Stimulating the efficient use of agricultural land based on the improved methodology for land tax calculation

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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 agricultural farms of "Pakhtaobod" massif of Nishan administrative 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.

1 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

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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 for 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]

2 Materials and methods

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 (1).
The normative productivity of agricultural crops. It
soil quality
the increase of soil quality
was achieved by applying the decreasing, ie incentive coefficients of the normative value in
land tax on agricultural land in Uzbekistan. In the implementation of these tasks, the result
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land tax into an incentive in the efficient use of agricultural land should be in the form of an
land is equal to its normative value when determining the land tax, while retaining state
context of private ownership of land.

In our opinion, the land tax would have been formed on the basis of its market price in the
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products, depending on the type of crop. In this case, the amount of land tax is calculated
activities
the system of land tax calculation as the main source of funding for land prote
method of its calculation through incentives.

Therefore, when calculating land tax in agricultur
decrease in the productivity of the soil, depending on the increase in the land tax.
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mative value will lead to an increase in the amount of land tax when the fertility of the
processes in place are different. With this in mind, we propose to use
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Here for us, that is, the main factor for agricultural lands is the normative productivity
of agricultural lands (N_{yac}). 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 (2). 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 for 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 (3). 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.

\[ N_{pac} = N_{yac} \times T_{tap} \]  \quad (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 because 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

| + (Bc-Bp) | Kd | - (Bc-Bp) | Ki |
|-----------|----|-----------|----|
| 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% ($R^2 = 0.96$) 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](image-url)
In this case, the formula for calculating the normative productivity is as follows (4):

\[ N_{pac} = N_{yac} \times T_{trtap} \times K \]  

(4)

Npac - normative productivity of agricultural crops per UZS; Nyac - normative yield of agricultural crops, quintals/ha; Ttrtap - 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. As evidenced, 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.

### 3 Results and discussion

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 | Total arable land, ha | Decreasing factor (Kd) | Normative productivity (Npac), UZS | Total normative value (Sn), UZS | Land tax, UZS |
|----|------------------------|---------------|-----------------------|------------------------|-----------------------------------|-------------------------------|----------------|
| 1  | Abdiev Bahtiyor        | 50.1          | 57.7                  | 0.8                    | 6317600                           | 913109200                     | 8674500        |
| 2  | Asor Bobonovich        | 36            | 65.9                  | 0.7                    | 6307100                           | 1297153100                    | 12322900       |
| 3  | Zizifara               | 30.8          | 57.1                  | 0.8                    | 6245400                           | 598313500                     | 5683900        |
| 4  | Pardaev Khasan         | 27            | 56.3                  | 0.9                    | 6930400                           | 542104800                     | 5149900        |
| 5  | Rajabov Abduvali       | 29.1          | 59.2                  | 0.8                    | 6337300                           | 634282500                     | 6025600        |
| 6  | Rustambek              | 51            | 59.6                  | 0.8                    | 6526800                           | 937335900                     | 8904600        |
| 7  | Saidov Nurbek         | 31.2          | 58.4                  | 0.8                    | 6394300                           | 609198700                     | 5787300        |
| 8  | Sirojiddin Muminov     | 22.3          | 49.7                  | 0.9                    | 6123300                           | 837408100                     | 7955300        |
| 9  | Farangiz              | 28.3          | 46.5                  | 0.9                    | 5728100                           | 338868400                     | 3219200        |
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**

| No | Name of farmers       | Crop area, ha | Total arable land, ha | Increasing factor (Ki) | Normative productivity (Npac), UZS | Total normative value (Sn), UZS | Land tax, UZS |
|----|-----------------------|---------------|-----------------------|------------------------|-----------------------------------|-------------------------------|---------------|
|    |                       | Cotton        | SQI                   |                        |                                   |                               |               |
| 1  | Avazov Qodir          | 28.1          | 31.5                  | 49.7                   | 73.8                              | 7484100                       | 558609500     |
| 2  | Boboqulo Norboy       | 21.3          | 20.3                  | 40.1                   | 56.1                              | 7138200                       | 263122800     |
| 3  | Dolliev Tokhir       | 33.1          | 36                    | 48.7                   | 71.1                              | 8005700                       | 552460300     |
| 4  | Dolliev Utkir         | 32.3          | 13                    | 48.8                   | 71.1                              | 7345800                       | 506923200     |
| 5  | Karimov Avlodlari     | 26.2          | 0                     | 46.4                   | 74.6                              | 7617100                       | 551899400     |
| 6  | Mirjakhon yulchi yulduz | 53.9        | 60                    | 52.8                   | 117.7                             | 7948100                       | 1268089100    |
| 7  | Nishon chirogi        | 14            | 7                     | 48.6                   | 53.6                              | 7975900                       | 433102600     |
| 8  | Turaqulov Rovshan    | 54.6          | 10                    | 52.8                   | 88.6                              | 7948100                       | 954512600     |
| 9  | Xolgoziev Ermat      | 26.2          | 19                    | 44.2                   | 49.9                              | 7266600                       | 352605200     |
| 10 | Yuksalish gallakori   | 20.7          | 26                    | 52.7                   | 72.1                              | 7936900                       | 774669200     |

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 values 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 1893100 UZS or 19.1 %.

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; %. |
|----|---------------------|---------------|-------------------------------------------------------------|--------------------------------------|---------------------|
| 1  | Abdiev Baxtiyor     | 50.1          | 10843100                                                  | 8674500                              | -2168600 -20        |
| 2  | Asror Bobonovich    | 36            | 17604200                                                  | 12322900                             | -5281200 -30        |
| 3  | Zizifara             | 30.8          | 7104900                                                   | 5683900                              | -142100 -20         |
| 4  | Pardaev Xasan       | 27            | 5722200                                                   | 5149900                              | -572200 -9.9        |
| 5  | Rajabov Abduvali    | 29.1          | 7532100                                                   | 6025600                              | -1506400 -20        |
| 6  | Rustambek           | 51            | 11130800                                                  | 8904600                              | -2226100 -19.9      |
| 7  | Saidov Nurbek       | 31.2          | 7234200                                                   | 5787300                              | -1446800 -20        |
| 8  | Sirojiddin Muminov  | 22.3          | 8839300                                                   | 7955300                              | -883900 -10         |
| 9  | Farangiz Bollieva   | 28.3          | 3576900                                                   | 3219200                              | -357600 -9.9        |
| 10 | Xudayorov Sherali   | 32.3          | 8925600                                                   | 7140500                              | -1785100 -19.9      |
| 11 | Elamonov Toyir      | 18.9          | 10580100                                                  | 7406100                              | -3174100 -30        |
|    | average             |               |                                                            |                                      | -1893100 -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 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; %.
|----|-----------------|---------------|------------------------------------------------------------|-----------------------------------|-------------------------------|
| 1  | Avazov Qodir    | 28.1          | 48243500                                                  | 53067900                           | +4824400 +10                 |
| 2  | Boboqulov Norboy| 21.3          | 19228200                                                  | 24996600                           | +5768400 +29                |
| 3  | Dolliev Toxir  | 33.1          | 43736400                                                  | 52483700                           | +8747300 +20                |
| 4  | Dolliev Utikr  | 32.3          | 43779700                                                  | 48157700                           | +437800 +10                 |
| 5  | Karimov Avlodlari| 26.2        | 4369200                                                   | 52430400                           | +8738400 +20                |
| 6  | Mir jakhon yulchi yulduz | 53.9 | 109516700                                               | 120468400                           | +10951700 +10          |
| 7  | Nishon chirogi  | 14            | 34287200                                                   | 41144700                           | +6857500 +20                |
| 8  | Turakulov Rovshan | 54.6    | 82435100                                                  | 90678700                           | +8243600 +10                |
| 9  | Khlgoziev Ermat | 26.2          | 27914500                                                  | 33497400                           | +5582900 +20                |
| 10 | Yuksalish gallakori | 20.7  | 66903200                                                  | 73593500                           | +6690300 +9.9              |
|    | average         |               |                                                           |                                   | +707800 +15.8              |

### 4 Conclusion

Because 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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The author was reduced by an average of 19 farms in the Pakhtaobod massif of Nishan district of Kashkadarya province, because of soil quality allows a decline in soil fertility due to irrational land use and mistreatment. An increase in tax rates as the score quality increases. As a continuation of the above, the distribution, redistribution, and promotion of land resources in the network. Of this, the organization of effective use of agricultural lands and in the implementation of the state policy for the use of these resources.

Table 5.

No | Land tax | Difference: UZS; % |
---|----------|-------------------|
1 | 120468400 | +73593500 |
2 | 10951700 | +6690300 |
3 | 27914500 | +5582900 |
4 | 90678700 | +8243600 |
5 | 34287200 | +6857500 |
6 | 437800 | +8738400 |
7 | 43736400 | +8747300 |
8 | 24996600 | +5768400 |
9 | 53067900 | +4824400 |
10 | 19228200 | +707800 |
11 | 52430400 | +4369200 |
12 | 48157700 | +48243500 |
13 | 43779700 | +437800 |
14 | 48243500 | +707800 |
15 | 4369200 | +8738400 |
16 | 52483700 | +8747300 |
17 | 24996600 | +5768400 |
18 | 53067900 | +4824400 |
19 | 19228200 | +707800 |
20 | 43736400 | +8738400 |
21 | 437800 | +8738400 |
22 | 52483700 | +8747300 |
23 | 48157700 | +48243500 |
24 | 4369200 | +8738400 |
25 | 52430400 | +8747300 |
26 | 43779700 | +8738400 |
27 | 48157700 | +48243500 |
28 | 4369200 | +8738400 |
29 | 52430400 | +8747300 |
30 | 48157700 | +48243500 |

Conclusion

The proposed incentive criterion method of calculating the normative value implies a decrease in the amount of land taxes as the score quality increases. Because of this, the land tax increased by an average of 15%, land tax increased by an average of 15%

The Federal Agency for Land Registration, Cadastre, and Cartography of the Ministry of Land, Environmental Protection and Urban Development of the Republic of Uzbekistan.

References

1. F. Battisti, O. Campo, F. Forte, Land 9 (1), 8 (2020)
2. I. S. S. Ergasheva SH.T., Xodjimuhamedova SH.I., Tax and taxation, 344 (Fan Press, Tashkent, 2010)
3. A. Tyutyunikov, A. Pashuta, T. Zakheevskaya, IOP Conf. Ser. Earth Environ. Sci. 274 (1), 012012 (2019)
4. O. Kramarov, Account. Financ. 15 (1), 93–98 (2018)
5. V. A. Piskunov A. Y. Smagina, SHS Web Conf. 62, 14002 (2019)
6. S. M. Mironova, Law Enforc. Rev. 3 (4), 51–62 (2020)
7. S. R. Kolanuvada, G. Thiyagarajan, J. Indian Soc. Remote Sens. 1, 12 (2020)
8. S. Kerr, A. Aitken, A. Grimes, SSRN Electron. J., 44 (2014)
9. L. Casanova Enault, T. Popoff, M. Debolini, Land use policy 100, 104914 (2020)
10. S. STARČEK, M. ŠUBIC KOVAČ, Urbani izziv. 1(30), 87–99 (2019)
11. A. Tyutyunikov, A. Pashuta, T. Zakshevkaya, IOP Conf. Ser. Earth Environ. Sci. 274 (1), 012012 (2019)
12. N. I. Lyakhova, I. N. Marchenkov, A. A. Udovikova, V. N. Amelchenko, Humanit. Soc. Sci. Rev. 7(5), 960–964 (2019)
13. F. Battisti, O. Campo, F. Forte, Land 9(1), 8 (2020)
14. S. R. Kolanuvada, G. Thiyagarajan, J. Indian Soc. Remote Sens. 1, 10 (2020)
15. M. M. Fernandes, Land use policy 99, 104795 (2020)
16. L. Casanova Enault, T. Popoff, M. Debolini, Land use policy 100, 104914 (2021)
17. J. Assunção, H. Moreira, Econ. Work. Pap. (Ensaios Econ. da EPGE), 152 (2004)
18. R. Bird, E. Slack, International Handbook of Land and Property Taxation, 441 (2004)
19. S. Kerr, A. Aitken, A. Grimes, SSRN Electron. J., 9 (2014)
20. V. A. Piskunov, A. Y. Smagina, SHS Web Conf. 62, 14002 (2019)
21. S. M. Mironova, Law Enforc. Rev. 3(4), 51–62 (2020)
22. X. Shanda, W. Daoshu, International Handbook of Land and Property Taxation, 165–174 (2004)
23. P. Bernd Spahn, International Handbook of Land and Property Taxation, 98–106 (2004)
24. V. U. Pandya, J. Tippett, Int. J. Econ. Financ. 9(10), 86 (2017)