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ORGANIZATIONAL-MANAGERIAL ASPECTS OF REGULATION OF ORGANIC AGRI-FOOD PRODUCTION

Abstract. The paper proves that integration processes of Ukraine require new search for optimization of the system managing scientific-technical maintenance of food industry. It concerns the spheres of management and funding. The paper reveals that development programs should be oriented at priority industries for a region, should consider resource-based and

economic capacity and should be based on the history of food consumption culture. The fact that the system of economic development management in the context of food security should be based on the principles of self-reproduction and self-sufficiency is emphasized. Revealing and considering of all reproduction processes and interrelations of phenomena enables raising of the efficiency of economic development management. Realization of self-reproduction and self-sufficiency principles in the context of food security stipulates the need to use to the fullest capacity the internal reserves and opportunities to produce agricultural products and develop food industry, specialization and infrastructure development, to create specific institutions at regional level for the use of economic-administrative management methods. The paper proves that food security requires creation of monitoring system that is entrusted the task to define its actual condition and to predict internal and external threats to food security. On this basis the measures on localization and elimination of negative factors that impact or can impact in the future the deterioration of security level are developed. The system of food security monitoring is focused on the following directions: agri-food production, food market, food consumption, nutrition of population, food quality and security. It is important to establish partnership relations between economic entities and food companies and agricultural producers in current economic conditions.

Keywords: food security, agri-food production, organizational-managerial mechanism, management, economic development.

JEL classification: O22

Introduction

Over time the system of nutrition and requirements to it have been changing along with human evolution in the global development system. The changes have been taking place due to parallel development of science and technologies and professional skills of food industry and agriculture employees. The need to grow healthy generations and to provide them with qualitative nutrition was the driving force. Research in food industry is based on interdisciplinary links and scientific-technological developments. The history of nutrition culture development has come from self-provision and family production to the modern stage, when most food consumers are not involved neither in its growing nor in

its production. The requirements to safety and quality of food have been only growing in time.

The paper aims to improve the organizational-managerial mechanisms of organic agri-food production regulation.

Main section. The impact of modern methods and technologies of food industry is obvious at current stage of nutrition culture development. The quality of nutrition and safety of food products is improving. There is an opportunity of long-term storage of nutrients, of adding necessary vitamins and minerals, which diminishes the risk of morbidity. Moreover, there are technologies to reduce the loss of wastes, seasonal accessibility, etc. Modern production of food has improved the quality of life of people with special needs suggesting modified food for them (e.g. sugar-free, sweetened with sugar substitute for people with diabetes).

Various organizational-managerial mechanisms of development and management can exist in conditions of food security maintenance (Irtysheva, 2013; Hansen, 2011; Eisingerich, 2007), including: business and technological incubators, spin-off and start-up companies, seed funds, technology platforms, scientific, technological and industrial parks, clusters.

Clusterization has become popular lately in innovative system of national economy development. It provides organic combination of state financial assistance and organizational-institutional development of private sector of economy.

European Technology Platforms (ETP) are created for scientific-technological maintenance of Europe's strategic development. They consolidate the representatives of agricultural and industrial production, form medium- and long-term perspectives and define the ways of their achievement. European Technology Platforms participate in development of legal framework of strategic innovative development, define the priorities, develop action plans, define their optimal deadlines, while focusing on the growth of future welfare of European population, improvement of competitive ability and maintenance of sustainable development. "European Technology Platforms play the crucial role in securing of adequate concentration of research funding in the sphere of high industrial relev-

ance through coverage of the entire value chain and mobilization of public governance bodies at national and regional levels” (Innovation Union, 2015).

European Research Area development is impossible without functioning of technology platforms that serve as an incentive for public-private partnership. Technology platforms secure forming of European scientific policy under the HORYZON 2020. Functioning of technology platforms contributes to timely reacting to technological needs of production sector, securing EU countries’ competitiveness, promoting of creation of new public goods, providing of production sector restructuring as a whole and agri-food sector in particular.

Three stages can be outlined in the work of technology platforms:

- at first the entrepreneurs from industrial circles meet to form general agreed vision of a certain technology branch;
- afterwards, entrepreneurs with consumers potentially interested in the results of such technologies and with participation of research institutions/organizations form the Strategic Research Agendas (SRAs) substantiating necessary medium- and long-term goals, research and development tasks and time frameworks as well as approve the plans of promotion and introduction of technologies based on their importance for industry and society;
- further the entrepreneurs implement Strategic Research Agendas mobilizing substantial human and financial resources. The agendas usually help overcoming the obstacles to development, introduction and application of new technologies, which often are related to inefficient organization of research, outdated regulations and manuals, lack of generally accepted technological standards (or the need for new ones), financial troubles and insufficient staff qualification and skills” (Smertenko, 2014).

Activity of technology platforms is based on the principles of openness and transparency. Active cooperation of all participants and organizers secures efficiency of technology platforms. Dozens of technology platforms successfully function in European Union, including: technology platforms in water supply and water quality improvement, forestry, con-

struction, textiles and clothing, food technology platform “Food for Life”, etc.

European Technology Platform (ETP) “Food for Life” (Official website of UNTP “Ahroprodovolcha”, 2018) started functioning in 2005 initiated by the EU Food Industry Confederation (Fig. 1).

The aim of ETP “Food for Life” functioning is to promote introduction of innovations in agricultural production and food industry. Activity of this platform helps all participants of agri-food market improve competitive ability, expand the sales market and consumers’ community and meet the needs of population in food. The platform participants have the following tasks:

- “to maintain sufficient funding for faster and more efficient implementation of innovations;
- to organize the forum to discuss interdisciplinary approaches;
- to improve the management of scientific research infrastructure;
- to prepare and support the specialists in food industry;
- to promote experience exchange between the companies and scientific centers;
- to carry out research directed at environmental protection;
- to attract global level companies to food sector;
- to maintain closer cooperation with other European and national TPs;
- to implement achievements at national levels;
- to optimize technology transfers between scientific centers and industry;
- to understand differences in national priorities;
- to examine and analyze innovations, to select the most perspective ones;
- to focus attention on small and medium companies;
- to provide suggestions on forming of framework programs enquiries” (Official website of UNTP “Ahroprodovolcha”, 2018).

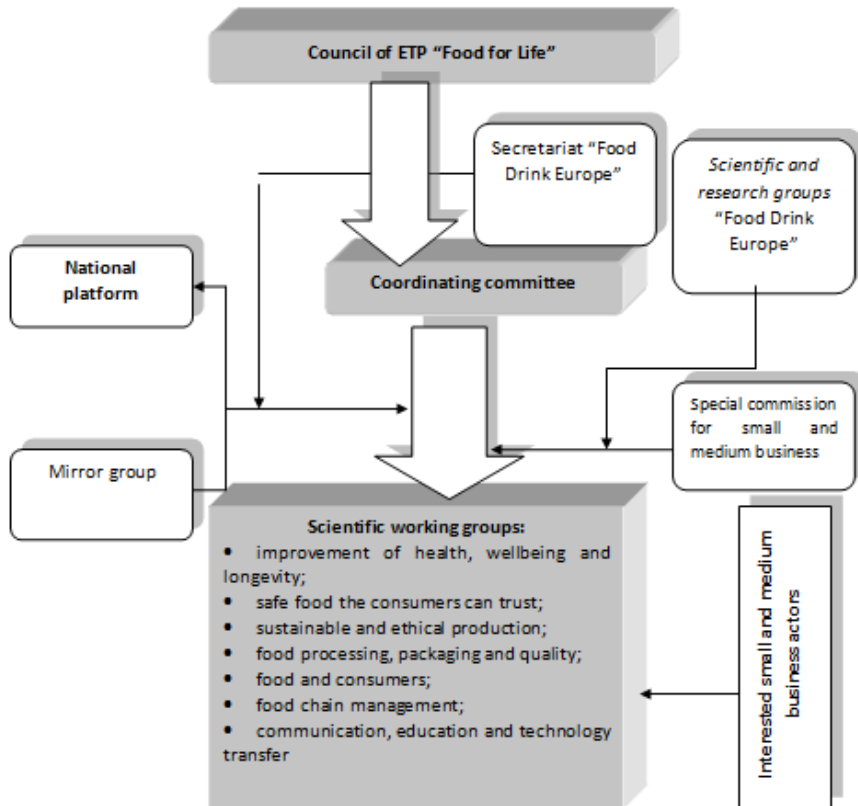


Figure 1. **Structure of European Technology Platform
“Food for Life”**

Source: Compiled by the authors.

Legislative framework of Ukraine does not regulate the functioning of technology platforms at the territory of the state, therefore we can talk only about the birth of the process of functioning of Ukrainian National Technology Platforms (UNTPs) with active support of scientists and National Academy of Sciences of Ukraine. The first UNTP “Ahroprodovolcha” is the part of the structure of European Technology Platform “Food for Life”. UNTP “Ahroprodovolcha” is created and successfully functioning at the initiative of a group of scientists of Uzhorod National University (Official website of UNTP “Ahroprodovolcha”, 2018). The aim of UNTP “Ahroprodovolcha” is to solve the following tasks:

- “analysis of current state of food industry in Ukraine;

- analytical reviews of strategic directions to reveal niches, further needs and priorities in scientific research;
- expansion of advanced experience;
- informational promotion of projects development in the framework of UNTP;
- analysis of the gaps between the standards and realities, forming of suggestions to overcome them and need to bring the quality of products in correspondence with European standards;
- preparation of recommendations for industry and other interested parties, in particular small and medium companies, managers, meteorologists, etc., on enhancement of production quality standards;
- development of training materials, holding of trainings based on European standards of quality in food industry;
- informing of consumers on achievements and opportunities of UNTP “Ahroprodovolcha”;
- cooperation with other European Technology Platforms, namely ETP “Food for Life”;
- promotion of participation of Ukrainian scientists, representatives of medium and small business in international competitions and European framework programs (HORIZON 2020)” (Official website of UNTP “Ahroprodovolcha”, 2018).

UNTP “Ahroprodovolcha” is registered as small enterprise. UNTP functions only based on the enthusiasm and patriotic feelings of researchers, it is not enough for innovative renewal of state development in the context of food security. The area of UNTP scientific research covers various activity fields and current society problems, including the most important ones like ecology, agricultural production, food industry and medicine.

Development of functional food products containing medicine to alleviate the disease takes place on the basis of functioning of Ukrainian national technology platforms. Functional food products can improve health and reduce the risk of disease.

Functional food products can be divided into the following categories:

- “organic products that naturally contain the necessary amount of functional ingredient or groups of ingredients;
- organic products additionally enriched with any functional ingredient or group of ingredients;
- organic products deprived of certain component preventing revealing of physiological activity of contained functional ingredients;
- organic products with initial potential functional ingredients modified the way they start showing their biological or physiological activity or the activity strengthens;
- organic food products, in which the bioabsorption of contained functional ingredients increases due to certain modifications;
- organic and artificial food that acquires ability to protect and improve human health and/or diminish the risk of diseases outbreak due to application of a combination of abovementioned techniques” (Center for Environmental Certification and Labeling, 2019).

Special food products are dietary products, baby food, food for certain categories of population, e.g. sportsmen, and dietary supplements. Currently the scientists are developing the “nutrigenomic” products based on the technologies of individual useful food (Ambrozevych, 2005). Therefore, in the nearest future we can expect the reorientation of food industry to personal production.

National Agri-Food Industry Development Strategy of Ukraine should be based on scientifically substantiated projects developed with UNTP participation considering the need to secure food safety. On the way to European integration domestic ministries and agencies (Ministry of Healthcare of Ukraine, Ministry of Agriculture and Food of Ukraine, Ministry of Education and Science of Ukraine, State Scientific Institution “Ukrainian Institute of Scientific-Technical Expertise and Information”) in cooperation with international funds should become an efficient instrument of innovations implementation in agri-food sector.

Food security of Ukraine is regulated by a range of legislative acts, including those addressing not only the process of food provision, but also food safety. The Law of Ukraine “On Amendments to the Law of Ukraine “On the Quality and Safety of Food and Food Ingredients” (Verkhovna

Rada of Ukraine, 2019) was adopted in 2002, providing that “public regulation of the rates of food, food ingredients and related materials safety is carried out by the central executive authority in healthcare through adoption of health standards and development of technical regulations for food”. There is a Public Register of Specific Food Products in Ukraine that covers each and every specific and new food product. All food and related products, even the equipment for their production, are subject to certification. All food exported from other countries should meet the requirements identical as to the relevant domestic products. In case of detecting the poor quality food, it should be withdrawn from circulation and excluded from consumption. Dangerous food should be disposed at the cost of producers. Food safety is characterized by eliminated threats for human life and health.

Conclusion

Production of safe food and related materials and updating of food nomenclature require the use of innovative technologies. Management of regions’ economic development in conditions of food security forming is impossible without the use of innovative mechanisms, business and technological incubators, spin-off and start-up companies, seed funds, technology platforms, technological and industrial parks and clusters. Their functioning should meet the strategic benchmarks of national and regional development.

Classical understanding of cluster is based on geographical feature or territorial location, while technology platform corresponds to the requirements of a certain industry and can be used both for regional and national economic development. Agri-food clusters and technology platforms are involved in studying and realization of the need of food market participants based on systematization of information and development of innovation technologies.

The process of transition of a certain idea to innovation requires consolidation of endeavors of the authors of the idea and specialists-producers provided there is a public support. Technology platforms are

meant to promote innovative development not only of certain industries, but also regions and national economy.

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