

ECOLOGICAL CRISIS IN UKRAINE AND ITS SOCIO-ECONOMIC IMPACT

The essence and reasons of ecologic crisis in Ukraine are revealed, dependence of ecologic crisis on level of ecologic security, increase of quantity of the sources of ecologic insecurities. Considerable attention was paid to evaluation of level of ecologic situation and development of national ecologic system of Ukraine, its place according to these indicators among other countries in the world with EPI index. The reasons of aggravation of index of ecologic survey for Ukraine in 2010 and 2012 years were identified. Interconnection of economic and ecologic crises as well as place of Ukraine among worse world economies were revealed (fourth). It was shown, that Ukraine is the only country in the world, which economy in 2012 did not return to level of pre-crisis 2007 in 2012. It is defined increase of "predatory" treatment with nature and "ecologic nihilism", so economic collapse and lack of real able-bodied state decisions support this situation. The social consequences of ecologic crisis are synergetics of ecologic and demographic crises, probable increase of ecologic migrations, influence of resettlement on ecologic safety, interrelation between society earnings and ecologic situation of environment. Influence of ecologic crisis on natural resources and environment is investigated, approaches of state policy as for ecologic crisis overcome are selected.

Keywords: environmental (ecological) crisis, environmental, socio-economic impacts, safety, synergy, resources, threats, environmental policy.

Анатолій Степаненко. ЕКОЛОГІЧНА КРИЗА В УКРАЇНІ ТА ЇЇ СОЦІАЛЬНО-ЕКОНОМІЧНІ НАСЛІДКИ. *Висвітлено сутність і причини екологічної кризи в Україні, залежність екологічної кризи від рівня екологічної безпеки, збільшення кількості джерел екологічних небезпек. Значна увага приділена оцінці рівня екологічної ситуації та розвитку національної екологічної системи України, її місця за цими показниками серед інших країн світу за допомогою індексу EPI. Прослідковано причини погіршення індексу екологічного виміру для України в 2010 і 2012 рр. Розкрито взаємозв'язок економічної і екологічної криз, місце України серед найгірших економік світу (4-е). Показано, що Україна єдина країна в світі, економіка якої в 2012 р. не повернулася на рівень докризового 2007 р. Встановлено значне посилення залежності між вартістю сили від якісного стану довкілля і рівнем ефективності способів реалізації екологічного та соціального регулювання. Відзначається зростання хижацького ставлення до природи та «екологічного нігілізму», чому сприяють економічний колапс і відсутність реальних дієздатних державних рішень. Серед соціальних наслідків екологічної кризи виділені синергетика екологічної і демографічної криз, ймовірно зростання екологічних міграцій, вплив розселення на екологічну безпеку, взаємозв'язок між доходами суспільства і екологічною ситуацією довкілля. Досліджено вплив екологічної кризи на природні ресурси і довкілля, зокрема водні та земельні ресурси, активізацію екзогенних геологічних процесів, зниження біорізноманітності й біопродуктивності довкілля. Виділені заходи державної політики щодо подолання екологічної кризи.*

Ключові слова: екологічна криза, довкілля, соціально-економічні наслідки, безпека, синергетика, ресурси, загрози, екологічна політика.

Анатолій Степаненко. ЭКОЛОГИЧЕСКИЙ КРИЗИС В УКРАИНЕ И ЕГО СОЦИАЛЬНО-ЭКОНОМИЧЕСКИЕ ПОСЛЕДСТВИЯ. *Отражена сущность и причины экологического кризиса в Украине, зависимость экологического кризиса от уровня экологической безопасности, увеличения количества источников экологических опасностей. Значительное внимание уделено оценке уровня экологической ситуации и развития национальной экологической системы Украины, ее места по этим показателям среди других стран мира с помощью индекса ЭРИ. Отслежены причины ухудшения индекса экологического измерения для Украины в 2010 и 2012 гг. Раскрыта взаимосвязь экономического и экологического кризисов, место Украины среди наихудших экономик мира (4-е). Показано, что Украина единственная страна в мире, экономика которой в 2012 г. не вернулась на уровень докризисного 2007 г. Установлено значительное усиление зависимости между стоимостью силы от качественного состояния окружающей среды и уровнем эффективности способов реализации экологического и социального регулирования. Отмечается рост хищнического отношения к природе и «экологического нигилизма», чему способствуют экономический коллапс и отсутствие реальных дееспособных государственных решений. Среди социальных последствий экологического кризиса выделены синергетика экологического и демографического кризисов, вероятный рост экологических миграций, влияние расселения на экологическую безопасность, взаимосвязь между доходами общества и экологической ситуацией окружающей среды. Исследовано влияние экологического кризиса на природные ресурсы и окружающую среду, в частности водные и земельные ресурсы, активизацию экзогенных геологических процессов, снижение биоразнообразия и биопроизводительности окружающей среды. Выделены мероприятия государственной политики по преодолению экологического кризиса.*

Ключевые слова: экологический кризис, окружающая среда, социально-экономические последствия, безопасность, синергетика, ресурсы, угрозы, экологическая политика.

Problem formulation. Present ecological situation in Ukraine could be characterized as a crisis that was formed during a long period because of the neglect of the laws of development and reproduction of natural-resource system of state. 7% of the territory are radioactively contaminated after the ecological disaster in 1986 in Chernobyl. Ukraine has a highest arable land fund - 72.5% of agricultural land, compared with Western Europe. More than 40% of arable land suffers from erosion. Anthropogenic and man-triggered impacts on the environment in Ukraine are higher in 4-5 times

than corresponding figures in developed countries of the world. Earlier, natural system of agricultural production was waste-free and field harvest returned to the fields as fertilizer, so during forced collectivization interrelation with the land was broken. Sewerage is absent in rural areas the soil, surface and ground water are contaminated, so because of the use of the detergents. Man-triggered impact is especially dangerous in large agglomerations. Structural deformations of economics took place, where preference was given to development of resource-intensive and energy-intensive industries, which are the most ecologically hazardous industry branches. Ukraine has approximately 2.5 million tons of

weapons of Soviet times that have to be destroyed.

These and other factors, such as low level of ecological awareness of society, led to significant degradation of the environment in Ukraine, excessive pollution of surface and groundwater, air and land, the accumulation, in very large quantities, of hazardous, and high-toxic waste production. It is the reason of sharp deterioration of health of population, decreasing of fertility and increasing of mortality, which can result in extinction and bio-genetic degradation of the population of Ukraine. As a result economic situation of environment became the problem of national significance that requires priority solution.

Analysis of the recent researches and publications. Nowadays, considerable attention is paid to ecological crisis issues in scientific researches. Such scientists as V.I. Andrienko, V.S. Krysachenko, V.A. Bokov, A.B. Kachynskiy, A.V. Lushchuk, E.P. Buravlov, E.V. Khlobystov, T.V. Hordaschuk, V.P. Voytenko, N.M. Koshel, A. V. Pysarchuk, V.A. Zerkalov, O.G. Stegnyy and others made important contribution in revealing the nature of environmental crises, main reasons that caused dangerous environmental conditions, classification of environmental disasters, anthropogenic ecological crises, modern crisis ecological situation. Among foreign researchers the names D. Deudney, A. Ehrlich, M. Fishbein, N. Myers, D. Gray, A. Irwin and others should be indicated [1-6].

Despite of actual research of the problem and ways of its solution, the ways of socio-economic impacts of the ecological crises and balanced relationship between society and nature, transition to sustainable development continue to be urgent and need immediate solution.

The purpose of the article is to highlight the essence of the ecological crisis and its reasons, socio-economic consequences and main ways of its overcoming.

Main material. The studies demonstrated that human pressure on nature, in some regions of Ukraine, is close to the boundary limits of its ecological sustainability. System adaptation threshold, that helps the system (in this case - society) to damp deviation from permissible parameters of life and preserve its quality content, was apparently passed in the twentieth century. There are the signs of ecological crisis, which is a such state of the relationship between society and nature, that is characterized by inadequate development of the productive forces and relations of production according to ecological possibilities of the biosphere, and the presence of significant structural changes of the environment. Ecological crises of natural and anthropogenic origin could be allocated. Ecological crisis is different from the ecological disaster, because the latter means complete destruction of the ecological system. In the case of ecological crisis the possibility of restoration of the environment remains.

Scientific and technological revolution changes the relationship between man and nature, creates new conditions for human's existence, and affects the way human's and work. Advanced technologies make the nature vulnerable, so natural disasters, in their turn, increase socio-technologic vulnerability.

Ecological crisis is defined by the level of ecological security that covers a range of environmental problems, which that potentially or actually affect the rate of evolution of modern civilizations. It is based on the statement about the "carrying capacity", which refers to the common consumption of natural resources, which does not provide degradation for natural system. This consumption depends on the total population, technology and lifestyle.

Ukraine has a tendency for emergence of new and resuscitation of well known epidemics, because of increase of quantity of the ecological dangers sources that have mutagenic effect on wildlife. In particular, "Chernivtsi disease" of late 80-ies, spoiled water disease of children in the Poltava region and residents of Per-vomaisky region of Nikolaev region and other witness about it.

The level of ecologic situation and development of the national ecological system of Ukraine, its place according to these indicators among the other countries of the world can be estimated according to the international index of ecological measuring EPI (Environmental Performance Index).

According to this index, Ukraine ranked 102nd place among 132 countries of the world in 2012. It should be noted that Ukraine ranked 102nd place rated EPI among 163 countries in 2012, 75th among 149 countries in 2008, 52nd among 133 countries in 2006.

According to Table 1, we can trace the deterioration of the environmental Performance Index for Ukraine in 2012 at 11.89 points, compared with 2010. These changes were caused by the following factors:

- deterioration of the environmental sanitation, which was caused by pollution of steel and energy companies, which annually provide 30-35% of all pollutants from stationary sources, the use of obsolete equipment, which provides emissions, according to the statistics, three times more than newest equipment;
- water scarcity, which is now about 4 billion m³. Practically all the surface, ground and partly underground water are contaminated with industrial, domestic, agricultural effluent and do not meet existing understated health standards of quality. Siverskiy Donets, and Dniester are the major rivers of Ukraine's that are most polluted, every year they are dumped with approximately 200 million m³ of dirty drains.

The reasons of the ecological crisis. The main reasons of the environmental problems in Ukraine are:

- inherited economic structure with the predominant proportion of resource-and energy-intensive industries, whose negative impact was enhanced by transition to market conditions;
- depreciation of fixed assets of industrial and transport infrastructure;
- current system of governance in the field of environmental protection, management of natural resources, the lack of clear division of environmental and economic functions;
- insufficient formation of civil society;
- lack of understanding of the priorities for preservation of the environment and the benefits of sustainable development in society;
- violation of environmental legislation [3, 5].

There is a high risk of environmental emergencies on Ukraine's territory. There are 23,767 potentially hazardous enterprises and other objects in Ukraine, where the accidents can lead to emergency situations of technogenic and natural character of the state, regional, local

and object level. Up to 300 emergencies of natural and man-made character are registered every year, which resulted in deaths, great economic losses took place as well.

Table 1

Dynamics of environmental performance index (EPI) for Ukraine

	2008	2010	2012
Environmental index	74,1	58,2	46,31
Rating	75	87	102
1. Environmental Health	97,0	73,85	72,0
Environmental burden of diseases	99,5	52,74	75,4
Air pollution (impact on humans)	94,8	96,44	69,2
Water (impact on humans)	94,3	93,49	68,0
2. The viability of ecosystems	51,2	42,58	35,3
Air pollution (impact on ecosystem)	96,9	43,81	18,8
Water (impact on ecosystem)	52,5	45,68	18,0
Biodiversity and habitats	8,5	35,72	46,4
Forestry	100,0	100,0	88,9
Fisheries	77,7	86,49	19,4
Agriculture	55,3	76,82	45,2
Climate Change	51,1	42,27	25,1

Source: Country Profile: Ukraine // Yale Center for Environmental Law and Policy, Yale University [electronic resource]. - <http://epi.yale.edu/epi2012/countryprofiles>

Interrelation of economic and ecological crises.

«Forbes» magazine named (06/07/2011) worst economies in the world. Ukraine took the fourth place between Guinea and Jamaica. «Forbes» stressed that Ukraine, being rich in mineral resources and fertile land, could be a leader according to the economic indicators in Europe. In reality, GDP per capita in Ukraine even does not reach the indicators of Serbia and Bulgaria. GDP of the country was reduced by 15.1% in 2009. The publication reminds that according to the U.S. State Department, Ukraine does not develop because of corruption, poor governance and weak judicial system that does not provide implementation of laws.

Ukraine is the only country in the world that did not return to the level of 2007 and did not overcome the effects of the economic downturn in the global economic crisis of 2008-2009. According to the IMF, the third quarter of 2012 showed that GDP grew in USA by 2.5%, in China - 7.4%, Russia and Turkey - 2.9%, Poland - 1.4%. GDP fell by 0.6% in the Eurozone countries, in Ukraine - by 1.3% during 2012, compared to 2011, industrial production was reduced by 2% in Ukraine.

According to the Ministry of Ecology and Natural resources of Ukraine, the average annual loss of GDP due to environmental degradation is 10-15%, but evaluation of the International Institute for Environmental Management (Switzerland) witness that the level of environmental losses in Ukraine is not less than 15-20% of GNP and is one of the highest in the world. It should be noted that ecological crisis in Ukraine is not a random phenomenon, isolated, from the state of its character, of overall economic movement of the national economy, and vice versa - as regularity and essential attribute of system, deep crisis, which has already acquired features

of national disaster.

The consequences of disasters become more destructive, but the countries are not able to overcome it effectively without coordinated assistance of national community. International UN experts state that current international projects focus more on overcoming of the consequences of damage than on their preventing and strategic risk managing. According to U.S. experts, every million dollars, invested in prevention and mitigation of disasters gives sevenfold return.

In connection with the deployment of environmental and resource crisis it should be noted another phenomenon of modern social reproduction in Ukraine, namely, significant increasing of dependence of the cost of labor force from the quality of environment - on the one hand and the level of efficiency (irrationality) of the ways of implementation of ecological and social regulation - on the other. This new feature of the process of reproduction of the labor force directly affects the final value of the efficiency of social production, so determines the effectiveness of economic development of our country.

Ukrainian society at the present stage of development is characterized by certain specificity of social life - dominant of purely economic interest is greatly enhanced, suppressing ecological and social interests. Although the ecological situation in the country is very complicated and problematic, the population responds primarily to the crisis of the economy - difficult financial situation seems more dangerous than health impacts of unfavorable ecological situation. There are reasonable assumptions that we can face the increasing "predatory" treatment of nature, if not to develop appropriate mechanisms of influence on this treatment in advance. Economic collapse and lack of real state decisions, corrup-

tion of authorities, underdevelopment of ecologic thinking and a lot of other reasons certainly provide growth of "ecologic nihilism" in Ukraine, strengthening of anthropocentric worldview.

Obviously, that fighting with environmental crisis should not strengthen economic crisis, i.e. improving of the ecologic situation should not be achieved at the expense of increasing of trade deficit, falling of incomes and growing unemployment. Widespread products of ecological purpose is one of the effective ways of mitigation of these contradictions. Usage of products of this type can bring purely economic as well as ecological and economic effect.

For Ukraine's entry into the cohort of most powerful economies of the world it is necessary to improve the quality of education significantly, strengthen scientific potential. The mainstay of the strategy of innovative development of the country has to become real sector of economy.

It is necessary to provide radical measures of program character for radical change of the situation. There is a need of formation of "Ukrainian" model of socio-economic development like postwar German model of L. Erhard, post-socialist Polish model of L. Balcerowicz, the Singapore model "from the third world to first" of Lee Kuan Yew.

The social consequences of the ecological crisis.

The main social consequences of the ecological crisis are the following.

Synergetics of ecological and demographic crises. Life expectancy in Ukraine is about 71 year on average (in Sweden - 80, in Poland - 74). That is noticeably caused by environmental pollution as a result of the provision of production activity by the enterprises of mining, metallurgy, chemical industry and fuel and energy sector. In 2009 carcinogenic risk in Ukraine reached 6,4-13,7 cases of cancer per 1000 people, that significantly exceeds international risk indicators. Medical and genetic studies revealed that quantity of inherited genetic anomalies in the nation's population grows because of continuous environment pollution. It is known that when this number reaches 30%, according to the biological laws, nation begins to pass away. This indicator is already 19-24% in Donetsk-Prydniprovskiy region. When air pollution exceeds hygiene standards in 1,2-1,5 times, immune system diseases start. Today Ukraine has about 1,700 hazardous pollution sources, among them 1000 are especially dangerous chemical enterprises. Because of the aforementioned reasons, life expectancy in Ukraine is far behind the level of highly developed countries. Today only 5-8% of high school graduates are practically healthy. Analysis of mortality shows that its main causes are the diseases of the circulatory system (25-30% of cases), malignant tumors (20-30%), poisoning, injuries and accidents (23-34%). Even these facts witness about critical state of health of the population of Ukraine, the threat to the existence of all the nation. This situation is caused by the whole complex of factors, and the level of population health records show, that environmental issues are foremost.

Environmental migrations. Relatively new phenomenon in the socio-demographic processes associated with environmental degradation in a particular area as a

result of man-made or natural disasters. Those who are forced to leave their place of residence and who move within the country or abroad because of ecological disasters (like Chernobyl disaster), or loss of land due to global warming - are considered ecological refugees.

People who migrate due to unfavorable ecologic condition of a territory can be roughly divided into two categories: ecological migrants and ecological refugees. The migrants migrate according to their own desire, in search of a more attractive place to live. The refugees are forced to move by the disasters, it is a forced relocation. Separately, we can select a category of evacuees - temporarily relocated within the same country (due to accident). Thus, during the Chernobyl disaster about 90 thousand people were relocated. In future ecological migrations caused by natural and man-made disasters and climate change are possible in Ukraine.

UN Institute for Environment and Human Society warns: floods, storms, droughts, technogenic accidents (emissions of radioactive, chemical substances, explosions or fires, man-made flooding or submergence) or a threat of its appearance, constitute a major factor in the movement of population - nowadays more powerful than war and prosecution. According to the UNDP, 25 million people around the world were forced to leave their place of residence for reasons of unsuitable environment in 2010- it is compared with the 22 million refugees by civil wars and all kinds of persecution. According to another source, 2050 will show about 150 million of displaced persons according to various causes of degraded environment.

Resettlement and ecological safety. Various types of human settlements influence the environment - rural and urban.

Before Soviet collectivization peasants, interacting with the natural landscape, formed a kind of social ecosystem. They intuitively felt that a harmonious coexistence with the surrounding landscape ensures their welfare. Settlement impact on the living environment was limited with areal of economic activity and did not influence negatively on ecological state of the environment.

During collectivization traditional interaction of peasant with nature was destroyed. Deportation or arrest of the best peasants (communists called them "kulaks"), criminal Famine of 1932-33, whose victims were millions of peasants, significant quantity of villages became depressed, some small villages began to disappear. Quantity of waste in rural areas grows, spontaneous landfills appear in the vicinities of villages, that are dangerous in sanitary aspect. Considerable attention should be paid to solution of these social and ecological problems during grounding of sustainable development in rural areas.

Development of agglomeration processes is accompanied with increasing of man-triggered impact on the living environment. In cities it manifests itself in different forms - changing of microclimate, pollution of air, water and soil, physical (electromagnetic, acoustic, dust) pollution, production of large quantity of waste, not only domestic, but also dangerous for human industrial waste. Therefore, we can see increase of populations of gray and black rats, crows and other species that contribute to the spread of various infectious diseases in cities.

Postindustrial economy and greater exactingness to the social area of residence became the factors of dispersal of living comfort outside the big cities. The objective factors that motivate people to leave big cities are the high cost of urban life, the inability to buy affordable housing, high crime level, relentless degradation of ecological situation, problems with drinking water, waste utilization, etc.

The processes of suburbanization led to suppression of growth of the big cities and reactivation of economy of U.S. province. As a result of it, alignment of living comfort according to settlement feature became. In some cases the level of living comfort in province began to dominate analogical indicator in the biggest cities.

There is a correlation between society incomes and environmental situation. Some researchers suggest that higher level of income of society is the greater degradation of environment. Other scholars think that higher income of society provide lower impact on nature, because consumers who have enough money can buy eco-friendly products and services, and manufacturers can install treatment plants, using energy saving technologies, that leads to reduce of anthropogenic impact on the environment.

Studies showed that positive or negative effect is observed on the background of different income levels. Negative impact on the environment correlate with low level. After a certain critical point income has a positive effect on it. This interdependence is reflected by the ecological curve of Kuznets who describes the trajectory of pollution, development of economy of the different levels in the period when their GNP increases takes place behind it. Analysis of this curve shows that the levels of many types of pollution are increased with the growth of GDP at low incomes, pass through a maximum at a certain level of income, and then are reduced in the meantime as GDP continues to grow. This hypothesis is confirmed by the fact that, in developed countries specific emissions of many pollutants are constant or were decreased during last two decades

Influence of ecological crisis on natural resources and environment. Anthropogenic and man-triggered impacts on the environment in Ukraine is several times higher than appropriate indicators in developed countries of the world.

Water resources. Practically all surface, ground and partly underground waters are contaminated with industrial, domestic, agricultural run-offs and do not meet existing understated health standards of quality. Every year ponds of Ukraine receive about 5 million tons of salts, 190 million m³ of various effluents, water objects of Dnipro watershed receive about 8 km³ of wastewater. Water problem is acute not only in the cities of Crimea, Donbass, Odessa, Lviv, Kharkiv, but in Kiev, Zhitomir, Vinnitsa, Kherson, Nikopol, Odessa, Drohobych, Belaya Tserkva and other cities.

Land resources. Ukraine annually loses about 100 thousand hectares of fertile soil. Quantity of humus in soils, compared with the end of XIX century is decreased in 6 times and annually reduced by another 18 million tons of arable land. Special arable lands (rillya) occupy more than 90% of the steppes (huge grasslands) as well as forests and steppes lands in Ukraine, but they are al-

ready too depleted, contaminated with fertilizers and pesticides. Ukrainian soils constituted 50% of their world bank, almost 60% of their quantity are withdrawn from circulation because of overexploitation and pollution. Because of excessive usage of chemicals in agriculture that led to accumulation of chemicals in soils of Ukraine, food and water which are harmful to human health and biota, recreational resources were reduced as well.

Activation of exogenous geological processes. Recently exogenous geological processes were intensified in Ukraine: landslides, mudflows, washouts, surface erosions, karst formations, ravine formations, salinization, provoked by human activity (construction of various objects, roads, mining, flooding of area). These processes were accelerated more than in 2-3 times in separate areas (high banks of the water storage basins on the Dnieper, Black Sea coast in the Odessa region, Southern coast of the Crimea).

Seismic resistance of soils and rocks was significantly decreased almost over 70% of the territory of Ukraine, especially in the south, in the Donbass, Carpathian Mountains, which resulted in the emergence of the thousands of wells, mines, quarries. Unfavorable engineering and seismic situation took place in the district of the Chernobyl nuclear power plant, where through the complex of natural and man-triggered factors the decrease of the seismic resistance is ultimate. The same situation is characteristic for the district of Rivne Nuclear Power Plant, where the processes of karst formation and flooding are observed. Man-triggered factors within the zones of influence of these nuclear power plants can enhance earthquake up to 1-1.5 points, i.e., to enhance its strength to 5-7 points.

Reduction of biodiversity and biological productivity. During the last 100 years, human activity caused great harm to the animal and plant life of Ukraine. Only in the prewar years in Donetsk and Crimea more than 40 species of plants disappeared, in the Carpathians - 20. The Red Book of Ukraine includes about 700 species of animals and plants, threatened with extinction or destruction.

As a result of excessive water pollution, stocks of fish in many rivers of Ukraine were reduced tenfold. Quantity of cattle was significantly reduced, horsebreeding practically disappeared. Due to the sharp deterioration of the ecological situation in the Black Sea area, herd of dolphins was reduced from 1 million to 80-90 thousand individuals during the past 100 years.

State policy for ecological crisis overcoming. The basic principles of the National Ecologic Policy are:

- strengthening of the role of ecological management in the system of state administration of Ukraine with the aim to achieve equality of the three components of development (economic, ecological, social), which predetermines orientation on priorities of sustainable development;
- consideration of the ecological consequences during making management decisions, during working out of the documents that contain political and / or policy guidelines of state, industry (sector), regional and local development;
- intersectional partnership and attraction of the

interested parties;

- prevention to natural disasters and emergencies, that providing analysis and prediction of ecological risks that are based on the results of strategic ecological estimation, state ecological expertise and state environment monitoring;

- ecological safety provision and support of ecological balance in Ukraine, Chornobyl disaster consequences overcome;

- responsibility of the current generation for preservation of the environment for the benefit of future generations;

- participation of the public and businesses in the formation and implementation of ecological policy, as well as taking into account of their suggestions concerning improving of the environmental legislation;

- inevitability of responsibility for violation of legislation on environmental protection;

- priority of the requirement "polluter of the environment and natural resources user pay full price";

- responsibility of the bodies of executive power for availability, timeliness and reliability of ecological information;

- availability, reliability and timeliness of obtaining of ecological information;

- state support and stimulation of the domestic entities that provide modernization of production, aimed at reducing of the negative impact on the environment.

Today we have no sufficient means to ensure ecologically sustainable development of the country. According to the published information, it is necessary to attract annually about \$ 40 billion of foreign investment, including about \$ 10 billion. - for implementation of the programs and projects of priority national importance to provide ecological and energy security, development of modern eco-technological areas and infrastructure. State investment policy as well as tax policy in the part of the mechanism of attraction of the ecobusiness and stimulation of the development of ecobusiness should be reoriented in this direction.

The immediate measures to overcome ecological crisis:

- 1) preparation of the legislative documents, aimed at economic stimulation of ecologic entrepreneurship;

- 2) establishment of the organizational structures for regulation and economic stimulation of the production of the products (works, services) of the ecological purpose. Preparation of regulatory and methodical documentation regulating activity of these structures;

- 3) creation of the regional centers for the regulation and stimulation of ecological entrepreneurship and branch centers on ecological auditing, standardization, certification, metrological control for ecological products

(works, services);

- 4) assistance in the organization of production of equipment for small ecological profile enterprises of;

- 5) formation of system of auditing, licensing, certification and accreditation of the entities of ecological entrepreneurship that produce products (works, services) of ecological profile;

- 6) provision of market researches in the field of ecological entrepreneurship and business.

Tactics of state protectionism to develop ecological entrepreneurship and business will promote stability and improvement of economy in Ukraine.

Conclusions and perspectives for further researches. The research showed that anthropogenic pressure on nature in some regions of Ukraine is close to the boundary limits of its ecological sustainability. Predominance of energy consumption and resource-intensive technologies in structure of economy is accompanied with environmental pollution. Backwardness of technological base and low level of its technological modernization assist ecological crisis. Negative impact of ecological crisis invades in economy, society, demography and environment.

Environmental activities need improvement of funding. According to our estimates, the share of environmental protection expenses in the gross regional product (GDP) in 2010 was 1.2% versus 2% in 2000. To ensure sustainable development in legislation it is necessary to establish a share of GDP for solving of the environmental problems not less than 2.5-3%. In industrialized countries environment pollution costs annually at 6 - 8% of GDP, and stabilizing environmental expenses are about 2%. The exact level of such expenses shall be defined taking into account condition of environment, economic potential and possibilities of state to accept a part of these expenses, competitive position on the world market, etc.

In further scientific researches, concerning solution of the problems of ecological crisis, we can indicate such priority directions as: "greening" of the patterns of production and consumption; formation of effective system of integrated ecological management on the base of transformation of state environmental policy on all the society, implementation of international standards of environmental management system; reformation and improvement of existing economic instruments for environmental usage and environmental protection; intensification of development of environmental industry and ecological business; definition of the ways of prevention of environmental emergencies, that is provided by analysis and prediction of the environmental risks and threats that are based on the results of state environmental expertise as well as monitoring of the environment.

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Summary

Anatoliy Stepanenko. ECOLOGICAL CRISIS IN UKRAINE AND ITS SOCIO-ECONOMIC IMPACT.

The essence and reasons of ecologic crisis in Ukraine are revealed, dependence of ecologic crisis on level of ecologic security, increase of quantity of the sources of ecologic insecurities. Considerable attention was paid to evaluation of level of ecologic situation and development of national ecologic system of Ukraine, its place according to these indicators among other countries in the world with EPI index. The reasons of aggravation of index of ecologic survey for Ukraine in 2010 and 2012 years were identified. Interconnection of economic and ecologic crises as well as place of Ukraine among worse world economies were revealed (fourth). It was shown, that Ukraine is the only country in the world, which economy in 2012 did not return to level of pre-crisis 2007 in 2012. It is defined increase of “predatory” treatment with nature and “ecologic nihilism”, so economic collapse and lack of real able-bodied state decisions support this situation. The social consequences of ecologic crisis are synergetics of ecologic and demographic crises, probable increase of ecologic migrations, influence of resettlement on ecologic safety, interrelation between society earnings and ecologic situation of environment. Influence of ecologic crisis on natural resources and environment is investigated, approaches of state policy as for ecologic crisis overcome are selected.

Keywords: Environmental (ecological) crisis, environmental, socio-economic impacts, safety, synergy, resources, threats, environmental policy.

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Wei Li, Wan Yu

BETWEEN ASIAN AND AMERICA: GEOPOLITICS, GLOBALIZATION, AND INTERNATIONAL MIGRATION*

In this paper we will briefly review recent histories of Asian civilizations, with a focus on the accelerated international division of labor and economic growth across Asia over the last half century. We also look at the relationship with US immigration admission policies toward Asian immigrants and their consequences. We then address the recent shift from a one-way brain drain (from developing countries—in this case Asia, to developed countries—the United States) to a model of networked brain circulation among developing and developed nations. Finally we connect immigration policies and their consequences with the US's Asia policies.

Keywords: globalization; immigration; China; India; NICs.

Вей Лі, Ван Ю. МІЖ АЗІЄЮ І АМЕРИКОЮ: ГЕОПОЛІТИКА, ГЛОБАЛІЗАЦІЯ І МІЖНАРОДНА МІГРАЦІЯ. У цій статті розглянуто сучасну історію азійських цивілізацій, з акцентом на прискорений розвиток міжнародного поділу праці та економічне зростання в Азії за останні півстоліття. Виявлено особливості американської імміграційної політики щодо прийому іммігрантів з Азії та її наслідки. Проаналізовано недавній перехід від одностороннього витоку мізків (із країн, у даному випадку, Азії, в розвинені країни – США) до моделей мережевого мозкового обігу між країнами, що розвиваються, та розвиненими країнами. Порівняно імміграційну політику країн Азії в США та її наслідки.

Ключові слова: глобалізація, імміграція, Китай, Індія, НІК.

Вей Лі, Ван Ю. МЕЖДУ АЗИЕЙ И АМЕРИКОЙ: ГЕОПОЛИТИКА, ГЛОБАЛИЗАЦИЯ И МЕЖДУНАРОДНАЯ МИГРАЦИЯ. В этой статье рассмотрена современная история азиатских цивилизаций, с акцентом на ускоренное развитие международного разделения труда и экономического роста в Азии за последние полвека. Выявлены особенности американской иммиграционной политики относительно приема иммигрантов из Азии и ее последствия. Проанализирован недавний переход от односторонней утечки мозгов (из стран, в данном случае, Азии, в развитые страны – США) к моделям сетевого мозгового обращения между развивающимися и развитыми странами. Проведено сравнение иммиграционной политики стран Азии в США и ее последствия.

Ключевые слова: глобализация, иммиграция, Китай, Индия, НИС.

“Everyone is kind and nice when born.

We all share similar nature, albeit behave differently.

Without education, such (good) nature will deteriorate.”

- Wang Yinglin (1223-1296) *three-character scripture*, a UNESCO recommended reading for children's moral education

“人之初，性本善；性相近，习相远。苟不教，性乃迁。” – 南宋.王应麟,¹

“The principal conflicts of global politics will occur between nations and groups of different civilizations. The clash of civilizations will dominate global politics.”

Samuel Huntington 1992, *The Clash of Civilizations; Foreign Affairs*, 22