнің инновациялық түрлерін жасау бағытында жұмыстар (зерттеулер) жүргізуде үлкен белсенділік танытуға мүмкіндік береді.

Қазақстандық мүдделерді қорғау және ілгерілету мәселесіндегі ұйымдастыру шарасы ақпараттық-басқару тізбегінің тиімділігін арттыру болып табылады: ҚР Орталық және жергілікті мемлекеттік органдары – ҚР Үкіметі – тікелей және кері байланыстар қағидаттарында Қазақстанның ЕЭК – ЕЭК-тегі өкілдігі, мыналар: Қазақстанның интеграциялық процестерге қатысуы бойынша неғұрлым тиімді ұсыныстарды пысықтау, дайындау және ЕЭК-ке және Одақтың жоғары органдарына жеткізу; ЕАЭО-да шешімдер қабылдау процестеріне жедел және сапалы ден қою.

Осы мақсатта схемамен ұсынылған мониторинг және кедергілерді талдау кіші жүйесі шеңберінде қазақстандық кәсіпорындар құқықтарының ағымдағы және ықтимал бұзылуына тұрақты мониторинг пен талдауды ұйымдастыру функцияларымен тұрақты жұмыс істейтін сараптамалық-талдау тобын құру және жедел ден қою шаралары бойынша, әсіресе зияткерлік меншікке құқықтардың сарқылу режимдерінің өзгеруі жағдайында АЖ құқықтарын қорғау саласында ұсынымдар әзірлеу орынды.

Бұл үшін ЕАЭО мен ДСҰ-ның нормативтік-құқықтық базасына орынды имплементациялау қағидаттарын бұзбай, қолданыстағы қазақстандық заңнамаға тиісті өзгерістер мен толықтырулар енгізу қажеттігі сөзсіз.

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PHILOLOGICAL SCIENCES

ЖАЗЫЎШЫ ҲӘМ ШАЙЫРДЫҢ ДӨРЕТИЎШИЛИК ЛАБОРАТОРИЯСЫН ИЗЕРТЛЕЎ

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STUDY OF THE CREATIVE LABORATORY OF THE WRITER AND POET

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Аннотация

Қорақалпоқ адабиетшунослигидаги долзарб масалалардан бири лирик асарлар яратилиши ўрганилган. Лирик асарларнинг хусусиятлари Мухаммед Хошаннинг тўпламлари мисолида кўриб чиқилган.Ушбу мақолада ёзувчининг ва шоирнинг ижодий лабораторияси масаласи ҳусусида сўз юритилади. Олимлар Т.Н.Александрова, Р.Г.Фатхрахманов, Н.Ш.Зиядуллаева, З.У.Бекбергеновалар ўзларининг тадқиқотларида бу тўғрисида фикр юритади. Мақола қорақалпоқ адабиетшунослигидаги долзарб муаммоларининг бирига бағишланган. Муаллиф Ж.Хошниязов ижодиетининг ўзига хос хусусиятларини белгилаган. Шунингдек, ижодий лаборатория ўрганилиши масалалари ҳақида ҳам сўз юритилади. Шоирнинг еҳуд езувчининг якка ижодини аниқлаш катта аҳамиятга эга. Мақола адабиетшунослик фанидаги долзарб масалани илгари сурган. Муаллиф тадқиқ қилинаетган масала буйича илмий-назарий хулосаларга эришган. Қорақалпоқ адабиетидаги изланишлар ҳақида тегишли хулосаларга келган. Ушбу мақолада адибнинг қорақалпоқ назмига қўшган ҳиссаси ҳақида айтиб ўтилади. Шоирнинг ижодий маҳорати натижасида образларнинг очилишида бадиий тасвирлаш воситаларидан фойдаланиш усуллари мисоллар билан далиллаб берилади. Мақола К.Мамбетов, Ж.Хошниязов, З.Бекбергенова, К.Рахманов, Ш.Сейтов, Х.Даулетназаров, Б.Нурназарова, О.Сатбаев, Б.Сейтаев, А.Ажиниязов, Г.Давлетова, Н.Тилеуова ижодиетининг янги қирраларининг очилишида катта аҳамиятга эга. Ж.Хошниязовнинг “Яшил мавсум”, ”Долаларим, боболарим”, “Обилайсан” тўпламларининг яратилиш тарихи тўғрисида муаллиф илмий маълумотлар келтиради. Ёзувчиларнинг ижодий лабораториясини ўрганишга боғишланган илмий тадқиқотларининг таҳлили берилади.

Abstract

The article examines one of the topical problems of modern Karakalpak literary criticism. The history of the creation of lyric works. The feasibility of the composition of lyrical works are considered on the example of the lyrical writings of Mohammed Khoshan. This article analyzes the problem of the creative laboratory of the writer and the poet. Acquired so-called Elksandrov, R.G. Fathrakhmanov, N.Sh. Sadullayeva, Z.E.Bekbergenov in his studies touched this problem. The article is devoted to one of the actual problems of Karakalpak literary studies. The author identifies the search for the poet Zhosniazov and the artistic features of the genre of poetry. We are also talking about the study of the creative laboratory of the poet and the writer. The determination of the individual style of the poet and the writer is of great importance. The arts put forward the actual problem of literary studies forward. The author has reached scientific and practical conclusions on the issued problem. The corresponding conclusions about the heroes and their images are made. This article marks the contribution of the poet to the development of Karakalpak poetry. As a result of the creative talent of the poet to disclose the actions of the heroes and their images, they are proved on the examples of using the artistic image tool. The article is important in the disclosure of the new faces of the creativity of the poet K.Mambetov, Zh.Hoshnizov, Z.Bekbergenova, K.Rahmanova, S.Saytova, H.Davletnazarova, B.Nurnazarova, O.Satbaeva, B.Sitaeva, Davletova, A.Aazhinazov, N.Tleuova. In this article, the author describes the history of the creation of poetic collections "Green Season", "Rain", "between the seasons" of the poet J. Khoshnizov. A review of works devoted to the study of the creative laboratory of the writer is given.

Калит сўзлар: Ижод, ижодий маҳорат, назм, наср, маданият, халқ, ижодкор стили, бадиий адабиёт**,** роман, повесть, поэма, баллада, сонет, туркум.

Keywords: creativity, creative laboratory, poetry, culture, people, poet style, fiction, romance, story, poem, ballad, sonnet, cycle.

Филология илимлери докторы Ж.Хошниязов илимпаз, шайыр, аўдармашы және жазыўшы сыпатында халқымызға танылды. Ол тийкарынан жыллар даўамында қарақалпақ қаҳарманлық дәстанларының тарийхын, «Алпамыс» эпосы тарийхын изертледи, халық этнографиясы, ҳәзирги дәўир қарақалпақ әдебияты, романлар, повестьлер, прозаиклер, шайырлар менен драматурглер дөретпелери бойынша илимий-изертлеў жумысларын алып барады. Қарақалпақ фольклорының 100 томлығын баспадан шығарыўда еринбей искерликте болды, қол жазбаларды

қайталап үйренди, китапларды таярлада белсенди қатнасыў менен бирге жуўаплы редакторы есапланады. Филология илимлериниң докторы, үлкен илимий хызметкер. 1978-жылы Ташкент қаласындағы А.С.Пушкин атындағы тил ҳәм әдебият институтының қәнигелестирилген кеңесинде «Алпамыс дәстанының қарақалпақ версиясына тарийхый-фольклорлық сыпатлама» деген темада кандидатлық диссертация жумысын қорғады.Оның илимий ислери 1988-жыл «Қарақалпақ фольклорындағы этнографиялық мотивлер» (Ташкент: Фан, 1988. Х.Есбергенов пенен биргеликте ҳәм) деген монографиясы баспадан шықты. Ол «Қарақалпақ қаҳарманлық дәстаны Алпамыс» [9: 144]. (Нөкис: Билим, 1992), ҳәм «Миллий руўхый дүньямыздың сағалары» (Нөкис: Қарақалпақстан, 2007), «Эпикалық дәстүрлердиң даўамы» (Нөкис: Билим, 2013), «Әжинияздың қырда дөретилген қосықлары ҳәм қазақ шайырлары менен руўхый пикирлеслиги» (Нөкис: Илим, 2015), «Қарақалпақ қаҳарманлық дәстанлары-миллий қәдирятлар дәреги», (Нөкис: Илим, 2017) сыяқлы илим-изертлеў монографиялары ҳәм китапларының авторы, 100 ден артық илимий мақалалары, илимий конференцияларда баянатлары менен материаллары баспадан шыққан. Хошниязов Жалғасбай 1970-2022-жыллар барысындағы илимий ислердиң жуўапкерли орынлаўшысы ҳәм авторы болып табылады. «Далаларым, бабаларым», «Жасыл мәўсим» [10: 100], «Абылайсаң», «Қуяштың жасы», «Балалықтың булдыр аспаны» сыяқлы китаплары белгили болды. «Әмиўдәрья» журналында 1991-жылы 6-санда Мухаммед Хошан лақабы менен «Кешиккен жоқшылар…» атлы қосықлар дүркини жарыққа шықты…» [8:44].Бунда Мухаммед Хошан деп аталыў себебин түсиндиреди ямаса әўелги атын тиклейди. Сәўбетлесиўлерде, жеке характердеги (сыпатта) бақлаўларда, радио арқалы сөйлеўлеринен, радиодан қосықлар, баянатлар оқыўларынан, телевидениеден шығыўларда, қол жазбаларда, ҳәр қыйлы мағлыўматларда, хатларда, дереклерде шайырлардың дөретиўшилик лабораториясының өзгешелиги туўралы түсиниклер пайда болады. Бунда «Жоғымды излеп…», «Мен Едилге баратырман», «қарақалпақ аўыллары», «Едил қайда», «Сарайшықта жасыл ақ терек», «Таў ишинде ел көрдим», «Матай таўдың» «Уқсас ағайин» шығармалары жәмленген [8; 43-49]. Шайыр қосықларының дөретилиў себебин түсиндиреди, «Көкирегинде шайырлық дебдиўи бар ҳәр қандай адам сапардан илҳамланып қайтатуғыны тақыйық. Деген менен, бизиң бул сапарымыздағы ойымызға түйип қайтқан сезимлеримиз өзлеримизди қанаатландырмайды» деген сөзлер менен шайыр бул дүркин жазылыўы тарийхы туўралы мағлыўматлар береди [8; 44-45]. Ҳақыйқатында да, илимпазлар илимий сапарлардан кейин, экспедициялардан соң шығармалар жазады.

«-Мен Едилге баратырман,
Әрманларым баршылық.
Сәтли сапар тилек қалың жолыма!
Бабалардың кеўлиндеги сарсығын,
Услап турып көрежақпан қолыма…» [8; 44].

Шынында да, Т.Нийетуллаев, О.Сайымбетов, Ә.Кощанов – изертлеўшилер төртеўи илимий сапарда - Волгоградта, Саратовта, Астрахань, қазақстанда болып қайтты. Илимпазларымыз сапардан тәсирленип, саяхатнамалар, жол жазбалар жазды. Бул ҳаққында «Әмиўдәрья» журналында 1990-жылы 7-санында «Сапарнама» рубрикасы астында «Өтмиштен дәрек излеп» атлы оларды мақаласы дағазаланды [4; 85-97]. Усы жол жазбалар «Сарайшықта жалғыз ақ терек», «Матай таўдың шоққысы», «Едил қайда, ел қайда?», «Астраханьдағы қарақалпақ аўыллары» сыяқлы атамалар тиккелей қосықлар дүркими туўылыўына тәсир еткенлиги белгили болып тур, демек, дәслеп сапар тәсири менен саяхатнамалар жазылады, соң дүркинлер дөреген, соңра бул теманы шайыр және қозғайды. «Едил қайда...» қосығы қарақалпақ термелери менен толғаўлары дәстүринде жазылады. Бул жерде фольклорист алым тәжирийбеси пайдаланылады. Бул туўындылар бойынша сораўлар бергенимизде, автор пикирлерин билдирди.

«-Едил қайда, ел қайда,
Жайық қайда, жай қайда?
Бабалардың қайғысын
Усы сөзден байқайман» [8; 46]. Солай етип, бурын ата-бабалар жасап кеткен орын шайырды, илимпазды ойландырады. Тийкарында, көшпели халықлар тарийхы бәршени толғандырары сөзсиз. «қарақалпақ аўыллары» қосығы оқыўшыны да, шайырды да терең ойландырады.

«-Өтмишти араладым,
Ойымды дараладым,
Жайықтың жағалары,
Қарақалпақ аўыллары.
Дуўтары тартылмаған,
ғобыз жоқ ғаңқылдаған,
Бундайды кәр қылмаған,
Қарақалпақ аўыллары.
үмиттен безгени көп,
Қысқыға төзгени ғой,
Аты бар өзлери жоқ,
Қарақалпақ аўыллары» [8: 46-47]. Бул дөретпе тәсирли жазылды. Жазылыў тарийхлары алымды да, оқыўшыны да қызықтырады. Жол жазбалар жазыў әдебиятта раўажланды. К.Мәмбетов «Саяхатнама» шығармасында Ҳиндистан, Шри-Ланка сапарлары туўралы жазды. Г.Есемуратова «Америка тәсирлеринен» атлы дөретпеси менен белгили. М.Сейтниязов та Ҳиндистан сапарынан кейин саяхатнамасын жазады. Демек, бул прозада раўажланды. Солай етип, илимий экспедициялардан кейинги дөретилген қосықлар екенлиги белгили болады. Ж.Хошниязов дөретиўшилигинде бул қубылыс жийи-жийи байқалады. Қосықлары жазылыўында илимий сапарлар, тарийхый орынларға саяхатлар, экспедициялар тәсир еткенлигин билиў итимал. Мысалы, тарийхшы илимпаз Ғайратдийин Хожаниязовқа арнаған қосығы усылайынша туўылды яки «Топырақ қаланың топырақлары»,

«Археолог еңсесинде», «Ақшадәрья толқынлары қайдасыз», «Ақшакөл айдынлары», «Естеликлер», «Шылпық шеңбериниң шегарасында» қосықлары тиккелей сапарлардан дөреди…» [7: 44]. Ж.Хошниязов көлемли дөретпелер де жазады, «Айралық қыссасы», «Қоңсының қызы» атамасында поэмалары, «Сулайманның жүзиги», «Ең қәдирли зат», «Мәсләҳәт», «Атаңа не қылсаң» әпсаналары мәлим. «Айралық қыссасы» поэмасында Гүлзийра менен Назарбай, ерли-зайыплылар қатнасады. Композициясы қурылыўында жаңалықлар сезиледи, «қыссаға сюжет таңлаў», «алқысса», «автордан» сөзлери киргизиледи. Филология илимлериниң докторы Ж.Хошниязов «Қарақалпақ халық дәстанларының қәлиплесиўинде «Авесто»ның әҳмийети» (Өзбекстан Республикасы Илимлер академиясы Қарақалпақстан бөлиминиң Хабаршысы. – Нөкис, 1999. – №3. – Б. 81-83) деген илимий жумысында дәстанлар менен «Авесто» естелигин салыстырмалы изертледи, бул қызықлы жумыс саналады. Бул илимий мийнетте «Авесто» естелиги менен дәстанлардың байланысларын биргеликте үйренеди. Шынында да, «Авесто» ескерткиши менен халқымыз бурыннан таныс екенлиги болады, дийханшылық ҳәм қурал-жарақлар, батырлар образлары, қудайлар - Ахурамазда менен Ахриман туўралы алымның пикирлери қызықтырады. Этнография бөлиминде ислеген пайытларынан Хошниязов Жалғас алым Есбергенов Хожахмет пенен биргеликте «Этнографические мотивы в каракалпакском фольклоре» атлы мийнетти Ташкенттен «Фан» баспасынан 1988-жылы шығарды (111-149). Солай етип, оны дәстурлер туўралы шығармалары дөреўинде бул илимий мийнет өз орнына ийе есапланады. Филология илимлериниң докторы Ж.Хошниязов шайырлар, қосықлар, олардағы жетискенликлер менен нуқсанлар, Х.Дәўлетназаровтың поэзиясының өзгешеликлери туўралы илимий пикирлеринде, әсиресе "Сен жақсы қызсаң" китабындағы гейпара кемшиликлерди дурыс аңлады [14: 8]. Илимпаз улыўма поэзиядағы көпирме сөзлилик, "қызыл сөзлилик", көтериңки сөзлерге ҳәўеслик, бәлент пәрўазлы үгит-нәсиятлар, шақырықлар жөнинде сын пикирлерин айтып кетеди [14:89]. Шынында да, бул поэзияда ушырасып турады «қарақалпақ қаҳарманлық дәстанлары - миллий қәдириятлар дәреги» [12: 92] китабында Күлтегинге, Билкеге, Тонықокке арналған жазба естеликлер менен Оғузнама, Коркут ата естелигинен аўдармалар берилди, кейнинде түсиниксиз сөзлерге де түсиниклер, сөзлик берилди. Мысалы, «тигин» (тегин-ханзада), телес - ески түркий қәўим атамасы, шантун даласы - Шығыс қытайдағы ярым атаў, тутуқ, шад - қаған сарайындағы ҳәмеллер. Булардың барлығы қызығыўшылық пайда етеди. Татар әдебиятында алым Фатхрахманов Рашит Габдулхаковичтиң «Прозаиктиң дөретиўшилик лабораториясы» атлы илимий-изертлеў жумысында бул мәселеге - прозаик дөретиўшилигине, йош туўралы арнаўлы тоқтайды («Творческая лаборатория прозаика (на материале произведений А.Еники, М.Магдеева, А Гилязова, Н.Фаттаха и др.)» Казан, 2000 [15: 25] жыл. Рус илимпазы Т.Архангельская мийнетлеринде де Л.Н.Толстойдың шығармалары бойынша изертлеў жумысларын алып барады. Прототиплер ҳаққында, образлар жаратылыўы бойынша, америкалық деп аталған Ф.Толстой бойынша жаңа пикирлерин келтиреди. Мысалы, Долохов образы бойынша ойлар, кеңисликтиң орны, Ясная Поляна аўылын Лев Толстой менен бирге қарастырады («В творческой лаборатории Л.Н.Толстого: Источники, прообраз и образ, литературные связи», Т.Архангельская, Орел, 2004, 267 бет) [1: 267]. Демек, шығарма жазылыўы бойынша изертлеўшилер өз бақлаўлары, музейлердеги дереклер, китаплар, ҳүжжетлер, китапханалардағы жүргизилген жумыслар ҳәм қол жазбалар бойынша пикирлер орын алды. Ж.Хошниязов көбинесе дүркинлерди шебер жазады. Буның себебин сораганда, ой-пикирлер кеңлиги, сезимлер арнаға сыймай кетиўи менен тусиндирди, яғный илимпазлық шайыр ушын искерлик тәсир етеди, пикирлер раўажландырылады, гейде дәслеп алым ретиндеги хызметлери белгили болады. Ж.Хошниязов поэзиясы бойынша филология илимлериниң докторы, профессор С.Ахметов, Т.Мәмбетниязов, Ә.Насруллаев және Г.Тилеўниязовалар [2: 404] илимий мийнетлерин жазды. Шайырлар удайы поэзияда өз сөзлерин айтып киятыр. Поэмалар жазылып атыр, мазмунлы балладалар дөретилди, қосықлар, сонетлер, төртликлер, алтылықлар, оккулар жарыққа шықты. «Мәўсимлер аралығы» деп аталған китабы «ғаррылық мәртебем» дүркининдеги усы атамада қосығына тийкарланып қойылған. Бул атаманың таңланыў себебин өмир пасыллары, инсан турмысында кекселик дәўир басланыўы менен түсиндиреди. Ж.Хошниязов шайыр, илимпаз, прозаик, аўдармашы сыпатында белгили. «Миллийликтиң бир белгиси ямаса этнографиямыздың гейпара мәселелери» атамасы менен өткерилген дөңгелек стол сәўбетинде ол этнография тараўы бойынша пикирлерин көрсетти. Ол халқымыздағы жасларға отаў тигиў дәстүри туўралы айтады. Отаўдың уўық - кереге, шаңарақларын жигит тәрепи, баў-шуўларын қыз тәрепи таярлап, некелесиў тойлары өткерилгенлигин билдиреди. Бул журнал бетлеринен орын алған сәўбетте филология илимлери докторы, профессор К.Алламбергенов, Қ.Мақсетов. Х.Есбергенов тәризли илимпазлар да қатнасады. Солай етип, бул манда Ж.Хошниязов илимпаз ретинде хызмет еткенлиги белгили болады. «Жасыл мәўсим» топламы да усы темада бир қосыққа тийкарланады. Шайыр пейзажларды шеберлик пенен киргизеди. Топлам жазылыў тарийхына ийе саналады. «Қуяштың жасы» жыйнағы да усылай. Демек, шайыр белгили бир қосығын таңлап алады да, сол атаманы топламға қояды. Этнография бөлиминде ислеген пайытларынан Хошниязов Жалғас алым Есбергенов Хожахмет пенен биргеликте «Этнографические мотивы в каракалпакском

фольклоре» атлы мийнетти Ташкенттен «Фан» баспасынан 1988-жылы шығарды (111-149). Солай етип, оның дәстүрлер туўралы шығармалары дөреўинде бул илимий мийнет өз орнына ийе есапланады. Қосықтың, поэманың, балладаның жазылыў тарийхы мудамы оқыўшыларды қызықтырмай қалмайды. Көркемлиги жоқары, мазмунлы, мәнили, уйқасқа түскен қатарлар поэзия ықласбентин йошландырады, толғандырады, ой жуўмақларын, тужырымларын пайда етеди және ойландырады. Ж.Хошниязов жүдә көп китапларды оқыйды. Р.Гамзатов, Е.Евтушенко, А.Вознесенский, Қ.Мырзалиев, М.Мақатаев, А.Арипов, Е.Вахидов, И.Юсупов тәризли шайырлар китапларын қолдан түсирмей, тәкирарлап отырады. Ж.Хошниязов И.Юсуповты устаз ретинде мойынлайды. Сол жыллары поэзияда жаңа бир толқын сыпатында бир топар талантлы жаслар пайда болды.

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LINGUISTIC AND STYLISTIC ANALYSIS OF TEXTS OF MODERN ENGLISH SONGS

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Abstract

The article provides for a linguistic and stylistic analysis of the lyrics of English songs. Today, the vast majority of teens can listen to songs in English and any of their favorite songs in the era of globalization through mobile information technology and applications.

The main part explains the linguistic concepts of linguistics and stylistics. The research section provides an overview of scholars who have studied British and American songs and their work.

The practical part provides a linguistic and stylistic analysis of the lyrics of famous singers. The lyrics were translated from English into Kazakh, morphological, lexical and stylistic analysis was carried out.

Keywords: linguistics, stylistics, modern English songs, metaphor, anaphora, simile, hyperbole.

Stylistics is generally defined as the linguistic study of style, and it aims at explaining the relation between language and artistic function (Leech and Short, 2007, p. 11). However, one of the greatest difficulties in stylistics is the problem of defining style. Then, the motivating question from the linguist‘s viewpoint is ―Why was this form of expression chosen in the context of use?

Learning a foreign language is not easy to imagine without an activity like working with a song. After all, songs of modern English or American groups are of particular interest to many students. But, unfortunately, work at a song often comes down only to reading the words of the song, translating them, listening to them and playing the song together to a phonogram. This is not worth it. In teaching a foreign language, using modern authentic songs is a very effective technique. [1]

Linguistics and literature are two different fields of study related to language; however, the fact is that linguistics and literature are engaged in such away and cannot be separated. Linguistics is the medium for literature to express language, and literature is the final result of people express language linguistically. To combine linguistics and literature, people need a field of study that is called as stylistics. In general, stylistics is the field study of language style

Stylistics encompasses any style of text, including language style in newspapers, advertisements, and literary works, in its broadest definition. Many specialists, on the other hand, agree that stylistics is simply the study of language. As a result, whether stylistics is a field study is still a point of contention. Some academics feel that stylistics is a part of literature because it involves the use of words. Furthermore, literary works use more advanced vocabulary. They've been set up in a way that makes them interesting.

Furthermore, Crystal (1969: 10) argues that style refers to literary language. It is associated with a "good" and beautiful writing which focuses on the literary critic's attention. Thus, stylistics is exclusively related to literary works. In line with Crystal, Ratna (2009: 149) says that language is a tool, substance, means, and rough material for literature. In short, since stylistics makes literary works as the object of the study, it belongs to the field of literature.

In contrast, linguistics is the study of language in general including the language that is used in literary works. It is associated with the language structure in any works including literary works. In this case, linguistics is part of literary works. There is no literary works done without the existence of linguistics.

Moreover, Leech and Short (1981: 13) define stylistics as the linguistic study of style. In other words, stylistics is an essential part of linguistics, or stylistics is the scientific study of language. In addition, Turner (1977: 7) defines stylistics as a part of linguistic study that focuses with the variation of language use. Further Verdonk (2002: 4) argues stylistics as the analysis of distinctive expression in language and the description of its purpose and effect. To be more specific, stylistics is a field of linguistics that studies how language is employed in specific contexts, such as literary works.

It is obvious that linguistics is a component of literature, and that the two cannot be separated.

It is linguistics exclusively, and it does not cover both branches of language study at the same time. In fact, linguistics and literature are inextricably linked since literary works necessitate the use of language.

Linguistics is a means of communication. According to Widdowson (1975 117) stylistics occupies the middle ground between linguistics and literary criticism. He also adds that stylistics aims to mediate between two subjects: language and literature. Furthermore, since there are two basic human expressions, spoken and written language, so style is applicable to those kinds of expressions both literary and non literary language, but, traditionally style is associated with written literary texts (Leech and Short, 1981: 11). Those opinions become the evident that stylistics is placed in the middle of linguistics and literature; they are two different but inseparable language studies. In other words, stylistics is the marriage of linguistics and literature.

The most dominant language in British pop music is British English. British pop music has a very wide variety of themes that can be described literally. Importantly, song is widespread globally and easy to approach around the world. The influence of song makes it an interesting source to study in the lyric content, language use, style, and the idea. Turner (2009, p. 70) argue that songwriters also use linguistic devices to manipulate language in a way that transcends conventional expression, through rhyme, symbol, imagery, metaphor, lexis, and sound. Accordingly, song lyrics therefore can be considered as a kind of poetry that is composed attractively and melodiously by songwriters with concern for the use of words, the varieties of stylistic device, rhythm, and meaning.

Stylistics can be described by and large, as the study of style of language usage in different contexts either linguistic or situational. It is concerned with the examination of grammar, lexis, semantics as well as phonological properties as discursive devices. Stylistics examines oral and written texts in order to determine crucial characteristic linguistic properties, structure and patterns influencing perception of the text. Many figures of speech can be found In song lyrics. Not all the song lyrics are easily understandable, especially when the lyrics are full of figures of speech or figurative language in the words, phrases, or sentences which have hidden meaning inside them

Figurative languages are words and expressions used in poems and songs to convey various meanings and interpretations from the literal meaning. Figurative devices play major while writing. Appropriate use of figurative devices can enhance the work and create a deep level of meaning that a listener can enjoy while decoding. It is effective to communicate an idea that is not easy to understand because of its abstract nature or complexity. Songwriters use figurative language to stimulate emotion, help listeners to form mental images. One of the main reasons for using these devices is to make a connection with the listeners so that they can sink deep into the sea of the writer's thoughts. Here are linguistic and stylistic analysis of texts of songs:

1. My heart will go on – Celine Dion

Every day in my dreams
I see you, I feel you.
Love can touch us one time
And last for a lifetime…
Near,far, wherever you are
I believe that the heart goes on

The above lines use hyperbole in the line 'near far, wherever you are…'. The songwriter exaggerates the way to illustrate the main character's presence to the listeners. At the beginning of the song 'Every night in my dream I see you I feel you', the writer uses imagery to create a visual impact of the singer's dream and her beloved. 'Love' is personified in the lines 'love can touch us one time'.

2. Let it go – Idina Menzel

The snow glows white on the mountain tonight
Not a footprint to be seen...
The wind is howling like this swirling storm inside
Couldn't keep it in, heaven knows I've tried...
Let it go, let it go
Can't hold it back anymore

At the beginning of the song, the singer has used hyperbole. For example, 'The snow glows white on the mountain tonight'. In reality, snow doesn't glow. We

can see the personification and simile in the following lines 'The wind is howling like the swirling storm inside'. Here the wind is personified and it is compared by a wolf's howl.

3. Skyscraper – Demi Lovato

Skies are crying, I am watching
Catching teardrops in my hand
You can break everything
Like I'm made of glass
Like I'm made of paper

The entire song is an extended metaphor of struggle and overcoming. Here the singer has used oxymoron in the line 'its long way down, but I am closer to the clouds up, here'. The writer has used two opposites 'up and down' in the same verse. In the lines, 'Skies are crying', skies are personified. In the verse 'you can break everything I am, like I'm made of glass', has a simile. Here the singer is comparing herself to glass and a piece of paper to show her vulnerability.

4. Big Girls Don't Cry – Fergie

I hope you know, I hope you know
That this has nothing to do with you
It's personal, myself and I
We got some threatening out to do
And I'm gonna miss you like a child misses their blanket
But I've got to get a move on with my life
It's time to be a big girl now
And big girls don't cry
Don't cry, don't cry, don't cry

In the above line, the singer compares her emotions and missing a person to a little child who lost his or her blanket. There is a consonance, the sound of /l/ in the 3rd line, 'It's personal, myself and I'. The repetitions like 'hope you know and don't cry' add an emphasis to the singer's emotions as she tries to convey the message to her love.

5. Fire Work – Katy Perry

Do you ever feel like a plastic bag...
Do you ever feel,feel so paper thin
Like a house of cards..
Come on let your colors burst
You're original, cannot be replaced
If you only knew what the future holds

The song is filled with many figurative devices and known as one of the best to learn them. In the first line, 'Do you ever feel like a plastic bag', there is a simile. Here the singer compares a person to a plastic bag which used to store things or perhaps a garbage cover. Later in line, there is a metaphor, 'Do you ever feel, feel so paper thin'. Here the singer is trying to compare the weak-minded persons to a thin paper or a tissue paper. There's another simile, in line 'just own the night, like the fourth of July'. In the line, "Come on let your colors burst", the sound of /r/ is a consonance.

6. Chandelier – Sia Furler

Phone's blowin' up, they're ringin' my doorbell...
And I'm holding on for dear life,
Won't look down won't open my eyes
Keep my glass full until morning light,
'cause I'm just holding on for tonight
Help...

'Phone is blowing up' is hyperbole, as the doorbell sounds do not affect the phone. 'But I'm holding on for dear life', is also another hyperbole because she is not actually going to die from the doorbell sound. The sounds of /n/ in the first line and the sound of /l/ in the 4th line are consonance. The sound of /o/ in the first line is assonance.

7. Fly Me To The Moon – Frank Sinatra

Fly me to the moon
Let me play among the stars
Let me see what spring is like on
A-Jupiter and Mars
You are all long for, all I worship and adore

In the first three lines, the singer uses hyperbole. He exaggerates the facts and wishes to fly to the moon and play in the stars. He also believes there are seasons like spring on the planets Jupiter and Mars. Lines 3 and 4 are also imageries.

8. Grenade – Bruno Mars

Easy come, easy go, that's just how you live, oh
Take, take, take it all, but never give
Shoulda known you was trouble from the first kiss
Had your eyes wide open; why were they open?
Gave you all I had and you tossed it in the trash
You tossed it in the trash, you did
To give me all your love is all I ever ask
'Cause what you don't understand is

The 2nd and 4th lines have alliteration. The sounds of /t/ in 'Take, take, take it all, but you never give' and the sound of /w/ in 'Had your eyes wide open; why were they open?' Line 1, 'Easy come, easy go' is an idiom to tell about a person who doesn't take the relationship seriously. In the 5th line, 'Gave you all I had' is hyperbole as no person can give 'all' their possessions to someone even if they are close.

9. I am a rock- Simon & Garfunkel

A winter's day
In a deep and dark
December...
It's sleeping in my memory
I won't disturb the slumber of feelings that have died...
I am a rock
I am an island...
And a rock feels no pain
And an island never cries

The phrases ' I am a rock', I am an island' are metaphors and it used as a comparison for personalities. In the lines ' love is sleeping', feelings ' die' and ' a rock feels no pain and the island never cries' are used as personification. The imagery used in the following phrases, 'freshly fallen silent shroud of snow', 'a fortress steep and mighty' and ' past experiences spurred this commitment'. Also the repetition of /d/ sound is alliteration in 'dark and deep December'. Anaphora is evident in 'I am a rock, I am an island'. Here 'I am' is repeated to emphasize the speaker's emotional experience and his solitude.

10. Duncan Laurence – Arcade

A broken heart is all that's left
I'm still fixing all the cracks
Lost a couple of pieces when

I carried it, carried it, carried it home
I'm afraid of all I am
My mind feels like a foreign land
Silence ringing inside my head
Please, carry me, carry me, carry me home
I've spent all of the love I saved
We were always a losing game
Small-town boy in a big arcade
I got addicted to a losing game

The phrases 'carried it, carried it, carried it home' and 'carry me, carry me, carry me home' are repetition, because these phrases are repeated several times to emphasize, to impact on listeners and develop a certain idea. The song uses the metaphor of an arcade to define love, which he refers to as a "losing game". He compares addiction to video games as being similar to an addiction to love ("I spent all of the love I've saved, we were always a losing game, small town boy in a big arcade, I got addicted to a losing game"). The first verse describes the feelings of hopelessness that come from a lost love – "a broken heart is all that's left, I'm still fixing all the cracks, lost a couple of pieces when I carried it, carried it, carried it home". As the song progresses, however, Duncan portrays himself as the author of his own heartache — "I saw the end fore it begun, still I carried, I carried, I carry on" — and resolves to move on. As he sings: "I don't need your games, game over, get me off this roller coaster.

Texts of songs have their own syntactic structures that create meaningful sentences. In the following table the main words are identified by their functions in sentences.

Table 1.

Linguistic analysis according to morphology

Songs	**Noun**	**Verb**	**Pronoun**	**Adjective**	**Numerals**	**Adverb**
My heart will go on – Celine Dion	Day Dreams Love Time Lifetime Heart	See Feel Touch believe	Every I	Near far	One	Every day
Let It Go – Idina Menzel	Snow Mountain Footprint Wind Heaven storm	See Howl Keep Know Go	I	white		tonight
Skyscraper – Demi Lovato	**Skies** **teardrops hand** **Like I'm made of glass** **Like I'm made of paper**	Cry Watch Catch Break Glass Paper hand	I My You **everything**			
Big Girls Don't Cry – Fergie	**Child** **Blanket** **girls**	Hope midd	I Myself You we Nothing	threatening		
Fire Work – Katy Perry	***bag*** ***house cards colors***	***feel hold Come***	***you***	***plastic future thin original***		
Chandelier – Sia Furler	Phone Doorbell glass	Blow Ring Hold Look down	They I			Tonight morning
Fly Me To The Moon – Frank Sinatra	***moon*** ***stars Jupiter*** ***spring Mars***	***Fly adore***	***Me*** ***You*** ***I all***	***long***		
Grenade – Bruno Mars	Take Kiss Eyes	Come Go Live Know Open toss	They I You all	easy	first	

I am a rock- Simon & Garfunkel	Winter day December Rock Island pain		I	Deep dark		
Duncan Laurence – Arcade	Heart Land silence	Fix Lost carry		broken		

Conclusion. In conclusion, we suppose that modern English songs mentioned and analyzed above plays significant role for the development of students in learning English as much as possible:

1) the words of the song serve as an effective means of expanding vocabulary,

2) the song consolidates grammatical structures,

3) the song helps to improve pronunciation,

4) the song helps to understand spoken language (very important!),

5) the song broadens the outlook of schoolchildren (get acquainted with the work of songwriters),

6) all types of work with a song help to stimulate students' interest to the subject and support it throughout the years of schooling,

7) songs evoke positive emotion

Suggestions

1) It would be better if we have one extracurricular lesson analyzing lyrics of songs altogether with our teacher and friends

2) It would be great if music contest among teenagers are organized once per year

3) It would be good opportunity if every school has karaoke rooms

4) Of only we had a British Musical corner at our libraries full of books with history background of songs and singers

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6. A Stylistic Analysis in British Musician's Selected Songs A Thesis by Andi Febrian Maulana

TECHNICAL SCIENCES

ИСПОЛЬЗОВАНИЕ АВТОНОМНОЙ НАВИГАЦИОННОЙ СИСТЕМЫ GPS И КОМПЬЮТЕРНОЕ ЗРЕНИЕ ДЛЯ СОВРЕМЕННОГО ДОРОЖНОГО ДВИЖЕНИЯ

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USE OF OFFLINE GPS NAVIGATION SYSTEM AND COMPUTER VISION FOR MODERN TRAFFIC

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Аннотация

В этой статье был проведен обзор глобальной системы позиционирования (GPS) и навигационной системы на основе компьютерного зрения, и был обнаружен большой разрыв между фактическими потребностями в навигации и тем, что существует в настоящее время. Поэтому в предлагаемом исследовании обсуждается новая структура автономной навигационной системы, которая использует GPS, а также компьютерное зрение с учетом тематического исследования современной системы дорожного движения. Предложена аналитическая модель, в которой данные с географической привязкой из GPS интегрируются с сигналами, полученными от визуальных датчиков, как предполагается, для реализации этой концепции.

Abstract

This paper reviewed the global positioning system (GPS) and computer vision based navigation system and found a large gap between actual navigation needs and what currently exists. Therefore, the proposed study discusses a new structure for an autonomous navigation system that uses GPS as well as computer vision, given the case study of the modern traffic system. An analytical model is proposed in which georeferenced data from GPS is integrated with signals received from visual sensors, as expected to implement this concept.

Ключевые слова: Навигационная система, GPS, компьютерное зрение, дорожное движение.

Keywords: Navigation system, GPS, computer vision, road traffic.

Введение

По сути, навигационную систему можно рассматривать как сложный вычислительный механизм, облегчающий предоставление навигационных услуг [1]. Типичная навигационная система состоит из географической информации в виде карты, которая предлагает удобный формат чтения географических данных, часто в виде текста. Они также могут использовать различные формы датчиков и другие источники информации, собираемой различными способами. В настоящее время они используются для рекомендации подходящего направления маршрутов для транспортных средств, на которых установлено навигационное устройство. Существуют различные формы навигационной системы, а именно: навигация в глубоком космосе, роботизированное картографирование, инерциальная навигационная система, хирургическая навигационная система (используется в медицинском секторе), спутниковая навигационная система и автомобильная навигационная система [2], [3]. Из всех форм навигационной системы глобальная система позиционирования (GPS) является наиболее распространенным способом среди глобальных пользователей. GPS использует механизм радионавигации, который предоставляет информацию о времени и географическом местоположении приемнику GPS из любой точки земли. Существуют различные причины для более широкого технического внедрения GPS, поскольку он полностью независим от любых данных, передаваемых пользователем, и может работать самостоятельно [4]. У него нет даже зависимости от приема Интернета или каких-либо телефонных услуг, чтобы функционировать, хотя использование этих услуг обеспечивает большую точность навигации. Типичное применение навигационных услуг на основе GPS делает упор на гражданских лицах, учет времени, связь и военные приложения [5]. Однако существуют определенные проблемы, связанные с использованием GPS, т.е.; 1) он не способен отслеживать состояние

транспортного средства или объекта, где он находится в качестве приемника, 2) он часто сталкивается с проблемами отключения из-за ослабления сигнала, 3) он часто сталкивается проблемы с отклонениями изменяются в режиме реального времени, и 4) информация, полученная из него, не всегда точна [6]. В связи с этим были проведены различные исследовательские работы по преодолению этих проблем; однако проблема наследия остается более или менее неизменной. Следовательно, GPS часто используется при интеграции инерциальной навигационной системы [7]. Тем не менее, во всем этом по-прежнему есть проблемы. Наряду с этим соображением необходимо также признать, что современная система связи в системе дорожного движения также претерпевает революцию. Концепции автомобильной специальной сети с интеграцией интернета вещей в настоящее время являются будущим современной системы дорожного движения [8]. В этой системе встроенное устройство, называемое бортовыми устройствами, находится в транспортном средстве, которое взаимодействует с точкой доступа, называемой придорожным устройством на дороге, и обеспечивает распределенную автомобильную систему связи. Поскольку бортовые устройства также подключены к информационно-развлекательной системе, которая имеет доступ к навигационной системе на основе GPS, существует большая вероятность того, что может быть разработана автономная и беспроводная навигационная система, которая действительно сможет намного лучше управлять навигацией. Кроме того, уже есть IP-камера наблюдения, которая установлена на дороге. Если эти камеры наблюдения заменяются экономичными визуальными датчиками, чем новая форма навигационной системы, использующей компьютерное зрение. Существует большая вероятность того, что использование компьютерного зрения может предоставить более точную информацию о мобильном объекте, т.е. транспортном средстве, которое может быть интегрировано с данными GPS для обеспечения более точной навигационной системы.

Было замечено, что GPS всегда был доминирующим вкладом в навигационную систему. Недавняя работа, проведенная Абосекином и др. [10] представила модель, в которой азимутальный угол подчеркивается для точного процесса маршрутизации с использованием уникальной операции предварительной обработки, а также операции на основе обновления в отношении уровня принимаемого сигнала во время сбоя данных GPS. Недавние исследования также были проведены в отношении системы беспилотных летательных аппаратов, в которой использовались как GPS, так и инерциальная навигационная система (INS). В работе, проведенной Го и др. [11], использовалась уникальная модель для идентификации и изоляции поддельного сигнала от подлинной версии навигационного сигнала.. В работах Штайнера и др. [14] исследовалось использование GPS в снежной местности, которое оказывает влияние. Это также помогает изолировать сигналы, создаваемые помехами. Работа, проведенная Вангом и др. [15] использовали нейронную сеть с целью разработки модели, которая может решить проблемы с отключением в системе GPS / INS. Почти аналогичная проблема также была решена Чжаном и др. [16]; однако авторы использовали подход фильтрации, а также подход нейронной сети с кратковременной памятью, чтобы предоставлять информацию при отключении GPS-информации. Ли и др. [17] провели другую аналогичную форму исследования, в которой совместное использование GPS и INS использовалось для навигационной системы с фильтром Калмана для более высокой степени точности в навигационной системе в случае сбоя GPS. Работа, проведенная Го и др. [18], представила навигационную модель.

Помимо подхода, основанного на GPS, в современной литературе также используется автономный метод для навигационной системы. В этом подходе было засвидетельствовано использование компьютерного зрения. Работа, проведенная Донгом и др. [19], разработала навигационную систему на основе информации, полученной от датчиков, встроенных в смартфон. Этот метод разрабатывает трехмерную навигационную модель для внутреннего пространства. Установлено, что исследование обеспечивает почти мгновенную локализацию пользователя с меньшей ошибкой. Аппаратные эксперименты с использованием аналогичного подхода навигационной системы с использованием компьютерного зрения засвидетельствованы в работе Лентариса и др. [20]. Авторы использовали полевую программируемую матрицу вентилей (FPGA) с высоко настраиваемым дизайном, где результат показывает значительно меньшее количество ошибок. В работе, проведенной Мансаниллой и др. [21], также использовалось компьютерное зрение для выполнения навигации системы беспилотных транспортных средств. Авторы использовали фильтр Калмана для улучшения оценки позы с использованием экспериментальной модели робототехники. Существуют различные сопутствующие исследования, в которых компьютерное зрение использовалось для навигационных приложений [22]-[30]. Далее обсуждаются выявленные исследовательские проблемы, которые еще не были решены.

Выявленная исследовательская проблема была изучена после рассмотрения существующих подходов с использованием GPS, а также подхода компьютерного зрения. В этом разделе освещаются открытые исследовательские проблемы, связанные с навигационным фактором: 1) нет исследовательской работы по рассмотрению дефектов механизма устройства, которое выполняет систему INS; 2) нет такой литературы, использующей данные с географической привязкой для другого формата данных, отличных от GPS; 3) существующие методы предлагают ограничения, поскольку объем алгоритмов ограничен только представленным сценарием, а также набором данных.; 4) существующие подходы компьютерного зрения фактически неприменимы в современной транспортной системе; и 5) отсут-

ствует какая-либо стандартная навигационная система, использующая GPS или компьютерное зрение. Поэтому, рассмотрев вышеупомянутые открытые исследовательские вопросы, предлагаемая система формулирует проблему следующим образом: “сложно разработать экономически эффективную и эффективную навигационную систему путем совместного внедрения GPS и компьютерного зрения”. Далее обсуждается предлагаемое решение и принятые им методологии.

Таким образом, основная идея предлагаемой системы состоит в том, чтобы предложить интеграцию компьютерного зрения, а также данных GPS для создания эффективной навигационной системы. В настоящее время наблюдается множество таких тенденций, когда навигационная система разрабатывается с помощью различных форм изображений. Кроме того, изображения в реальном времени, основанные на трафике, предлагают высокоинформативные данные с различных датчиков, поскольку они могут быть получены с гораздо меньшего расстояния по сравнению с данными GPS. Следовательно, с этой точки зрения можно получить более детальную информацию о дорожном движении.

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1. Новая современная модель системы для оказания помощи в навигационной системе современного дорожного движения.

Настоящая реализация представляет собой усовершенствованную версию, в которой разработана и разработана новая модель системы для оказания помощи в навигационной системе современного дорожного движения. В предлагаемой системе представлена аналитическая модель, направленная на. После рассмотрения существующих подходов, связанных с навигационной системой, было установлено, что GPS в значительной степени является неотъемлемой частью механизма. В то же время важно знать, что доступность данных GPS не всегда гарантируется. Таким образом, предлагаемая система включает дополнительные данные, которые представляют собой визуальные сигналы, полученные от визуального датчика, размещенного в определенных местах движения. На рисунке 1 показано пересечение 4 полос движения, которое оснащено визуальными датчиками, размещенными на придорожных блоках. Учитывая, что на дороге работает интеллектуальная автомобильная сеть, это будет означать, что бортовые устройства всех транспортных средств подключены к придорожным устройствам, а все 4 придорожных устройства подключены к централизованному транспортному шлюзу в конце.

В исследовании предполагается, что система транспортных шлюзов отвечает за три операции, а именно: 1) прием данных, сгенерированных блоками на обочине дороги, 2) применение алгоритма к данным для определения количества транспортных средств, движущихся по каждой полосе, их соответствующего положения и их направления, и 3) передача результатов в блоки на обочине дороги. Устройства на обочине дороги дополнительно передают данные своему транспортному средству в пределах диапазона, и им будет предложен новый навигационный сценарий.

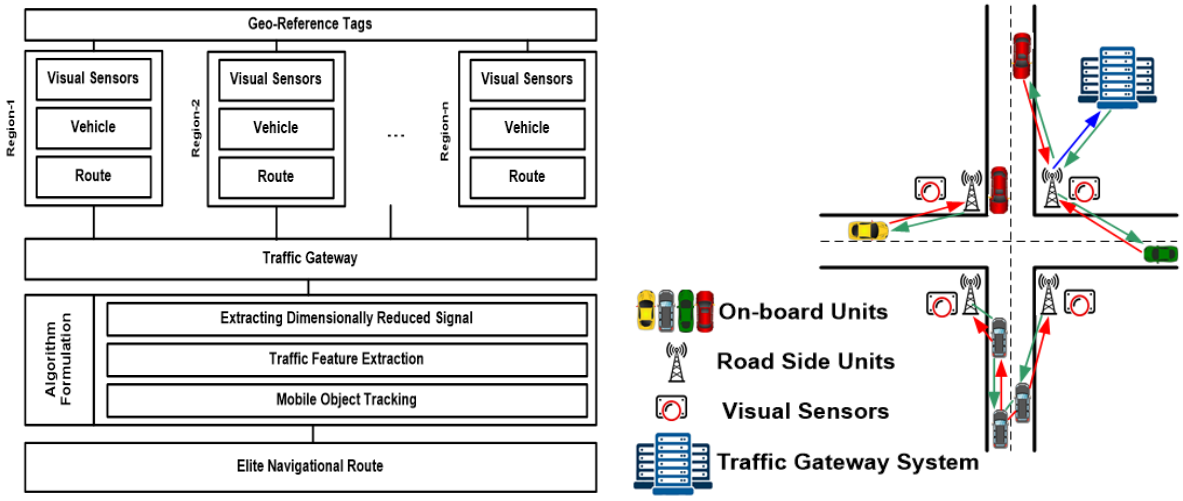


Рисунок 1. Предлагаемая система

Водители могут маневрировать своими транспортными средствами с помощью этой информации. Следовательно, с этой точки зрения необходимо соблюдать две вещи, а именно: 1) точность в позиционирование и 2) более быстрая передача навигационных отфильтрованных данных. Такой подход к навигации никогда не применялся в прошлом, и, следовательно, он способствует созданию новой экономически эффективной навигационной системы для футуристической транспортной системы. Этот алгоритм также предлагает двойное преимущество, а именно: 1) размер данных еще больше уменьшается, так как характеристики сигнала больше уменьшаются по сравнению с исходным сигналом, 2) он предлагает более точную информацию, которая может сузить поиск для лучшей навигации. Окончательный алгоритм отвечает за дальнейшее отслеживание всех объектов, выполняющих мобильность. Этот алгоритм предлагает следующее преимущество, а именно: 1) он может выполнять отслеживание потоковых данных и, следовательно, результат почти мгновенный, 2) он может отслеживать все объекты, присутствующие на сцене, в статическом или мобильном состоянии, и 3) он может предложить точный подсчет транспортных средств, присутствующих на сцене, чтобы лучше понять процесс принятия решений. Следовательно, в предлагаемом алгоритме нет такого включения какого-либо сложного, трудоемкого и итеративного процесса. Таким образом, представлено экономически эффективное решение для навигационной системы путем объединения GPS и компьютерного зрения.

2. Численный результат исследования

Численный результат предлагаемого исследования оценивается по двум параметрам производительности, т.е. 1) точности и 2) среднему времени обработки. Результаты, обсуждаемые здесь, получены после тестирования со всеми 5 наборами данных и получения их среднего значения. Кроме того, результаты исследования сравниваются с расширенным фильтром Калмана, который, как сообщается, широко используется в существующей системе навигационной системы.

Из рисунка 4 видно, что предлагаемая система обеспечивает лучшую точность определения местоположения в отличие от существующего фильтра Калмана. Обоснование этого результата заключается в том, что в основном расширенный фильтр Калмана может выполнять оптимальную оценку, если в данных, полученных со сцены, присутствует нелинейность. Таким образом, нет никакой разницы в работе расширенного фильтра Калмана с его устаревшей версией, если существует модель линейного перехода состояния. Предлагаемая система обеспечивает точность 95,21%, в то время как существующая система обеспечивает точность 82,368%. Это не относится к большинству практических приложений для дорожного движения.

Из рисунка 5 видно, что предлагаемая система обеспечивает значительно меньшее время обработки по сравнению с расширенным фильтром Калмана. Невключение какой-либо итеративной операции и правильное индексирование сцены (транспортного средства) приводит к более быстрому подсчету транспортных средств, их отслеживанию и изучению альтернативных маршрутов. Однако расширенный фильтр Калмана обеспечивает высокую итеративность работы, что может привести к затрате времени. Предлагаемая система занимает всего 0,0401 секунды, в то время как существующая система занимает 0,7498 секунды для обработки.

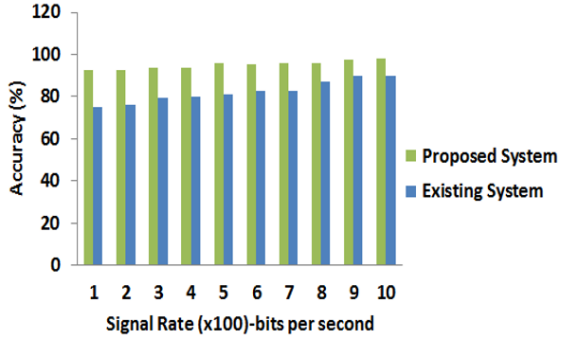
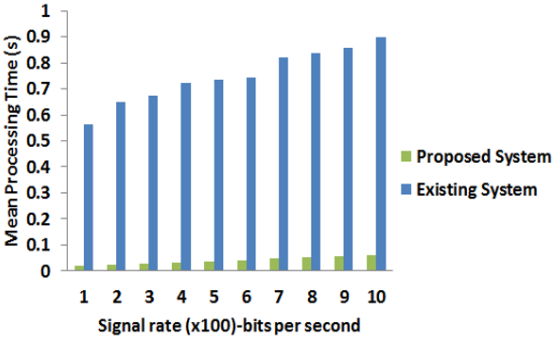


Рисунок 4. Сравнительный анализ позиционного рисунка



5. Сравнительный анализ среднего времени точности обработки

Заключение

В этой статье представлен новый подход к современной навигационной системе, в которой используется совместная реализация GPS и компьютерного зрения. Для этой цели разработана аналитическая модель, в которой в качестве входных данных используются сигналы, поступающие от визуальных датчиков. В исследовании учитывалось, что эти сигналы привязаны к географической привязке с использованием данных GPS, которые затем автономно передаются от транспортного средства к системе шлюза трафика, где предполагается развернуть предлагаемый алгоритм. Разрабатываемый алгоритм будет выполнят последовательные этапы работы для обработки сигнала, приводящего к результату мгновенного захвата трафика по сцене. Вклад предлагаемой системы заключается в следующем: 1) предлагаемая система представляет собой вычислительную модель, которая может быть применима для любой формы визуально захваченных сигналов, 2) алгоритм не является итеративным и, следовательно, он быстрее и прогрессивнее в своей работе, что приводит к повышению эффективности затрат, 3) установлено, что модель обеспечивает увеличение точности примерно на 12% по сравнению с часто применяемым фильтром Калмана и 2) модель обеспечивает более быстрое время обработки, где улучшение примерно на 70% лучше, чем существующий подход. Будущая работа будет продолжена в направлении достижения дальнейших подходов, основанных на оптимизации, чтобы предложить больше улучшений с учетом новых задач.

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