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STIMULATING OF EFFECTIVE LAND USE BASED ON THE IMPROVEMENT OF THE METHOD OF CALCULATING THE NORMATIVE VALUE OF IRRIGATED AGRICULTURAL LAND

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Abstract

Article develops recommendations for the use of reducing (incentive) coefficients in land tax calculation of on agricultural lands, taking into account the quality of land and interrelation between an increase and decrease in soil fertility, which leads to an increase in land tax. In calculating land taxation, this is formed based on the normative value of agricultural land. The calculation of the normative value of agricultural land is inextricably linked with the soil quality index (SQI), which determines the fertility of the soil. As decreasing and increasing coefficients in the growth of productivity in 11 agriultural farms of "Pakhtaobod" massif of Nishan adiminstrative district of Kashkadarya province, when the normative value changed for the better, the amount of land tax decreased by 18.933.000 UZS (19.5%) and in 10 agricultural farms the increase in the amount of land tax by 7.070.820 UZS (15.8%) in the negative condition.

Key words: agricultural land, irrigated land, fines, quality indicator, land violations, standard crop yield, current assessment, profit margin, agricultural products, average annual price.

Introduction. In Uzbekistan, as in other countries, certain payments are made for land use. The application of payments on agricultural lands is used to promote the rational use of land, their protection, increase soil fertility, and financing these activities. When using land, the land tax is set for the same purpose. Land tax is a part of local taxes and levies in the tax system of Uzbekistan and is a stable source of income for local budgets. Land tax has its own characteristics unlike other types of taxes.[1] In particular, by its economic nature, it is a rent payment, or in other words, this tax is not related to the results of financial activities of landowners and land users. Therefore, the purpose of this tax is to encourage the rational use of land; increase soil fertility; equalize the socio-economic conditions of management on lands of different quality; ensure the development of infrastructure in residential areas, and prevent land looting. [2] Today, it is becoming increasingly clear that without new methodological approaches in the calculation of financial payments and land payments, it is impossible to ensure the efficient use of agricultural land.[3] Because in the calculation of land tax, traditional methods are losing their essence in the quality of the factor that stimulates the increase in soil fertility. The reason is that in agricultural lands their normative value will lead to an increase in the amount of land tax when the fertility of the soil is high, and the decrease in the fertility of the soil will lead to a decrease in the land tax. Logically, the increase in the productivity of the soil in the formation of stimuli in users of agricultural land should be calculated depending on the decrease in the land tax, and the decrease in the productivity of the soil, depending on the increase in the land tax. Therefore, when calculating land tax in agricultural land, it is necessary to improve the method of its calculation through incentives. It should be approached as financial regulators that maximize the productivity characteristics of agricultural lands, stimulate production activities and finance land protection measures. This will be done on the basis of improving the system of land tax calculation as the main source of funding for land protection activities[4].

In Uzbekistan, a land tax is set for lands engaged in the cultivation of agricultural products, depending on the type of crop. In this case, the amount of land tax is calculated by calculating the normative value of agricultural land. When calculating the normative value, the size of the land is taken as an indicator of SQI. However, experiments show that landowners and land users have no interest in increasing soil fertility of agricultural lands. The reason is that when calculating the normative value of agricultural land on the basis of the current methodology, an increase in the quality score of the soil leads to an increase in the amount of tax accordingly.[5]

In the Republic of Uzbekistan, the land tax in agriculture is calculated based on the normative value of agricultural land. Calculating the SQI is a complex process and is taken as an indicator of productivity when calculating the normative value of agricultural land. In our opinion, the land tax would have been formed on the basis of its market price in the context of private ownership of land.[6] However, in Uzbekistan, the value of agricultural land is equal to its normative value when determining the land tax, while retaining state ownership of agricultural land. But the normative value leads to an increase in land tax in the growth of soil fertility. The improvement of the SQI by the land user in converting the land tax into an incentive in the efficient use of agricultural land should be in the form of an increase in the amount of land tax in return for a decrease in tax or a decrease in soil fertility by the land user. Unfortunately, the processes in place are different. With this in mind, we propose to use incentives to reduce the tax burden in exchange for an increase in the SQI in determining the normative value of agricultural land. That is, the methodology for calculating land tax needs to be improved. The reason is that an increase in soil fertility should reduce land taxes. Then the desire to increase soil fertility will grow. The reason is that in return for increasing productivity, both the amount of output increases and the amount of tax decreases. Conversely, we propose sanctioning coefficients aimed at increasing the productivity of agricultural land, i.e., the amount of land tax if the SQI decreases.[7]

In general, the purpose of the study was to improve the methodology for determining the normative value of agricultural land in order to provide incentives for the calculation of land tax on agricultural land in Uzbekistan. In the implementation of these tasks, the result was achieved by applying the decreasing, ie incentive coefficients of the normative value in the increase of soil quality index, and the use of increasing coefficients in the decrease of soil quality index. [1]

The main part. When determining the normative value of agricultural land, it is necessary to determine

the normative productivity of agricultural crops. It is calculated by the following expression.

$$N_{pac}=N_{yac}\times T_{rtap} \quad (1)$$

N_{pac} - normative productivity of agricultural crops per 1,000 UZS; N_{yac}- normative yield of agricultural crops, quintals/ha; T_{rtap} - the average annual price of the relevant type of agricultural products sold in farmers' markets, UZS/quintal, the purchase price of raw cotton and cereals - UZS/quintal.

Here for us, that is, the main factor for agricultural lands is the normative productivity of agricultural lands (Nyac). In determining it the normative productivity of 1 hectare of land is determined by multiplying the normative productivity of crop types by the score quality of the land. That is:

$$N_y=B\times N_h \quad (2)$$

B – Soil Quality Index; N_y is the normative yield

Normative yields are calculated for a 1 index of soil quality and vary for different crops. That is, by multiplying the SQI by the normative yield, the yield per hectare is determined. As can be seen, a high soil quality leads to an increase in normative productivity, which in turn leads to an increase in the normative value of 1 hectare of agricultural land, respectively, an increase in the amount of tax.

In our view, the increase in SQI should be calculated in the form of a decrease rather than an increase in the normative value. Because the increase in land productivity requires land reclamation activities by the land user and this may cost a certain amount of costs. These costs must be covered by the income received in a certain sense. However, if the SQI decreases with the fault of the land user, it should be calculated in the form of an increase in the normative value.[8] This is because the decline in the productivity of today's agricultural lands is due to improper agro-technical measures, improper use of the irrigation system and mistreatment of land. In view of the above, when determining the normative value of agricultural land, it is recommended to use the decreasing (incentive) (Kd) coefficients for increasing the quality of points and increasing (Ki) when reducing the quality of points. To apply these coefficients, the calculation of normative productivity (Npac) should be performed by calculating the difference between the SQI in the calculation of the current normative value and the score quality in the calculation of the previous normative value. We offer it as follows.

$$K=B_c-B_p \quad (3)$$

Where: K is the decreasing (stimulating) or increasing coefficient in the calculation of normative productivity; B_c - SQI for the period of calculation of the current normative value; B_p-SQI is the score quality in the previous normative value calculation.

In this case, the coefficient can be positive (+) or negative (-).

Through the differences between the score bonits resulting from the above calculation, it is proposed to use coefficients (Ko) when the decreasing (incentive) coefficient is positive (Kk) and vice versa when it is negative (-).

The proposed coefficients are calculated on the basis of the SQI at the moment of calculation of the current normative value and the accrual of the previous SQI and are shown in the table 1.

The coefficients given in Table 1 are because the land difference can be increased by a maximum of 10 points because of appropriate reclamation measures and measures taken to increase soil fertility as a positive difference reduction (incentive) factor. On the contrary, the negative differences resulting from the decrease in the SQI as a result of the incorrect attitude to the ground were calculated in the form of an increasing coefficient Ki.

Table 1. Decreasing and increasing coefficients used in determining the normative productivity of agricultural lands

+ (B_c-B_p)	K_d	- (B_c-B_p)	K_i
1	0.9	1	1.1
2	0.9	2	1.1
3	0.8	3	1.2
4	0.8	4	1.2
5	0.7	5	1.3
6	0.7	6	1.3
7	0.6	7	1.4
8	0.6	8	1.4
9	0.5	9	1.5
10	0.5	10	1.5

An increase in the SQI of the soil provides a decrease in the coefficients. This reduces the normative value of agricultural land. The decrease in the quality of SQI increases the normative value of agricultural lands because of the application of increasing coefficients. In both cases, the regression showed a correlation between the decreasing and increasing coefficients of soil score quality by 96% (R2 = 0.96) to the normative value of agricultural land (Figure 1).

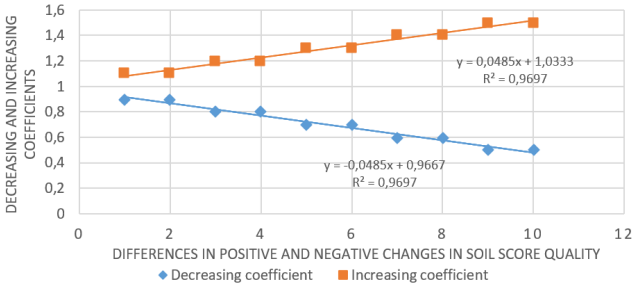

Fig 1. Correlation of decreasing and increasing coefficients of soil quality to the normative value of agricultural lands

In this case, the formula for calculating the normative productivity is as follows:

$$N_{pac}=N_{yac}\times T_{rtap}\times K \quad (4)$$

N_{pac} - normative productivity of agricultural crops per UZS; N_{yac} - normative yield of agricultural crops, quintals/ha; Trtap - the average annual price of the corresponding type of agricultural products sold in farmers' markets, UZS/quintal, the purchase price of raw cotton and cereals - UZS/quintal, K is the coefficient of decreasing (stimulus) in the positive state (Kd) or increasing in the negative state (Ki). [9]

According to Tax Code "Tax rates on agricultural land are set at 0.95% of the normative value of agricultural crops ... - per 1 hectare."

This means that, based on the normative value of agricultural land, an amount of 0.95 % is applied to each agricultural land user. Asevidenced, the main indicator in

determining the normative value depends on the SQS of the land. Today, measures to determine the SQI are carried out in relation to irrigated agricultural lands.

Results. The main issue is the improvement of tax mechanisms to encourage the efficient use of agricultural land, in which case we consider the application of the proposed reduction (incentive) (Kd) and increasing (Ki) coefficients as an effective tool in calculating the normative productivity of land. Based on the proposal, it is expedient to consider how effective it is in improving the amount of land tax, ie in the form of decreasing (incentive) and increasing. Based on the object of study, we consider the amount of tax calculated on the example of farms specializing in cotton and wheat in the Pakhtobod massif of Nishan district of Kashkadarya province.

Table 2. Results of the amount of land taxes calculated using the decreasing (incentive) coefficient (Kd) in cotton and wheat farms of Pakhtaobod massif of Nishan district of Kashkadarya province

No	Name of farmers	Crop area, ha		SQI	Total arable land, ha	Decre-asing factor (Kd)	Norma-tive produc-tivity (Npac), UZS	Total normative value (Sn), UZS	Land tax, UZS
		cotton	wheat						
1	Abdiev Bahtiyor	50.1	20	57.7	106.6	0.8	6317600	913109200	8674500
2	Asror Bobonovich	36	40	65.9	117.1	0.7	6307100	1297153100	12322900
3	Zizifara	30.8	41.9	57.1	70.7	0.8	6245400	598313500	5683900
4	Pardaev Khasan	27	26.2	56.3	77.3	0.9	6930400	542104800	5149900
5	Rajabov Abduvali	29.1	56	59.2	75.7	0.8	6337300	634282500	6025600
6	Rustambek	51	56.5	59.6	106	0.8	6526800	937335900	8904600
7	Saidov Nurbek	31.2	20	58.4	70.3	0.8	6394300	609198700	5787300
8	Sirojiddin Muminov	22.3	12	49.7	100.9	0.9	6123300	837408100	7955300
9	Farangiz Bollieva	28.3	29.2	46.5	40.9	0.9	5728100	338868400	3219200
10	Khudayorov Sherali	32.3	6.2	56.1	90.4	0.8	6130800	751633300	7140500
11	Elamonov Toyir	18.9	27	58.5	102.7	0.7	5601200	779591900	7406100

As can be seen in Table 2, the normative value of agricultural land was determined using 11 (stimulus) (Kd) coefficients on 11 farms in the Pakhtaobod massif of Nishan district of Kashkadarya province. This is because the current and previous ratios of points on the arable land of these farms have changed for the better. Therefore, as an incentive for land users on these farms, it is advisable to apply our coefficients to reduce the amount of land tax.

Table 3. Results of the amount of land taxes calculated using the coefficient of growth (Ki) in farms specializing in cotton and wheat, Pakhtaobod massif, Nishan district, Kashkadarya province

	Name of farmers	Crop area, ha		SQI	Total arable land, ha	Incre-asing factor (Ki)	Normative productivity (Npac), UZS	Total normative value (Sn), UZS	Land tax, UZS
		cotton	wheat						
1	Avazov Qodir	28.1	31.5	49.7	73.8	1.1	7484100	558609500	5306700
2	Boboqulov Norboy	21.3	20.3	40.1	56.1	1.3	7138200	263122800	2499600
3	Dolliev Tokhir	33.1	36	48.7	71.1	1.2	8005700	552460300	5248300
4	Dolliev Utkir	32.3	13	48.8	71.1	1.1	7345800	506923200	4815700
5	Karimov Avlodlari	26.2	0	46.4	74.6	1.2	7617100	551899400	5243100
6	Mirjakhon yulchi yulduz	53.9	60	52.8	117.7	1.1	7948100	1268089100	12046800
7	Nishon chirogi	14	7	48.6	53.6	1.2	7975900	433102600	4114400
8	Turaqulov Rovshan	54.6	10	52.8	88.6	1.1	7948100	954512600	9067800
9	Xolgoziev Ermat	26.2	19	44.2	49.9	1.2	7266600	352605200	3349700
10	Yuksalish gallakori	20.7	26	52.7	72.1	1.1	7936900	774669200	7359300

As shown in Table 3, the normative value of agricultural land was determined using increasing coefficients (Ki) on 10 farms in the Pakhtaobod massif. This is because the current and previous ratios of points in the area of these farms have changed for the worse. Appropriate measures to reduce soil fertility, along with mechanisms to encourage the efficient use of agricultural land, should be considered as part of this mechanism to increase the productivity of agricultural land. To accomplish this, when calculating the normative value of agricultural land, a negative change in the difference between the current and previous in the SQI is a appropriate way to protect agricultural land, this leads to an increase in land tax. Therefore, in this case, we must use the coefficients that increase the amount of tax in the calculation of land tax.

Table 4 below shows the results of a comparative analysis between the normative value calculated under the current regulation in determining the normative value of agricultural land and the calculation of the proposed decreasing (incentive) coefficients. As a result, 11 farms in the cotton-wheat sector of the Pakhtobod massif have reduced the average amount of taxes on the normative value of agricultural lands by 1.893.100 UZS or 19.1 %. In the results of Table 5 a comparative analysis between the normative value calculated under the current regulations and the normative values of agricultural land calculated according to the proposed incremental coefficients in determining the normative value of agricultural land. The difference between the normative values of agricultural lands in the current regulations and the proposed method of calculation of land taxes in the cotton-wheat farms of the Pakhtobod massif increased by an average of 707.800 UZS or 15.8 %.

In both cases considered, that is, the use of coefficients that stimulate the growth of SQI, and the use of growing coefficients while the SQI decreases, leads to a decrease in the amount of tax on commodity producers in agricultural lands, while the decrease in soil fertility leads to an increase in the amount of land tax. The main purpose of this is to achieve the improvement of the state of agricultural land. It also performs the function of a small support in ensuring the implementation of the reforms carried out in the Republic on the organization of effective use of agricultural lands and in the implementation of the state incentive of users of agricultural lands through land tax.

Table 4. Comparative table of the results of the amount of land taxes calculated using the decreasing (incentive) coefficient (Kd) in cotton and wheat farms of the Pakhtaobod massif

No	Name of farmers	Crop area, ha		Land tax calculated according to the current regulation, UZS	Land tax calculated on the offer, UZS	Difference: UZS; %.	
		cotton	wheat				
1	Abdiev Baxtiyor	50.1	20	10843100	8674500	-2168600	-20
2	Asror Bobonovich	36	40	17604200	12322900	-5281200	-30
3	Zizifara	30.8	41.9	7104900	5683900	-142100	-20
4	Pardaev Xasan	27	26.2	5722200	5149900	-572200	-9.9
5	Rajabov Abduvali	29.1	56	7532100	6025600	-1506400	-20
6	Rustambek	51	56.5	11130800	8904600	-2226100	-19.9
7	Saidov Nurbek	31.2	20	7234200	5787300	-1446800	-20
8	Sirojiddin Muminov	22.3	12	8839300	7955300	-883900	-10
9	Farangiz Bollieva	28.3	29.2	3576900	3219200	-357600	-9,9
10	Xudayorov Sherali	32.3	6.2	8925600	7140500	-1785100	-19.9
11	Elamonov Toyir	18.9	27	10580100	7406100	-3174100	-30
average						-1893100	-19.1

Table 5. Comparative table of the results of the amount of land taxes calculated using the coefficient of growth (Ki) in farms specializing in cotton and wheat in "Pakhtaobod" massif

No	Name of farmers	Crop area, ha		Land tax calculated according to the current regulation, UZS	Land tax calculated on the offer, UZS	Difference: UZS; %.	
		cotton	wheat				
1	Avazov Qodir	28.1	31.5	48243500	53067900	+4824400	+10
2	Boboqulov Norboy	21.3	20.3	19228200	24996600	+5768400	+29
3	Dolliev Toxir	33.1	36	43736400	52483700	+8747300	+20
4	Dolliev Utkir	32.3	13	43779700	48157700	+437800	+10
5	Karimov Avlodlari	26.2	0	4369200	52430400	+8738400	+20
6	Mirjakhon yulchi yulduz	53.9	60	109516700	120468400	+10951700	+10
7	Nishon chirogi	14	7	34287200	41144700	+6857500	+20
8	Turakulov Rovshan	54.6	10	82435100	90678700	+8243600	+10
9	Khlgoziev Ermat	26.2	19	27914500	33497400	+5582900	+20
10	Yuksalish gallakori	20.7	26	66903200	73593500	+6690300	+9.9
average						+707800	+15.8

Conclusion. As a result of land reforms implemented in our country, it has provided a radical change in property relations with regard to land and other means of production. However, the existing mechanism of land use, ownership, disposal, in a sense, limits the opportunities for the distribution, redistribution and promotion of land resources in the network.

The proposed incentive criterion method of calculating the normative value implies a decrease in tax rates as the score quality increases. As a continuation of the above, the decline in soil fertility is due to irrational land use and mistreatment. An increase in its amount based on taxes increases the positive impact on changing land users 'attitudes towards land. The criterion for determining the normative value because of a decrease in soil quality allows doing this. As a result, due to the increase in soil fertility in cotton-wheat farms in the Pakhtaobod massif of Nishan district of Kashkadarya province, the land tax was reduced by an average of 19.1 %, land tax increased by an average of 15.8 %.

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