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# The Sustainable Development of the National Agro-Industrial Complex as the Basis for Ensuring Food Security

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**This study aims to determine the key trends in, as well as focus areas in and ways of, ensuring the proper level of global food security – both at the global level and in specific countries of the Asia-Pacific region.What needs to be used as the basis for the food security of particular countries is the sustainable development of their national agro-industrial complexes, while taking account of the experience of and statistical data for other, more developed, countries andregions in Western Europe and the US. Among the major inferences drawn from this study, the author would like to highlight the following: (a) the state of food security varies significantly by countries and regions. For particular countries within the Asia-Pacific region (above all, India, China, and Russia), ensuring the proper level of food security is a most topical objective to be resolved using a systemic approach; (b) resolving the objective of ensuring food security in Asian regions ought to be based on the innovation-oriented sustainable development of the national agro-industrial complex using special organizational/economic mechanisms, which should be predicated on a novel understanding of the specificity of the interaction between the state, agro-industrial business, and science; (c) resolving the objective of ensuring the proper level of food security serves the achievement of common humanistic goals in the development of modern human civilization and is viewed as one of the key obligations of modern socially-oriented states.**

**Key words:** Agro-industrial complex, sustainable development, Food security, triple helix model, institualization, innovations

Modern civilization has made substantial progress in reclaiming the environment and in terms of the ability to survive amid climate changes and has ensured its scientific/technical development. However, achieving the results of evolutionary development could not have been possible without the key resource of modern civilization – humanity and its knowledge(Hirooka, 2006). At the same time, the normal life activity of the world's population, aimed at creating the new, including groundbreaking knowledge, is not possible without optimum food support, as food is the primary wellspring for the cultivation of mankind's mental and physical abilities. The availability and accessibility of food resources, as well as their quality, are the key parameters of global food security, as well as of the food security of countries and populations within particular regions around the world (Balabanov & Borisenko, 2002).

Consequently, it stands to reason that food security is viewed through the prism of the national social/economic system being provided and being able to provide itself with major food

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products to meet the needs of the entire population, with priority given to meeting the needs of people in low-income strata and ensuring that these products are physically and economically available in such quantities and quality that are needed in order to preserve and maintain the life activity of man (Directorate-General for Research and Innovation Biotechnologies, Agriculture, Food, 2010).Food security objectives are of an integrated, intersectoral nature. They cover the social sphere (people's income andfood consumptionand their social protection) and the economic sphere (trade, urban planning, transport, etc.). Resolving these objectives should involve input from the country's government authorities, which, in line with their competence, are authorized to act in the area of realizing the policy of food security and trade, social protection for the population, industrial policy and development, regions' property, finances, and a number of other considerations (EC-FAO Food Security Programme. 2008).

It should also be noted that ensuring food security is not just a goal and objective that needs resolving just at the national (state) level. On the contrary, ensuring food security is one of the main reasons behind the emergence and expansion of international economic, political, technological, and social exchange and interaction. Ensuring food security through intensifying the activity of national agro-industrial complexes, boosting the accessibility of food resources, and reducing social differentiation should become a priority in resolving geopolitical issues (Dudin et al., 2014).

Social-economic studies conducted around the world have estimated that currently one in eight of the planet's inhabitants is suffering from food shortage or a lack of access to food resources. And although the size of this group of people in the world is constantly decreasing, there appear to be trends indicating that there is a possibility of a scenario whereby the numbers of starving people will go up in the long run. This is why the modern generation's major strategic objective can be seen as the objective to come up with reserves for growth in food security around the world, which is in line with the universally accepted concept of sustainable development (Food and Agriculture Organization of the United Nations, 2013a).

## METHODS

This study, in terms of methodology, is an analysis of existing trends in global food development and the state of the level of global food security. The study employs the methods of content-analysis based on materials from leading international organizations (in particular, the United Nations and the World Bank) dedicated to relevant issues related to food security around the world as a whole and within specific countries and regions. Major attention is devoted to the state of food security in the Asia-Pacific region. The author employs economic/statistical analysis as one of the major analytical tools. On the strength of analytical data obtained, the author puts forth key inferences which help establish that ensuring food security depends, in large measure, on the sustainable development of the agro-industrial complex, which, in turn, cannot be attained outside the innovation context. The innovation context incorporates reserves for intensifying the production of food resources needed to preserve modern human civilization and ensuring its development in the long run. Ensuring the sustainable development of the agro-industrial complex is proposed, in terms of methodology, to be based on the triple helix model as a modern institutional basis that fosters conditions for growth in the innovation activity of agro-industrial business entities.

## RESULTS

Issues related to food security were and still are topical regardless of change of technological set-ups and economic cycle phases. That said, it is during periods of economic stagnation and depression that food issues, or rather issues related to ensuring the nation's food security, get increasingly poignant and discussion-prompting.

This, in no small measure, is facilitated by processes of integration and globalization of the global social, political, technological, and economic space. Speaking of national food security, one may want to note that of importance here are both the quantitative and qualitative aspects. More specifically, when it comes to quantitative estimates of the level of national food

security, it is customary to pinpoint the following indicators:

a) The per-unit share of the general population's expenditure on food commodities (food products and resources) in its total living expenditure and total income received;
b) The territorial and economic accessibility of food commodities (food products and resources) for the general population;
c) National budget expenditure on ensuring the territorial and economic accessibility of food commodities (food products and resources) for the general population;
d) The per-unit share of the consumption of food commodities(food products) that reduce man's temporal expenditure on consuming food over a certain period of time;
e) The ratio between the export and import of foodcommodities (food products and resources), i.e. the degree to which the national food system is able to self-provide;
f) he per-unit share of the consumption ofgood-quality food commodities (food products) in the total volume of consumption;
h) Iindicators of the interrelationship between the quality of food and the organization of the population's nutrition, its health and life expectancy.

It should be noted that, despite quite a multitude of studies conducted of late on the subject of food security,the understanding of its economic essence and definitive content, as well as of the impact of this component on the sustainable development of the national economy, society, and the state of national security as a whole, has not been characterized by unity of opinion.

The current definition of "food security"is based on the *Rome Declaration on World Food Security* (Food and Agriculture Organization of the United Nations, 2013b). In this document, the concept of food security is viewed from the humanistic standpoint whereby food securityis the physical and economic accessibility for each individual of quality food resources (food products) needed for active life activity.

We can pinpoint five key conditions under which one can speak of there being food securityin the system of the national security of a state (country, territory, or region):

a) Firstly, it is the condition of the physical accessibility of food resources for the population, i.e. the sufficient quantity, quality (safety), and nutritional value of food;
b) Secondly, it is the condition of the economic accessibility of food resources for the population, i.e. the sufficient paying capacity of the population (the ability to pay for the required volume of food products);
c) Thirdly, it is the condition of food independence, i.e. the ability of the national food system to function autonomously and economically independently;
d) Fourthly, it is the condition of the reliability of the national food system, i.e. its ability to withstand seasonal and other fluctuations in the process of providing the population with food resources;
e) Fifthly, it is the condition of the sustainable development of the national food system as part whereof we achieve not simple but expanded reproduction.

The above conditions forfood security, normally, form the basis of food policy and agrarian, economic, and social policy, which is interrelated with the former – both formed as part of strategy for the state's long-term development.

That said, it should be noted that food securityis an indicator of the level of economic development and economic security. Viewing food security from an economic angle, one may want to note that without resolving issues related to ensuring the proper level of economic security, and, consequently, food security, it is impossible to resolve issues the state is faced with.

According to available statistical data, the level offood securityin the present-day globalizing world is quite variable. Thus, for instance, according to the Global Food Security Index, among the countries of the world within the Asia-Pacific region the highest level of food securityis displayed by the US (89.3 ratings points), followed by Canada (83.7 points) and Australia (81.9 points)(Fig. 1).

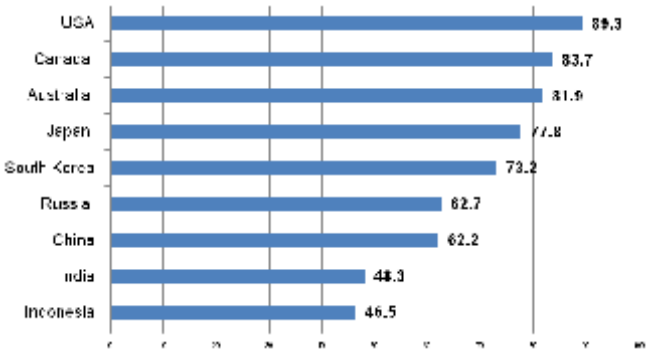


**Fig. 1.**The dynamics of the Food Security Index for specific countries in the Asia-Pacific region as of 2014 (Global Food Security Index, 2014)

The Food Security Index aggregates three key indicators: the accessibility of food products, the sufficient quantity of food, and the safety of food products. It is apparent that the food development of the countries with the best ratings values is characterized by not only the safety (quality) of food products but their accessibility and sufficient quantity. This points to that the degree to which the national food systems with high ratings are provided and, above all, self-provided with food is quite high.

We should bear in mind that the Asia-Pacific region is the world's most densely populated region (according to statistical estimatesabout 60% of the world's population lives in Asia). And besides, the region is expected to have the highest gains in population, despite the implementation of programs aimed at the control of the birth rate in those countries. Thus, for instance, it has been forecasted that the size of the population in the Asia-Pacific region will be growing steadily approximately up until 2050-2052.

After passing this reference point, the above region will go through the demostat period with a subsequent decrease in the region's population. Along with growth in population, we shall also witness a boost in people's living standards, which, in turn, implies an increased need for food products. Experts are pointing out that growth in population, both around the globe and within the Asia-Pacific region, will call for a 70% increase in global food production against the current levels (as of 2012-2014).

One of the major criteria forfood security, aside from the degree to which national food systems are provided and self-provided with food products,is the level of normalized and actual consumption of major food products by the population. Rates of consumption of food products and food resources as a whole are formed inclusive of recommended rates of consumption of dietary substances (in the form of proteins, fats, and carbohydrates), which are developed by the World Health Organization with a view to maintaining the normal condition of the human body.

Averaged consumption rates are inclusive of physiological differences, age characteristics, habitats, and physical/mental load levels. Periodic reconsideration of food consumption rates is associated both with obtaining new scientifically substantiated data on the rational consumption of dietary substances for maintaining the normal condition of the body and implementing state measures aimed at boosting the population's living standards and quality of life. That said, the world trend is pointing to an improvement in the quality of the nutrition of the inhabitants of particular regions through the reduction of the contentofgrain, root, and tuber crops in the energy value of the dietary intake (Fig. 2).

The greatest progress in cutting down on the consumption of grains, roots, and tubers over the last two decades has been witnessed across the countries of Asia (over 11%), which attests to an amelioration of the dietary intake of residents of the above countries. At the same time, amid a decline in the consumption by the world's population of foods that can be harmful to the body, there is an increase in the level of the mean energy value of the dietary intake: around the world

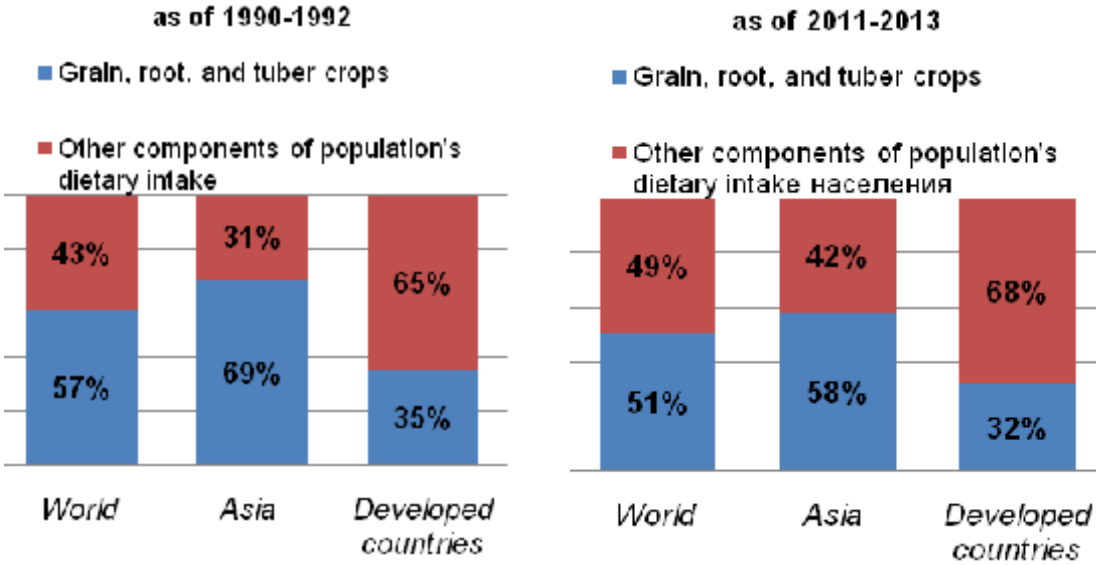


**Fig. 2.**Changes in the per-unit share of grain, root, and tuber crops in the energy value of the population's dietary intake (Food and Agriculture Organization of the United Nations, 2013a)

it has been steadily over 117-122%,and even in the less developed countries the adequacy of the mean energy value of the dietary intake has been over 100% (Fig. 3).

It stands to reason that, on the one hand, there is qualitative evolving of the global and national food systems – there is a decrease in the volume of foods that, if consumed in excessive amounts, can cause various degenerative mass disorders with the population (e.g., alimentary obesity). Such disorders, according to studies by the WHO, can result in other somatic disorders which become a burden for national healthcare systems.

Furthermore, the state's expenditure on the treatment of citizens having health issues as a result of an irrational organization of nutrition can be so hefty that it can often compare to outlays pertaining to the maintenance of law and order in certain regions around the world. However, on the

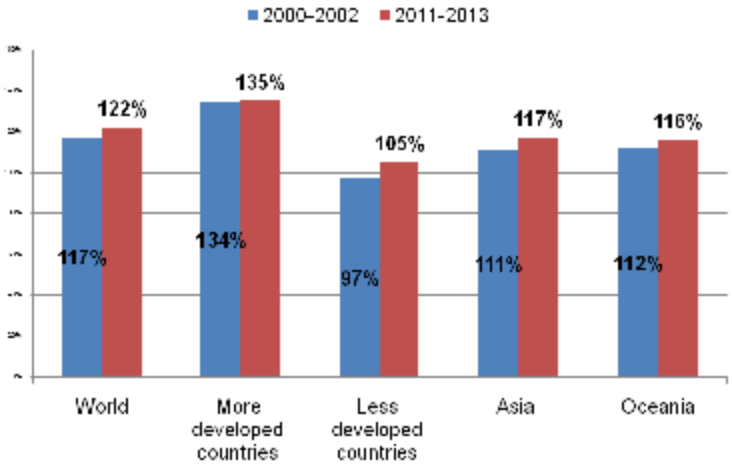


**Fig. 3.** The adequacy of the mean energy value of the dietary intake of inhabitants of various regions around the world(Food and Agriculture Organization of the United Nations, 2013a)

other hand, we get an increase in the mean energy value of the dietary intake, while there is a decrease in the energy needs of the major population: an exception are certain categories of the population engaged in hard physical labor and sports.

It is also important to point up the issue of recycling food waste, as well as that of food losses in the event of irrational use of food products.

According to data from the Food and Agriculture Organization of the United Nations (FAO),at year-end 2013 the cumulative volume of food waste totaled about 1.3 billion tonnes per year, which leads not only to economic losses but an increase in anthropogenic impact on the environment. But the biggest problem comes from so-called food losses, i.e. losses associated with the production and consumption of food commodities and resources. The FAO has estimated that food losses amount to as much as 32% of food commodities and resources produced around the world (Fig. 4).

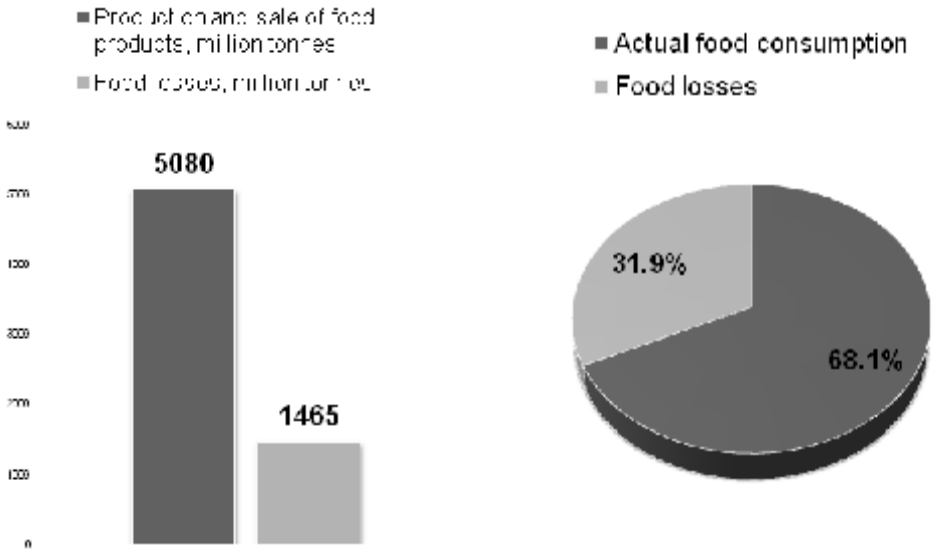


**Fig. 4.**The dynamics and structure of food consumption and food losses around the world as of the beginning of 2014(Directorate-GeneralforResearchandInnovationBiotechnologies, Agriculture, Food, 2013)

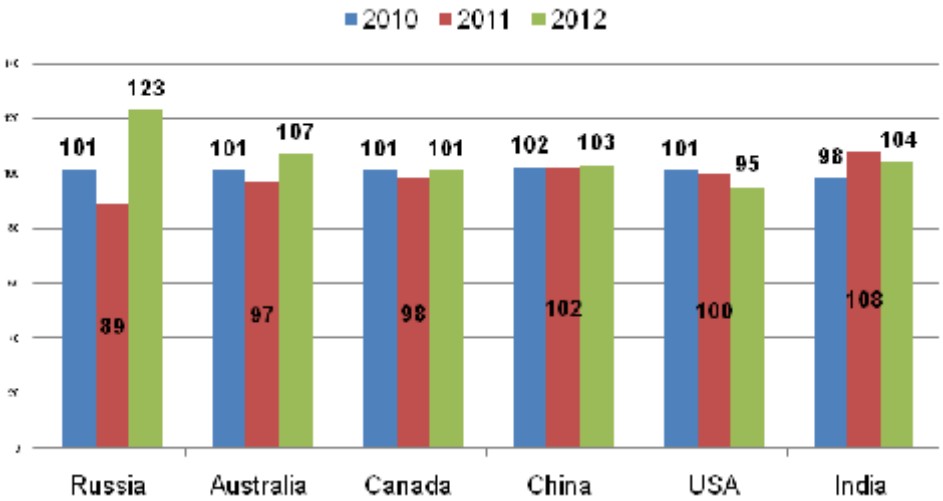


**Fig. 5.**The dynamics of changes in the index of agricultural production per capita("International Comparisons," n.d.)

There is no doubt that the policy of ensuring food securityat the state level requires taking account of many factors and resolving objectives whose complexity increases due to subjective social factors (society's entrenched dietary culture, the mentality of consumers, behavioral factors, and models associated with stereotypes and fashion). Not the last role in ensuring food securityis played by the sustainable development of the agro-industrial complex.

## DISCUSSION

The global agro-industrial complex is a significant part of global economics, whose operation and development engages as many as 1 billion people globally(Forecast Estimates for the Development of Agriculture, 2013). The global agro-industrial complex is a complex intersectoral establishment that is engaged in the production and processing of agricultural raw materials with a view to creating products that afterwards reach the end consumer.

Traditionally, the agro-industrial complex includes:

a) Agriculture (this sector can be considered the nucleus of the agro-industrial complex);
b) Agricultural machinery manufacturingand chemical agrarian operations producing fertilizers and means of pest control;
c) The processing industries (food-processing and light industries);
d) Theinfrastructure/logistics industries (transportation, the storage of raw materials and readymade products, etc.).

It has been repeatedly stated in UN reports that the sustainable development of the global agro-industrial complex – above all, agricultural production – is the key condition forglobal food security. Note that over the last three years agricultural production has exhibited a high gain in the index of production per capita among Asia-Pacific countries only in Russia (Fig. 5).

In the rest of the Asia-Pacific countries listed in Fig. 5, per-unit agricultural production per capita over the three-year period exhibits either minimum upward dynamics or is characterized by a decline relative to past years. Statistical data indicate that we are not only still facing a threat tofood securitybut there is an imbalance in the development of agricultural production, which is the primary supplier of resources needed to produce food.

Besides, natural and technogenic phenomena (e.g., soil erosion, agricultural land pollution, drought, rains, etc.) reduce the quality of produced food raw materials and, consequently, reduce the quality and safety of foods obtained from these raw materials.

There is also no fully univocal understanding of the quality and safety of food products (food commodities and resources) at the international level. Moreover, what is intrinsically necessary is elaborating, at the national level, such concepts and indicators related to them as the good quality and safety of food products. The safety of food products is viewed in terms of substantiated confidence in that these food products (in regular consumption conditions) are not harmful and pose no danger to the health of the present and future generations.

In practice this means that food products and resources used to make them contain no foreign substances of a chemical and biological nature. In particular, chemically foreign substances normally include toxic elements, pesticides, nitrogen compounds, and organic chemistry and pharmaceutics products. Biologically foreign substances that reduce the level of the safety of food products and resources normally include mycotoxins, microorganisms, helminthes, and protozoa, as well as genetically modified organisms (hereinafter "GMOs" or "GM products").

It should be noted that the US is leading the world in the production and sale of GM products, being, based on some data, the major beneficiary of the turnover of the market of genetically modified cultures (the value turnover of this market is estimated at 50 billion US dollars as of the beginning of 2014).

At the same time, one needs to clearly understand that the real danger of GM products and GM cultures to human health has not been universally proven yet. In equal measure, nor has been proven the absolute healthiness of so-called "organic food (organic products)" (Food and Health in Europe: A New Basis for Action, 2005). Russian and foreign scientists have failed to put forth sound analytical rationales for both cases. In

particular, available data on the correlation between an increase in oncological disorders and that in the consumption of GM products do not indicate, in full measure, the interdependence of these two indicators, since it is hard to remove from mass examinations such impact factors asthe state of the environment, having an adverse genetic background, and occupational disorders(United Nations Population Fund (UNFPA), 2011). Currently, virtually all lab studies that seek to prove there is a definite correlation between the consumption of GM products and the development of some kind of disorders, including oncological ones, have but contained statistical errors.

One should also take account of the fact that the consumption of so-called "organic food" is not fully safe for the population and the environment. Organic food products are products grown/produced with a minimal use of synthetic chemical substances, food additives, and GMOs applied in regular conditions of the operation of agriculture and the food industry. However, that said, one must understand that the agro-industrial production of organic foods:

a) Firstly, requires a multifold increase in the used volumes of organic pesticides and fertilizers, which not only increases the level of organic pollution in the environment but creates a danger for consumers through a high probability of such products getting infected with biologically foreign substances;

b) Secondly, considerably surpasses the prime cost of regular food products for mass consumption. This means that such products are economically and, quite often, physically not accessible for the general population, which creates major preconditions for social stratification and social strata getting increasingly distanced from each other, when, in essence, what is needed is the eradication of those chasms;

c) Thirdly, affects the capacity of eco-systems for self-organization and self-reproduction. Growing and producing organic products is characterized by low effectiveness, but one cannot use various types of stimulants and additives that are relatively not harmful to man in order to increase the volumes of growing and producing organic products. Therefore, we here have development along the extensive path: through increases in planted acreage and increases in the physical scale of production. In the first case, we get a decrease in the amount of forest and water resources and in the second an increase in the degree of technogenic load by the agro-industrial complex on the environment.

It stands to reason that ensuring the sustainable development of the global agro-industrial complex, including that of specific Asia-Pacific countries, will require boosting innovation activity (Mathe, 2013; Sekhampu, 2013). As has been suggested in certain studies, innovation activity in the agro-industrial complex is steadily high under the more developed economies. High innovation activity, first of all, ensures the intensification of production and, second of all, reduces the degree of the use of manual labor. As a result, the gross output of readymade products has a substantially larger volume and, consequently, a lower cost.

In particular, in the US and Canada, whose agro-industrial complexes can be viewed as innovatively active, the per-unit share of monthly household expenditure on food totals about 7% and 10% relatively (as of the beginning of 2014). In countries where the operation and development of the agro-industrial complex is not characterized by intensity and sufficient innovation activity (Russia, India, and China), monthly household expenditure on food is over 25-30% of total income(Raou, 2013).

We could pinpoint several key groups of issues that facilitate the reduction of the level of innovation activity in the agro-industrial complex of such new industrial countries as Russia, India, and China:

a) Firstly, it is the deferred negative effects of transforming national economies and their accumulated technological and scientific backwardness, which remains unresolved to this day;

b) Secondly, it is the persisting deficit of funding for agrarian science, as well as an exodus of the professional workforce from agriculture and agrarian science and the practical lack of reproduction of agrarian labor and scientific potential;

c) Thirdly, it is the inability of national agro-industrial complexes to effectively promote their products and services, as well as the sector's low investment attractiveness due to the multiple impact of fundamental and short-term factors;

d) Fourthly, it is the lack of an effective mechanism for trilateral interaction on the "production/business – science – the state" continuum (which forms the national innovation ecosystem) and apoorly developed innovation infrastructure.

When it comes to the last aspect, there is a need to create special organizational/economic mechanisms for boosting innovation activity aimed at ensuring the sustainable development of the agro-industrial complex and business entities within it.

From the standpoint of physics, a mechanism is the inner structure of an object, which consists of key elements crucial to the full-scale operation of the object. Among the primary elements of an organizational/economic mechanism for the sustainable development of the agro-industrial complex are:

a) Firstly, the institutional platform which forms the national innovation ecosystem (the state, agro-industrial business, and science) (Etzkowitz, 2010; Norse, 2012;Komkov, 2014);

b) Secondly, the instrumentarium used (basic conditions, incentives, and resources).

The innovatively active development of the agro-industrial complex cannot be possible without taking account of current global single-option trends (Aleshina, 2012). In particular, in the agro-industrial area single-option trends are lying in the plane of searching for new biotechnology, selection innovation, technology for cultivating plant food raw materials, and growing livestock raw materials with minimizing the load on natural systems. In addition, there are single-option hardware/technical trends: creating and putting to use new machinery and mechanisms that reduce or totally eliminate the use of manual labor, as well as creating and putting to use equipment that ensures the more complete processing of food raw materials and longer storage of readymade products without losses in the quality and safety of products for consumption.

One also should not forget about political, economic, and social trends, such as:

a) In the economic area – the shift of global centers of gravity; the emergence of new national "economic phenomena" and locomotives for economic development;

b) In the political area – the emergence of new national agglomerations; the reformation of existing inter-state unions and commonwealths; the equalization of regional differentiation;

c) In the social area – the chainization of society and assimilation of strata (the layers of society); changes in the specificity of major social services (healthcare, education, social support);the formation of a knowledge society (an information and noosphere society).

Consequently, taking account of global single-option trends, we may expect in the long run tougher requirements for ecologizing agro-industrial production, as well as a search for new forms of partnership between science, business, and the government amid toughening requirements for reducing social differences (Gorbunov, 2009).

Global single-option trends form the specificity of the self-organization and self-development of the national innovation ecosystem (the characteristics of the formation of its institutional platform, as well instruments aimed at ensuring the sustainable development of the agro-industrial complex inclusive of stimulating its scientific/creative activity. One should take account of the fact that it is the state and science that create conditions and implement incentives and ensure access to resources. More specifically:

a) The state ensures basic conditions for the sustainable development of the agro-industrial complex: it funds the creation and organization of necessary infrastructure (social, economic, and scientific infrastructure; it participates in a mediated fashion in the creation of the material/technical base of agro-industrial complexes) and institutes for development. It determines the specificity of agro-industrial production and its transformation and ensures the formation of the market of innovations wherein demand generates

science-intensive supply;

b) Science ensures basic conditions for the sustainable development of the agro-industrial sphere through the provision of higher and secondary education guaranteed for all, as well as through conducting fundamental basic research and practice-oriented development.

Agro-industrial business (all of its segments) is also part of the organizational/economic mechanism, based on institualization (the interaction between the state, business, and science) and innovation trends of development. Furthermore, using basic conditions and incentives and accumulating resources, business is not only engaged in cooperation and economic exchange, as well as interaction, including with other institutional actors, but also actualizes its own potential in evolving from extensive agro-industrial production to intensive production, which facilitates an increase in food securityboth at the national and global level.

In our view, one could pinpoint a number of common and private target objectives of boosting the innovation activity of the agro-industrial complex of specific Asia-Pacific countries (above all, Russia, India, and China) in the context of ensuring food security, including the good quality and harmlessness of food products. The following are some of the major target objectives that require immediate reacting amid geopolitical changes taking place in the world economy and social development at the moment:

1) the creation of sectoral scientific/ production clusters as the most optimum form of innovation infrastructure;such scientific/ production associations could also engage in resolving objectives related to providing the agro-industrial complex with efficient human resources;

2) an optimum combination and selective use of state direct and indirect financial/economic incentives, including with the engagement of resources from sectoral institutes for development;

3) the rationalization of inter-firm cooperation inside the agro-industrial complex, as well as between the complex and its key national and external economic partners;

4) the effective specialization of business entities within the agro-industrial complex inclusive of the specificity of their territorial placement and the availability of transport communications;

5) the optimization of the legal space with a view to boosting the investment attractiveness of the agro-industrial complex, which also ensures incentives for advanced science-intensive development.

Most of the above target objectives are topical to virtually all the segments of the agro-industrial complex of the Asia-Pacific countries under examination and sectors interrelated with it in terms of ensuring their sustainable development. Therefore, along with the list of common target objectives we could also speak of private target objectives of boosting innovation activity within the agro-industrial complex, which need to be resolved in order to ensure the proper level ofthe population's food security, as well as ensure the good quality and harmlessness of food products:

1) synchronizing scientific and practical research and development in the sphere of growing food cultures and production of food products with strategic guideposts for nationalfood security;

2) determining the priority dimensions of scientific and practical research in the area of the quality and harmlessness of food products (food commodities and resources);

3) shifting the national food system to a sufficient self-provision level through technological innovation in the area of growing food cultures and production of food products;

4) ensuring the equal accessibility of food products and resources for all population groups through organizational and marketing innovation;

5) ensuring the carrying out of technological, organizational, and other types of research with a view to reducing food losses and ensuring the rationalization of food consumption.

**Conclusion.**To summarize the above and take stock of the results of the study, the following should be noted. The organizational/economic mechanism for the sustainable development of the agro-industrial complex (of both specific countries and in the global context) ought to be grounded in an institutional platform (based on the triple helix model: the state – business – science). The mechanism's operation is governed by two key determinants: external global single-option trends and internal conditions, incentives, and resources laid down in the mechanism. Furthermore, global trends govern the transformation and

differentiation of created basic conditions, incentives, and resource distribution.

The state and science constitute the framework of the operation of the organizational/economic mechanism of the sustainable development of the agro-industrial complex based on innovatics and institualization. Agro-industrial business, in turn, based on the use of the created framework and accumulation of incentives and resources, realizes the strategic potential of its innovation-oriented sustainable development through evolving from the extensive type of production activity to the intensive type. Thus, the organizational/economic mechanism, which is oriented toward ensuring the sustainable development of national agro-industrial complexes, is a special driving force. This driving force is, in turn, aimed at ensuring the proper level of nationalfood security and, therefore, reducing the degree of social stratification and averting other destructive social phenomena which can disrupt the natural development of modern human civilization.

This study reflects the general concept of the formation of an organizational/economic mechanism capable of ensuring the sustainable development of national agro-industrial complexes with a view to fostering the proper level of food securityin the country. Future studies ought to circumstantiate the components of such a mechanism and determine its methodological support considering the specificity of the development of "new industrial countries" (particularly, Russia, India, and China) and current global single-option social/political and economic/technological trends.

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