



Comparative Analysis of Cadastral and Market Values of Agricultural Plots in Armenia

Paruyr Efendyan^{ID}, Tigran Hovhannisyan^{ID}, Nane Khudaverdyan^{ID}

Armenian National Agrarian University

armgeoinform@mail.ru, tigranhov20@gmail.com, naneharmeni@gmail.com

ARTICLE INFO

Keywords:

*agricultural lands,
cadastral value,
land cadastre,
market value,
net income*

ABSTRACT

The procedure for conducting cadastral assessment of agricultural lands, cadastral net income from agricultural lands in the Republic of Armenia are determined by the Decision of the Government of the Republic of Armenia dated July 3, 1997 No. 237 “On approval of the data of the state land cadastre of agricultural lands and unsuitable lands of Republic of Armenia”. The article provides a comparative analysis of the cadastral and market values of agricultural lands in the Republic of Armenia. It clearly states that the cadastral and market values of agricultural lands very often differ from each other several times. The current cadastral values for agricultural lands are outdated and fail to reflect various factors that influence market values. These factors include land rights and restrictions, location, area, dimensions, contour, slope, irrigation, and others, none of which are adequately considered in the calculation of cadastral values for agricultural plots.

Introduction

The primary goal of cadastral assessment of lands is to ensure the normative and informational function of state regulation of land relations. Therefore, it is implemented as a state event (Varlamov, 2006). According to Article 35 of the Land Code of the Republic of Armenia (NO-185), land assessment is the determination of its cadastral value in accordance with fertility, other physical and qualitative characteristics, natural and economic conditions, zoning and intended purpose of the land plot. The assessment utilizes data from land monitoring, the state unified real

estate cadastre, and other surveys and observations on the state of the land. It is conducted based on the cadastral and/or market value to fulfill various functions related to the land plot. Cadastral value data are used for determining real estate taxes, rental fees, and other functions concerning land, as outlined in the Land Code of the Republic of Armenia.

On January 1, 2021, the Law of the Republic of Armenia “On Establishing the Procedure for Cadastral Valuation Approximating the Market Value of Real Estate for the Purposes of Taxation by Real Estate Tax” (HO-225-N)

was adopted, which established the cadastral assessment procedure for this purpose (www.arlis.am), through which an attempt was made to bring the cadastral value of real estate closer to the market value. The order applied to all lands, regardless of the form of ownership and purpose of the plot, with the exception of agricultural lands.

Materials and methods

The land assessment is expressed in comparative relative indicators which show how good or bad is particular land for growing a particular crop (Yezekyan and Efendyan, 2008).

The procedure for conducting cadastral valuation of agricultural land in the Republic of Armenia, cadastral net income from agricultural land is determined by the Decision of the Government of the Republic of Armenia No. 237 dated July 3, 1997 “On Approval of the Data of the State Land Cadastre of Agricultural and Unused Lands”. in the Republic of Armenia” (www.arlis.am), which is based on the still valid Decision of the Government of the Republic of Armenia No. 251 dated June 1, 1994 “On Approval of the Data of the State Land Cadastre as of January 1, 1994” (Decision of the Government of the Republic of Armenia, 1994, Resolution N 251). To date, Decision No. 251 has not been digitized or included in the legal information systems of Armenia, such as Arlis.am or IRTEK (www.irtek.am). The paper version of the decision was located in the National Archives of Armenia. Here’s the revised version:

The net income values of agricultural lands have undergone several adjustments over time. These changes were implemented through various government decisions, including:

Decision No. 567 of December 10, 1994, which multiplied the values by a coefficient of 1.95 (source: www.arlis.am).

Decision No. 68 of October 11, 1995, which applied a coefficient of 1.14 (source: www.arlis.am).

Decision No. 327 of October 10, 1996, which used a coefficient of 1.12 (source: www.arlis.am).

As a result of these adjustments, the net income of agricultural lands was finalized under Decision No. 237 of 1997 as follows:

$$NI_{1997} = NI_{1994} \times 1.95 \times 1.14 \times 1.12$$

All subsequent decisions determining the cadastral net income of agricultural lands refer either to Decision No.

237, or each to the previous one. In other words, they have not changed over the past 27 years.

According to Appendix 2, Clause 3, Article 238 of the Tax Code of the Republic of Armenia (NO-165-N), the estimated net income of agricultural lands is calculated using the following formula:

$$N_{il} = A_{al} \times L_{ni},$$

where A_{al} is the area of agricultural land, expressed in hectares, L_{ni} – estimated net income of the relevant agricultural land, the relevant land-cadastral zone, the relevant assessment group, calculated per hectare (Tax Code of the Republic of Armenia).

In accordance with paragraph 9 of the methodology approved by the Decision of the Government of the Republic of Armenia No. 124, of March 3, 1999 “On Approval of the Methodology for Assessment of Agricultural Lands and Conducting Systematic Monitoring of the Condition of Agricultural Lands of the Republic of Armenia”, the estimated value of land is determined based on the economic assessment of agricultural lands according to the following formula:

$$CA = NI/4 \times 100 \text{ or } CA = (NI \times 25 \text{ year}),$$

where the calculation of the assessed value (CA) is based on the net income (NI), determined on the basis of the valuation of the unit area of the relevant plot and the bank capitalization interest rate of 4 percent (www.arlis.am).

Based on the above-mentioned decisions of the RA Government, we studied the cadastral and net income value of 1002 settlements, and in our previous works we presented a complete table of all assessment groups for all land plots in all 15 regions of the land cadastral contour, which did not exist before (Efendyan, et al., 2023; 2024).

Results and discussions

To conduct a comparative analysis of the cadastral and market values of agricultural lands and to obtain the cadastral value, we multiplied the determined net income of agricultural plots by 25 in accordance with the requirements of the above-mentioned normative-legal acts. Using the limited data available, we conducted a comparative analysis of the cadastral and market values of agricultural land plots to identify patterns and trends. Observations were carried out on the following groups of agricultural plots:

By land use type: arable lands, perennial plantings (vineyards and orchards, including pome fruits and stone

fruits), and natural forage lands (grasslands and pastures).

By cadastral assessment groups: 1st to 5th classes.

By regions of land-cadastral zoning and cadastral value.

The primary factor influencing these values is the land-cadastral zoning.

For instance, the cadastral value of 5th-class arable land in the conditional Urts-Kotayk-Shamiram land-cadastral zone is identical across Aragatsotn, Armavir, Ararat, Kotayk, and Yerevan. However, it is evident that while the province (marz) does not influence the cadastral value of agricultural lands, the location of the land significantly impacts its market value.

Figures 1 and 2 illustrate that the market value of arable lands and pome fruit perennial plantings in Yerevan is considerably higher than in other provinces, sometimes differing by several multiples. Additionally, it is clear that cadastral values are generally lower than market values, often by a significant margin, though exceptions do exist.

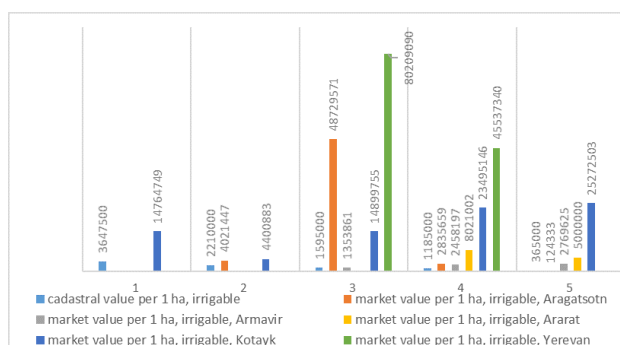


Figure 1. Urts – Kotayk - Shamiram, arable lands, irrigated, February, 2021 (composed by the authors).

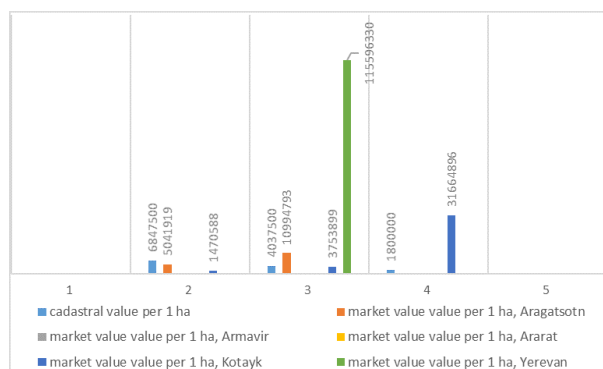


Figure 2. Urts – Kotayk - Shamiram, pome fruit perennial plantings, February, 2021 (composed by the authors).

It is obvious that the market value of agricultural lands in Kotayk marz generally exceeds the corresponding values of other marz located in the same land valuation zone (and therefore having the same cadastral value, for example, the values of Aragatsotn and Ararat marzes in Figure 3).

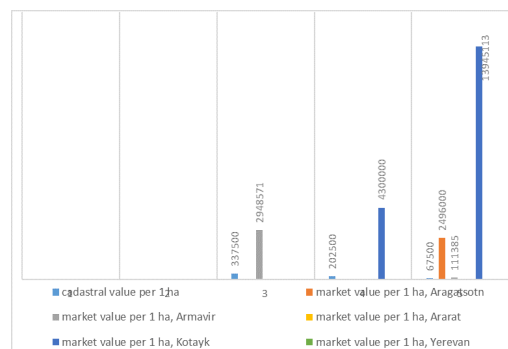


Figure 3. Urts – Kotayk - Shamiram, pastures, February, 2021 (composed by the authors).

Figure 4 shows that the average market values of Tavush marz exceed the values of Lori marz in the arable land assessment groups.

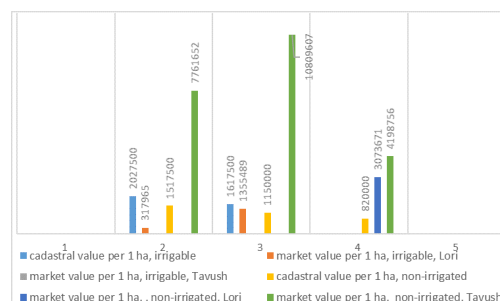


Figure 4. Verin Debed - Aghstev, arable lands, February, 2021 (composed by the authors).

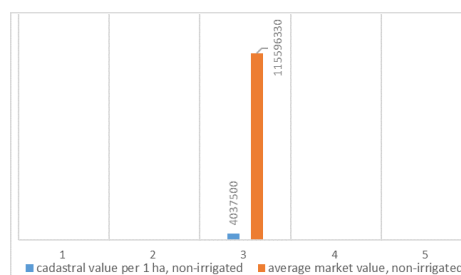


Figure 5. RA, Yerevan, Urts – Kotayk - Shamiram, pome fruit perennial plantings, February, 2021 (composed by the authors).

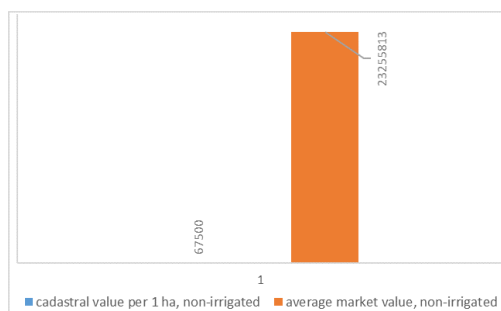


Figure 6. RA, Yerevan, Urts – Kotayk - Shamiram, other lands, February, 2021 (composed by the authors).

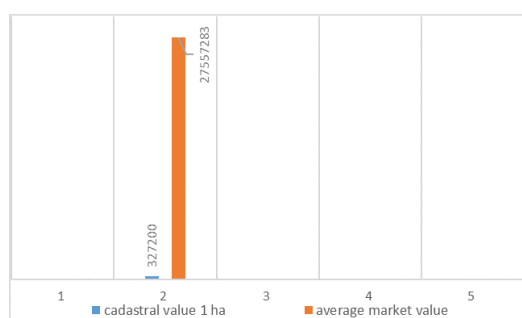


Figure 7. RA, Yerevan, Merdzaraksyan, vineyards, February, 2021 (composed by the authors).

Especially in the case of Yerevan (figures 5, 6, 7) market values significantly exceed cadastral value (in different zones of land cadastral assessment (Urts-Kotayk-Shamiram, Merdzaraksyan), for different types of land (pome fruits, other type of land, grapes)).

In other marzes the difference is not so emphatic.

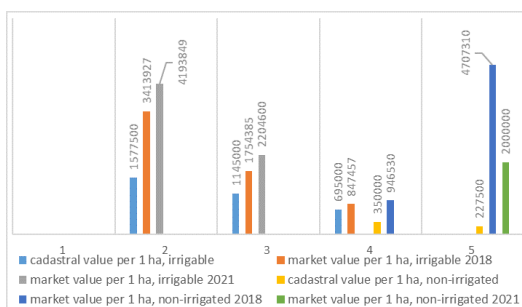


Figure 8. RA, Syunik marz, Syunik, pome fruit perennial plantings, February, 2018/2021. (composed by the authors).

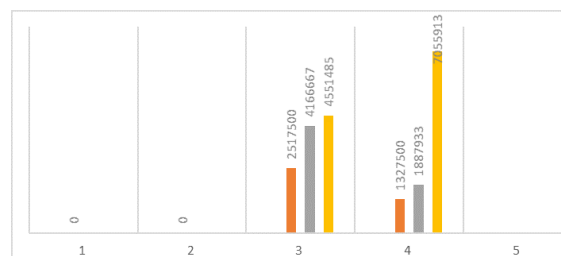


Figure 9. RA, Aragatsotn marz, Urts – Kotayk - Shamiram, stone fruit perennial plantings, February, 2018/2021 (composed by the authors).

Conclusion

The research and analysis conducted lead to the following conclusions:

There is a significant difference between the cadastral and market values of agricultural land, often by several multiples.

When calculating cadastral values, the province (marz) where the land plot is located is irrelevant. Instead, the determining factor is the land-cadastral zoning. Conversely, market values vary for plots within the same land-cadastral zoning, even if they have identical cadastral values. This variation depends on factors such as location, position, and the frontage length of the plot.

Market values are influenced by numerous factors, including geopolitical and regional conditions.

Many key factors affecting the market value of agricultural land are not considered in the calculation of cadastral values. These factors include:

- Property rights and restrictions (including rights of use).
- Plot classification, assessment group, and availability of irrigation water.
- Plot characteristics, such as size, area, width, length, and shape.
- Location and accessibility.
- Slope and rockiness of the land.
- Proximity to and accessibility of transport hubs.
- Crop yield potential.
- Other miscellaneous factors that may impact the overall value of agricultural land.

Based on the above, we recommend that the cadastral reassessment of agricultural lands should consider not only

the net income of the plots but also the factors influencing their market value. Foremost among these is the location of the land plot—not only the land-cadastral zone but also the specific settlement where the plot is situated, as this directly affects the market value. Additionally, factors such as relief conditions (slope, aspect, rockiness) and others should also be taken into account.

References

1. Decision of the Government of the Republic of Armenia No. 251 dated June 1, 1994 “On Approval of the Data of the State Land Cadastre as of January 1, 1994” (not yet digitized on www.arlis.am).
2. Decision of the Government of the Republic of Armenia No. 567 dated December 12, 1994 “On Approval of the Indexation Coefficient applied in 1995 for Calculating the Cadastral Net income from Agricultural Land”. <https://www.arlis.am/DocumentView.aspx?DocID=5568> (accessed on 18.10.2024).
3. Decision of the Government of the Republic of Armenia No. 68 dated November 10, 1995 “On Approval of the Indexation Coefficient applied in 1996 for Calculating the Cadastral Net income from Agricultural Lands and Lands Unsuitable for Use”. <https://www.arlis.am/DocumentView.aspx?DocID=5631> (accessed on 18.10.2024).
4. Decision of the Government of the Republic of Armenia No. 327 dated October 10, 1996 “On Approval of the Indexation Coefficient applied in 1997 for Calculating the Cadastral Net income from Agricultural Lands and Lands Unsuitable for Use”. <https://www.arlis.am/DocumentView.aspx?DocID=5935> (accessed on 18.10.2024).
5. Decision of the Government of the Republic of Armenia No. 237, dated by July 3 (1997) “On approval of the data of the state land cadastre of agricultural lands and unsuitable lands of Republic of Armenia” <https://www.arlis.am/DocumentView.aspx?docID=28610> (accessed on 18.10.2024).
6. Decision of the Government of the Republic of Armenia No. 124 dated March 3, 1999 “On Approval of the Methodology for Assessing Agricultural Land in the Republic of Armenia and Conducting Systematic Observations of the State of Agricultural Lands”. <https://www.arlis.am/DocumentView.aspx?DocID=7145> (accessed on 18.10.2024).
7. Efendyan, P.S., Mkrtchyan, M.Sh., Hovhannisyan, T.A., Khudaverdyan, N.A. (2024). Analysis of the Current Methodology for Cadastral Assessment, Changing and Determining of Groups of Assessment of Agricultural Lands in Armenia, Agriscience and Technology, 1(85), - pp. 21-27 (in Armenian).
8. Efendyan, P.S., Mkrtchyan, M.Sh., Khudaverdyan, N.A. (2023). Analysis of the Current Procedures for Cadastral Assessment of Agricultural Lands in Armenia, Agriscience and Technology, 4(84), - pp. 321-326.
9. Land Code of the Republic of Armenia, (HO-185). <https://www.arlis.am/DocumentView.aspx?DocID=172330> (accessed on 18.10.2024).
10. Law of the Republic of Armenia “On approval of procedure for cadastral assessment of the approximate market value of real estate for real estate taxation” (HO-225-N), 2019.
11. Tax Code of the Republic of Armenia (HO-165-N). <https://www.arlis.am/DocumentView.aspx?DocID=196879> (accessed on 18.10.2024).
12. Varlamov, A.A. (2006). Land Cadastre, Volume 4, Land assessment, Moscow, Koloss, - 463 p. (in Russian).
13. Yezekyan, A.S., Efendyan, P.S. (2008). Land cadastre, Yerevan, ASAU, - 284 p. (in Armenian).

Acknowledgements

This analysis was carried out with the financial support of Higher Education and Science Committee of the Ministry of Education, Science, Culture and Sport of RA – within a scientific topic coded 21T-4C249.

Declarations of interest

The authors declare no conflict of interest concerning the research, authorship, and/or publication of this article.

Received on 29.10.2024

Revised on 27.11.2024

Accepted on 30.12.2024