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GLOBALIZATION AND LAND-USE PROSPECTS FOR AGRARIAN ENTERPRISES

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Abstract: Using theoretic and applicative scientific studies on environmental economy and territorial planning of land-use the research of globalization and its negative aftermath was conducted. The paper introduces a classification globalization's effects and suggests its wider analysis. In addition to that, possible consequences of global issues' development are drawn and their impact on land-use system is suggested. The study results in outlining the system of defensive and preventive measures aimed to reduce the impact of globalization processes on land-use system.

Introduction

Globalization and its impact on development of social relations is an unceasing process aimed at adaptation of individuals, social groups, territorial communities, organizations, countries and unions to the changes of environment that are being caused by the internal alterations of the mentioned parties. This process is leaves no subjects behind exposing them to both positive and negative influence which forms future horizons.

The international experience of agricultural development shows that in terms of globalization national agroproducers should increase the efficiency of resource usage at least twice or thrice, whereas the level of economic security should be increased up to 5-8 times. Despite the significant technological renovation of production sphere, the efficiency and productivity level of the majority of Ukrainian agroproducers remains three to five times lower comparing to the similar business entities of economically developed countries.

The impact of globalization on land-use was examined by Bukreev (2010), Berdyanskyh (2010), Vysotsky (2011), Stroyko, Irtysheva (2014), Melnik (2010), Lambin, Meyroidt. While Stroyko, Irtysheva and Melnik research the impact of globalization on national system of land-use, Lambin and Meyroidt outline the worldwide strategies of progressive land-use.

This study is aimed at discussion of land-use prospects considered as one of the key problems of globalization as well as suggesting the possible solutions.

Method

Theoretical basis of the research is the general philosophic notion of concepts and objective laws of social development, theoretic and applicative scientific studies on environmental economy and territorial planning of land-use. The definition of the subject under examination, as well as drawing the conclusions and suggesting solutions were made with the help of abstract-logical method, deduction was applied in order to specify the factors that caused the decrease of agroland-use efficiency; the assumptions regarding the future of land-use were made using the imitative modeling methods such as system dynamics, multigenic modeling and dynamic programming along with methods of spatial economics including geoinformation technology.

Results

The main problems of nowadays stage of human social development, the consequence of which is the development of the crisis of the regular phase of the 14-year economic cycle can be roughly divided into the number of central groups: demographic, natural and climatic, resource, informational and geopolitical.

Although the presented classification is somewhat suppositive, it performs its task reflecting the sources of problems. Each group is autonomous, but to some extent it can embody elements of consequences of the demographic problem.

We suggest that each of the presented issues should be examined in a detailed way to investigate in more taking into account modern trends in land use as a basic system of agricultural sector.

The majority of modern demographic issues that were mentioned above are caused by the reduction of population growth period. As reported by analysts of the Organization for Economic Cooperation and Development, the IMF, the World Bank, the U.S. National Intelligence Council this phenomenon is likely to find its reflection in the following processes:

1. Growth of the world population (up to 8 billion people by 2025) may lead to overpopulation of the continental areas of the planet and causing migration run-up that is likely to promote intercultural tension in multiethnic countries.

2. Hike of below the poverty line population share (up to 63%) will cause the decrease of quality of life as well as the human value system degradation.

3. Increase of urban population (up to 57%), the dynamics of which do not correspond to the stages of the national economies' development of the countries on the way to informational society.

4. Expansion of food products consumption (up to 50% in comparison to the level of 2010) and simultaneous deterioration of the quality of food products reducing the overall quality of food (broad, irrational use of chemical preservative products).

Presented assumptions might the following effects on land-use system:

1. Declining share of agricultural land due to loss of its productive capacity as well as its transmission for industrial and infrastructure use.

2. Escalation of food load on agricultural land.

3. Intensifying of environmental pressure on agricultural land as a result super-rational and intensive land use.

In terms of current conditions a promising way to develop land-use is establishment of regulatory activity aimed at control of land-use and determination of liabilities of national economic entities for agricultural usage.

Environmental issues are mainly caused by unfavorable global climate change as a result of cosmic, geographic shifts as well as aftereffect of human activity. According to the UN only in 2010 natural disasters cost global economy over 109 billion USD.

Correspondingly, the consequence of the outlined problems in the agricultural land use can bee seen in:

1. Reduction of the land areas suitable for intensive farming due to the growing impact of natural restricting factors (table 1).

2. Necessity of significant transformation in technological system of agriculture applying adaptive approaches.

3. Significant fluctuations in food prices due to more frequent occasions of unfavorable weather for farming.

4. Probability of mass migration due to the more frequent adverse natural phenomena caused by human influence (deforestation, dam construction, etc.) and absence of compensatory mechanisms.

As some radical measures should be taken in order to adapt to changes of climatic conditions, we suggest to restrict and define of economic entities' liability actions of which harm the environment and/or cause unfavorable natural phenomena such as droughts, floods, etc.

The rout of resource problems is in reduction of non-renewable resources, mismanagement of renewable resources under increasing in geometric progression demand for them, as well as neglecting significant opportunities the waste utilization.

Subsequently, resource issues lead to industrial usage of lands that are characterized with high agricultural productivity, thereby reducing the share of agricultural land, followed by deficiency of initiative oriented at maintaining productive quality of land that reflects in loss in the economic value of land as well as vast pollution of urban areas and rational usage and mismanagement of natural resources that can be used to provide food security for certain areas.

Encouraging development of more rational environmental management and prioritizing not only preservation of assets but also the way of restoration and reasonable usage should be considered as a key element of adequate resource management policy.

Table 1

Natural factors that restrict usage of land in agricultural purposes

Restricting natural factors	Area, mln. ha	Share in total land area, %
Ice-cover	1490	10
Low temperature	2235	15
Dry climate	2533	17
Steep slopes	2682	18
Soil qualities:		
low productivity	1341	9
lack of nutrients	795	5
overmoisturized	596	4
Total	11672	78

Information problem lies in monopolization of geoinformation market by “post-industrial countries club” representatives that pursue their own ends. To a greater extent the main source of this problem is the lack of awareness of many members of the national economy about the economic conditions of life in the new information age which humanity enters the 21st century. The follow-ups of these problems are:

1. Limited access of the majority of the world population to accurate and current information resources.
2. Data espionage and information wars.
3. Promotion of multiculturalism.
4. Promotion and active incongruous to economic mechanism development of the media.
5. Manipulation of public opinion.
6. Changing the non-price determinants of supply and demand such as consumer expectations, inflation expectations that provoke decline of procurement prices for agricultural raw materials that causes the cutback of agribusiness profitability.

We assume that boosting informational competition of state-run media and its influence on public benefit, determination of economic entities' liability for inner information flows as well as establishment of nonproductive activity return monitoring can be seen as one of the solutions of informational issues.

Geopolitical problem mainly involves using unfair practices by individual states, unions or international organizations to influence other parties of international interrelations The mentioned provokes predatory attitude to resources including land of state that is being “colonized” as well as artificial reduction (by price, demographic, technological, financial factors) of local demand and importance of the state in the international arena. In addition to that systematic imposition of the population and the country's monetary system of freely convertible currency so as to misbalance external accounts and the deregulation of budget expenditure on the value of fees on international loans. The space basis of the opposing interests in this problem is land.

Taken into consideration the general characteristics and probable consequences of major contemporary problems of humanity, the connection between them can be presented through one common denominator - land use system (fig. 1).

Based on the research conducted, we consider that progressive land-use implies:

1. solution of the desert land increase problem.
2. solution ameliorative issues.
3. improvement of crop rotations by adaptive technologies.
4. increase in agricultural structure the share of perennial plants.
5. improvement of fertilizers and plant protection products.
6. environmentally responsible attitude to the land, preventing its improper use, public participation in changing of the designated purpose of land area.
7. reducing acreage under tobacco, hops, hemp, poppy, etc. in order to use land for more essential crops.

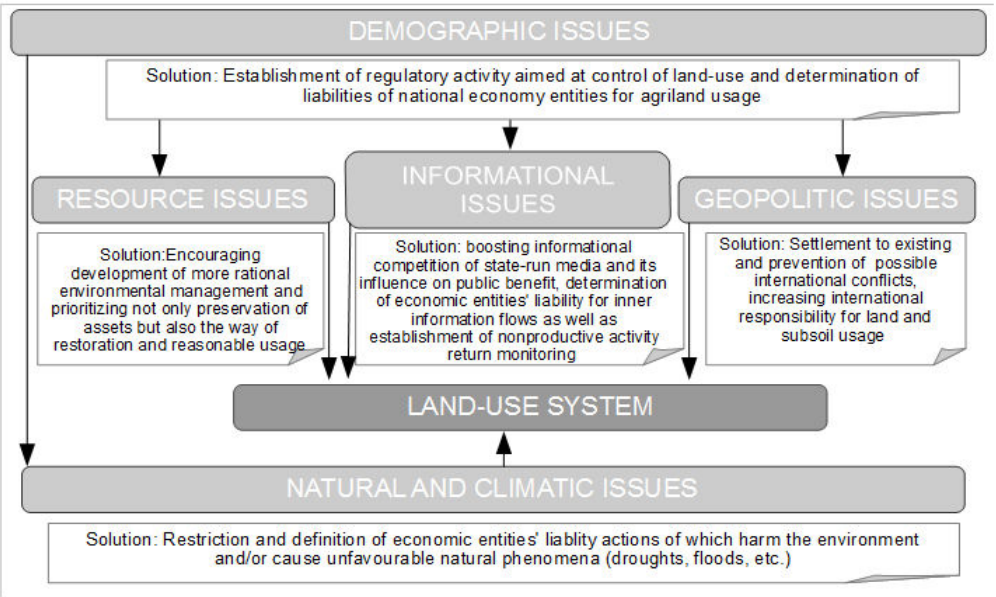

Fig. 1. Connection between global issues within the framework of progressive land-use and suggested solutions

Discussion

Surely, the solution of the emphasized issues faces the oppositely directed interests of subjects of national economy which brings about the necessity to intensify international competition in ecological sphere as well as abandoning the double standards of production in postindustrial and developing countries. At the same time such countries as China, India, Russian Federation and Ukraine should be considered as food producers able to increase the production significantly by means of intensification. Consequently, this shows the relation between global tendencies and development strategies of certain parties. We suggest that the contribution of Ukraine if not as a member of international organization (such as BRIC) than at least as a participant of food pools. In our view, the development strategy of agricultural sphere and highly efficient farming in particular in cooperation with vast food producers is a very promising outlook.

The implementation of suggested preventive and aimed at conservancy measures is sure to influence agricultural enterprises. We assume that the proposed might lead to strengthening responsibility and harshening punishment for mismanagement of land recourses, which will cause certain limitations for agribusiness activity. However, is also likely to impel agroproducers to create inner committees aimed at environmental auditing and systems of internal land-use control (or use outsourcing for this sake).

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