

Innovations as a Tool of Economic Development and Risk Management in AIC of Kazakhstan

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Abstract: The essence and aims of innovation activity, particulars of the development of fundamental programming and regulatory documents in the context of Kazakhstan which regulate the development and management of innovation processes in AIC of Kazakhstan, priorities for improving innovation activity in various fields of AIC that meet current requirements of industry, enhancing acceleration of implementation of the concept of food security of the country, warning and reducing risks in agricultural sector have been identified. Volumes of investments aimed at the development of fodder production, the use of irrigation systems, purchase of machinery and equipment, establishment of feed enterprises; share of innovatively active enterprises in Kazakhstan and developed countries have been presented. Priority areas in addressing issues of development of remote animal husbandry - the development of pasture lands have been developed. It is noted that the creation and implementation of innovations is associated with high risks. Potential risks in forecasting effectiveness of innovative projects should be taken into account. Diversification processes resulting in multiple uses of raw materials, technologies, equipment are very important in prevention and reduction of risks, which ensure sustainable development of enterprises and significantly reduce risks.

Key words: Agricultural sector • Innovative development • Innovations • Competitiveness • Financial and market risks • Resource-saving technologies • Crop production • Livestock production • Investments • Government support • Subsidizing

INTRODUCTION

Strategic priority for the development of agricultural production is innovation development that allows to continuously upgrade production on the basis of scientific and technological achievements.

Innovative activity determines the level of competitiveness of products and food products in globalized economy, establishing of a Common economic space and country's accession to the WTO.

In terms of AIC the innovations are the results of research and developments implemented into economic practice in form of new plant varieties, breeds and types of livestock and poultry crosses, new or improved food products, materials and new crop production technologies, animal husbandry and processing industry,

new fertilizers and plants and animals protection means, new methods of prevention and treatment of livestock and poultry, new forms of organization and management in various spheres of economy, new approaches to social services increasing efficiency of production. [1]

The domestic economy is characterized by restricted demand for innovations and innovation market capacity, whereas lack of market research is one of the biggest obstacles to establishing national innovation system. The innovative potential of AIC is used at 4-5%, while in the U.S. it is used at 50%. At the background of a weak infrastructure of business support it can't influence on the increase of the overall level of innovation activity. The share of small innovative businesses is only 1.6% and this tendency preserves through recent years in both traditional and high-tech sectors [2].

Sustainable functioning of agri-industrial production is closely connected with enhancing of innovation processes.

A variety of natural and climatic conditions of Kazakhstan allow to grow all crops growing in temperate zone and develop livestock production.

Indicators of productivity of crop and livestock production at European level can be achieved on the basis of innovative modernization, integration of agricultural science, financial, logistical and other resources, solution of tasks, set by the State Program on innovative agricultural development. However, so far there are no agricultural systems which provide innovative progress in rural places. This is due to several reasons that restrict the development of innovation in AIC: many farms use outdated technologies as well as plant varieties and livestock breeds, imperfect methods and forms of organization and production management, lack of investment and governmental financial support, lack of qualified personnel, price disparity of agricultural products, low level of innovation structure development, etc., which greatly increases the level of risk situations in agriculture of the Republic. There is no approved effective scheme of interaction between research institutes and practice [3].

The extremely low innovation activity is also related to the imperfect organizational-economic mechanism of innovation development, which leads to the increase of costs and low competitiveness of production, restricts socio-economic development of rural areas, reduces quality of life in rural areas.

An important area of innovation policy improvement is innovation management as an interrelated complex of actions aimed at achieving or maintaining the required level of viability and competitiveness of the company through innovation process management mechanisms which include two aspects: forecasting of possible threats and planning of measures aimed at reduction of the adverse effects.

The main reason of slow innovation process in production is the low level of innovation infrastructure in AIC. For this purpose, it is necessary to carry out State innovation policy which foresees diversification of economic sectors, especially agri-industrial complex.

The Main Part: Introduction of innovations in agricultural production of the Republic has wide range and large scale of directions.

In agri-industrial sector of Kazakhstan 36 production facilities have been launched in the frame of implementation of investment projects in rural areas. They include programs on building modern industrial greenhouses located on a total area over 60 hectares and cost 15.7 bln. tenge.

In the period 2002-2011 in crop production of 623 new plant varieties and hybrids including 254 cereal varieties and hybrids, legumes and forage crops, 60 - vegetables and melons, 92 - fruit and berries, 11 - grape, 39 - potato, 34 - oil, 17 - cereals, 86 - feed, 10 - cotton, 20 - varieties and hybrids of forest (11) and commercial crops (5), medicinal plants (4) have been transferred to the public variety testing, of which 30% are recommended for the use.

For 2011, 82 scientifically justified technologies have been introduced into agricultural production including cereals, legumes and oilseeds - 35, rice - 2, vegetables, fruit crops - 3, in breeding: dairy cattle - 1, camels - 6, sheep - 5, poultry - 1, 6 technologies designed to meet vital human needs and 15 - on technological processes.

In 2011, 1.2 bln. tenge were allocated for agricultural activities on forage production, including introduction and use of irrigation systems, purchase of machinery and equipment, construction and expansion of feed facilities.

The country implemented the project on restoration of orchards using intensive technology which costs over 158 mln. tenge. [4].

In Kazakhstan, necessary infrastructure for support of innovations has been created. However, today the Republic is lagging behind world trends in many indicators of innovation activity. According to estimates of susceptibility of enterprises to innovative processes, which is characterized by the share of active enterprises, in 2011 their innovative activity was 4.3%. For comparison, the share of innovatively active enterprises in the United States - is about 50%, in Turkey - 33, Hungary - 47, Estonia - 36, Russia - 9.1%.

During 2000-2011 the investments in agricultural sector are characterized by growth, active government support contributes to the formation of favorable investment background. In 2011 the volume of investment in agriculture increased by 7 compared to 2010 [5].

Currently in the Republic of Kazakhstan 11 new large commodity dairy farms have been established and they are stable. In 2012, a network of feed facilities for 20 thous. feed lots has been established, which allows to import 12 thousand heads of purebred cattle. The total annual production volume of high-quality milk suitable for industrial processing is about 200 thous. tons.

However, the proportion of breeding stock in total herd of farm animals is still low. In order to change this situation a program of large-scale breeding is being implemented. Participants of the program will perform a systemic breeding work in the regions and all categories of farms will be closely interacting on breeding activities.

For encouraging the producers involved in this program, it is planned to provide subsidies to reduce the cost of semen, for purchase of young breed animals, as well as milk and beef are sold to processing companies. This allows to accelerate the growth of breeding stock, share of breed livestock, livestock productivity, increase economic efficiency of using budget funds [6].

Strategic priority of Kazakhstan in addressing the issues of development of remote animal husbandry is the development of pastures, which have economic and biological features and first of all occupy a huge area - 187 mln. hectares (67% of the country's territory). On this indicator, the grassland area of Kazakhstan is ranked as the fifth in the world. However, due to irrational use of these resources, national heritage is at risk, the risks of large pasture land management dramatically increase. Annually the renewable feed resource of this territory is about 25 mln. tons of feed units, which nutrition is equivalent to one billion pounds of grain. According to the World Bank, this annual feed stock is estimated as 1.2 billion USD. Today, in the average feed balance of farm animals pasture forage takes about 50 percent and in some regions higher. According to the materials of RK Agency on the use of land resources, 26.5 mln.ha are in poor condition. This means that the animals don't receive half of the harvest crop; ecology is damaged and underfed animals don't have potential productivity that undermines the economic foundations of livestock production [7].

The main reason of all negative effects of the pastures, according to the general view of scholars and practitioners, is the absence of regulatory and legal framework defining the fundamentals of rangeland management. Through legal mechanisms we can also minimize the possible risks associated with climatic, technogenic, technological and other impacts on this category of land.

It is a well-known fact that innovations have global character, provide a rapid effect and reduce costs and risks. However, activity on development and implementation of innovations is always associated with high risks resulting from the uncertainty in predicting the effectiveness of innovative projects. Therefore, in

implementing innovation activity in the fields of AIC it is needed to take into account the potential innovation risks [8,9].

Introduction of fundamental developments provides linkage between science and practice, formulates the experimental basis for approbation of scientific ideas and results.

In 2011 the use of innovative technologies with consideration of organizational and economic factors allowed to increase gross agricultural production by 37.6% compared with 2009, including crop production - by 71.5%, livestock production - 51.5%. In 2011 for the development of agricultural production, the investment volume in fixed capital has increased by 38.5% in comparison with 2009 and reached 107.4 bln. tenge.

Diversification processes play important role in neutralization of risks. With their development the surplus capital is profitably used not only due to the multi-purpose use of the same raw materials, equipment, labor, technology, sales channels, but also due to reallocating of capital between AIC objects which have different levels of financial risk and profitability. This provides additional stability to the enterprise at market risks [10].

CONCLUSIONS

- The innovation process is a continuous flow of transformation of technical or technological ideas into new technologies or their components and transferring them directly to production in order to obtain qualitatively new products. It involves agricultural educational institutions, production management bodies, various entities providing services and implementation as well as agricultural producers.
- Development of innovative activity is conditioned by market requirements, producers of innovations develop and promote innovations to their consumers for making profit.
- The introduction of innovations in agricultural production in the Republic is a wide range and large scale activity. For 2011, 82 scientifically justified technologies have been introduced into agricultural production including growing cereals, legumes and oilseeds - 35, rice - 2, vegetables, fruit crops - 3, in breeding: dairy cattle - 1, camels - 6, sheep - 5, poultry - 1, 6 technologies designed to meet vital human needs and 15 - on technological processes. Current

stage of agricultural development and its major sector crop production is characterized by poor state of its material and technical base, low investment potential, high production and financial risks. Because of these reasons, the level of intensification of this branch lags behind world standards. According to estimates of the susceptibility of enterprises to innovative processes, which reflects the share of active enterprises, their innovation activity was 4.3%, in the U.S. it is about 50%, in Turkey - 33, in Hungary - 47, in Estonia - 36, in Russia - 9,1%.

- Strategic priorities of Kazakhstan in addressing the issues of development of remote animal husbandry is the development of pastures, which have economic and biological features and first of all a huge area - 187 mln. hectares (67% of the country's territory) [6]. However, due to irrational use of these resources, national heritage is at risk, the risks of large pasture management dramatically increase.
- Activities on development and implementation of innovations are associated with increased risks arising from the uncertainty in predicting the effectiveness of innovative projects. In implementation of innovation activity in AIC it is necessary to consider potential innovation risks.

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