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MAIN TRENDS OF REGIONAL POLICY ENSURING FOOD SECURITY IN DEVELOPED COUNTRIES

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Abstract. The paper reflects on question of regional policy ensuring food security in the context of closely interrelated economic, social and ecological components. Having performed analysis of common agricultural policy, programs for rural development, impact of world trade organization, integrated product policy, question of food security monitoring, influence of multinational companies, genetically modified products, programs for food support; we come to the conclusion that to the main trends of regional policy in the sphere of food security belong: establishing interregional and international import-export food operations, creation of regional reserves of strategically important products, direct/indirect financial and consultation support of agricultural enterprises, development of infrastructure facilities for transporting, storage, distribution of products, food support for socially unprotected groups of population, promoting development of eco-oriented production, implementation of control measures for the prevention of counterfeit in the trading network, control of production and sale of genetically modified products, formation of ecologically oriented thinking population.

Keywords: food security, regional policy, sustainable development, common agricultural policy, integrated product policy, rural development.

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1. Introduction

Under conditions of growing population and increasing demand for food products, it is important to provide search on rational elements of regional policy ensuring food security in the countries with developed mechanisms in market economy. Along with regional economic growth, nowadays, important priorities are: improving quality of life, health of population, increasing natural resource efficiency of production capacity, resulting in creating favorable environment in regions on the basis of sustainable socio-economical and ecological development (Dezellus et al. 2015; Travkina 2015; Branten, Purju 2015; Šimelytė et al. 2016; Raudeliūnienė et al. 2016; Tvaronavičienė 2016; Rezk et al. 2016).

The concept of sustainable development is recognized by the international community as the dominant ideology of human life in the twentieth century (Summit "Earth" 1992), therefore particularly important issue is providing modern regional policy regarding food security with taking into account market, social and ecological aspects (Figure 1).

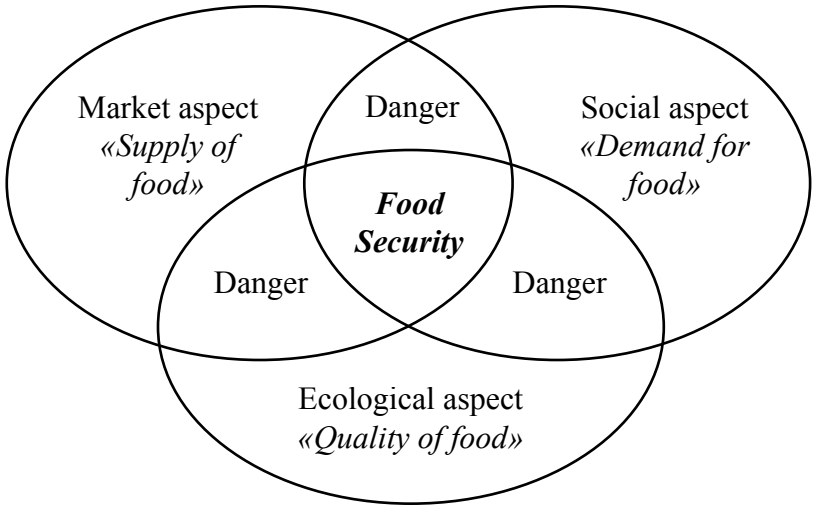

Figure 1. Author's approach to the essence of term "food security"

The research object of the current research is regional policy ensuring food security. The goal of the research is to difine main trends of regional food securing policy in developed countries in the context of market, social and ecological aspects.

2. Common Agricultural Policy

According to world trends, national level of food security is determined by the development of regional systems, so the process of guaranteeing food security of each state should be realized taking into account security in all local aspects. In the developed world has recently seen two trends: the growing political importance of regions and multiplying the number of regional initiatives in the economic field.

Regional structural policy of the European Union is considered a good example of multilevel interaction. In regional structural policy, regional strength depends not only on the availability of administrative and financial resources, but also on the organization of the decisions of regional structures and their integration in vertical multilevel structure (Bentz 2007). Model of regional development of the European Union is based on the strategic partnership between central government and local authorities, businesses and public organizations. In the context of EU regional policy, more attention is paid to the underdeveloped and structurally weak areas. Each of these groups requires an individual approach to solving their basic problems. This can be explained by the principles of the EU regional policy, one of which – programming: center have not only just financing the region, but also allocates funds for specially designed programs (target points that influence the development of the whole region) (Datsyshyn 2006).

In modern terms, the European food safety model is characterized by enhancing vector of sustainable rural development. Solving the problem of rural areas initially regarded as part of the common agricultural policy (CAP), and later became part of EU regional policy (Pyasetska-Ustych 2011). Despite the fact that EU regional policy is formed as a separate sector and ranks second place in the budget of community after CAP, it is inextricably linked with the creation of favorable conditions for the sustainable development of rural areas. Modern planning of social and economic development take into account the need to accelerate institutions of rural society, through which possible revival of the regions that are in a state of decline, improving the demographic situation, maintaining settlement network and protection of natural agricultural landscapes.

Common agricultural policy is implemented in the EU regions on such principles as:
market unity that provides free trade of agricultural products between member-countries, the abolition of quantitative restrictions, duties and taxes, as well as establishing uniform prices for agricultural products in the EU and the only one mechanism for their support;

community preference that means giving preference to products that are produced in the countries of community;
financial solidarity that provide common responsibility of all member-countries for the financial consequences of the CAP.

At the beginning of XXI century, the leading idea of CAP was ensuring sustainable functioning of agricultural sector EU through rural development funding and strengthening environmental protection requirements and safety of agricultural products. It was determined that socio-cultural approach has replaced functionally-production one, that is introduced the principle of "multi-functionality" that put agricultural manufacturer at the center of social, cultural and natural systems. Also, it was announced the formation of a special "European model of agricultural activity". The most important priorities in this period include: the protection of natural landscapes and maintaining the vitality of rural areas, development of rural communities, ensuring their activity and stability. The second most important main direction of reforming CAP at this stage is the development of rural areas, conducting an integrated policy with a single policy measures to ensure greater interaction between rural area development and policy of prices and market within the CAP (Gogol 2011). Based on generally accepted priorities of rural development can be formulated key goal of EU rural development policy that consist in creating conditions for the achievement of life quality that is recognized by society.

3. Programs for rural development

In a separate key, sphere of regulation and support of the agricultural sector singled out the question of life quality in rural areas and stimulating non-agricultural employment. Regional support in this area should focus on stimulating the development of small businesses and crafts in rural areas; tourism development; maintaining landscapes; development of education for the needs of multidisciplinary rural economy; modernization of rural infrastructure; creating conditions for innovative use of renewable energy sources using agricultural products and so on.

The object of regional policy is the different level of regional inequalities: differences in levels and conditions of life, employment and unemployment, the pace of economic development of individual regions. To the main financial instruments of EU regional policy aimed at the implementation of aforementioned events and leveling disparities between richer and poorer EU regions by structural funds: European Regional Development Fund, European Agricultural Guarantee Fund, European Social Fund and Cohesion Fund.

Value of regional policy for rural development associated with the provision of financial assistance to farmers, small and medium businesses. To the list of the support main directions include:
- allocation of funds for acquisition of new technologies for agricultural production and rural businesses;
- starting assistance to young farmers;
- providing retirement status of farmers approaching elderly;
- use of the agricultural advisory services;
- investments in agricultural production;
- purchase of fixed assets of agricultural production;
- assistance to farmers in mastering introduced by the EU new standards of environmental protection, animal welfare, health care workers in the sector etc.;
- improvement of raw materials and food quality;
- support for agricultural production in mountainous and other especially difficult regions;
- restoration of the agricultural, forestry and recreational potential in damaged areas and other.

Incarnation of new approaches to ensure rural development policy established according to the Law of EU about support for rural development (Council Regulation (EC) #1698/2005, 2005) and adapted to the Strategy for rural development (Council Regulation (EC) #144/2006, 2006).

To improve the quality and effectiveness of the implementation of rural development programs is functioning European Agricultural Fund for Rural Development (EAFRD). In order to prevent economic and social disintegration of certain areas within the Union, by the EU Commission identified priority areas for assisting rural areas through this fund, that provide support to 56 regions of the European Union (Pavlov 2006):

- ensuring competitiveness of rural areas (support and development of human potential, restructuring physical potential, improving the quality of agricultural products in accordance with the new standards, support agricultural transformation in the new EU member-states). On the financing of these measures is allocated at least 15% of the budget of EAFRD;
- environmental protection and ecological management (assistance for providing sustainable use of agricultural land, the sustainable use of forest land potential, the implementation of afforestation, development agro-forest systems). To the implementation of these actions are directed not less than 25% of the total financing within the budget of EAFRD;
- diversification of the rural economy and improving the quality of life (supporting the development of non--farm activities, tourism, SMEs, protection and management of natural resources, the revival of villages, etc.). To ensure the envisaged target of not less than 15% of the budget EAFRD.

System of support EU agriculture enables individual countries to provide increased financial assistance or provide support for specific activities. Thus, in recent years strongly stimulated the production of environmentally friendly products. Finland declared agricultural environmental sector throughout the country as ecological industry that produces only ecological products by EU standards, causing the country received higher subsidies. Centralized Fund of EU provides enhanced support to agriculture of Greece and Ireland, which were in an extremely difficult financial situation.

In order to improve programs of agricultural support, any country of the European Union has the right annually to submit three packages of changes in the system of financial support for agriculture. This opportunity was taken advantage: Lithuania, which for 2007-2013 was allocated 2.26 billion Euros, of which 77% - from centralized EU funds and 23% of the national budget. The total amount of agricultural support for Lithuania in 2007-2013 was distributed according to the typical structure of EU in terms of four sections (Poshkus 2011). In general, annual European Union is spending more than 40 billion Euros for the implementation of the CAP, almost 45% of its budget, while the contribution of agriculture to the gross domestic product of the EU is around 2%, while the number of working-age population of the EU engaged in this area does not exceed 6 % (Betliy 2006). As a result of CAP reform, most of the subsidies are routed to activities related to the program of regional development, research and improvement of infrastructure (measures of so-called “green box”) that can be funded in any amount depending on the capabilities of countries’ budget member of the World Trade Organization (WTO) (Klimenko 2011).

4. Impact of the World Trade Organization

Regarding the impact of the WTO on the implementation of regulation policy of food safety is undoubtedly significant. Indeed, all production and trade of agricultural and food products are regulated by the WTO Agreement on Agriculture (identifies regulation features of agricultural products trade) and the Agreement on Sanitary and Phytosanitary Measures (determines use conditions in sanitary and phytosanitary controls).

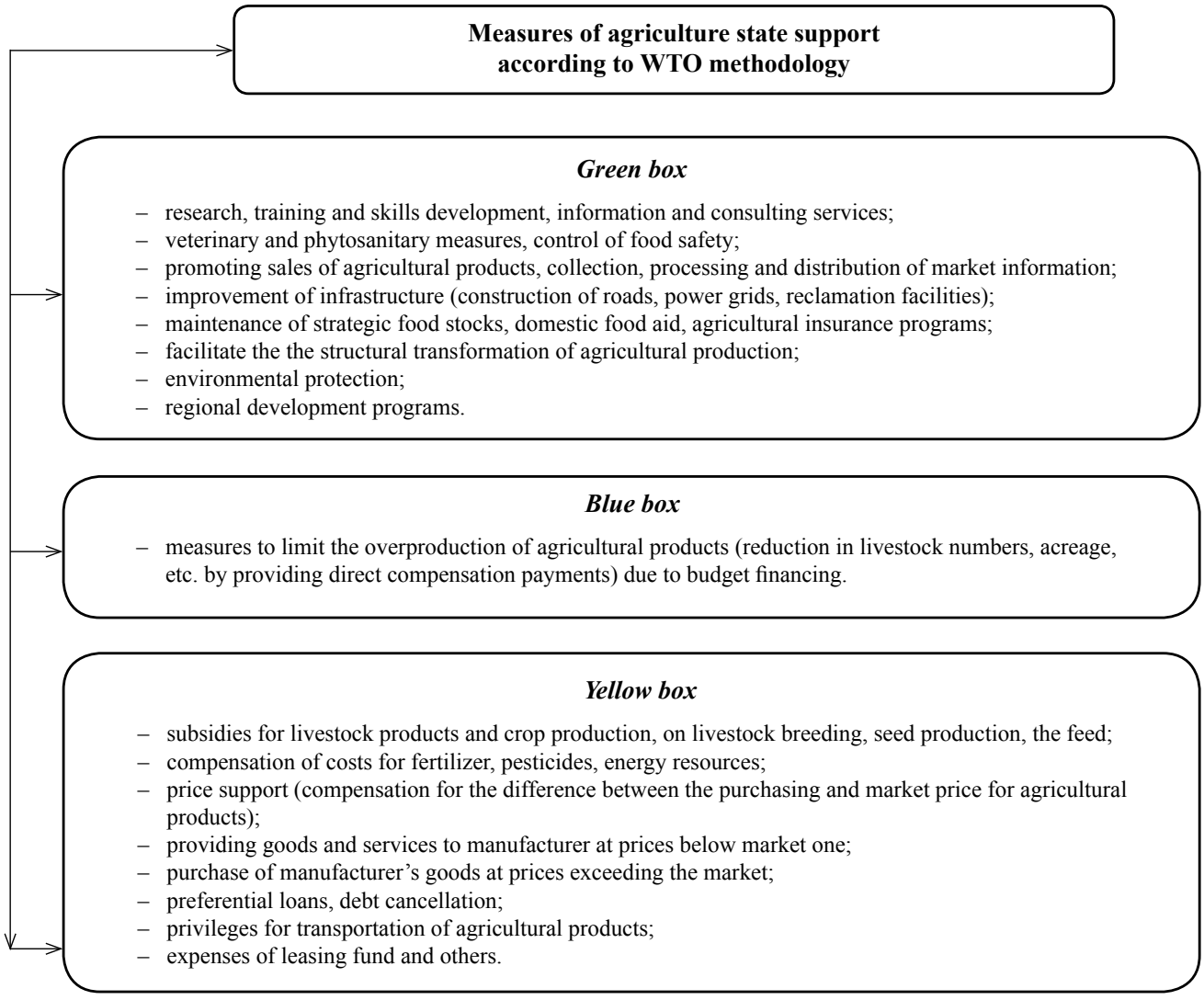

Figure 2. Measures of agriculture state support according to WTO methodology

Under the terms of WTO membership, measures of state support of agriculture as the foundation of self-sufficiency of food security, which produce the greatest stimulating effect on the production of agricultural products, as well as measures for protection domestic agricultural markets, have to reduce. Traditionally, all measures of state support of agriculture generally divided into three groups or arranged in different colored boxes, «green», «blue» and «yellow» («Amber»). (Figure 2).

Regarding measures «yellow box» (domestic support), each state should oblige themselves to reduce their budget funding. In the course of determining the conditions of accession to WTO, it is calculated scores of aggregate measure of support (AMS) in the annual amount of all types of state support, which are subject to reduction commitments.

Apart from measures of general support of agriculture, there are exist strong system of foreign trade regulation and protection of domestic production, and export promotion in some regions. For example, in the EU for protection against farmers who are in the best natural conditions and with larger and efficient farms (especially in the USA) has developed a system of compensatory payments and foreign trade thresholds, are inherently sharply restricted the import of food in the West Europe and simultaneously stimulate its export. The most complex and high level of protection for domestic producers exist in countries with large differences in the natural conditions with the exporting countries. Cost of agricultural products in Japan due to adverse natural conditions is quite high and in the conditions of open market of Japanese agriculture would be suppressed for

several years, therefore embarked on no customs measures. Because of the most important agricultural product in this country is rice, there exists state-corporate monopoly on wholesale trade. Corporate mergers of this group of goods that are controlled by the Ministry of Agriculture, is the main, often sole traders and stimulate domestic productivity due to high purchase prices, creating its reserves, ensure supply of the country and allow to refuse from imports, as well in the country there are some rules that effectively prohibit its importation (Myhaylushkyn 2013). It is important that lowering the cost of agricultural products through subsidies, food is become available to the general population, respectively, state aid to agroindustrial complex simultaneously performs two interrelated objectives: ensure sustainable development of the agricultural sector of the economy; reduces tension in society, smoothing out social differences.

5. Integrated product policy

In the international scientific community actualized research on food security based on integrated product policy (IPP) (Rehfeld 2007), which is based on introducing market incentives for greening production processes and consumption throughout the life cycle of products, providing a consistent implementation of continuous improvement and involvement principles in these processes of all stakeholders with various tools of food supply chain (logistics tools, economic incentives, administrative bans, voluntary agreements ecomarketing, ecodesign, etc.).

In the Thematic Strategies on the sustainable use of natural resources is singled out waste management strategy, which is based on the «Initiative 3R»: Reduce - reduction of waste; Reuse - reuse natural resources; Re-cycle - use as secondary resources.

Regarding food security in the region, according to the ideology IPP, all processes have to greened and ecological: all food chain from production to final consumption of food and disposal of wastes that generated in the environment. As for market mechanisms of the IPP, by other words, creation conditions to encourage the production and consumption of environmentally friendly products, the relation to the food sector in the part of ecologisation of its production phase envisaged and implemented the following key activities:

- improving the distribution of information on life cycles of products;
- stimulating the use of ecodesign through appropriate guidance and disseminate best practices;
- development of legislation, which stimulates the production of environmentally friendly food, including the organic farming;
- improving the efficiency of food production;
- integration of ecological components in the process of standardization of products;
- increasing number of food and agricultural companies certified for compliance 150 9000: 2000, ISO 14000 and EMAE.

At the stage of consumption as defined from the position of ecological life cycle stresses especially the main objective of IPP is to stimulate demand for organic products, which positively affect the health of the population of the regions. To solve this problem targeted, in particular, the following measures:

- ecological certification of products and ecolabeling (mandatory and voluntary);
- distribution (with the assistance of consumer) information on environmentally friendly products;
- increasing public contracts for the production of environmentally friendly products;
- application of differentiated taxation, including reducing rates of VAT on ecolabeling products.

In result of steps IPP proportion of “green” public contracts in seven EU countries averaged 45% of total contracts, which allowed reduce CO2 emissions to 25% by the simultaneous reduction of production costs in the life cycle.

6. Monitoring food security state

Most foreign scholars are unanimous in identifying the opportunities and the need for monitoring the food security in the region and the adoption of appropriate regulatory measures on its basis. This, above all, should exercise group data on the socio-economic development. These include such important indicators as the number and composition of the population; its population in cities and districts, age and sex composition, general indicators playback; standards of living, cash income, the value of the subsistence minimum, average nominal wages, purchasing power of the average income, composition of spending on final consumption of households of different socio-economic categories, food consumption, health status (in the field, there are specific climatic conditions affecting the state of human breathing); the level of food prices; production. In addition, to this group is appropriate to attach data on climate, population diet, physical and institutional infrastructure as well as information on regional food reserves. Then, occur the collection of information about the state of the food market in the region. Timely use of this information reveals signs of a potential food crisis. This, in turn, allows the regional authorities and the public use developed protective measures, including creation of optimal reserve of food in case of emergency on the basis of scientifically based norms of consumption; a comprehensive study of the socio-economic situation of citizens in order to identify the neediest populations, priority assistance in case of crises. This can also include information about the number of companies that produce food; the ratio of prices for local and imported food products; food consumption ratio of urban and rural populations, including in individual municipalities. This system will allow increasing the effectiveness of measures to ensure food security in the region (Nikiforova 2009).

In general, by the monitoring results exist threats of occurrence of food shortages; it is appropriate to use defense mechanisms such as programs of food aid and creating food reserves. In the programs of food aid must be scientifically substantiated what amount of food is necessary for the population of each particular region in the event of an emergency. It should be noted that these programs can contribute to mitigate food crises. This assistance may be implemented through market sale of food, which will increase the market supply of food and decrease as a result of inflated market prices for its strategic species. Indeed, with 30,000 edible plants, only four: wheat, rice, maize and potatoes provide 60% of energy consumption of the world's population. The use of such a small number of species increases the vulnerability of many agricultural systems and threatens food security and nutrition in different regions, which they can specialize.

Important in the context of food security is creation of adequate infrastructure in the regions food market, which is a "complex system that consists of a set of interrelated and interacting subsystems that have an impact on food production, given the focus on demand and merchandising food by creating conditions for a successful and effective promotion of the product from manufacturer to consumer" (Kalashnikova 2010). Thus, it is allocated the following subsystems of such infrastructure: innovation, vocational training, financial and credit services, supply, wholesale and retail brokering, logistics service, legal regulation of market participants, information and consulting service. And if the credit and financial aspects of infrastructure on local food markets have relatively universal nature in all regions, the actual physical infrastructure subsystem (training, level of automation, logistics) is largely determined by the level of socio-economic development of a particular region.

In countries with developed market economy, high degree of influence on the formation of social and production region's infrastructure endowed regional institutions that contribute to escalating food security and the improvement of agriculture, providing:

- implementation of reclamation projects or activities of land reclamation;
- development of road transport network in the region, water supply, electricity, health care items, etc.;
- building farms and poultry farms, warehouses, agricultural, veterinary laboratories, service stations;
- creating conditions for the functioning of agricultural cooperatives, agricultural products wholesale markets, commodity exchanges food, farm products stores, vegetable stores and etc.

7. Influence of multinational corporations

It should be noted that foreign experience of formation regional food security policy is based on the understanding that proper specialization on agricultural production in the regions should largely focus on the most highly effective industries and specialize on them, taking into account climatic conditions and region's natural resources. In this context, important factor is resource efficiency rather than mandatory requirement of achievement regional food self-sufficiency. In the process of rational international cooperation is gaining importance not «natural farming» of regions, but the degree of involvement in the international division of labor on the most beneficial for each region and state conditions. In this case, it is provided the opportunity by importing to save final consumption of all basic kinds of food products. Therefore, modern approach to understanding the problem of food security should be based not only on creating base for domestic food production, but also on the formation of the balance of domestic and imported food resources that would ensure a constant level of social stability in society.

The transition from priority of domestic food supplies to the priority of social stability in providing food security is possible and necessary. Indeed, under conditions of the international movement of capital and the emergence on regional food markets of multinational corporations complicated determination of origin areas of many food products. Today, multinational corporations, as an international form of monopoly, control about half of world industrial production, 63% of foreign trade and about 4/5 of patents and licenses for new equipment, technology and "know-how".

Under the control of multinational corporations is 90% of the world wheat market, coffee, corn, timber, tobacco, jute and iron ore, 80% - tea, 75% - bananas, natural rubber and crude oil (Mudrak 2013). The most major representatives of these entities in the food sector include: The Coca-Cola Company, Groupe Danone, McDonald's Corporation, PepsiCo, Kraft Foods Group, Carlsberg, Nestle, etc. Moreover, considering the use of information technology for realization of large-scale marketing campaigns, aimed at changing stereotypes, norms and habits of food consumption in a favorable context for multinational corporations, becomes more urgent question of the protection of end consumers from unscrupulous manufacturers and untested food. Such manipulations often aimed at creating a falsified image of environmental well-being and biosafety of products and contribute to the implementation in the public consciousness of consumption patterns that may be harmful to health, but satisfy the interests of producers.

8. Genetically modified products

An extremely dynamic development in all spheres of human life now requires a dynamic response to new demands, including application of new approaches to management and production. This applies both to the need to use the concept of supply chain management (Supply Chain Menegement), and the emergence of genetically engineered modified organisms (GMO) plant origin. In 2014, the global experience of their use has exceeded the limit of twenty years, and the areas occupied by GMO crops increased more than 100-fold, and now represent about 11% of the arable land in the world. Due to the relative scientific low level researches of short- and long-term impact of such crops on the human body when they arrive on the market carried sided examination, which may include (Gapparov 2013):

- expert analysis and assessment of data on the declared GMO (information allowing identification of the object (type, grade, transformation), information about the original parent organism and donor organism introduced genetic sequence information on the method of genetic modification, genetic structure design, levels of gene expression, information on the registration of GMOs in other countries, the results of safety evaluation (assessment compositional equivalence toxicology, allergy and other studies), which became the basis for the registration of GMOs in other countries);
- medical and biological safety assessment of GMOs (consisting of several research units, including toxicological, allergy, etc.);
- medical and genetic assessment of GMOs (check the presence of one or more synthetic genetic structures PCR);

- asessment of functional and technological properties of the GMO (analysis of the technological characteristics of the finished product, the definition of organoleptic and functional properties);
- methods for detection, identification and quantification of GMOs in food (study aimed at confirming the adequacy of these methods of instrumental and methodological basis used by institutions to monitor the circulation of GMOs and labeling of food products containing GMOs).

9. Food support programs

In the US, the largest producer of agricultural products in the world, particularly important in the food security policy is given to the state food aid programs; in particular special service for the food developed and implemented more than 15 programs of food aid to low-income population. Among these programs, there are as familiar to us "school lunch program" and the specific programs with a strong regional focus: "Distribution of food in Indian reservations" or "Food aid to the population of Puerto Rico". Besides helping to end users of food, in the US support level of agricultural prices are approximately 50% and 21% of the income of farmers constitute direct subsidies.

In the developed countries, to ensure food security it is implemented the following support programs (Rabazanov 2013):

- farm income protection taking into account the instability in the markets and adverse weather conditions;
- crop insurance reserve funds to stabilize farm income;
- farm income protection taking into account the instability in the markets and adverse weather conditions;
- interest-free advance loans for spring field work;
- information and advisory services farms;
- mediation program to restructure debts of farmers;
- support the marketing of agricultural products, etc.

It should be stressed that in developed economies, only preferential subsidy support is not sufficient condition to realize the areas potential. Much more important is the willingness of local communities to mobilize their own, primarily human resources for the future development. Therefore, to the modern system of food safety regulation of regions should involve not only state and regional authorities in agriculture, manufacturing, trade, etc., but also self-governing and economic associations, enterprises and households. In fact, we are talking about the need to stimulate the development of civil society as an active and critical partner in regional policy of food security. The new role of regional government lies in providing interested parties with reliable and timely information about the market and provides a variety of consulting. They have spread the new legal and regulatory documents, identify the best suppliers of fuel, fertilizer inputs, and organize professional workshops and entertainment activities on the problems of Agricultural Economy etc.

Among the new elements of food strategies of industrialized countries include mass purchase or long-term lease of land (in some cases for up to 99 years) in other poorer countries for food production virtually exclusively on exports for its citizens. This guarantees them, on the one hand, a relatively quick return on investment because food is expensive, and the land - a relatively cheap, but on the other hand, states that sell or lease their land, receiving foreign investment for the development of the domestic agricultural sector, that definitely helps improve the provision of local population with food (Altukhov 2010). For example, China has reached 80% level of availability of all major groups of food products in recent years. Thus China has only 9% of global agricultural land, and the number of employees in agricultural sector of country reaches 40% of the total number of farmers in the global economy. For this country operates special state program that encourages Chinese companies to buy farmland abroad, primarily in Africa and Latin America, aimed at improving food security both in terms of production and guarantee uninterrupted supplies from abroad .

Conclusions

On the basis of conducted theoretical research we identify the main trends of regional policy ensuring food security, which now used by developed countries, in the context of closely interrelated economic, social and ecological components of food security, that are at the same time correlating aspects of sustainable regional development (Figure 3).

<table>
<tr><th colspan="3">MAIN TRENDS OF REGIONAL POLICY ENSURING FOOD SECURITY IN DEVELOPED COUNTRIES</th></tr>
<tr><th>Market aspect</th><th>Social aspect</th><th>Ecological aspect</th></tr>
<tr><td>Establishing interregional and international import-export relations and operations for food</td><td>Systematic monitoring of the state of food security in the region</td><td>Promoting development eco-oriented production</td></tr>
<tr><td>Creation of regional food stocks and reserves of strategically important products</td><td>Ensuring balanced structure of consumption of basic types of food and stimulation of domestic demand for food</td><td rowspan="2">Implementation of control measures (sanitary, veterinary and phytosanitary) for the prevention of counterfeit and poor quality products in the trading network</td></tr>
<tr><td rowspan="2">Counteraction inflation fluctuatins in production and consumption sector</td><td rowspan="2">Promote the development of infrastructure facilities for transporting, processing, storage, distribution of products in the region on the basis of logistics</td></tr>
<tr><td>Expertise and control of production and sale of genetically modified products in the region</td></tr>
<tr><td>Direct / indirect financial, informational and consultation support of agricultural enterprises</td><td>Target support for low-income and socially unprotected population groups of the region</td><td>Waste management of food based on the concept of 3R and improving energy- and resource efficiency</td></tr>
<tr><td>Formation of intraregional and interregional clusters</td><td>Stimulate agricultural employment in rural areas</td><td>Formation of ecologically oriented thinking and the development of corporate social and environmental responsibility</td></tr>
</table>

Figure 3. Main trends of regional policy ensuring food security in developed countries

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