Fund for Rural Economic Development in Armenia (FREDA)

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Advisory Services

REPORT

Study of wine-making development perspectives

in RA Ararat, Aragatcotn, Armavir and Kotayq marzes

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Content

Abbreviations

FREDA	Fund for Rural Economic Development in Armenia
RF	Rural Farm
UNDP	United Nations Development Program
RA NSS	RA National Statistical Service

I. Introduction

The objective of the "Rural Finance" Component under the MOF ("Marketing Opportunities for Farmers") project that is directed towards development of rural areas in the country is to provide innovative financial services for a speedy and sustainable development of farmers and small and medium rural enterprises. To achieve the component objectives, the **Fund** for Rural **Economic Development** in **Armenia** (FREDA) is operating since 2009. Studies of different spheres of the country's economy are being carried out under the Project (dairy production, wine-making, fisheries, processing, etc) for identifying types and ways of financial service provision. This paper is about the study of the country's wine-making branch undertaken in the RA Marzes of Ararat, Aragatzotn, Armavir and Kotayk. The paper was prepared based on tertiary information on country's wine-making branch, surveys carried out among rural farms (RF) involved in grape-growing sphere and wine-making enterprises, as well as through interviews and discussions held with respective specialists.

II. Viticulture

1. 244 rural communities[1] of the Republic are involved in viticulture. The total area of grape yards for 204 out of 244 communities does not even comprise 100 ha, in 27 communities the area of grape yards comprises 100-200 ha and only in 13 communities it exceeds 200 ha.
2. Starting from 1986 the total area of grape yards was gradually decreasing which was reasoned by so-called "anti-alcoholic" campaign. After the collapse of the Soviet Union the total area of grape yards continued to decrease. This time it was reasoned by the loss of the consumption markets for wine-making products, as well as by the blockade of transportation ways. According to the data provided by the RA National Statistical Service, the dynamics of grape yard areas and their productivity for the last two years are presented in Chart 1 and Table 1.

[1] Study of the United Nations Development Project (UNDP), 2009.

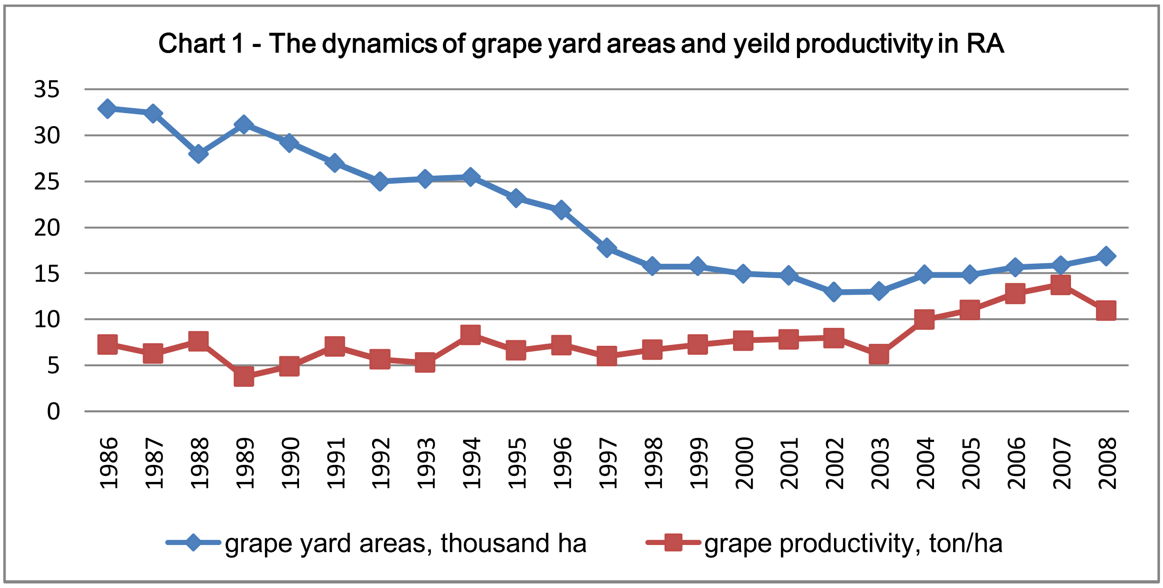


Table 1 – The area under grape yards, gross yield and average productivity in RA

Year	Grape yards	Gross yield	Average productivity
	Thousand ha	Thousand ton	t/ha
1986	32,9	240,3	7,3
1987	32,4	204,4	6,3
1988	28,0	214,0	7,6
1989	31,2	118,8	3,8
1990	29,2	143,6	4,9
1991	27,0	191,2	7,1
1992	25,0	142,1	5,7
1993	25,3	135,0	5,3
1994	25,5	212,4	8,3
1995	23,2	154,9	6,7
1996	21,9	158,5	7,2
1997	17,8	107,7	6,1
1998	15,8	106,0	6,7
1999	15,8	114,8	7,3
2000	15,0	115,8	7,7
2001	14,8	116,5	7,9
2002	13,0	104,0	8,0
2003	13,1	81,6	6,2
2004	14,9	148,9	10,0
2005	14,9	164,4	11,0
2006	15,7	201,4	12,8
2007	15,9	218,9	13,8
2008	16,9	185,8	11,0

The decrease of grape yards (more than twice) went hand-in-hand with an increase of grape yield productivity (more than 1.5 times) during the studied period. This witnesses that less productive and “old” yards had been mostly destroyed. At the same time, the decrease of grape yards varied in different agricultural zones of the Republic. The highest decrease was reported in north-east regions by comprising 61.4%, and the least was in Vayotc Dzor by comprising 10.9%. Grape yards in Ararat valley were scaled down by 50.7% and in pre-mountainous regions by 56.7%[2]. Grape yards stopped to be cut down in 2002-2003 which, as we would see furthermore, happened due to the growth of production volumes of cognac and wine in 90s’.

3. 8 out of 10 marzes of the Republic, as well as Yerevan involved in viticulture. The intensity rate of viticulture involvedness significantly varies in different areas. For example, the total area of grape yards in 2008 in Ararat marz comprised 11,5% of total area of the Republic, while 43,8% of the total output of the Republic had been produced in this marz. And 43,1% of the Republic output had been produced in Armavir marz where the total area used under grape yards comprised 38,6%. Areas under grape yards and production volumes per marzes as of 2008 were provided in Table 2.

Table 2 – Areas under grapes and average productivity as of 2008 (RA NSS data)

		Area under grapes		Grape yield	
		ha	Specific weight, %	ton	Specific weight, %
1	Yerevan	612	3,6	41780	2,2
2	Aragatcotn	1934	11,5	101252	5,4
3	Ararat	4853	28,9	813173	43,8
4	Armavir	6486	38,6	801440	43,1
5	Lori	64	0,4	1915	0,1
6	Kotayq	393	2,3	1835	0,1
7	Syuniq	184	1,1	9950	0,5
8	Vayotc Dzor	925	5,5	24002	1,3
9	Tavush	1345	8,0	62972	3,4
Total		16796	100,0	1858319	100,0

The dynamics of grape yard areas, gross yield and productivity per marzes for the last 9 years were presented in Annex 1.

4. According to the RA NSS data, the level of grape marketability produced in the Republic is rather high. In 2008, more than 80% of the produced grape had been sold (Table 3).

2 - A. Harutyunyan – Viticulture and wine-making in Armenia, 2007.

Table 3 – Grape marketing per marzes and their marketing ways as of 2008 (RA NSS data)

Marz	Sold	Bartered[3]	Used in farm	Processed from the quantity used in the farm	Remains in farm
	Numbers are presented in % vs. production volume				
Aragatsotn	76.3		21.6	56.1	2.1
Ararat	79.5	4.1	7.6	39.6	8.8
Armavir	90.3	1.2	5.5	47.3	3.0
Lori	3.9		93.9	69.0	2.2
Kotayq	21.3		78.7	84.5	
Syuniq	10.3		89.7	39.9	
Vayots Dzor	86.6		13.0	84.2	0.4
Tavush	48.9	0.6	39.4	53.7	11.1
Total	81.5	2.2	10.5	48.9	5.8

Such a level of marketability is mostly maintained by the rural farms of Ararat valley that produces 90% of totally produced grape. The level of marketability of these rural farms comprises 86.7%. The level of grape marketability is also high in rural farms of Vayots Dzor (86.6 %) and Aragatsotn (76.3 %) marzes. The farms of the remaining marzes also involved in viticulture and use more than half of the produced grape for own needs. Thus, the marz capacity for the production of marketable grape calculated based on the grape production volume of the given marz and the specific weight of the marketable grape.

Table 4 – Volumes of marketable grape and their specific weight per marzes

Marz	Capacity of commercial grape processing	Specific weight
	ton	%
Yerevan[4]	3 405	0.2
Aragatsotn	77 255	5.1
Ararat	646 472	43.0
Armavir	723 700	48.1
Lori	75	0.01
Kotayq	391	0.03
Syuniq	1 025	0.07
Vayots Dzor	20 786	1.4
Tavush	30 793	2.1
Total	1 503 902	100.0

[3] -including payments for hired workers
[4] - The average Republican sale index (81.5%) has been chosen for the calculation of Yerevan's commercial grape volumes

III. Sample Survey – Rural Farms

5. **Method –** The research, directed at studying and identifying the development perspectives of wine-making, was carried out in November, 2009-February, 2010. Two surveys were carried out within the frames of the research and aimed to evaluate the state of viticulture and wine-making branches. These surveys were carried out among rural farms and wine-making enterprises. The questionnaires (see attached presented Annexes 5 and 6) were prepared by the research team members and were agreed with FREDA. Besides surveys, many other interviews were organized with different key persons, including director-owners of wine-making companies, wine-making specialists, specialists from the RA Ministry of Agriculture and other experts in the field of wine-making of the Republic. One of the co-authors of the present report (Avag Harutyunyan) is the chairman of the Republican union of wine-makers who is the head and the owner of "Maran" LLC. Secondary information was obtained from the RA Ministry of Agriculture, RA NSS, other line organizations, Internet, published materials and etc.
6. Survey of rural farms was carried out according to the technical instructions approved by the FREDA according to which the survey is implemented in 80 RFs (10 RF from each community) of 8 rural communities (2 community from each marz) from 4 RA marzes (Ararat, Aragatsotn, Armavir and Kotayk).
7. The selection of rural communities and rural farms was carried out by the research team. Comparatively large communities involved in viticulture and farms of different size dealing with viticulture were selected from the selected marzes. The selection of RFs was done by the method of strata – the principle of random selection. The list of communities (per marzes) included in the sample is presented in Annex 2.
8. Field works were carried out by the specialists with long-term professional experience in similar field. RFs were surveyed in December, 2009. The data was checked, entered and analyzed in December, 2009 – February, 2010.
9. **Rural farm –** The average RF included in the survey is comprised of 5.58 members. The smallest surveyed RF was comprised of one member and the largest – of 13 members (Armavir marz). The head of 75 RFs (93.8 %) out of surveyed 80 was the man and in the remaining 5 RFs (6.2 %) - was woman. 12,5% of RF heads have higher education, 31.3% - secondary education and 13.8% - incomplete education. The youngest head of RF is 26 years old and the eldest – 85. The average age of RF heads is 57.5.

10. **Respondents –** In the surveyed 80 RFs 54 respondents (67.5%) were household heads, 12 (15.0 %) wives (husbands), 11 (13.8 %) children, 2 (2.5 %) daughters in law (sons in law) and 1 (1.3 %) was parent of the head. 58 (72.5%) of surveyed were men and 22 (27.5%) were women. The average age of respondents for the survey sample is 53.8. The youngest surveyed is 26 years old and the eldest – 85.
11. **Farm land –** All the surveyed 80 RFs are involved in agriculture. The average surveyed RF possesses 1.42 ha private and 0.8 ha rented land area. The largest surveyed RF has 20 ha and the smallest - 0.15 ha land area.
12. **Area of grape yards –** As of average farm, 0.71 ha that is the half of 1.42 ha of private land area is used for grape growing. The area of privatized grape yards per average farm comprised 0.61 ha. At the moment of surveying the average area of grape yards was 0.71 ha or more by 16.4%. The surveyed RFs (to study the processes taking place in viticulture) were grouped to three different groups based on the size of owned grape yards.

Table 5 – Grouping of RFs based on the size of owned grape yards

Group size	Number of RFs	Average size of group
	n	ha
Up to 0.50 ha	52	0.27
0.51-1.00 ha	17	0.69
1.00 ha and more	11	2.82
Total	80	0.71

13. The list of permitted grape varieties to grow on the area of the Republic of Armenia first time was published in 2001 in the "Official handbook of selection achievements" that includes 52 grape varieties from which 22 varieties are table grapes, 22 – technical, 5 – universal and 3 – frost resistant (technical). The list of RA MoA permitted grape varieties was fulfilled due to the new selection varieties and reached to 66. According to the evaluations of experts, the propagation of foreign high-value varieties in the RA is a very important precondition from the perspective of bringing the Armenian wine-making into the international level. Legislative amendments/changes are required for the propagation of new foreign varieties in the RA. RA legislation prohibits the propagation of foreign grape varieties in Ararat valley and Vayots Dzor marzes from the perspective of preventing the spread of grape phylloxera[5] disease. According to the experts the spread of this disease can be

[5] - Phylloxera is a pest that lives on the grape roots and eats the roots as a result of which the roots start to decay. There is no any effective measure against it, the only way out is the establishment of new yards of American phylloxera resistant varieties (Ripera, Lambruska). Any other variety can be grafted to this variety.

prevented by the application of all the necessary quarantine measures. Therefore, it would become possible to propagate foreign high-value grape in the RA the produce of which is presently considered as the best in all over the world. Experts propose the following grape varieties for the importation and propagation:

White varieties	Chardonnay, Sovinyo Blan, Risling Aligote
Red varieties	Merlo, Cabernet Sauvignon, Sira
Muscat wines	red, white, pink

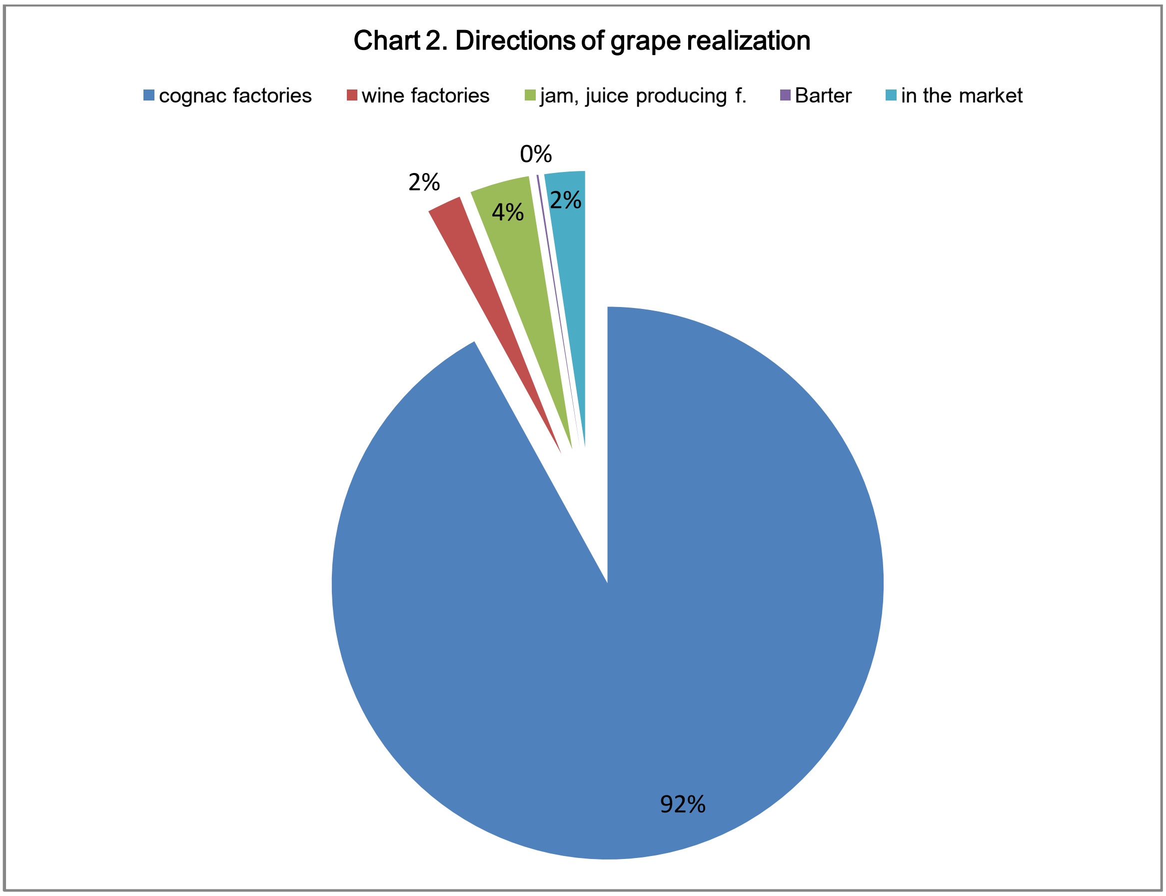
According to the rough calculations the purchase of plantings of these varieties and their transportation to Armenia would cost 1.5-2 Euros per each planting. These varieties become productive during 5 years and their life duration is about 60 years.

14. The automation of works in viticulture is on rather low level in the rural farms of the RA. Generally, only land plough and sprayings from all the activities are automated. The rest of the work is being done manually by oneself or with a help of hired workman. Plough and spraying of small-size grape yards is also done manually. The main obstacles hindering the automation of viticulture activities are the small size of grape yards, roughness/unevenness of yard areas, varietal diversity of yards, limited capabilities of RFs for investments and etc. Based on the expert evaluations, the level of economic efficiency of automated viticulture can be incomparably high.

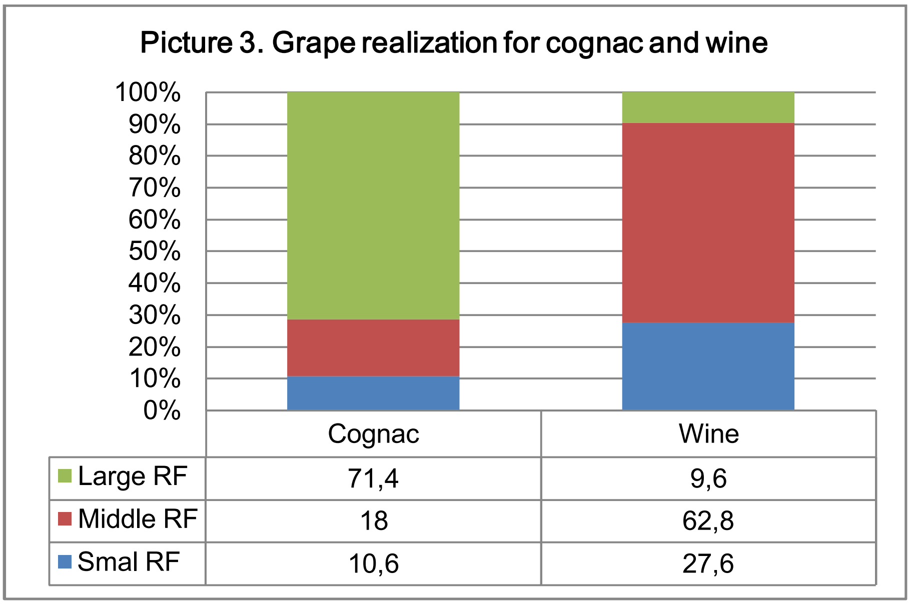
15. Activities of farms involved in viticulture can be assessed as passive after the privatization. Thus, during 15-year period only 3 RFs out of surveyed 80 RFs have established new yards. The average size of the bargain was 1.68 ha. 13 RFs have established grape yards totaling 20.16 ha during that period. After the privatization, 2.50 times more RFs (30) had destroyed grape yards. The total area of destroyed yards was 12.8 ha. Thus, it can be concluded that the farming units involved in viticulture tend to slowly enlarge. The expansion of RFs is favorable from the perspective of processing, as well as of wine-making development, and as we will see in the future the level of marketability of large farms is incomparably high. Besides, large farms are more eager to plant high-value varieties and establish single-variety yards. According to the survey data, only 5 RFs are preparing to enlarge their grape yard areas. However, it should be mentioned that, again according to the data obtained from the survey, another 43 RFs would also like to enlarge their yard areas in case of availability of financial resources. It proves the fact that RFs consider viticulture as a profitable branch and in case of properly developed policy this branch would intensively grow. Specifically, RFs give their preferences to the local varieties. Upon possibility, 40 out 43 RFs, that would like to enlarge their grape yards, this would do by the local grape stalks. The implementation of foreign high-value varieties is of high importance from the development perspective of wine-making. Therefore, too much work has to be done by RFs.

16. **Grape yield and marketing –** The average surveyed farms received 7002 kg grape yield during 2009 (12.4 ton/ha), from which 6261 kg (89.4%) was sold or bartered, 561 kg (8.0%) was processed in

the farm and 180 kg (2.6%) was used in the farm for food. The large share of grape for sale (92%) is being purchased for cognac production and only 2% for wine production (Chart 2).

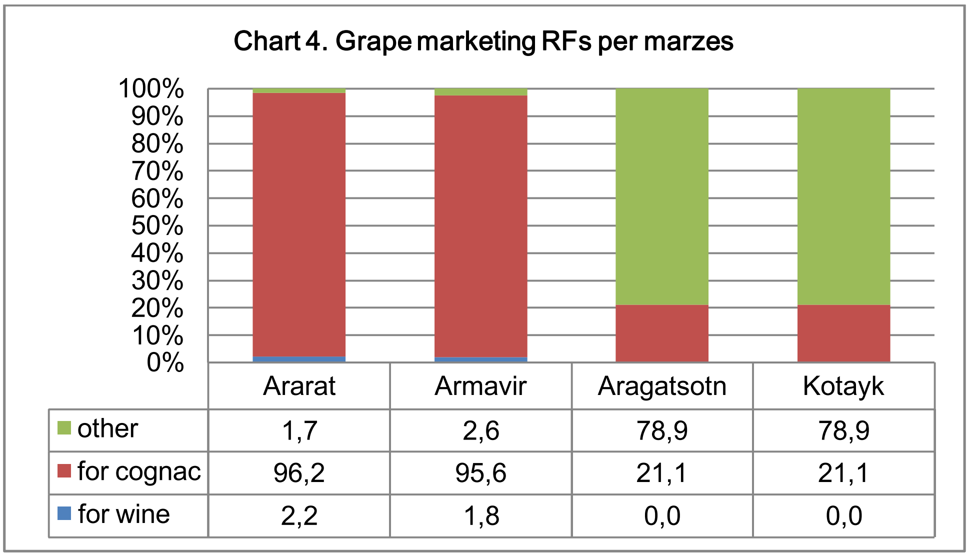


The large share of grape processed in the farms is being directed towards the home production of wine (59.4 %) and vodka (35.8 %). The major volume of home-made wine and vodka is being sold in the internal markets. There is a certain relation between the farm size and grape realization ways. As it can be concluded from the Picture 3 most of the grape produced for cognac production is being purchased from large RFs and for wine making – from middle-size and small RFs. Perhaps, this is reasoned with the fact that cognac production companies, the capacities of which are incomparably larger than of wineries, prefer to sign contract with large RFs which is more profitable from many aspects.



	Cognac	Wine
Large RF	71,4	9,6
Middle RF	18	62,8
Smal RF	10,6	27,6

17. The study of ways of grape realization per marzes witnesses that (Chart 4) the large share of grape produced by the RFs of Ararat valley is being sold to companies involved in cognac production and the most part of grape produced in pre-mountainous regions is being sold in the market. This is mainly reasoned with variety characteristics of cultivated grapes. Technical grape varieties dominate in Ararat valley and grape table varieties in pre-mountainous regions.



	Ararat	Armavir	Aragatsotn	Kotayk
other	1,7	2,6	78,9	78,9
for cognac	96,2	95,6	21,1	21,1
for wine	2,2	1,8	0,0	0,0

18. **Self-cost of the grape –** To calculate the self-cost of the grape, first of all, the costs of viticulture were identified in 2 RFs of Ararat and Armavir marzes that furthermore were s the work fee of RF members), the "acting self-cost" has to be multiplied by the following indexes calculated for each marz:

Ararat	1,34
Armavir	1.49
Aragatsotn	2.05
Kotayk	2.02
Calculated average	1.44

19. The average "acting self-cost" of one kg of grape for the total sampling combination comprised 48 AMD in 2009, and the real self-cost was 69 AMD (48 x 1.44). The highest self-cost of grape was recorded in Aragatsotn and the lowest in Armavir marz farms. Significant differences in grape self-costs viewed per marzes are mainly reasoned by the difference of grape yield giving capacity (see Annex 1).

Table 6 – Calculation of grape self-cost per 1 ha

(excluding own work)

		Ararat	Armavir	Aragatsotn	Kotayk	Average
		Costs, AMD				
1	Sunrise	15387	0	5530	0	8261
2	Filling with layer	2356	0	0	2018	1521
3	Graft pruning and design	22064	0	0	3027	11463
4	Brushwood gathering and transportation from the field	3106	0	0	1009	1716
5	Cleaning of watering streams	2463	0	0	0	1221
6	Removal of broken columns	3820	0	0	0	1893
7	Hole digging for hedge	1428	0	0	0	708
8	Strain a wire	893	0	0	0	442
9	Dry tie	19350	0	2304	0	9853
10	Cost of own and purchased organic fertilizer (pressed dung)	9961	9752	22273	1211	9800
11	Moving and spread of organic fertilizer	161	1818	1536	0	646
12	Purchase and transportation of mineral fertilizer	24616	0	4685	505	12825
13	Land plough with fertilizer	19707	3306	2611	0	10773
14	Removal of non-productive leafy tops	9425	0	0	0	4670
15	Yard watering	15245	0	0	0	7554
16	Field digging	45341	4959	0	0	23527
17	Purchase of medical means	110282	54463	50922	41877	79506
18	Spraying (4 times)	38272	0	0	9082	20555
19	Struggle against hop	71	0	0	0	35
20	Harvesting	71724	25372	7680	0	41854
21	Yield loading and transportation	17315	2810	0	0	9181
22	Field bury	53088	21901	10138	0	32160
23	Land tax (for grape yard)	29061	15702	21966	11695	22340
24	Transportation costs of yard visits	71367	18512	14593	7467	42314
25	Other costs	147340	114050	66052	66801	116734
Total costs		**733845**	**272645**	**210292**	**144692**	**471553**
Total grape yield		**14644**	**7760**	**3659**	**3259**	**9910**
"acting self-cost" for a kg		**50**	**35**	**57**	**44**	**48**
The calculation index of real self-cost		**1,34**	**1,49**	**2,05**	**2,02**	**1,44**
Real self-cost for 1 kg		**67**	**52**	**117**	**89**	**69**

20. The self-cost of grape decreases in parallel with the increase of land size per groups of farms. Thus, the "acting self-cost" for one kg grape produced in farms with up to 0.5 ha land area is 57 AMD, from 0.5 to 1 ha areas – 49 AMD and 48 AMD produced from the farms owing more than one ha area. It proves the idea, that the economic atmosphere is favorable from the perspective of increase of grape yard areas. This, in its turn, is a serious base for the wine-making development in the Republic.

21. According to the data provided by RA NSS, the sale price of grape has recorded continues increase over the last years. Thus, the average sale price of a kg of grape directly from RFs (without intermediaries) in 2005 was 154 AMD, in 2006 - 161 AMD, in 2007 -165 AMD and in 2008 - 169 AMD. The consumption price of grape exceeds the grape "acting self-cost" by 3.5 times and the real self-cost by 1.7 times. Thus, it can be concluded that the present efficiency level of viticulture of the Republic is favorable for its future development.

IV. Wine-making

22. The wine-making branch of the RoA mechanically continues the wine-making ideology of Soviet era which is defined with the following criteria;

- The market was not free, there was no competition, downward planning system was adopted and by the USSR GosPlan (StatePlan) decision Armenia was specialized in the production of cheap and strong wine.
- The Soviet wine-making can be described as "wine-making of general land areas" unlike the foreign wine-making which is considered to be as "local wine-making" (such specifics as climate, land resources, history and etc. of wine-making on small land areas are being considered).

According to the expert evaluations, even though there are some improvements in market opening and specialization, wine-making of the Republic still remains as "wine-making of general land areas" which does not promote its development and is a serious obstacle on the way of entering international markets. Presently wine-making of the Republic is on the stage of transmission which stands still on the same place because of the lack of investments.

23. Recently, the level of monopolization in wine-cognac production of the Republic has significantly decreased. Thus, if up to 2000, 75% of technical grape varieties produced in the Republic was bought by 4 companies ("Yerevan Cognac Factory" CJSC, "Great Valley" JV LLC, "Vedi Alco" OJSC, "Artashat Vinkon" OJSC) then, presently, the same amount is being purchased by 12 companies ("Yerevan

Cognac Factory" CJSC, "Yerevan wine, vodka and cognac factory" OJSC, "Avshar wine factory" LLC, "A.K.Z." LLC, "Proshyan cognac factory" LLC, "Shahumyan wine factory" LLC, "Qaghcrashen wine factory" LLC, "Great Valley" JV LLC, "Artashat Vinkon" CJSC, "MAP" CJSC, "Hoktemberyan's cognac factory" LLC, Ejmiatsin's "Vagharshapat's wine/cognac factory" OJSC)[6]. The number of companies increased in parallel with the capacity increase of the companies. Thus, if in 1998-1999 12% of the companies had bought more than 5 thousand tons of grapes, then in 2008 25% of the companies had exceeded the line of 5 thousand tons. Up to 2000 the number of companies involved in cognac production was 16, and presently this number has grown up to 39.

24. Processing industries buy grape from RFs on contractual basis. RFs take the grape to the storing company by using any available vehicle that does not meet the required conditions at all (containers of a certain size and with special paint cover have to be used for this purposes). The mismatching of transportation means and containers is being added by long queues at storing companies which causes significant losses to the grape growers in terms of weight and quality loss.

25. According to the data provided by the RA MoA, more than 50 companies are dealing with grape storage in the Republic and more than half of them are located in marzes included in the survey (Ararat, Armavir, Aragatsotn and Kotayk). The list of grape storage companies, their productive capacities as well as the production assortment were provided in Annex 3. The grape storage capacity of these companies is quite different and varies between 35000 thousand tons and 50 tons. ¼ of more than 250 thousand tons of grape storage capacity of the processing industry is centralized in 2 companies ("Yerevan's cognac factory" CJSC and "Yerevan's wine, vodka and cognac factory" OJSC) and 2/3 of this capacity in 11 enterprises. These 11 enterprises actually store about 3/4 of the total grape stored in the Republic. According to the RA MoA data, 137.4 tons of grapes were stored in 2008 in the Republic which is 55% of the storage capacity of grape processing industries.

26. Before the Armenia's independence there were 2 industrial units dealing with cognac and wine production, 3 wine-making enterprises and 26 wine factories[7]. According to the RA NSS data, after the independence the wine production had decreased for about 30 times, champagne production for more than 3 times and cognac – for 5 times during 7-8 year period.

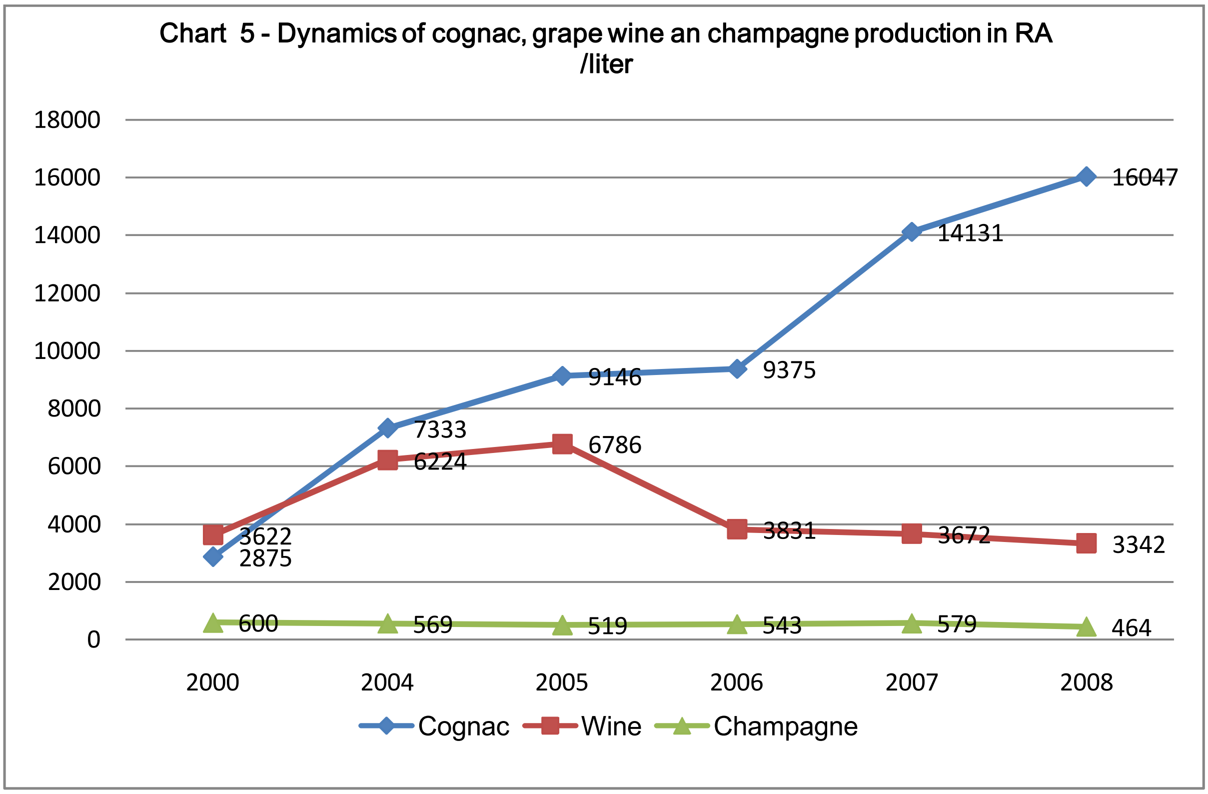
[6] - A. Harutyunyan – Viticulture and wine-making in Armenia, 2007.
[7] - A. Harutyunyan – Viticulture and wine-making in Armenia, 2007.

Table 7 - Wine[8], champagne and cognac production in the Republic of Armenia

Year	Grape wine	Champagne	Cognac
	Thousand liter		
1990	41910	2530	6140
1991	43330	1950	5190
1992	25760	710	4120
1993	27350	580	4230
1994	22710	870	5130
1995	9390	1010	3250
1996	4800	1140	2310
1997	3220	1520	3920
1998	1430	950	2530
1999	4890	750	1210
2000	3622	600	2875
2001	6390	580	5030
2002	4010	620	6060
2003	2050	670	7220
2004	6224	569	7333
2005	6786	519	9146
2006	3831	543	9375
2007	3672	579	14131
2008	3342	464	16047

As it can be concluded from the Table 7 recession of wine-making industry became possible to stop only in 1999-2000 after which a slow increase of the production volumes had started. But this growth of wine production had continued up to 2005 after which a new stage of recession had started and continues till present.

[8] - Fruit wines of small quantities are also being produced in Armenia (about 1.7 million liters annually). The list of Armenian enterprises producing fruit wines is provided in Annex 4.



As it is seen in Chart 5, the volume of champagne produced for the internal market also has a tendency to decrease which is reasoned with the increased volumes of champagne importation. During the last 8 years the cognac production volumes have significantly increased by about 6 times. Of course, this could not stay ignorant towards the wine production volumes the grape of which from year to year is being increasingly bought for the cognac production.

27. There are 6-8 major wine and cognac producing companies in Armenia. According to the evaluations of the specialist, these major companies produce 60% of the total wine and about 50% of the total cognac produced in Armenia.

Table 8 – The major wine and cognac producing companies of the RA

Major wine producing companies of the RA		Major cognac producing companies of the RA	
	Specific weight total in RA production (expertise evaluation)		Specific weight total in RA production (expertise evaluation)
	%		%
“Proshyan cognac factory” LLC	30	“Yerevan’s cognac factory” CJSC	16
“Vedi’s wine factory” OJSC	10	“Yerevan’s wine, vodka and cognac enterprise”	10
“MAP” CJSC	6	“Proshyan’s cognac	9

		factory” LLC	
“Hoktemberyan’s cognac factory” CJSC	6	“Samkon” LLS	5
“Ijevan’s wine factory” CJSC	4	“Shahumyan’s wine factory” LLC	4
“Yerevan’s chamgne and wine factory” OJSC	4	“MAP” CJSC	3
Total	60	Total	47

28. External trade of wine and cognac of the RA during the last 8-9 years can be described with the following data.

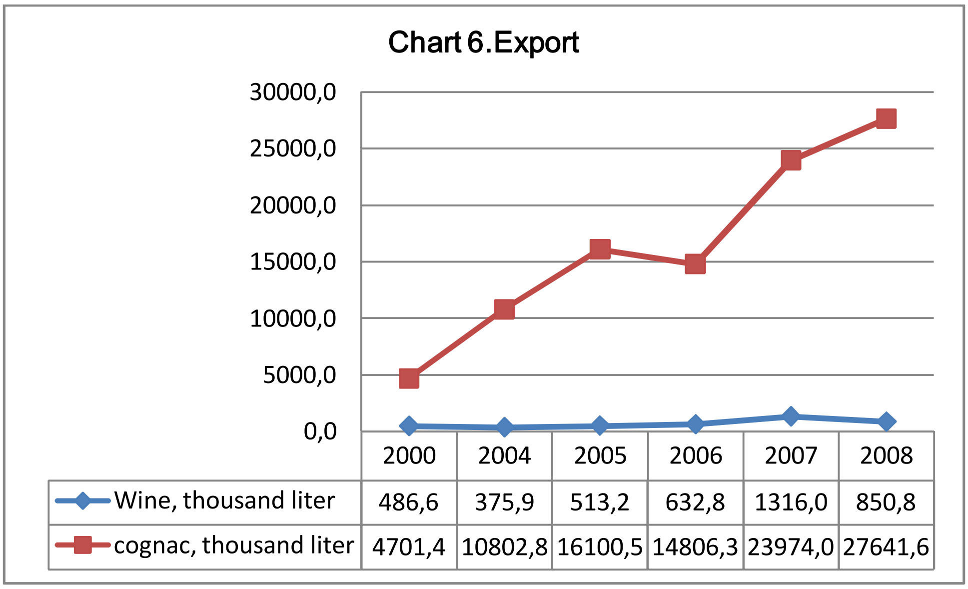
Table 9 – External trade of RA wine and cognac[9]

	Wine					
	Export			Import		
	Thousand liter	Thousand USD	Average price for liter, USD	Thousand liter	Thousand USD	Average price for liter, USD
2000	486.6	452.1	0.9	47.8	69.3	1,4
2004	375.9	470.1	1.3	79.1	148.0	1,9
2005	513.2	574.8	1.1	187.1	327.8	1,8
2006	632.8	957.6	1.5	152.4	371.3	2,4
2007	1316.0	2019.5	1.5	229.1	882.3	3,9
2008	850.8	1925.1	2.3	208.7	1114.6	5,3
	Cognac					
	Export			Import		
	Thousand liter	Thousand USD	Thousand liter	Thousand USD	Thousand liter	Thousand USD
2000	4701.4	20687.6	4.4	1.7	18.8	11,0
2004	10802.8	48401.1	4.5	3.4	65.0	19,1
2005	16100.5	72613.3	4.5	6.0	87.8	14,6
2006	14806.3	62665.0	4.2	9.1	202.1	22,2
2007	23974.0	104159.9	4.3	24.0	191.8	8,0
2008	27641.6	122119.6	4.4	15.7	675.3	43,0

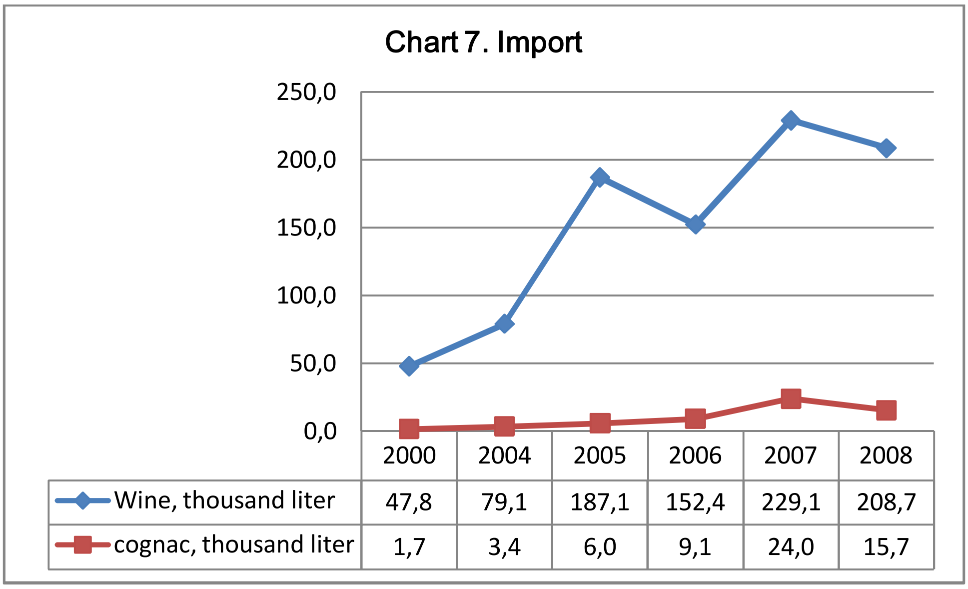
29. It seemed that the embargo put on Georgian and Moldavian wines by the Russian Federation would promote the strengthening and expansion of the place of Armenian wine in the Russian market

[9] - RA NSS data

however the opposite happened. Armenian wine could not possess the open segment of Georgian and Moldavian wines in the Russian market. Instead, the importation volumes of Georgian wine tend to grow in the Armenian market. Possibly, the same would happen with Moldavian wine and they can dominate the market with their low prices by endangering the local producers.

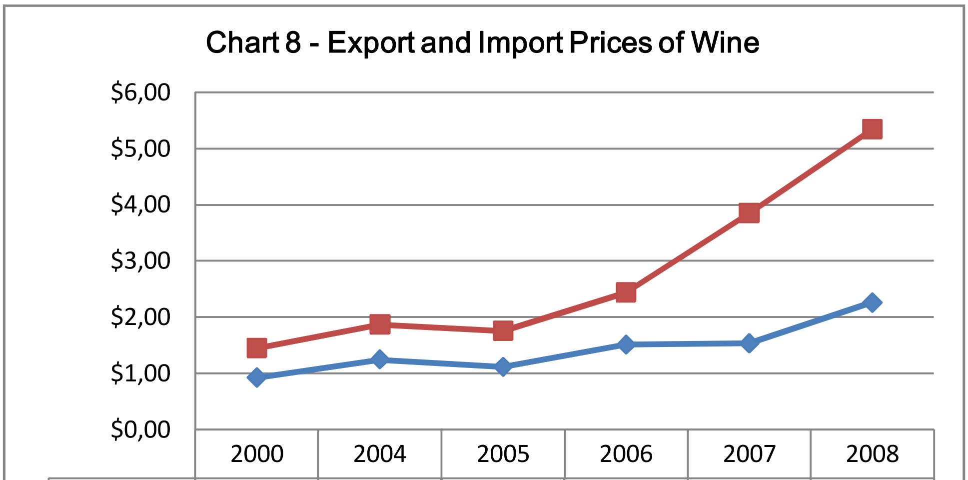


	2000	2004	2005	2006	2007	2008
Wine, thousand liter	486,6	375,9	513,2	632,8	1316,0	850,8
cognac, thousand liter	4701,4	10802,8	16100,5	14806,3	23974,0	27641,6



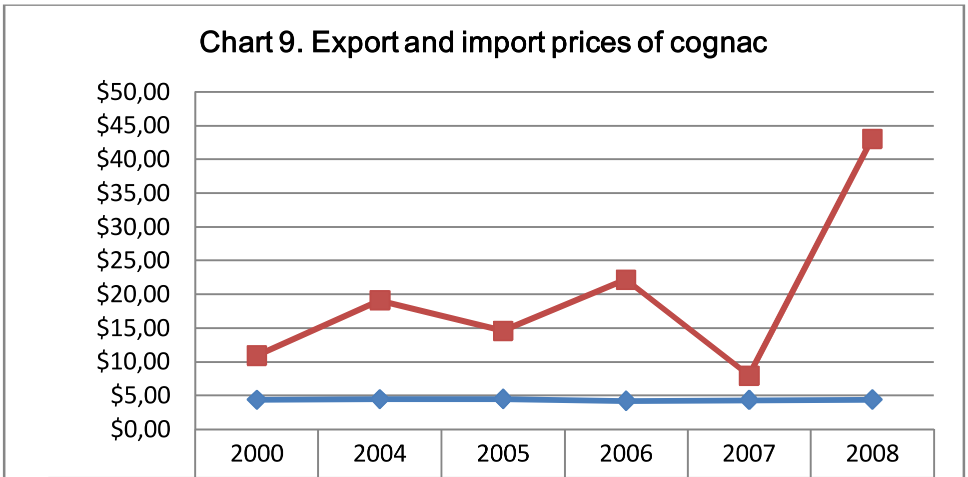
	2000	2004	2005	2006	2007	2008
Wine, thousand liter	47,8	79,1	187,1	152,4	229,1	208,7
cognac, thousand liter	1,7	3,4	6,0	9,1	24,0	15,7

The specific weight of high value wines tends to increase in the external wine trade of the Republic. Based on this, it can be supposed that the specific weight of inexpensive wines in the external trade is decreasing.



	2000	2004	2005	2006	2007	2008
Export	$0,93	$1,25	$1,12	$1,51	$1,53	$2,26
Import	$1,45	$1,87	$1,75	$2,44	$3,85	$5,34

Most likely, the financial crisis had influenced the consumers with low income rates that have reduced wine consumption. Price increase of imported wines is favorable for the small-scale local producers the produce of which is destined to the internal market.



	2000	2004	2005	2006	2007	2008
Export	4,4	4,5	4,5	4,2	4,3	4,4
Import	11,0	19,1	14,6	22,2	8,0	43,0

Export prices of cognac are rather stable which is very positive in a constant growing environment of export volumes. Arguments provided for the wine export price increase are also relevant with cognac, the average export price of which has increased by more than 4 times during the last 8 years.

30. According to our survey, only 3 out 6 enterprises have presented information on wine export volumes. RA NSS does not provide any information on separate enterprises. Once again the expertise evaluation was used to assess the export data of enterprises.

Table 10 – The major wine exporting companies form the RA during 2007-2008

	Export %, Total of the RA export volumes (expertise evaluation)
“Proshyan brandy factory” LLC	15-20
“Yerevan champagne wine factory” OJSC	15-20
“Vedi Alco” LLS	15-20
“Ijevan wine factory” CJSC	10-15
“Getnatun” LLC	10-12
“Areni wine factory”	4-5
“Armen-Alco” LLC	2-3
“Metc Syunik” CJSC	2-3
“MAP” CJSC	1-2
“Maran” LLC	1-2
“Yerevan cognac factory” CJSC	1-2

The number of wine exporting companies in the RA is not very large. About 10-12 companies maintain 90-95% of the Republic’s export volume. More over, 5 companies assure the exportation of the 2/3 of the total volume. The main wine importing companies of the RA during the last 2-3 years are “Art Wine” CJSC, “Pernod Ricard Armenia” CJSC and “Andako” LLC.

31. Internal consumption of alcoholic spirits can be described with the following data:

Table 11 – Consumption of alcoholic spirits in RA [10]

	2001	2002	2003	2004	2005	2006	2007	2008
Wine, champagne, thousand liter	2950	2600	2970	3200	3460	3600	3245	3100
Cognac, thousand liter	560	540	760	930	983	1100	1642	1300
Vodka, thousand liter	9950	12830	14175	14905	15600	14100	12146	12500

Internal wine consumption has recorded and increase in 2003 but again in started to decrease from 2007 and reached to a level that recorded in 2001. Internal consumption is of high importance from the wine perspective as 75% of the produced wine is being sold in the internal market. Therefore, state assistance is too much important and it has to apply a special policy of changing rooted traditions (from Soviet period) of vodka drinking. As it is seen from the data provided in Table 11 the level of vodka use has

[10] - A. Harutyunyan – Viticulture and wine-making in Armenia, 2007.

generally increased during the last 8 years. Cognac consumption has also increased which happened due to the importstion of expensive cognac.

V. Sample survey – Wine-making enterprises

32. The following wine-making enterprises have been surveyed:

Aragatsotn	"Ashatarak wines" CJSC
Kotayk	"Proshyan brandy cognac" LLC
	"Byuregh Alco" LLC
Ararat	"Artashat Vinkon" CJSC
	"Avshar wine factory" LLC
	"Vedi wine factory" LLC

"MAP" CJSC and ""Hoktemberyan cognac factory LLC located in Armavir marz refused to participate in the survey[11]. Field works were carried out by the specialist with long-term and relevant experience in similar fields. Wine-making enterprises were surveyed in January-February, 2010.

33. 3 of the surveyed wine-making enterprises ("Ashtarak wines" CJSC, "Vedi wine factory" LLC and "Avshar wine factory" LLC) have been established in 1948-1968 during the Soviet times and continues to work till nowadays. The remaining 3 enterprises are comparatively young and have a history of only 10-15 years.

34. The annual grape storing capacity of surveyed enterprises is 48500 tons which comprises 20% of the general grape storing capacity of enterprises on the Republican level. 4 out 6 enterprises are also involved in viticulture and cultivate about 67 ha land area from which 19 ha are private yards, and the remaining 48 ha – rented. In 2009 the enterprises received 921 tons of grape from own grape that is 14 tons per ha. Generally, these enterprises have stored 21.3 thousand tons of grape in 2009 that together with their own grape production comprises only 46% of their capacities. The grape storing capacity of these enterprises had increased by about 43% during 2005-2008 and reached to 24.3 tons from previously stored 17.0 tons. Slight decline (12.5 %) in grape storing volumes were noticed in2009 which was mainly happened because of the double reduction of storing volumes by "Avshar wine factoyr" LLC (in 2009 the company had stored grape only for cognac production purposes).

[11] - The specific of this survey is that too many difficulties were experienced while surveying wine-making enterprises. Almost all the wine-making enterprises were not willing to share information (numbered) about their activities by reasoning it as commercial secret. However, we managed to convince them to collaborate by reasoning that this is exceptionally done for the development of Armenia's wine0making.

35. As it was mentioned earlier, the average sale price of grape by the RFs (to processors, in markets and etc) have constantly increased on the Republican level during the last 4 years and reached to 169A MD/kg in 2008 from 154 AMD/kg of 2005. The consumer price of grape during the survey period was 123-126 AMD/kg which concedes to the average Republican prices by about 25%. The major volume of grape produced in the Republic is bought for cognac production. Therefore, it can be concluded that cognac producers buy the grape at a higher price than wine-makers. Here is the answer to the question of why the RFs prefer to sell their grape to cognac producers. Besides, RFs deliver the first and quality grape yield to cognac producers and only the remaining is left for wine-makers. Avshar wine factory, that was included in our survey, in 2008 had stored grape only for cognac production in average at 140 AMD/kg price. If you do not include the Avhsar wine factory's data, then the average price of grape purchased for wine-making would decrease up to 120 AMD/kg.

36. The average volume of produce wine of the surveyed enterprises during the last 5 years was 1850 thousand liters which comprises about 40% of totally produced wine in the Republic as the list of surveyed enterprises include 2 out of 5 largest wine producing companies ("Proshyan wine factory" LLC and "Vedi wine factory" OJSC). Wine production of surveyed enterprises first of all has increased and reached to 2586.7 thousand liters (2007) from 1269,3 thousand liters (2005) and then has decreased to 2135.4 thousand liters in 2009. 54.1% of the produced wine is dry, 33.7% - semi-sweet, 11.5% - sweet and 0.7% are semi-dry wines.

37. At a moment of surveying in 2009 about 40% of the produced wine had already consumed from which 25% was consumed in Armenia and 15% was exported. Only semi-sweet (20% of the produced semi-sweet wine) and dry wines (8% of the production) have been exported during the survey period. The best period of time for getting the real outline of wine consumption is the grape storing period for the new production season. According to the RA NSS provided data 25% of RA produced wine is exported and 75% is being consumed on the local markets. Therefore, it proves the idea that the major way of wine-making development in the RA is the export promotion.

38. Surveys among the 2 supermarkets of Yerevan city, 2 specialized stores of alcoholic beverages, 2 restaurants, specialists of wine importing 3 companies, as well as of 20 random passerby of Yerevan streets have revealed the successful local "brands" of internal market that have received the majority of votes. Most of the votes were given for the following wines: "Areni" and "Vernashen" of "Vedi Alco", "Ijevan white" of "Ijevan wine factory" and "Sev qishmish" of "Proshyan cognac factory". "Noravanq" wine of "Maran" LLC was the most frequent answer to question of expensive wines.

39. The major companies importing wine-making products during the last 2-3 years in the RoA are: "Pernod Ricard Armenia" CJSC, "Art Wine" CJSC and "Andaco" LLC. Georgian "Tamada" and "Old Tbilisi" wines, as well as French "Martel" brandy imported by "Pernod Ricard Armenia" CJSC possess relatively better positions in the Armenian market. From the "Art wine" assortment – Italian "Santa

Cristina" and Chilean "Frontera" wines and French "Hennessy" and "Kamyu" brandies. From "Andaco" LLC – French "Borivaj", "Chablisi", "Margaux", Chilean "Laplaya", Italian "Cyanti", "Bardolino" and "Chardonnay" wines. The relatively high position of the abovementioned wines in the Armenian market also was ascertained by the results of mentioned survey (point 38).

40. All the cost articles of wine-making were studies and the questionnaire was filled in order to calculate the wine self-cost. Later on, filled questionnaire was studied expertised by the specialists of Yerevan Agrarian University. The wine self-cost was calculated based on the data obtained from 3 companies out of surveyed 6, as "Artashat Vinkon" CJSC refused to present any information on their expenses, "Avhsar wine factory" LLC (as it has already been mentioned) bought grape only for cognac production, and "Ashatarak wines" CJSC had purchased grape only 2007 out of included years (2005-2009). However, the information we possess can be rather representative as those three enterprises that had shared information on expenses, together had produced more than 1/3 of wine produced in the Republic during 2008.

41. According to the data of 3 surveyed enterprises, the self-cost of wine in 2008 was 611 AMD/liter, and in 2009 it was 624 AMD/liter that is equivalent to 459 AMD and 468 AMD for a bottle of wine (a bottle = 0.75 liter) Ñ³Ù³å³ï³ëË³Ý³µ³ñ` 459 ¨ 468 ¹ñ³ÙÇ:

Table 12 – Calculation of wine self-cost per liter

		2008	2009
		Thousand AMD	
	Production of wine materials		
1	Purchase of grape	267	168
2	Simple salary	6	7
3	Social payments	1	1
4	Transportation costs	2	3
5	Supporting materials	3	4
	Total costs of wine materials	**279**	**184**
	Wine production		
6	Bottle	92	125
7	Cork	15	39
8	Capsule	7	6
9	Label	26	40
10	Container	27	42
11	Excise	51	61
12	Simple salary	36	43
13	Social payments	8	9
14	Overhead costs (salary)	1	1
15	Social payments	0,3	0,3

16	Wine material storing costs	3	4
17	Transportation costs	2	3
18	Electricity	5	5
19	Communal costs	2	2
20	Reconstruction costs (building, vehicles, tun ad etc.)	2	2
21	Depreciation	11	11
22	Rent of area		
23	Fragile goods	1	1
24	Business trip costs	1	1
25	Costs of representation	0,1	0,1
26	Advertisement costs	33	31
27	Other costs	8	14
Cost of wine production from wine materials		**332**	**441**
Total wine production costs		**611**	**624**
Self-cost for a bottle of wine (1 bottle = 0,75 liter)		**459**	**468**

42. In relation to wine prime cost, the price difference for grape averaging AMD 100 (between 2008/2009) is stipulated mainly by average purchase price for grapes, which amounted in 2008 to AMD 138/kg, and in 2009 - to AMD 93/kg, respectively. Despite such a wide price range difference for grapes, the cost price difference for wine in 2008-2009 seems almost small enough, i.e. AMD 9. The data presented in the Table 12 testify that the increased specific weight for grapes value was compensated by growing prices of used materials (bottle, cap, label, etc).

The prime cost of Cognac was not originally reviewed during the survey. To fulfill the shortcomings, we have reapplied the peer review method. According to the specialists, the following needs to be considered while defining the estimated prime cost of cognac in line with the cost price for wine:

1. Wine prime cost per liter - AMD 624;

2. From 10 liter wine 1 liter of 100% alcohol is received;

3. Wine distillation costs - 150 AMD/liter;

4. Loss of Cognac alcohol maintenance - 3-5% per year; AMD 250 on average per year (price for 10 liters of wine - AMD 6240 + distillation costs, i.e. AMD 150 = 3-5% of AMD 6390);

5. Costs of Cognac alcohol maintenance - AMD 20/liter;

6. Barrel depreciation - AMD 25/liter (the price for 1 barrel/liter is $2/30years).

Hence, the cost price for 100% Cognac alcohol/per liter of 3 year maintenance equals to AMD 6240 + AMD 150 + AMD 250 X 3 years + AMD 20 X 3 years + AMD 25 X 3 years = AMD 7275. Herefrom, the prime cost for 3 year old 40% Cognac (bottled) is equivalent for 7275/2.5 = **AMD 2910**. Upon maintenance after a three-year period, the cost price per liter of Cognac will increase by AMD 354 per year on average.

43. High level of technical equipment is one of the key drivers for ensuring high-quality wine production in the international wine-making market. In this context, Armenia's enterprises use the equipment purchased during the period of the USSR, which has undergone physical and moral depreciation. At the 4 out of the 6 surveyed enterprises the age of grape cleanser, dyeing machine (press), store tanks and thermo-exchange equipments ranges from 24 to 42 years. In some enterprises, the age of wooden barrels designed for wine keeping reaches up to 50-60 years, while wine-making specialists state that the age of barrels should not exceed 5 years, as it deteriorates the quality characteristics of wine.

44. Furthermore, it is very important that wine-making equipments being already worn-out shall also comply with international standards. The age of equipments is the immediate response to this question. Besides, the dyeing machines used in the country's wine-making sphere are “non-stop functioning” (shneykavor), whereas the developed countries with wine-making focus use “with breaks” (pneumatic) presses only. At almost all stages of wine production, the issue on maintaining required thermal regimes stands out as important. This is the reason why only 4 of the 6 surveyed enterprises have appropriate thermal farms. However, according to specialists, they are worn out and can not therefore meet the international standards. They say that even with the world's best grape varieties perfectly suited to wine-making needs, it will not be possible (by use of such equipment) to produce wines, which would competed in the international market.

45. According to specialists, the Getnatun LLC was modernized in line with international standards, and the Avshar Wine Factor LLC is at the advanced stage of modernization, ready for the international expertise.

46. In Armenia, wine-making is exempt from tax[12], with no certification required. Wine makers and specialists both have responded negatively to question respecting certification, explaining that first it would not be very difficult to obtain certificate and secondly it contains some corruption risks. Nor does the certificate for wine-making product engender problems in overseas countries. In order to export wine or Cognac it is simply needed to find a foreign importing organization with an Import Certificate, which would agree to purchase Armenian wine-making products. The farming entities think that relatively high transportation costs and the lacking alternative roads could be the only constraints to export performance.

47. The farming entities and specialists involved in wine-making sphere found it difficult to mention about the strong points of the processing enterprises, except for the relatively better image of the wine-making produce in the former USSR. Among weak points, depreciation of equipments, lack of one sort grapes

[12] A lump sum payment is required, i.e. state duty of AMD 25000

reporting large amounts as well as the small sizes of rural farms involved in wine-making sphere and the absence of high-quality grape varieties.

48. Different specialists who are related to the wine-making sphere do not consider it a risky endeavor to deal with it. The risks they see in the country's wine-making sphere are set out below:

- Unfavorable climatic conditions. According to those involved in the relevant sector, a best solution for reducing the climate impact could be the establishment and operation of an insurance system.
- Grape philoxera. In the regions with grape-growing focus, such as Ararat Valley and Vayots Dzor this disease does no longer exist. However, it does not mean that the disease will not spread in future. It is therefore necessary to administer strict control on plantings, espaliers as well as on roads for transportation of agricultural machinery and other grape-growing materials.
- According to the farming entities and respective specialists, opening of the Armenia-Turkey border might cause a serious danger for the country's wine-making sphere. Experts warn that in this event the home market would stagnate with large amounts of cheap wines. State intervention is thus needed at the local level, which might in addition create direct (taxes) and indirect constraints (quality control) to protection of the home market.

VI. Analysis of Wine-making Issues

As mentioned above, the investigating team organized also discussions along with the inquiries with a number of individuals engaged in the wine-making branch of the Republic, including winery director-proprietors, wine-makers, RA Ministry of Agriculture experts and other professionals, aiming at revealing the wine-making issues and making solution proposals. In the result of inquiries and analysis of secondary data retrieval, as well as discussions carried out at different levels, conclusions were made, wine-making issues of the Republic were revealed, their analyses were carried out and solutions were proposed.

1. As mentioned afore, more than 80% of the bought grape is purchased for cognac production. More than 90 % of Armenian Cognac is sold in the Russian market under the “Armenian Cognac” name. As a matter of fact, main countries consuming the Armenian Cognac: Russia, the Ukraine, Belarus have not been joined the Protection of Geographical Names Lisbon Treaty yet. With these countries joined the Lisbon Treaty in future, it will result to the replacement of “Armenian Cognac” name by “Armenian Brandy” which is likely to have a negative impact on the selling volumes of Armenian Cognac in the mentioned markets. According to experts, there have been already beverages under the “brandy” name in the former USSR, the price of which is for 2-3 times cheaper than the price of the Armenian Cognac and it will be hard to explain the consumer why is the “”Armenian Brandy”” 2-3 times more expensive from that of the other ”brandies”.
2. Provision of grape base for Cognac and wine production growing volumes, expansion of territories, improvement of sort peculiarities, increase in crop yield, cost price decrease, etc. According to the data provided by the RA Ministry of Agriculture, 137.4 thousand tons of grapes have been procured in 2008 in the Republic which comprises 55% (250 thousand tons) of procurement volumes of grape processing companies. There are both intensive and extensive ways of grape production volume increase within the Republic. According to experts, it is possible to increase the crop yield by 1.3-1.5 times within 5 years, by means of high sort investment and processing improvement. There are also great possibilities for the expansion of grape territories; it is worth to mention that grape territories of the Republic comprised approximately 33 thousand ha as of 1986, by the contrast of present 17 thousand ha. There are thousands of acres fit for the grape growing in Ararat Valley and Vayots Dzor, where it will be possible to carry out wine-making when an irrigation infrastructure is built.

3. Permanent discrepancies of grape purchase for Cognac and wine production.
   Thus, the sugary level of the purchased grape for Cognac production must be 16-19 % and 21% for the wine production. To reach the necessary sugary level for the wine production it is imperative to start the grape harvest 15-20 days later, after the grape harvested for Cognac was over and 25-35 days later, for producing wine with higher quality (not less than 23%) or special wines (not less than 26%). Naturally, the wine-making households are in a rush to collect their harvest a day before to cover the accumulated expenses of the grape processing household needs as well as to protect it from the hail risk, robberies and cattle (when the main harvest is over, the villagers start maintaining a free schedule for grazing the cattle). It has not been yet calculated whether the sugary increase will compensate the decrease of the grape weight (10-15%), in case the harvest is done late. Moreover, the presence of numerous grape selling retailers doesn’t allow wine-makers to carry out differentiation of the purchased raw materials according to the sugary level.

4. The absence of pure sort yards or very small territories. Sort peculiarities of grape. The vineyards are very small in Armenia and the young plants are mainly mixture of sorts.
5. In Armenia, it is prohibited by the law to import foreign sorts of grape into Ararat Valley and Vayots Dzor to prevent the philoxera disease. The best foreign sorts' adaptation issues within the environmental conditions of Armenia have not been investigated.
6. The equipment implemented in wine-making sphere is very old in Armenia. Grape processing equipment is 20-30 years old. Mainly there are no thermal households (kneading temperature provision, thermo-exchange equipment, etc.) in wineries.
7. The absence of skilled specialists and new technologies. Our technology, equipment and specialists' skills tend to bear a soviet ideology which didn't presume an objective development and didn't consider the environmental conditions, market demands, choice of proper sorts, etc.
8. In Armenia, there is no care towards the wine-making and grape-growing spheres, there is no strategy developed by the government and an image creating ideology.
9. Philoxera, the grape disease which doesn't exist at present in Ararat Valley and Vayots Dzor, will be likely spread in case of the relationship activation with Nagorno Karabakh and possible opening of frontiers with Turkey. Because of the risk of the disease spread, it is prohibited to import foreign young plants of high quality sort to Armenia, the made wine of which gained worldwide wine markets.
10. Small sizes of village household vineyards do not allow to profit so that it will be possible to expand vineyard territories, let alone plant new ones. Planting of new vineyards is more troublesome as it will cost approximately 15.000 USD for planting 1 acre of a vineyard and getting it ready for the crop yield, which is just beyond the agricultures' power. There's only an option either between the grape processing enterprises or the state special policy on reconstruction of the wine-making branch.
11. Compared with the neighboring countries (Turkey, Iran) which rate among the first ten countries of the world dealing with wine-making, the Armenian land resources are strictly limited and it is very hard to sustain the competitiveness with our neighbors in terms of a cheap segment of wine market. The aforesaid draws into a conclusion, that our place in the international wine-making market is the high quality and relatively expensive segment. Moreover, when exporting expensive product, the transportation costs within the product cost price are insignificant, in this case the impact of the blockade can be ignored.

   Development perspectives, proposed ways of their settlement, required expenses and implemetors were presented in Table 13.

Table 13 – Problem analysis of wine-making sector

Problem	**Solution**	**Size of required investment**	**Implementer**
Absence of pure variety grape yards	Establishment of new pure variety grape yards -1 ha • Pruning of old yards – 1 ha	$15,000 $3,000	Rural farms and wine-making factories
Low capacities of farming units involved	• cooperation		

in viticulture	(20-30 RF) • yard renting (10-15 ha) • management of RF yards (10-15 ha)	$5,000 $17,000 $12,000	RA Government Wine factories Wine factories
Marketing of most of the grape for cognac production	• consumer grape price increase by the wine-makers	20-30 %	Wine making factories
Grape Varietal characteristics	• remove the ban on the importation of foreign varieties • strengthening of the quarantine control		RA Government RA Government
Depreciation of wine-making equipments	• Production modernization (including thermal farm)	USD100,000-150,000 (for 300-400 tons of grape procurement capacity)	Wine making factories
Absence of thermal farms	• Establishment of thermal farm	30,000 USD (for the procurement of up to 500 tons)	Wine making factories
15 million AMD annual tax for the cognac production	• Define the tax rate based on the enterprise capacity		RA Government
Ban on advertisement of alcoholic spirit in Russia, which is the main consumer of Armenian wine-making products	• Presentation of Armenian wine by the Embassy commercial chambers and others • Participation in exhibitions	Annually 300,000 USD	RA Government Wine making factories
Simplicity of cheap and low-quality vodka production and importation	• Tax increase on vodka production and importation, as well as increase of quality control		RA Government

VII. Annexes

Annex 1 –The dynamics of grape areas and gross yield per marzes (RA NSS data)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
	Area, ha								
Yerevan	618	618	506	556	637	637	637	612	612
Aragatsotn	2298	2403	1336	1479	1846	1846	1762	1637	1934
Ararat	3715	3856	3630	3407	4065	4298	4607	4659	4853
Armavir	5698	5342	4943	5123	5386	5272	5875	6041	6486
Lori	69	69	68	66	65	65	64	64	64
Kotayq	676	626	533	496	494	458	424	408	393
Syunik	128	98	123	117	185	185	185	184	184
Vayots Dzor	556	582	675	577	849	852	873	936	925
Tavush	1269	1249	1183	1233	1329	1319	1319	1347	1345
Total	**15027**	**14843**	**12997**	**13054**	**14856**	**14932**	**15746**	**15888**	**16796**
	Yield, thousand ton								
Yerevan	3.9	3	2.2	0.9	2.9	2	2.9	4.6	4.2
Aragatsotn	6.1	5.1	5.4	1.4	7	10	8.9	9.5	10.1
Ararat	45.8	39.9	40	45.1	56.2	65.7	75.5	80.5	81.3
Armavir	47.9	56.1	53.3	24	71.2	72.6	98.8	105.1	80.1
Lori	0.3	0.3	0.1	0.3	0	0.1	0.4	0.5	0.2
Kotayq	1	0.7	0.4	0.2	1	1.1	0.8	0.5	0.2
Syunik	0.5	0.7	0.4	0.4	0.3	0.9	0.9	1.3	1
Vayots Dzor	4	2.7	1	0.8	3.2	3.4	2.9	3.2	2.4
Tavush	6.3	8	1.2	8.5	7.1	8.6	10.3	13.7	6.3
Total	**115.8**	**116.5**	**104**	**81.6**	**148.9**	**164.4**	**201.4**	**218.9**	**185.8**
	Average yield productivity, t/ha								
Yerevan	6.3	4.9	4.4	1.8	4.6	3.1	4.6	7.6	6.8
Aragatsotn	2.7	2.1	4.0	1.0	3.8	5.5	5.1	5.9	5.3
Ararat	13.2	11.7	11.9	14.7	15.8	18.3	18.3	18.2	18.4
Armavir	8.5	10.7	11.1	6.3	14.6	14.9	19.7	21.6	16.5
Lori	3.8	3.8	0.8	5.3	1.0	1.9	6.0	8.2	3.0
Kotayq	1.5	1.2	0.7	0.4	2.0	2.5	2.0	1.3	0.5
Syunik	4.1	7.7	3.9	3.5	1.4	5.2	4.9	7.0	5.5
Vayots Dzor	7.2	4.7	1.7	1.4	4.6	4.8	4.0	4.3	3.3
Tavush	5.0	6.4	1.0	6.9	5.4	6.5	7.8	10.4	4.8
Total	**7.8**	**8.1**	**8.3**	**7.1**	**10.9**	**12**	**14.1**	**15.4**	**12.8**

Annex 2 – Rural communities included in the sample

	Marz	Community	Number of surveyed RFs
1	Aragatsotn	Oshavan	10
2		Voskevaz	10
3	Ararat	Sisavan	10
4		Aygavan	10
5	Armavir	Aygeq	10
6		Baghramyan (Ejmiatcin)	10
7	Kotayk	Mrgashen	10
8		Proshyan	10
Total		8	80

Annex 3 – The list of grape processing enterprises in the RA (acting and not)

	Marz	Company name	Grape storing capacity, ton	Assortment
1	Yerevan	“Yerevan Cognac factory” CJSC	35 000	Cognac
2		“Yerevan wine, vodka, cognac factory”	30 000	Cognac
3		“Yerevan champagne wine factory” OJSC	5 000	Cognac, wine, vodka
4		“Samkon”LLC	…[13]	Cognac
5	Ararat	“Erashkh wine factory” LLC	8 000	Cognac, wine
6		“Ararat wine factory” LLC	10 000	Cognac, wine
7		“Avshar wine factory” LLC	7 000	Cognac, wine, vodka
8		“Vedi Alco” LLC	8 000	Cognac, wine, vodka
		“Vedi wine factory”	10 000	Cognac, wine, vodka
9		“A.K.Z.” LLC	8 000	Cognac, wine
10		“Van-777” LLC	3 000	Cognac, wine
11		“Tavinco” LLC	3 000	Cognac
12		“Shahumyan wune factory” LLC	10 000	Cognac, wine
13		“Qaghcrahsen wine factory” LLC	10 000	Cognac, wine
14		“Aregak” LLC	3 000	…
15		“Aygezard wine factory” LLC	8 000	Cognac, wine
16		“Mrganush wine factory” LLC	2 000	Wine
17		“Aygepat wine, cognac factory” LLC	3 000	Cognac, wine
18		“Artashat Vinkon” CJSC	6 000	Cognac, wine
19		“Verin Artashat wine factory” LLC	1 000	Wine
20		“Aralez-Alco wine, cognac factory”	…	Cognac
21		“Shato-Arno” LLC	1 000	Cognac, wine
22	Armavir	“MAP”OJSC		Cognac, wine, vodka
23		“Hoktemberyan cognac factory” LLC	4 000	Cognac, wine, vodka
24		“Anna-Aram”LLC	4 000	…
25		“Brest” LLC	4 000	Wine

[13] - there is no information available

26		Ejmiatcin's"Vagharshapat wine, cognac factory" OJSC	15 000	Cognac, wine
27		"Armen Alco"LLC	…	Cognac
28	Kotayk	"Proshyan cognac factory" LLC	15 000	Cognac, wine, vodka
29		"Eghvard wine factory" OJSC	4 000	Cognac
30		"Byuregh Alco" LLC	500	Cognac, wine
31	Aragatsotn	"Great Valley" LLC	13 000	Cognac, wine
32		"Ashtarak wines" CJSC	10 000	Cognac, wine
33		"Voskevaz wine factory" LLC	…	Wine
34	Vayots Dzor	"Getap wine factory" OJSC	5 000	Wine
35		"Areni"CJSC	CJSC…	Wine
36		"Metc Syuniq" CJSC	…	wine
37		"Getnatun" LLC	300	Wine
38		"Ginetas" LLC	55	Wine
39		"Vayq Group" CJSC	150	Wine
40		"Gineqar"LLC	200	wine
41		"Maran" LLC	80	Wine
42		"Arpa Alco" LLC	…	Wine
43	Tavush	"Ijevan wine factory" CJSC	2 000	Wine, vodka
44		"Debedavan wine factory" LLC	2 000	Wine
45		"Berdavan wine factory" LLC	2 000	wine
46		"Tavush wine factory" LLC	2 000	wine
47		"Noyemberyan wine factory" CJSC	…	wine
48	Syunik	"Meghri wine factory" OJSC	…	wine
49		"Syuniq Alco" LLC	…	…

Annex 4 – Fruit wines producing companies in the RA

	Company name
1	"Arpa Alco" LLC
2	"Vedi Alco" LLC
3	"MAP" CJSC
4	"Proshyan cognac factory" LLC
5	"Ptghni golden wine, liquor factory" LLC
6	"Yerevan champagne factory" OJSC
7	"Maran" LLC

Annex 5

Armenia 2010

Fund for Rural Economic Development in Armenia

QUESTIONNAIRE FOR RURAL FARMS

Study of wine-making development perspectives in the Republic of Armenia

Interviewer – answers would be provided by the head of the household (HH). If the householder is not present or is not able to be interviewed at the moment, then the adult member of the household responsible for making decisions, answers the questions. If the respondent had been absent from the farm for a long period of time during the 2009 then another member of the family can help in answering.

1.1. Rural Farm ---------------------------------- -- [ ]

(name, surname of the head of the RF)

code

1.2. Marz -- [ ]

name

code

1.3. **Domicile** -------- -- [ ]

name

code

\

1.4. The number of your household members --

Person

1.5. Sex of the head of your household --

1- Male
2- Female

1.6. Age of the head of your household --- ---

Year old

1.7. Education of the head of your household --

1. Higher and incomplete higher
2. Vocational secondary
3. General secondary
4. Incomplete secondary education

2. Agriculture

Farm land area

ha

2.1. Private land (including small holdings) --

2.2. Leased land --

2.3.How many grape yard allotments did you receive during privatization? ---------

2.4.Total area of your grape yards --

m^2

2.5.How much is the grape planting area in your small holdings? --------------------

2.6.Have you bought grape yard after the privatization? ---------------------------------

1- Yes
2- No

ha

2.7. If yes, then how many ha?---

2.8. Have you sold grape yard after the privatization ? --

1- Yes
2- No

ha

2.9. If yes, then how many ha? --

2.10.Have you established grape yard after the privatization ? ------------------------------

1- Yes
2- No

ha

2.11.If yes, then how many ha?--

2.12. Have you destroyed grape yard after the privatization ? ---------------------------------

1- Yes
2- No

ha

2.13.If yes, then how many ha? ---

2.14.Would like to widen your grape yard areas --

1- Yes
2- No

ha

2.15.If yes, then for how many ha?--

1- Yes
2- No

If yes, then how?

2.16. through buying a yard ---

2.17. through the establishment of a new yard---

If you want to buy or establish a new grape yard, then of what variety ? **1- If yes**

2.18. Local --

2.19. Foreign---

If you are given an opportunity to buy or establish grape yard then:

of what grape variety yard would you buy or establish ? **1- If yes**

2.20.Local ---

2.21. Foreign---

year

2.22.On average, how old are the grape stalks of your yard ? --------------------------

3. Costs

Please provide the following data on grape cultivation for 2009

<table>
<tr><td rowspan="3"></td><td rowspan="3">Cost article</td><td rowspan="2">Work duration</td><td colspan="2">The work is done</td><td rowspan="2">Cost for the hired workman</td></tr>
<tr><td>By own efforts</td><td>By the hired workman</td></tr>
<tr><td>Person/day</td><td>%</td><td>%</td><td>AMD</td></tr>
</table>

		1	2	3	4
3.1	Sunrise				
3.2	Filling with layer				
3.3	Graft pruning and design				
3.4	Brushwood gathering and transportation from the field				
3.5	Cleaning of watering streams				
3.6	Removal of broken columns				
3.7	Digging of hedge hole				
3.8	Strain a wire				
3.9	Dry tie				
3.10	Cost of own and purchased organic fertilizer (pressed dung)	X	X	X	
3.11	Moving and spread of organic fertilizer	X	X	X	
3.12	Purchase and transportation of mineral fertilizer	X	X	X	
3.13	Land plough with fertilization	X	X	X	
3.14	Removal of non-productive leafy tops				
3.15	Yard watering				
3.16	Land digging				
3.17	Purchase of medical means	X	X	X	
3.18	Spraying (4 times)				
3.19	Struggle against hop				
3.20	Harvesting				
3.21	Yield loading and transportation				
3.22	Yard bury				
3.23	Land tax (for grape yard)	X	X	X	
3.24	Transportation costs of yard visits	X	X	X	
3.25	Other costs	X	X	X	

4. Grape yield and marketing

4.1.How much grape yield did you receive in 2009? ---

How did you use your grape yield?

		kg	Average price for kg, AMD
		1	2
4.1	Marketing to the wine factories		
4.2	Marketing to vodka and cognac factories		
4.3	Marketing to juice producing factories and canneries		
4.4	Marketing to the local private intermediaries		
4.5	Marketing to the buyers from Georgia		
4.6	Marketing in the market		
4.7	Marketing to the co-villager		
4.8	Bartered with another good		
4.9	Used in the household for food		X
4.10	Processed in the farm, For wine		X
4.11	For vodka		X
4.12	For jams and juices		X
4.13	For raisin		X
4.14	other		X

5. Respondents

Please provide the following data about yourself

5.1. The relationship of the respondent with the head of the household--------------------

1-Head of the household
2- Wife of the householder (Spouse)
3- Son, daughter
4- Daughter, son in law
5- Parent (of the householder or spouse)
6- Grandchild
7- Other relative

Notes for the interviewer – if the respondent is the HH then the answers to the following 5.2, 5.3. and 5.4. questions should coincide with the answers of the following questions 1.5, 1.6 and 1.7 from the first page.

5.2. Sex of the respondent --

1- male
2- female

5.3. Age of the respondent ---

Year old

5.4. Education of the respondent---

1. Higher and incomplete higher
2. Vocational secondary
3. General secondary
4. Incomplete secondary education

Thank you for participation

Annex 6

Armenia 2010
RA Ministry of Agriculture

Fund for Rural Economic Development in Armenia (FREDA)

QUESTIONNAIRE FOR THE WINE-MAKING ENTERPRISE

Study of wine-making development perspectives in the Republic of Armenia

Dear Mrs./Mr., "Fund for rural economic development in Armenia" (FREDA) has organizes the present survey with a purpose to reveal the key problems of Armenian wine-making sector and prepare development perspectives. We would like to inform you that the information you provide is confidential and would be used only for the analyses of this study.

Thank you in advance for cooperation.

code

1.1. Wine-making enterprise ---

(name)

1.2. Marz ---
name

1.3. The establishment year of your enterprise ---

1.4. Starting from which year has your enterprise been operating regularly? ----------

Does your enterprise have a grape yard?

1.5. Private --

1.6. Leased --------- ---

ton

1.7. The present grape storing capacity of your enterprise --------------------------

1.8. The present wine producing capacity of your enterprise -------------------------

2. Please fill the following data about the activities of your enterprise

<table>
<tr><td rowspan="3"></td><td rowspan="3" colspan="2"></td><td rowspan="3">Unit</td><td colspan="5">Years</td></tr>
<tr><td>2005</td><td>2006</td><td>2007</td><td>2008</td><td>2009</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td></td><td colspan="2"></td><td>Ton</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>1</td><td colspan="2">Grape produced from private land areas</td><td>ton</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>2</td><td colspan="2">Contracts for grape buying were signed</td><td>Contract, unit</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>3</td><td colspan="2">Volume of grape subject to buying according to the contract</td><td>ton</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>4</td><td colspan="2">Grape was stored</td><td>ton</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>5</td><td colspan="2">Price</td><td>Thousand AMD</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>6</td><td colspan="2">Wine was produced</td><td>Thousand liter</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>7</td><td rowspan="4">From which</td><td>Sold in Armenia</td><td>Thousand bottles (0.75 liter)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>8</td><td>exported</td><td>Thousand bottles (0.75 liter)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">9</td><td rowspan="2">remaining</td><td>Thousand bottles (0.75 liter)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Thousand liter</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10</td><td colspan="2">Profit from the wine sale</td><td>Million AMD</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

3.Please provide the following data about the equipments of your factory

	Equipment name	Existence 1-Yes 2-No	Year of production	
1	Grape cracker-brunch separator			

2	Press	snaky			
3		pneumatic			
4	Cisterns	enamelled			
5		Non-rusting			
6	Thermal farm				
7	Thermoexchange equipments				
8	Tuns				
9					

4. Please provide data about your export and import volumes of main wines during the 2009

Thousand bottles

	Name of wine	Type of wine **1**-dry **2**-semi-dry **3**-sweet **4**-semi-sweet	Produced, thousand bottles	Sold in Armenia, thousand bottles	Exported, thousand bottles
	1	2	3	4	5
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

5. Costs of wine production

	Production of wine material	2008		2009	
		tons	Thousand AMD	tons	Thousand AMD
		1	2	3	4
1	Purchase of grape				
2	Direct costs (salary)	X		X	
3	Social payments	X		X	
4	Transportation costs	X		X	
5	Supporting materials	X		X	
	Wine production	2008		2009	
		tons	Thousand AMD	tons	Thousand AMD
6	Bottle				
7	Cork				
8	Capsule				
9	Label				
10	Container				
11	Excise				
12	Direct costs (salary)	X		X	
13	Social payments	X		X	
14	Overhead costs	X		X	
15	Social payments	X		X	
16	Wine material storing costs	X		X	
17	Transportation costs	X		X	
18	Electricity	X		X	
19	Utility costs	X		X	
20	Renovation costs (building, vehicles, tun ad etc.)	X		X	
21	Depreciation	X		X	

22	Rent of area	X		X	
23	Fragile goods	X		X	
24	Business trip costs	X		X	
25	Costs of representation	X		X	
26	Advertisement costs	X		X	
27	Other costs	X		X	

6.Please, mention any main obstacle relating to the wine production.

Thank you for participation