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ECONOMIC-FINANCIAL INSTRUMENTS OF ENVIRONMENTAL REGULATION FOR SUSTAINABLE DEVELOPMENT THE AGRICULTURE OF UKRAINE UNDER CONDITION OF CHANGING ECONOMY

*A. S. Kobets, Dr. Sc. (Publ. Adm.), Professor, Yu. I. Gritsan, Dr. Sc. (Biol.), Professor,
L. I. Katan, Dr. Sc. (Econ), Professor,
Dnipropetrovsk State Agrarian and Economic University, katanli@mail.ru*

The environmental payments are presented as the financial and economic instruments for environmental regulation of the Ukraine's agricultural sphere in the context of sustainable development. The negative effects of unbalanced system «economy-human-environment» in Ukraine are demonstrated. The ways of improving the tax policy through changing distribution of the environmental payments' proportions are proposed.

Keywords: capital investments, type of environmental activities, tax policy, distribution of environmental payments.

Statement of problem. In a rapidly changing economy with an increase of destructive ecological processes in the agricultural sector, to ensure its sustainable development it is a necessary condition to ensure food security. Thus, the research on economic and financial instruments in the field of agriculture is becoming increasingly relevant to us, since it tackles not only the crucially important topic of efficiency in agriculture, but also various problems of harmonised functioning of its components – economic, social and environmental. The relevance is also emphasised by the special status of agricultural sector in the national economy of Ukraine.

Problems of the cooperation between economy and ecology, the formation of scientific principles of sustainable development of the agricultural branch are reflected in the researches of prominent scientists and economists, such as: V. Vernadsky, B. Danylyshyn, M. Dolishniy, S. Dorohuntsova, G. Ivanitska, L. Melnik, E. Mishenin, V. Palamarchuk, S. Podolynsky, V. Tregobchuk, G. Cherevko et al. The questions concerning funding of conservation, rational usage and reproduction of natural resources in agriculture were explored by O. Balatskiy, V. Borisova, O. Veklych, S. Illyashenko, O. Kashenko, O. Prokopenko, A. Chupis et al.

Notwithstanding the existing scientific researches it is important to note that there is a necessity for improvement of forms and methods of funding agricultural branch of Ukrainian economy in order to ensure rational usage of agricultural resources under conditions of sustainable development.

Aim of the paper is to identify areas of improvement of economic – financial instruments of the environmental regulation of Ukrainian agricultural branch in order to form appropriate funding for measures, which reduce an eco-destructive impact on the agricultural environment in changing economy.

Analysis of recent papers. The end of the twentieth century is a period of establishment and development of new relationship between humanity and environment. At the end of the 1960s on the initiative of the famous Italian scientist and manager A. Peccei

the group of European and American scientists and entrepreneurs joined the informal organization «Club of Rome» to examine the status and prospects of development model «economy-humanity-environment». According to their calculations humanity moves toward catastrophic prediction, making the worst possible scenario realistic, and big environment problems should be expected in the middle of the 21st century [1].

The signs of future disasters are reduction of the available resources of soil and water, reduction of food production per capita, environmental pollution, emergence of new viral and bacterial diseases, degradation of individual and collective behavior. Some of these indicators, such as: rate of agricultural production in Ukraine and Dnipropetrovsk region per capita in 1990–2015 are shown in Fig. 1.

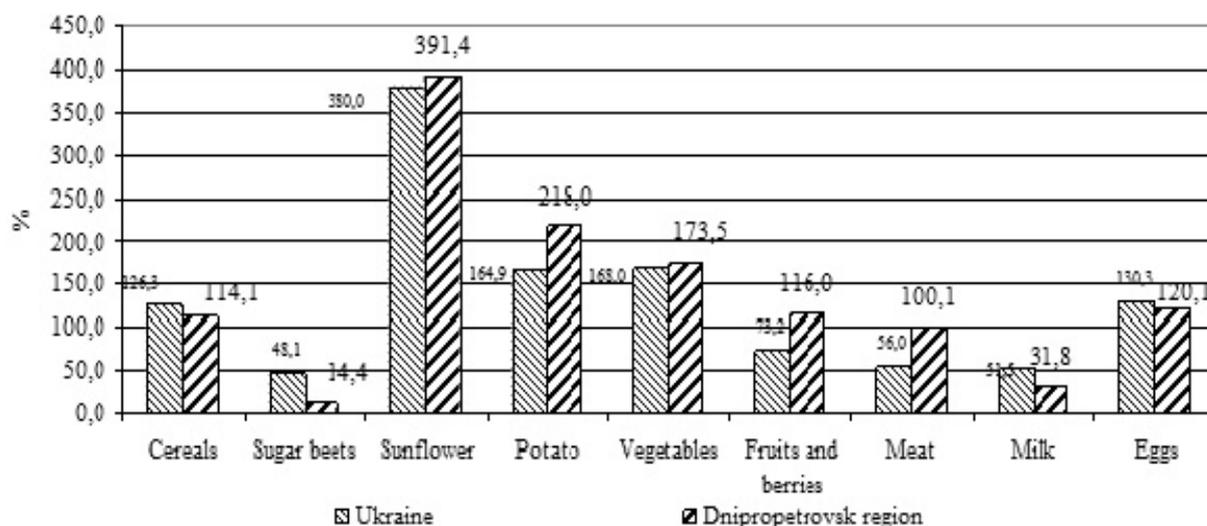


Fig.1. Rate of agricultural production per capita in Ukraine and Dnipropetrovsk region in 1990-2015, where 1990 equals to 100%) (Sources: [2-3] and authors' own design)

From the analysis of data it is obvious that along with an increase there is a reduction of some agricultural products. Thus, in Ukraine during this period, production of sunflower significantly increased by 3.8 times, whereas the other products had insignificant growth of production volumes, such as: the production of vegetables increased by 1.7 times, potato – by 1,6 times, eggs – by 1.3 times, but some of the categories decreased, especially significant drop we can see in livestock category: milk and meat production which decreased almost by 2

times.

A significant increase of sunflower production can be explained by the relative profitability of this culture, as well as the existence of a stable domestic and international demand. If we compare data from Dnepropetrovsk region with the average data for Ukraine during 1990–2015 years, we can see that Dnipropetrovsk region had higher level of per capita output only by sunflower (391.4%), potatoes (218.0%), vegetables (173.5%) and fruits (116%), and worse in other

products, especially milk (31.8%) and sugar beet (14.4%). This can partially be explained by the level of specialization area. But in the context of sustainable development this dramatic increase of sunflower production will aggravate eco-destructive effects of agricultural activity, such as: denial of crop rotation and fallow land, narrowing specialization of agricultural production, providing the benefits for growing the business cultures and displacement fodder crops, expanding the usage of agrochemicals; increasing concentration of land, enlargement of farms, strengthening of regionalization and formation of environmentally harmful agricultural landscapes, where its essential natural elements are eliminated.

Regarding food consumption in Ukraine and Dnipropetrovsk region, the statistical analysis of the data shows us that current

situation can be described as threatening for public, because the actual consumption of important kinds of food per capita in both the state and the region are below the level recommended by Nutrition Institute of the Ukrainian Ministry of Health (Table 1).

According to Fig. 1, we can make conclusion about development and trends of agriculture production, and Table 1 provides information about the nutrition habits of average Ukrainian citizen.

The diet of the average Ukrainian citizen in 2015 primarily consists of grains products, potatoes, vegetables, sugar, eggs and oil. These products are consumed according to the recommended amount or even exceed it. Instead, Ukrainians consume less vital meat, milk, fish and berries than recommended – 36.6%, 46.1%, 33.0% and 41.1%, respectively. We can conclude that consumer basket of most

Table 1

Dynamics of food consumption per capita in Ukraine and Dnipropetrovsk region during 1990–2015 years, (kg)*

Name of the product	Rational norm	1990	2010	2015	2015, at%		1990p.	2010p.	2015p.	2015, at %	
					compare to 1990	norms				compare to 1990	norms
Meat and by-products	80	68	52	51,0	75,0	63,8	79	56,5	56,6	71,6	70,8
Milk and dairy products	380	373	214	205,0	55,0	53,9	366,2	178,9	170,6	46,6	44,9
Eggs, pieces.	290	272	260	310,0	114,0	106,9	257	298	326	126,8	112,4
Fish and fish products	20	175	17,5	13,4	7,7	67,0	17,2	14,4	13,7	79,7	68,5
Sugar	38	50	41	39,0	78,0	102,6	47,3	36,3	37,5	79,3	98,7
All types of oil	13	11,6	15	13,7	118,1	105,4	11,5	15,2	13,9	120,9	106,9
Potato	124	131	132	139,0	106,1	112,1	91,3	93,6	106,4	116,5	85,8
Vegetables and melons	161	102	129	163,0	159,8	101,2	110,3	153,7	165	149,6	102,5
Fruits and berries	90	47	44	53,0	112,8	58,9	44,9	57,1	62,4	139,0	69,3
Bread and bakery products	101	141	115	110,0	78,0	108,9	157,9	106,9	105,3	66,7	104,3

* Sources: [2, 3] and authors' own design

Dnipropetrovsk region citizen is smaller, because it includes only grain products, vegetables, oil and eggs, since only these four types of product were consumed in the recommended amounts. Thus, both in Ukraine and in Dnipropetrovsk region for four food

groups, the «bread and bakery products», «vegetables», «oil», «eggs» actual consumption exceeded rational norm.

Such excess is evidence of unbalanced nutrition of population, which is trying to satisfy their own needs through the

economically affordable plant source foods. Compare to 1990 the situation with rational consumption of these foods has deteriorated. No wonder that with such poor nutritional Ukraine's population is declining [3].

Thus, we can say that Ukraine is already feeling the negative effects of unbalanced system «economy-human-environment».

One the one hand it is a result of eco-destructive factors that occur in agricultural production, and on the other – there is a significant reduction of financial resources, like capital investments, which can be used for funding the conservation of environmental conservation activity. These are two major factors that threaten further development of agriculture with resource depletion and ecological disaster (Table 2).

In Ukraine during the studied period it was spent UAH6451mm., for the

Environmental Protection in 2015, which is UAH3689.5 mm. or 133.6% more than in 2010.

Whereas in the Dnipropetrovsk region with an increase in funding in absolute values by 558.9 mm. UAH, the rate of growth is 58.8%, which reflects lower growth of financial resources in comparison to the state growth rate due to the lack of sufficient additional funding of the environmental activities in the area.

In 2015 investments in the protection of ambient air and climate occupy the biggest share, which is 39.3%, in the structure of investments in conservation and rational usage of natural resources in Ukraine, meanwhile in the Dnipropetrovsk region, there was an increase of the cost for waste management (58.3%) and the protection and rehabilitation of soil, groundwater and surface water (20.7%), this can be explained by the presence of powerful mining companies in the region. It

Table 2

Dynamics of the volume and structure of capital investments in the conservation and rational usage of natural resources by the type of environmental activities in Ukraine and Dnipropetrovsk region*

Index	Ukraine			Changes in 2015 compare to, +, -		Dnipropetrovsk region			Changes in 2015 compare to, +, -	
	1996	2010	2015	1996	2010	1996	2010	2015	1996p.	2010p.
Capital investments, total, mm.UAH.	520,6	2761,5	6451	5930,4	3689,5	170,3	950,9	1509,8	1339,5	558,9
including, %										
– the protection of ambient air and climate	17	41,3	39,3	22,3	–2	13,5	27,5	14,8	1,3	–12,7
– return water purification	52,3	26,5	11,2	–41,1	–15,3	31,3	26,7	6	–25,3	–20,7
– waste management	2,8	17,2	18,4	15,6	1,2	0,1	32,5	58,3	58,2	25,8
– protection and rehabilitation of soil, groundwater and surface water	26,6	11,6	9,9	–16,7	–1,7	3,3	13,3	20,7	17,4	7,4
– reduction of noise and vibration impact	...	0,4	0,6	–	0,2	–	–	0,1	–	–
– conservation of biodiversity and habitat	0,5	0,7	0,2	–0,3	–0,5	0	0	0	0	0
– radiation safety	...	0,1	19,8	–	19,7	...	–	0,1	–	–
– scientific research of nature conservation	...	0,3	0,2	–	–0,1	...	–	–	–	–
– other areas of environmental activity	0,8	1,9	0,4	–0,4	–1,5	51,8	0	0	–51,8	0

* Sources: [2, 3] and authors' own design

should be noted that in the Dnipropetrovsk region these two direction have constant control and attention, as evidence we can see the increase of their share in total capital expenditures for environmental activities (by

25.8 and 7.4 percentage points).

We analyzed structure of capital investment in Dnipropetrovsk region and found out that local economic agents spend major part of their funds to cover the damages and losses,

which they caused to the environment. Meanwhile the funds for conservation and scientific researches are formed from the remaining part of their investments. Since the volume of their funding decreased almost to zero, which lead to a slow and weak recovery of farming and soil conservation measures, which could be used for improvement agricultural lands and environmental sustainability.

In our opinion, under conditions of sustainable development it is necessary to encourage agricultural producers: to pay more attention and spend more funds for the economically usage of resources; to rationalize structure of lands, which they utilize for agricultural production, maintain efficient ratio of arable land, meadows, pastures, perennial plants, maintenance of soil fertility, etc. Suggested activities can be implemented with funds which were mobilized through financial instruments of environmental finance (environmental charges / payments) [4, 5].

After introduction of the Tax Code of Ukraine for fixed agricultural taxpayers, the only kind of environmental charges remains environmental tax (fee for polluting the environment) [5]. The main disadvantage of the current legislation is that the taxpayers pay it regardless of the outcome of their economic activity; hence it does not encourage businesses to invest in the technological trajectory of sustainable development, ecological chain.

During 2000 – 2015 years total environmental fees paid by agricultural enterprises of Dnipropetrovsk region had been increased [3]. In 2015 compared to 2000, it grew by UAH 1,632.0 mm. or by 4.7 times, the highest growth was observed in the sizes of environmental tax proceeds (by UAH 205.3 mm., or by 123 times) and land tax proceeds (by UAH 1174.1 mm., or by 4.6 times), while the fixed agricultural tax proceeds for that period decreased by UAH 0.6 mm. or by 7.2% .

The structure of paid environmental charge took place significant changes: before the global financial crisis of 2008, the largest share was occupied by land fee (71.6% in 2007), but since 2008 the largest share within the environmental charges is held by environmental tax (56.1% in 2015).

Increasing of environmental tax in the

composition and structure of environmental fees proceeds confirms that fact of increasing of environmental pollution by agricultural enterprises, that the current system of environmental taxation of agricultural enterprises does not encourage them to rationally use natural resources.

In order to increase financial support of local measures in agro-ecological direction, namely, the protection and rational usage of land, water and mineral resources, conservation of natural reserve fund, instead of proposed distribution proportions of environmental tax: to the state budget allocate 53% of tax proceeds and to the local budget- 47%, including in rural, town and city budgets - 33.5%, the regional budget - 13.5%, we suggest to use following scheme: do not transfer environmental tax to the state budget and therefore make changes the Budget Code of Ukraine with regard to admission environmental tax, namely the village, town and city budgets allocate 70% of environmental tax revenues and 30% – to the regional budget.

We believe this order of environmental tax distribution would increase the financial resources of local budgets and give necessary funds for capital investments in the protection and rational usage of natural agricultural resources.

In addition, in a rapidly changing economy we must distinguish environmental taxes and economic sanctions for environmental damage. Last used in cases of violation of environmental standards. They should include full compensation for environmental damage and be an instrument of economic penalties for improper usage of natural resources.

Conclusion. The economic – financial instruments, which can make agricultural production environment friendly, reduce eco-destructive impact on agricultural environment and stimulate rational usage of natural resources, should be formed taking into account the imperative of sustainable development through: improving of tax policy that needs to be ecologically oriented, reforming tax laws, namely, the administration of environmental charges and their distribution between the corresponding level.

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ЕКОНОМІКО-ФІНАНСОВІ ІНСТРУМЕНТИ ЕКОЛОГІЧНОГО РЕГУЛЮВАННЯ СТАЛОГО РОЗВИТКУ АГРАРНОЇ СФЕРИ В УМОВАХ МІНЛИВОЇ ЕКОНОМІКИ

А. С. Кобець, д. н. з держ. упр., професор, Ю. І. Грицан, д. б. н., професор,

Л. І. Катан, д. е. н., професор,

Дніпропетровський державний аграрно-економічний університет

У статті розглядаються екологічні платежі як економіко-фінансові інструменти екологічного регулювання діяльності аграрної сфери України в контексті концепції сталого розвитку. Доведено, що Україна відчуває негативні наслідки розбалансованості системи «економіка-людина-довкілля». Запропоновано напрями вдосконалення податкової політики шляхом зміни порядку розмежування екологічних платежів.

Ключові слова: капітальні інвестиції, напрями природоохоронної діяльності, податкова політика, розмежування екологічних платежів.

ЭКОНОМИКО-ФИНАНСОВЫЕ ИНСТРУМЕНТЫ ЭКОЛОГИЧЕСКОГО РЕГУЛИРОВАНИЯ УСТОЙЧИВОГО РАЗВИТИЯ АГРАРНОЙ СФЕРЫ В УСЛОВИЯХ НЕСТАБИЛЬНОЙ ЭКОНОМИКИ

А. С. Кобец, д. н. по гос. рег., профессор, Ю. И. Грицан, д. стр. н., профессор,

Л. И. Катан, д. э. н., профессор,

Днепропетровский государственный аграрно-экономический университет

В статье рассмотрены экологические платежи как финансово-экономические инструменты экологического регулирования деятельности аграрной сферы Украины в контексте концепции устойчивого развития. Доказано существование в Украине отрицательных последствий разбалансированности системы «экономика-человек-окружающая среда». Предложены направления усовершенствования налоговой политики через изменение расщепления экологических платежей.

Ключевые слова: капитальные инвестиции, направления природоохранной деятельности, налоговая политика, расщепление экологических платежей.

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