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Analysis of the Current Procedures for Cadastral Assessment of Agricultural Lands in Armenia

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ABSTRACT

In 2021, the procedure for cadastral assessment approximated to market value of real estate for real estate taxation (adopted in 2019) came into force in the Republic of Armenia, whereby a new methodology for cadastral assessment of other land fund categories of the RA was determined. The procedure does not apply to agricultural lands, which to this day are assessed and taxed according to the methodology and values that were determined in 1997. In this article, we have addressed some points of the current methodology, which, in our opinion, require revision or additional argumentation.

Introduction

In 2021, the procedure for cadastral assessment approximated to market value of real estate for real estate taxation (adopted in 2019) came into force in the Republic of Armenia, whereby a new methodology for cadastral assessment of other land fund categories of the RA was determined. (The Law of the RA (HO-225-N), 2019). Whereas the cadastral values and the net incomes for agricultural lands were determined by the Decision of the Government of the Republic of Armenia No. 237 of July 3, 1997 "On approval of the data of the state land cadaster of agricultural lands and unused lands of the Republic of Armenia".

All subsequent decisions that determined the cadastral values and the net incomes for agricultural land use types are as follows: (№ 712, 17.11.1998; № 591, 23.09.1999; № 454, 07.08.2000; № 780, 29.08.2001, № 1488-N, 19.09.2002; № 717-N, 13.06.2003; № 1109-N, 05.08.2004; № 879-N, 30.12.2004; № 607-N, 19.04.2007; № 800-N, 24.06.2008; № 29-N, 13.01.2022) refer to Decision № 237 (Decision of the Government of the Republic of Armenia of July 3, 1997 № 237).

The main purpose of the article is to analyze the current cadastral assessment procedure in order to avoid some existing shortcomings when developing a new methodology for the reassessment of agricultural lands in Armenia.

Materials and methods

The main purpose of land cadastral assessment is regulatory and information support for state regulation of land relations (Varlamov, 2006).

Table 1. Land-cadastral zones of RA - by marzes (provinces)*

Id	Land-cadastral zones of RA	Marzes (provinces) of RA				
1	Urts-Kotayk-Shamiram	Aragatsotn	Ararat	Armavir	Kotayk	Yerevan
2	Kotayk-Talin	Aragatsotn	Kotayk	Shirak		
3	Aparan-Hrazdan	Aragatsotn	Kotayk	Shirak		
4	Urts-Vayots Dzor	Ararat	Vayots Dzor			
5	Vedi-Nerkin Arpa	Ararat	Vayots Dzor			
6	Sevan	Gegharkunik	Kotayk			
7	Pambak-Nerkin Dzoraget	Lori				
8	Verin Dzoraget	Lori				
9	Verin Debet-Aghstev	Lori	Tavush	Gegharkunik		
10	Akhuryan-Spitak	Shirak	Lori			
11	Syunik	Syunik				
12	Vorotan	Syunik				
13	Nerkin Debet-Aghstev	Tavush	Lori	Gegharkunik		
14	Merdzaraksyan	Ararat	Armavir	Yerevan		
15	Ashotsk	Shirak				

*Composed by the authors.

The land-cadastral zoning of the land fund of the RA is a scientific system of dividing territory, which is characterized by the detection of practically homogenous natural, soil and economic conditions and contributes to the correct assessment of agricultural lands (Avagyan and Efendyan, 2022).

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

Over the past two decades, natural landscapes in the territory of RA have undergone noticeable changes, mainly due to anthropogenic intervention, as well as climate change, which has led to a sharp deterioration of the hydrothermal regime, soil fertility indicators, soil degradation and erosion processes over a large part of the territory. Researching the reclamation state of lands and cadastral revaluation will also indirectly contribute to increased soil fertility (Avagyan and Efendyan, 2023).

The state cadastral assessment of agricultural lands enables to determinate the value of land in terms of productivity and soil contamination (Vislinski and Tikhonenko, 2017). Therefore, when conducting a cadastral assessment of agricultural land types, it is necessary to take into account the technological conditions of the plots, which have a direct impact on the cost of agricultural crops (Yeghiazaryan, et al., 2020).

The land-cadastral assessment zones of the RA are also determined by the annexes to the Decision of the Government of the RA № 237, with fifteen of the zones containing agricultural lands. Below we present the distribution of land cadastral zones by marzes (provinces).

The land-cadastral zones are distributed as shown in figure 1.

The appendix of the Decision of the Government of the RA № 237 shows the net incomes of agricultural lands, by marzes (provinces) and communities, by land use type (arable lands, perennial plantings (vineyards, orchards (pome fruits, stone fruits)), natural rangelands (grasslands, pastures)), and by groups of cadastral assessment (1-5-rd classes). Although the cadastral values and net incomes in Appendix are provided by marzes and communities, the main factor for these values is land-cadastral zoning: the cadastral value of the 5th class arable land of the conditional Urts-Kotayk-Shamiram land-cadastral zone is the same both in Aragatsotn, Armavir, Ararat, Kotayk provinces and in Yerevan.

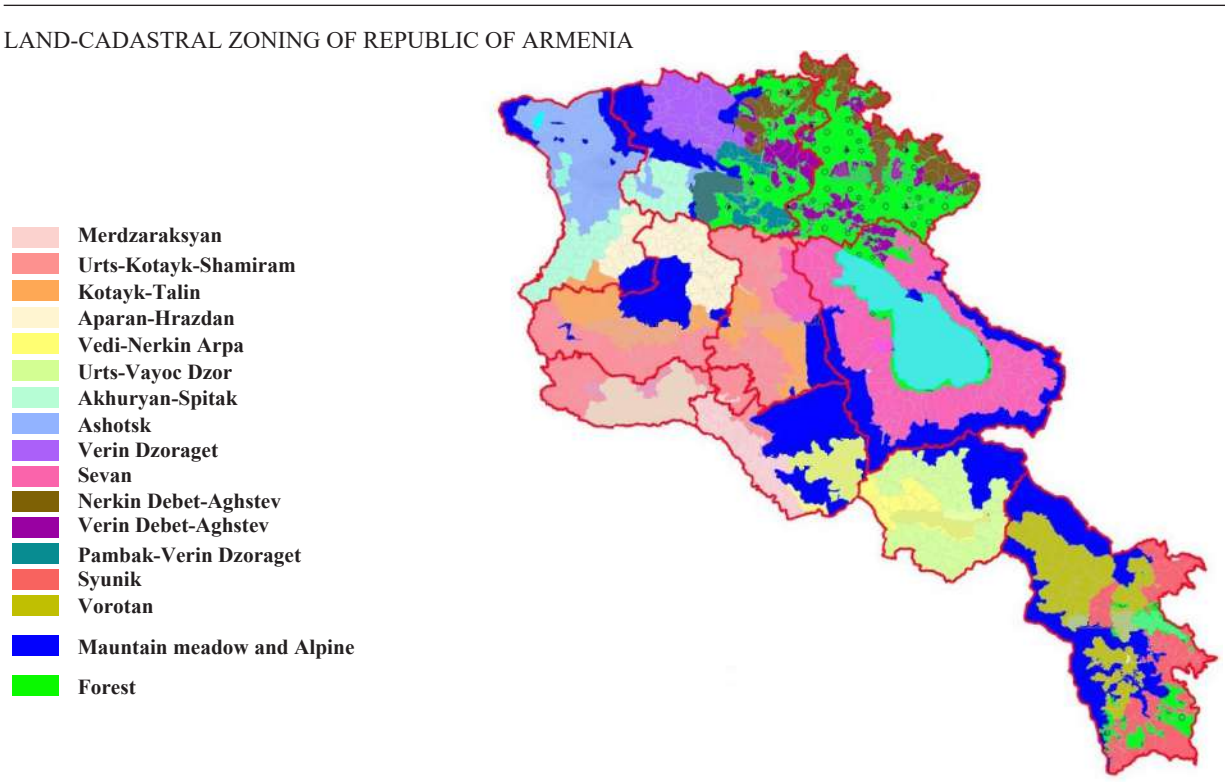

Figure 1. Land-cadastral zoning of RA *(Yezekyan, 2014)*.

Results and discussions

In the Appendix, the grasslands and pastures are divided into two groups – countryside (adjacent to the villages) and remote; however, the cadastral value is the same in both groups. Only the values of arable lands are divided into irrigated and non-irigated groups. For all other land use types, the values for irrigated and non-irrigated areas are identical. In the Appendix, the values of the catastre groups of those lands are provided per communities that were present in the particular community at that time. Values of absent land use types and those of the absent land cadastral assessment groups are not presented.

According to the Decision of the Government of the RA № 1101-N of July 25, 2002 "On approval of the cadastral values of other agricultural lands", other (unused) lands of agricultural designation are assessed separately for each land-cadastral zone, calculated by the coefficient determined for the particular year based on the Decision of the Government of the RA № 1101-N, from the lands of agricultural designation, by the net incomes and cadastre values weighted by land areas of the 5th group pasture lands (Decision of the Government of the Republic of Armenia № 1101-N of July 25, 2002).

Based on the aforementioned decisions of the Government of the RA, we have drawn up the table below, separating the values defined for each land-cadastral zone. For this purpose, we have analyzed statements of cadastral values and net incomes for 1002 settlements and obtained a complete table for all groups of land-cadastral assessment for all land use types in all 15 land-cadastral zones, which didn't exist before. The fields, the values of which are not provided in the Appendix to the Decision, remained empty, i.e. no value was determined for them.

Obviously, in all the land-cadastral zones, the highest values have the perennial plantings, followed by arable lands, grasslands, pastures and other lands. In Urts-Kotayk-Shamiram and Urts-Vayots Dzor land-cadastral zones, pome fruit orchards are the highest value lands, while vineyards have the highest value in Vedi-Nerkin Arpa, Verin Debed-Aghstev, Syunik, Vorotan and Sub-Araks land-cadastral zones, and stone fruit areas are most valued in Nerkin Debed-Aghstev zone.

Grasslands in some regions are inferior in value to arable lands (Urts-Kotayk-Shamiram, Vedi-Nerkin Arpa, Sevan, Pambak-Nerkin Dzoraget, Verin Dzoraget), and in others (Kotayk-Talin, Aparan-Hrazdan, Urts-Vayots Dzor) have a higher value. Exactly, the same picture is in the case of pastures.

The values of the other lands correspond to pastures of the 5th class.

Table 2. The cadastral assessment values – by land-cadastral zoning, land use types and groups of cadastral assessment, according to the Decisions № 237 of 1997 and № 1102-N of 2002 of the Government of the Republic of Armenia.

Land cadastral zones	land use type	*arable lands*					*stone fruit ochards*					*pome friut ochards*					*vineyards*					*grasslands*					*pasrtures*					*other lands*
	groups of cadastral assessment	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Urts-Kotayk-Shamiram	cadastral value, for 1 ha, irrigated	145900	88400	63800	47400	14600		166200	100700	53100	17400	351900	273900	161500	72000	11200		253400	149200	65400	23600	31000	24100	17200	10300	3400		18900	13500	8100	2700	2700
	cadastral value, for 1 ha, non-irrigated		27900	22200	15600	9800		166200	100700	53100	17400	351900	273900	161500	72000	11200		253400	149200	65400	23600	31000	24100	17200	10300	3400		18900	13500	8100	2700	2700
Aparan-Hrazdan	cadastral value, for 1 ha, irrigated	71400	59100	46800	27100	14800							234000	179800	90300	29500						44800		24900	14900	5000		22200	15800	9500	3200	3200
	cadastral value, for 1 ha, non-irrigated	35300	30400	23000	14800	9800							234000	179800	90300	29500						44800		24900	14900	5000		22200	15800	9500	3200	3200
Vedi-Nerkin Arpa	cadastral value, for 1 ha, irrigated		66700	52800	32300	16700				15200												48300	37500	26800	16100			35400	25300	15200	5100	5100
	cadastral value, for 1 ha, non-irrigated		35300	30400	20500	9800				15200												48300	37500	26800	16100			35400	25300	15200	5100	5100
Pambak-Nerkin Dzoraget	cadastral value, for 1 ha, irrigated		37900	28900	24000	13300			76900	41200	17400		169300	143000	83900	23100						34500	26800	19200	11500	3800		18600	13300	8000	2700	2700
	cadastral value, for 1 ha, non-irrigated		21300	17200	13100	6600			76900	41200	17400		169300	143000	83900	23100						34500	26800	19200	11500	3800		18600	13300	8000	2700	2700
Verin Debet-Aghstev	cadastral value, for 1 ha, irrigated		63100	45800	27800	11300		93400	73300	37600	13800		121300	95100	49900	19500		125800	73700	45800	17900	27600	21500	15300	9200	3100		17200	12300	7400	2500	2500
	cadastral value, for 1 ha, non-irrigated		24600	15600	14000	9100		93400	73300	37600	13800		121300	95100	49900	19500		125800	73700	45800	17900	27600	21500	15300	9200	3100		17200	12300	7400	2500	2500
Syunik	cadastral value, for 1 ha, irrigated	90300	73900	60700	38600								175700	149400	90300	29500						41400	32200	23000	13800	4600	38600	30000	21500	12900	4300	4300
	cadastral value, for 1 ha, non-irrigated		49300	40200	25400	10700							175700	149400	90300	29500						41400	32200	23000	13800	4600	38600	30000	21500	12900	4300	4300
Nerkin Debet-Aghstev	cadastral value, for 1 ha, irrigated	114900	82100	57500	41000	24600							146100	119800	59900	29600						62100	48300	34500	20700	6900	52900	41100	29400	17600	5900	5900
	cadastral value, for 1 ha, non-irrigated		59100	45100	27100	14800							146100	119800	59900	29600						62100	48300	34500	20700	6900	52900	41100	29400	17600	5900	5900
Ashotsk	cadastral value, for 1 ha, irrigated	106700	82100	57500	41000								146100		59900	29600						58600	45600	32600	19500	6500	55200	42900	30600	18400	6100	6100
	cadastral value, for 1 ha, non-irrigated	82100	60700	46000	32800	12300							146100		59900	29600						58600	45600	32600	19500	6500	55200	42900	30600	18400	6100	6100
Kotayk-Talin	cadastral value, for 1 ha, irrigated		81100	64700	48300	23600	311800	275600	189400	141800	70400			178800	118800	58900	289700	189700	138600	82700		63700	49500	35400	21200	7100	54200	42200	30100	18100	6000	6000
	cadastral value, for 1 ha, non-irrigated	65700	60700	46000	32800	11500	311800	275600	189400	141800	70400			178800	118800	58900	289700	189700	138600	82700		63700	49500	35400	21200	7100	54200	42200	30100	18100	6000	6000
Urts-Vayots Dzor	cadastral value, for 1 ha, irrigated	98800	75800	56900	38000	16700								147200	88100				147200			37900	29500	21100	12600	4200		25000	17900	10700	3600	3600
	cadastral value, for 1 ha, non-irrigated	37800	32000	27100	20500	9800								147200	88100				147200			37900	29500	21100	12600	4200		25000	17900	10700	3600	3600
Sevan	cadastral value, for 1 ha, irrigated	87300	64300	41300	24900	13400			60200	24500	12600		133900	79100	33900	18400			100400	44600			24100	17200	10300	3400	24800	19300	13800	8300	2800	2800
	cadastral value, for 1 ha, non-irrigated	29500	25400	21300	17200	9000			60200	24500	12600		133900	79100	33900	18400			100400	44600			24100	17200	10300	3400	24800	19300	13800	8300	2800	2800
Verin Dzoraget	cadastral value, for 1 ha, irrigated	79700	65700	52600	31200	16500						197900	143500	88700	43500	28000			110000			53800	41800	29900	17900	6000	45000	35000	25000	15000	5000	5000
	cadastral value, for 1 ha, non-irrigated	41900	36100	23800	17200	9800						197900	143500	88700	43500	28000			110000			53800	41800	29900	17900	6000	45000	35000	25000	15000	5000	5000
Akhuryan-Spitak	cadastral value, for 1 ha, irrigated		106200	67600	37200	12600		265400	179200	131600	60200		222800	168600	108600	48700	279500	179000	128400	72500	30700	49600	38600	27600	16500	5500	47300	36800	26300	15800	5300	5300
	cadastral value, for 1 ha, non-irrigated		52500	37800	26200	10700		265400	179200	131600	60200		222800	168600	108600	48700	279500	179000	128400	72500	30700	49600	38600	27600	16500	5500	47300	36800	26300	15800	5300	5300
Vorotan	cadastral value, for 1 ha, irrigated	203800	179200	121800	80700	39700		204700	164400	116800	69200	258800	207900	153800	93800	33900	423300	327200	197300	113600	57700		49500			2700		16100	11580	6900	2300	2300
	cadastral value, for 1 ha, non-irrigated	32800	27900	22200	15600			204700	164400	116800	69200	258800	207900	153800	93800	33900	423300	327200	197300	113600	57700		49500			2700		16100	11580	6900	2300	2300
Merdzaraksyan	cadastral value, for 1 ha, irrigated	61600	59900	48500	25700	18100								149400		34400							37500	26800	16100	5400	40900	31800	22700	13600	4500	4500
	cadastral value, for 1 ha, non-irrigated		38600	25400	15600	8200								149400		34400							37500	26800	16100	5400	40900	31800	22700	13600	4500	4500

*Composed by the authors.

The values of land-cadastral zoning (for 1 ha, measurement – AMD, by land-cadastral zoning, land use types and groups of cadastral assessment) as well as the gap values which were not determined for many land-cadastral zones and groups of cadastral assessment, can be seen more clearly and obviously in the figures 2 to 9 below, presented for each operational goal.

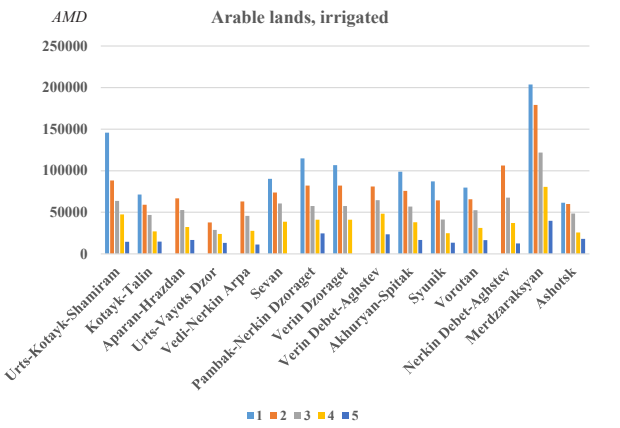

Figure 2. The cadastral values of irrigated arable lands – by land-cadastral zones and groups of cadastral assessment *(composed by the authors)*.

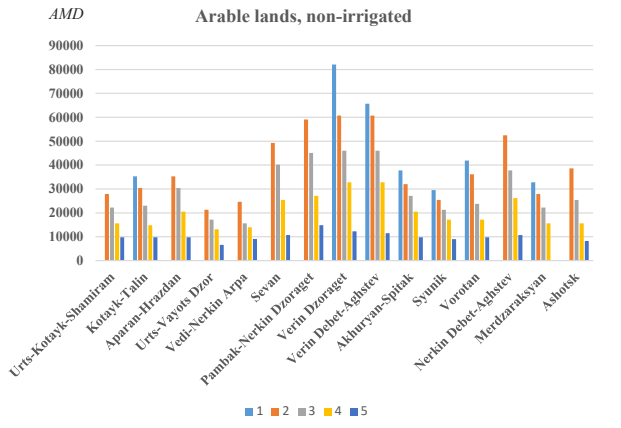

Figure 3. The cadastral values of non-irrigated arable lands – by land-cadastral zones and groups of cadastral assessment *(composed by the authors)*.

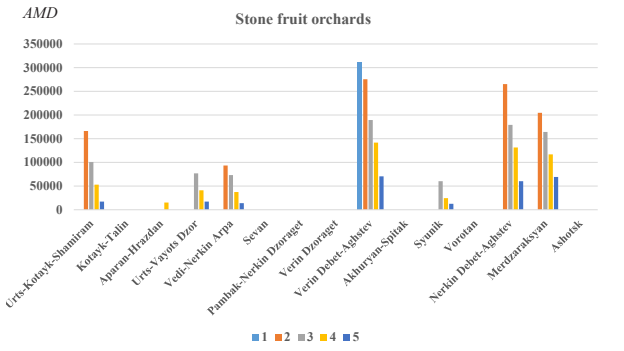

Figure 4. The cadastral values of stone fruit orchards – by land-cadastral zones and groups of cadastral assessment *(composed by the authors)*.

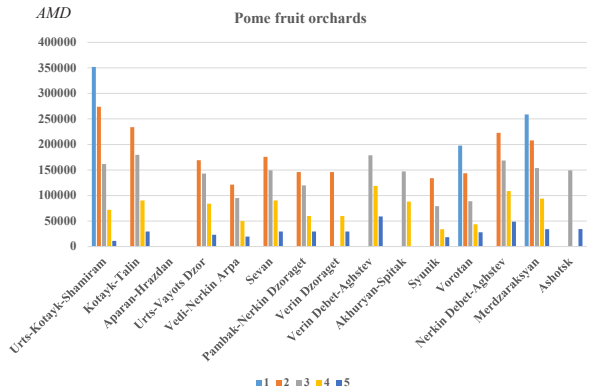

Figure 5. The cadastral values of pome fruit orchards – by land-cadastral zones and groups of cadastral assessment *(composed by the authors)*.

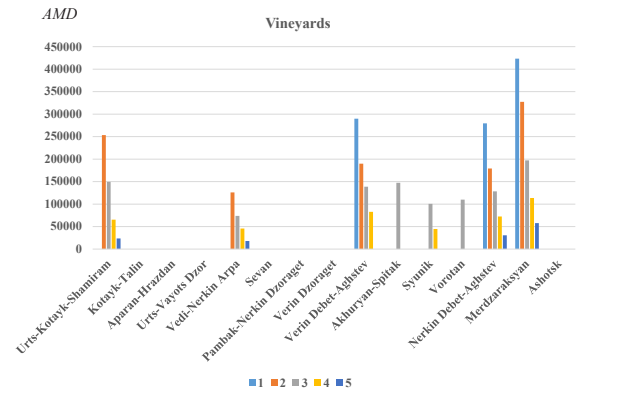

Figure 6. The cadastral values of vineyards – by land-cadastral zones and groups of cadastral assessment *(composed by the authors)*.

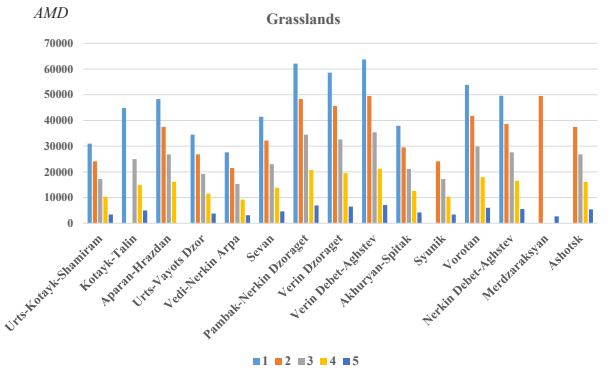

Figure 7. The cadastral values of grasslands – by land-cadastral zones and groups of cadastral assessment *(composed by the authors)*.

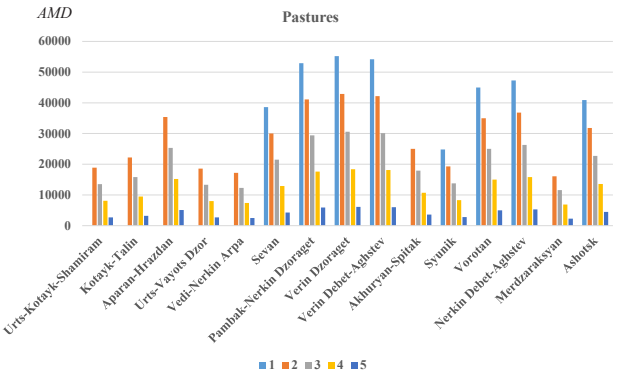

Figure 8. The cadastral values of pastures – by land-cadastral zones and groups of cadastral assessment.*(composed by the authors)*.

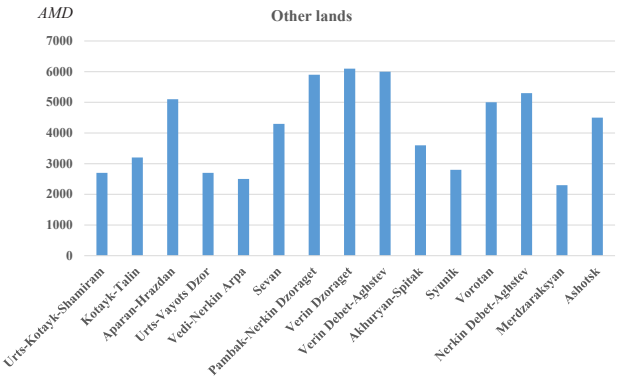

Figure 9. The cadastral values of other lands – by land-cadastral zones *(composed by the authors)*.

In some land-cadastral zones, for vineyards (Kotayk-Talin, Aparan-Hrazdan, Urts-Vayots Dzor, Sevan, Pambak-Nerkin Dzoraget, Verin Dzoraget, Ashotsk), for stone fruit orchards (Kotayk-Talin, Sevan, Pambak-Nerkin Dzoraget, Verin Dzoraget, Akhuryan-Spitak, Vorotan, Ashotsk), pome fruit orchards (Aparan-Hrazdan) the cadastral value has not been determined for any group of cadastral assessment. In the case of pastures, the values of the 1st cadastral assessment group are mostly absent (Urts-Kotayk-Shamiram, Kotayk-Talin, Aparan-Hrazdan, Urts-Vayots Dzor, Vedi-Nerkin Arpa, Akhuryan-Spitak, Merdzaraksyan). In the case of grasslands in different land-cadastral zones, the values of different groups of cadastral assessment are absent (for example, in Kotayk-Talin - 2nd group, in Aparan-Hrazdan - 5th group, in Syunik - values of the 1st group), the same picture is also in the case of arable lands.

Conclusion

In 6 out of 15 land-cadastral zones, the cadastral value has not been determined for 2 agricultural land types, in 3 - for 1 agricultural land types (for any group of cadastral assessment), and in the case of the remaining six regions, for some groups of cadastral assessment different agricultural land types have not been determined. There is no such region of land-cadastral zones for which the cadastral values and the net incomes of all groups of cadastral assessment for all agricultural land use types are determined.

Currently, if any landowner decides to plant an orchard or a vineyard in the conditional Ashotsk or Aparan-Hrazdan land-cadastral assessment zone, the net incomes and the cadastral values are calculated based on values of one of the nearby land-cadastral zones, which, in our opinion, is incorrect. In the new methodology of cadastral revaluation of agricultural lands, it is necessary to include base values for each agricultural land type for each land-cadastral assessment zone, which will further serve as the basis for calculating the net incomes and the cadastral values for any group of land cadastral assessment for newly established planting of any land type.

The circumstances of determining the same cadastral values and net incomes for nearby and remote grasslands and pastures are also unclear and need additional justifications or changes.

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