BULLETIN OF NATIONAL ACADEMY OF SCIENCES
OF THE REPUBLIC OF KAZAKHSTAN
ISSN 1991-3494
Volume 1, Number 353 (2015), 59 – 62

SCIENTIFIC BASIS OF FORMING A STRATEGY OF GROWTH OF THE GRAIN INDUSTRY IN THE REPUBLIC OF KAZAKHSTAN

Zh. Zh. Kozhamkulova[1], A. A. Samidinova[2]

[1]Kazakh national agrarian university, Almaty, Kazakhstan,
[2] Kazakh state women's pedagogical university, Almaty, Kazakhstan.
E-mail: zhadra_555@mail.ru; aishapagat1@mail.ru

Key words: multi-purpose, multi-functional, system, demand, storage, distribution, inventory, simulation, grain, restrictions, agriculture.

Abstract. The article deals with the issue of increasing grain yield in Kazakhstan. Using the elements of an optimal control problem, such as the maintenance of the system, the demand for delivery, costs, etc. it is possible to gain yield increase. In addition, the existing inventory management system and methods of modeling with the help of modern simulation systems is considered.

Grain is an important source of income for absolutely the largest portion of its producers. It makes up a significant portion of raw materials processed in the enterprising industry, as well as forming great trade proportions not only in agricultural production but also in all of the economy of Kazakhstan. Therefore, the growth of the grain industry may be examined as a starting point in the process of switching over to an agricultural sector in the way of a steady growth.

The Grain industry having many purposes and functions of character, comparatively quickly passed from strict government regulations to being fully removed from it. The absence of a well-founded economic, national and regional political growth of the grain industry, the basis which makes up the strategy of growth of the grain industry, led to its rebalancing, and breaking up of the organizational-economic relationship between subjective industry and the weakening influence of the government in the marketing process in grain grew back, clotting of interregional connections.

In this modern stage of historical growth when the basic form changes the social-economic basis of production in all sectors of the national economy the necessity of scientific working of the question of the stability of the growth of such a complicated economic system as the grain industry, is more than obvious.

The basic character of the marketing economy is included in the marketing relationship spreads to all areas of farming activities. The analysis of literary sources has shown us that there is the opinion of consideration of the marketing of grain as an economic system. Analyzing of the grain market from such a position, we may imagine it as a system existing from three connecting elements: requirements of grain and the processing of its products, the process of production and appeal and mercantile production.

The grain market must present itself not as a random collection of large number of industrial subjects and connections between them, but as an organized and regular economic system. With accounting actions of regular mechanism we may distinguish two models of marketing: regular and irregular. The model of the irregular grain market is that it functions on the basis of the action mechanism of the grain market is self-regulated, “Embedded” in the realm of grain production. Their actions in the conditions of the market exist with the help of especially marketing actions of automatic levers: with the change of demand, proposal, cost of grain, and the level of competition. The role of the government in it boils down to only installing the most general norms and rules of the relationship between participants in the market. As an economic entity it exists on the market in equal standing with others. Insufficient affectivity of the

mechanism of self-regulation applied to the grain market explains its specific, and above all, its dependence on the soil-climatic conditions, the wavering of harvesting of grain cultures, exchange of production of trading products. Besides this, in the transition of the condition of the economic relationship between the demand and the proposal is extremely unbalanced and the deviation reaches a significant greatness. The difference between the demand and the proposal leads to the appearance of error and the beginning of the act of regular mechanisms and also the mechanism of market self-regulation, which together eliminates its error. The proposal and demand characterizes constant fluctuation of volume realistic costs dependent on the harvest of grain cultures, weather conditions, and rows of other external factors. In the strength of this regular mechanism the mechanism of self-regulation must function without interruption.

The success of the activities of any economic system is dependent on its strategic management: correct selection activities (mission) and the development of long-term goals in this direction, taking into account the effective use of all resources, which disposes the economic system. Being the subject of strategic management, economic system works out feedback in the form of changes in the state of its parameters, which working together with environmental factors, generates the need for new alternatives in the field of management decisions.

Present condition of the grain market in Kazakhstan. Kazakhstan is one of the leaders of the region in the area of agriculture, having huge agricultural potential. In Kazakhstan, the volume of gross output of agriculture compared with 2010 increased on 26.8% to 2286 trillion tenge. The export potential of Kazakhstan's grain production at the current level is about 5-6 million tons per year. However, recent years have seen a significant decline in Kazakhstan’s grain export volume, due to the global market situation.

According to forecasts of some experts, Kazakhstan is able to produce from 22 to 28 million tons of grain. For example, according to a study conducted by the National Institute of Agricultural Technology of Argentina, in the implementation of agricultural technologies in Kazakhstan for 10 years may increase the yield of wheat on average two times, that is, to 22.7 million tons per year.

Grain export potential of the market is the ability of the agricultural sector to implement the annual supply of grain on the world market of appropriate quality considering climate, natural and other objective factors, as well as achieving progressively the internal needs of the country. Figure 1.3 shows the mechanism of formation of the grain market.

Evaluation of grain Union of Kazakhstan, the Republic in the 2011-2012 marketing year exported grain in about 13 million tons. Kazakhstan is among the largest exports of grain on the world market. In 2011, the country had a record harvest - nearly 27 million tons of grain in net weight. It has been previously reported that Kazakhstan plans to export about 15 million tons of grain in the 2011-2012 marketing year. In the new year, according to preliminary estimates of Ministry of Agriculture, the grain harvest will be about 15 million tons.

In the new 2012-2013 marketing year Kazakhstan is to export 4.5 million tons of wheat and 1.8 million tons of flour.

According to official data, in Kazakhstan there are 258 granaries lump storage capacity 14.7million tons, of which 229 - a licensed grain-enterprises that can be stored at the same time 14.1 million tons of grain. The level of security in the storage tanks in the country is 83%. The country has 156,000 tractors, 49.5 thousand, Harvesters, 15.2 thousand, Reapers, 51,000, Trucks, 90.6 and 336.5 thousand seeders tillers.

For effective management of "the Yellow gold" of our country, it needs a clear strategy for inventory management of grain. Indeed, in each grain is embedded work of hundreds of people, so we cannot allow irresponsible attitude to this issue.

That is why I consider the development of information systems "elevator" relevant to our market. The system will help simulate a fully functional operation of the elevator and distribute grain stocks by relevance and relevance.

Finally, the warehouse shall bear the cost of storage in its product (grain), and therefore need to choose the amount and time of order replenishment to the total cost of storage, a fine and supplies were minimal. Also at the warehouse some limitations can be imposed (for example, your maximum should not exceed the capacity of the warehouse), in these cases of sought conditional minimum cost.

The main elements of the problem of optimal inventory management:
- Supply system;
- The demand for supplies;
- The possibility of replenishment;
- The cost function (in a particular case - the price);
- Their limits;
- Adopted a strategy of inventory management.

Here, the "strategy" is understood in the sense of the terminology of decision theory, ie, as the chosen course of action is completely determined by its action in this model.

Inventory management plays a significant role in improving the functioning of the industrial enterprises; improve their competitive position in the market. In this case, the control function is comprehensive, systemic, the quality of the implementation of which depends largely on the efficiency of operations and the company as a whole.

Consider existing simulation system inventory Management Company.

Analysis of the existing inventory management systems. In order to implement the model of a complex system, the apparatus is needed for modeling, which in principle should be specialized and provides researchers with the following:
- Way of organizing data, providing a simple and effective modeling;
- A convenient means of formalizing and playback demanding properties of the modeled system;
- The possibility of simulation of stochastic systems, ie, the procedure for generating a sequence of random number (PN) and the probabilistic statistical analysis of simulation results;
- Simple and convenient procedure of debugging and monitoring programs;
- Available procedures and perceptions of language use.

However, existing general purpose programming languages for a sufficiently broad range of tasks allow without significant resources to create highly sophisticated simulation models. You could say that they are able to compete with specialized modeling language.

Currently, we have a situation where not oppose the general purpose of languages and languages of simulation.

An important problem of modeling languages is their effectiveness, compatibility with other software it can be installed on existing hardware as well as the costs of different resources.

REFERENCES

[1] Committee on statistics of the Republic of Kazakhstan // http://www.stat.kz
[2] News agency of Kazakhstan Today // http://www.kt.kz
[3] A news agency "Kazakh-grain"// http://www.kazakh-zerno.kz

ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДА АСТЫҚ САЛАСЫН ДАМЫТУ ЖОЛЫНДА СТРАТЕГИЯНЫ ҚҰРУДЫҢ ҒЫЛЫМИ НЕГІЗДЕРІ

Ж. Ж. Қожамқұлова, А. А. Самидинова

[1]Қазақ ұлттық аграрлық университеті, Алматы, Қазақстан,
[2]Қазақ мемлекеттік қыздар педагогикалық университеті, Алматы, Қазақстан

Тірек сөздер: көпмақсатты, көпфункциалды, жүйе, сұраныс, сақтау, тұрмыстық, запас, имитация, астық, шектелген, ауылшаруашылық.

Аннотация. Мақалада Қазақстан Республикасының ұлан байтақ жер көлемі мен оның қолайлы климаты түрлі дәнді-дақылдарды өндіруге лайықты, сол себептен агробизнес, оның ішінде бидай өнімі, еліміздің өзекті мәселелерінің бірі болып табылады. Еліміздің ірі нарықтық ауылшаруашылық секторында ауқымды орынды бидайды сатып алу, қабылдау, сақтау және өткізумен айналысатын дәнді-дақылдар мен оларды қайта өңдейтін ұжымдармен кәсіпорындар алып отыр.

НАУЧНЫЕ ОСНОВЫ ФОРМИРОВАНИЯ СТРАТЕГИИ РОСТА ЗЕРНОВОГО ПРОИЗВОДСТВА В РЕСПУБЛИКЕ КАЗАХСТАН

Ж. Ж. Кожамкулова, А. А. Самидинова

[1]Казахский национальный аграрный университет, Алматы, Казахстан,
[2]Казахский государственный женский педагогический университет, Алматы, Казахстан

Ключевые слова: многоцелевой, многофункциональный, система, спрос, хранение, сбыт, запасы, имитация, зерно, ограничения, сельское хозяйство.

Аннотация. В статье рассмотрен вопрос повышения урожайности зерновых в Республике Казахстан. Используя элементы задачи оптимального управления, такие как поддержание системы, спрос на поставки, возможность пополнения, затраты и т.д., можно добиться повышения урожайности. Кроме этого, рассмотрены существующие системы управления запасами и способы их моделирования с помощью современных имитационных систем.

Поступила 15.01.2015 г.