

Marketing Network of the Caucasus

Armenia-Turkey:
Reactivation of commerce

Yerevan, May 2003

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1. Introduction

After achieving independence in 1991 most transportation routes outside of Armenia were closed because of political issues with neighboring countries. As a result, transport routes (railroads and roadways) with Azerbaijan to the east and Turkey to the west were completely shut off. Passable routes that connect Armenia to the rest of the world run through Georgia in the north and Iran in the south. In the case of the later, only roads are available and it is not considered a transit country. Most of Armenia's exports are routed through Georgia both via highways and railroads, though eventually, all goods enter and leave through the port of Poti.

Countries in the Caucasus, including Armenia and Turkey, are very interested in improving relations because the current situation substantially limits opportunities to develop local economies. Today, there are various official and unofficial connections that have been established between Turkey and Armenia aimed at establishing new economic ties. These include opening the borders and launching border trade. In addition, unofficial trade activities between these two countries already exist and experts estimate it to be anywhere between 50 to 150 million USD annually.

The first result of lifting of sanctions and opening borders between Turkey and Armenia would be the establishment of official border trade. Experts believe that this process would help increase exports of both countries and will reduce the cost of imports. Because of this, the local economies of border regions will increase. These regions include Kars and Igdir in Turkey and Shirak, Aragatsotn, and Armavir regions in Armenia. The Lori region of Armenia and Erzurum region in Turkey are also very important because of their close proximity to the State border and the fact that the most extensively used transportation routes go through these regions (see the map in Appendix 2).

The development and implementation of the Marketing Network of Caucasus (MANEC) is an example of unofficial cooperation in this closed border environment. MANEC has a mission of improving border trade conditions of agricultural goods and ensuring complete information flow to farmers and organizations involved in commerce in the borderline regions. This informational database currently contains information about major agricultural products, their wholesale prices and quantities in Shirak-Lori regions of Armenia and Kars-Erzurum states of Turkey.

One of the main components of border trade is the existence of communication routes. The issue is somewhat less problematic due to the fact that there is a railroad available between Kars and Gumri and a freight company servicing routes on the border. The railroad goes through Gumri to the region of Lori and then to Georgia. While roadways and highways exist in this region as well, they are not in very good shape and need cosmetic and sometimes extensive repairs and construction.

To better understand the possibilities and prospects of border trade the following report presents a detailed picture of border regions in Armenia, including their economic infrastructure, level of agricultural development, and the shape of the transportation routes.

2. Shirak and Lori: General economic outlook

2.1. Territory and Geographic Location

Table 1. General Information on Shirak and Lori Regions¹

	Shirak	Lori
Territory	2681 km ²	3789 km ²
Agricultural land, including	165737 ha	192212 ha
Arable land	84530 ha	47823 ha
Length of the roads	563 km	489 km
Regional center	City of Gumri	City of Vanadzor

The Shirak region is located in the northwestern part of Armenia. Its territory is 2681 sq. km, which comprises 9% of the total territory of Armenia. Its borders coincide with part of the national borderline with Georgia in the north (60km) and Turkey in the west (132km). Within Armenia Shirak borders with the region of Lori in the east and the region of Aragatsotn in the south. In terms of vertical extremes it ranges between 1000 and 4096 meters above the sea level.

Despite the fact that Shirak's territory is relatively flat compared to neighboring regions, it is characterized with high altitudes. This has a major effect on the climate. Summers are relatively cool and winters are harsh. Temperatures can drop as low as -50C. Climate conditions shape the predominant agricultural activities which we will discuss in Chapter 2.

The Lori region is the eastern neighbor of the Shirak region. Its territory is 3789 sq. km, which comprises 12.7% of the total territory of Armenia. Lori's northern border coincides with part of the northern national borderline with Georgia (128 km). Within Armenia it borders the Aragatsotn-Kotayk regions in the south and the Tavush region in the east. There are no roads connecting with Kotayk region. In terms of vertical extremes it ranges between 375 and 3196 meters above the sea level.

The Lori region's geographic location, despite its vertical choppiness and accentuated zoning, is relatively lower than the Shirak region shaping its mild climate. Also, this region has a higher forest density.

2.2. Population and employment indicators

Table 2. Population of Shirak and Lori Regions²

	Shirak	Lori
Population as of 1.1.2003, including	282.7 thousand people	285.0 thousand people
<i>Urban population</i>	173.3 thousand people	168.4 thousand people
<i>Rural population</i>	109.4 thousand people	116.6 thousand people

The Shirak region's permanent population is 282.7 thousand people. Presently 9.9% (28 thousand people) are temporarily absent, leaving a current population of about 257.2 thousand people (including 1.8 thousand temporarily residing in the region). 61.3% of the permanent population (173.3 thousand) is urban and 38.7% (109.4 thousand) is rural. 53.3% of the total population and 87.0% of the urban population reside in

¹ Source: Numbers in RA Regions 1998-2001, Statistical Yearbook, National Statistic Service, Yerevan 2002

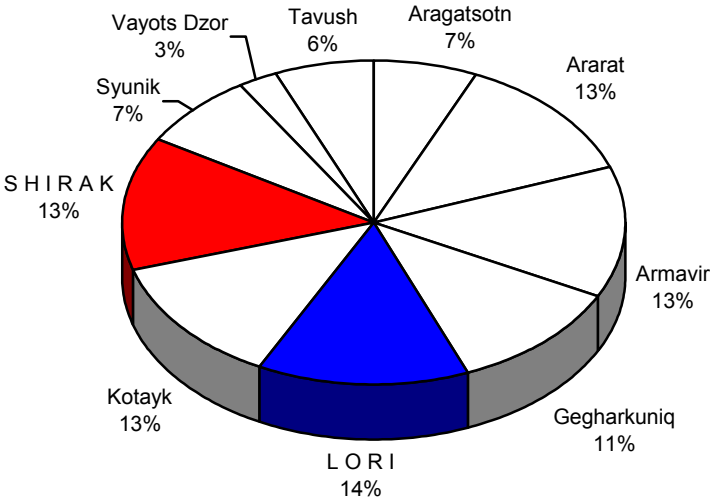
² Source: Social-Economic Situation of RA, 2002, Statistical Yearbook, National Statistic Service, Yerevan 2003

Gyumri, the regional center, which is the second largest city in Armenia. Shirak's population comprises 8.8% of the total population of Armenia.

The Shirak region experienced a heavy blow in 1988 because of an earthquake, resulting in loss of a large portion of housing structures, and massive socio-economic infrastructure damage. As a result some of the populace migrated, and the majority remaining are unemployed. Most of the migration occurred in Gyumri at a rate of approximately 30-35%, whereas the rural migration amounted to less than 10%.

Despite the economic growth registered in the last several years and increase in the level of capital construction, the population of the Shirak region continues to bear the affects of the 1988 earthquake and the resulting damage of the socio-economic infrastructure. In the last 15 years the Shirak region, Gyumri in particular, continues to register the lowest rates of economic growth and highest rates of unemployment throughout Armenia. According to official data, 30 thousand families in the Shirak region receive social security payments. 22 thousand of these people are in Gyumri. Poverty levels are at 57.8%, which is higher than the average poverty levels in Armenia (as of 01.01.2003 50.3%³ of the total population is considered poor⁴). According to official statistics, unemployment levels in Gyumri are 19.9%. This is believed to be a very low estimate. All told, the Shirak region is the worst in Armenia in terms of unemployment rates.

Figure 1. Shirak and Lori regions' population: Share of total population of as of January 01, 2003



The Lori region's permanent population is 285.7 thousand people. Presently 12.5% (35.7 thousand) are temporarily absent, thus the current population is 253.3 thousand people (including 2.6 thousand people temporarily residing in the region). 58.9% of the permanent population (168.4 thousand) is urban and 41.1% (116.6 thousand) is rural. The city of Vanadzor is the third largest city in Armenia and is the regional center of the Lori region. 8.9% of the total population of Armenia lives in the Lori region.

The epicenter of the 1988 earthquake was in the Lori region and the town of Spitak was completely destroyed along with neighboring villages. Heavy damage was also inflicted on Vanadzor. However the overall damage in Lori was less than in Shirak. The level of unemployment in Lori is also lower than in Shirak and stands at 11.2% (21.4

³ According to the announcement of the Social Welfare Minister of RA – R.

⁴ Term “poor” means that monthly earnings per capita are less than general poverty line (consumption basket), which is being calculated on annual basis.

thousand). However, this number is also considered artificially low. In terms of unemployment rates, Lori is the second worst region in the country. Poverty levels in Lori are estimated at 54.2% which is also higher than the national average of 50.3%.

In both the Shirak and Lori regions, most of the migration occurred from the cities (Gyumri, Vanadzor, Alaverdi, Stepanavan). Migration from rural areas does not exceed 10%.

2.3. Communities and roads. Economic aspect

There are 119 settlements in the **Shirak region**, three of which are cities: Gyumri, Artik, and Maralik. There are roadways and railroads connecting these cities. Gyumri has an airport which has the capacity for both passenger and cargo airplanes of all sizes. There are roads connecting all 116 villages. 52 of the villages are situated 1500-1700 meters above the sea level and 55 are at 2000 meters. 73 villages have a population of 200-1000 people.

Table 3 Settlements in Shirak and Lori Regions⁵

	Shirak	Lori
Settlements (as of 01.01.2003) including	119	113
<i>cities</i>	3	8
<i>villages</i>	116	105

The length of the roads in Shirak region that have regional-national importance is 563 km. The part of the Yerevan-Gyumri-Bavra-Akhalkalak highway that goes through Shirak region and is easily passable.

Shirak, which comprises 9% of Armenia's territory and has 8.8% of the total population of Armenia, does not have a respectively adequate place in Armenia's economy.

Table 4. The main economic indicators of Shirak Region

Economic Indicators in 2002	Armenia	Shirak region	
	Million USD	Million USD	% of the total
Industrial production	580.9	18.5	3.2%
Agricultural production	645.5	64.6	10.0%
Construction and other capital investments	478.0	42.2	8.8%
Retail commerce	1 006.7	26.2	2.6%
Services rendered to the population	333.8	11.9	3.6%

Industrial production in Shirak remains lackluster. This is due to the consequences of the 1988 earthquake, causing the largest factories to cease operations. Also, the process of privatization (left over from Soviet times) of industrial complexes has been very slow. Furthermore their re-establishment as viable organizations will be the main factor in reducing unemployment by creating new jobs. The largest business in the region, the Gyumri Textile Factory, operates at minimal capacity. Small and medium-sized enterprises continue to grow slowly but surely. Enterprises involved in agricultural product processing and production of shoes, food and beverages exist. One of the leading industries remains non-metal, mineral mining (tuff, pumice, perlite, etc.).

Retail commerce and services have suffered heavily due to high levels of poverty in Shirak. Agriculture and capital construction remain the most active sectors of the economy (see table 4). 8.8% of total capital construction projects throughout the

⁵ Source: Numbers in RA Regions 1998-2001, Statistical Yearbook, National Statistic Service, Yerevan 2002

republic of Armenia were implemented in Shirak. These rates will be sustainable for some time to come because only 65% of destroyed residential areas have been reconstructed.

There are 113 settlements in the **Lori region**, eight of which are cities (Vanadzor, Spitak, Stepanavan, Tashir, Alaverdi, Toumanyanyan, Akhtala, and Shamlugh). 66 of the villages have a population between 200-1000 people.

The length of the highways that have regional-national importance is 489 km. All settled areas of the region have roads connecting them. The Vanadzor-Alaverdi-Sadakhlo highway (Georgia) is in the most decent shape. In the event that the Turkish border is opened, the 60km Gumri-Vanadzor highway will become of great importance. Presently it is the only one connecting the Shirak and Lori regions. It is in critical need of repair and only about 15% of it can be considered easily passable. According to the chief of the transportation agency of Lori marzpetaran (regional government body), the construction of Gumri-Vanadzor highway is set to begin in 2003 and should be finished by the end of the same year.⁶

Table 5. Main economic indicators of Lori Region⁷

Economic Indicators in 2002	Armenia	Lori region	
	Million USD	Million USD	% of the total
Industrial production	580.9	28.3	4.9%
Agricultural production	645.5	67.7	10.5%
Construction and other capital investments	478.0	23.6	4.9%
Retail commerce	1006.7	24.8	2.5%
Services rendered to the population	333.8	11.0	3.3%

Industrial production and capital construction levels in the Lori region comprise 4.9% of national levels. The main items of industrial production are mining products - especially copper concentrate. Agricultural product processing - particularly milk and cheese production - is well developed. Retail commerce and services rendered remain at low levels due to a general insolvency of the population.

Agriculture is quite developed in the Lori region. The main emphasis is on cattle-breeding which is a traditionally developed area. We will discuss this in more detail in Chapter 2.

3. Shirak and Lori regions: Agricultural review

3.1. Primary agricultural produce

The current situation in the agricultural sector in Shirak is dependent primarily on climate conditions and geographic specifics. The territory is an expanded mountainous plateau and most of the areas are located between 1500-2000 meters above the sea level. Thus, the cultivation of grains has become popular in the mountainous regions and cattle-breeding in high alpine regions. Shirak accounted for 10% of the gross national agricultural product in 2002 which amounted to 37.8 billion Dram (equivalent of 64.4M USD).

⁶ Construction work is financed by World Bank

⁷ Source: Social-Economic Situation of RA, 2002, Statistical Yearbook, National Statistic Service, Yerevan 2003

The structure of the agricultural product mix in Shirak region is presented below in Figure 2.

Lori is notable for its zoning and choppiness in vertical geographic extremes. Most of the territory is located between 1000 and 1500 meters above the sea level.

Relative to Shirak, Lori is less flat and has higher forest density. In the areas below 1000 meters, vegetable gardening and fruit-growing are developed. In the higher regions land cultivation and cattle-breeding are highly developed. Overall, cattle-breeding has the largest quantitative weight of all agricultural activities. Lori region accounted for 10.5% of the gross national agricultural product, which amounted to 39.6 billion Dram (equivalent to 67.7M USD). The structure of the agricultural product mix in Lori region is presented below in the Figure 2.

Figure 2. The structure the agricultural product mix in Shirak region (% of total value)

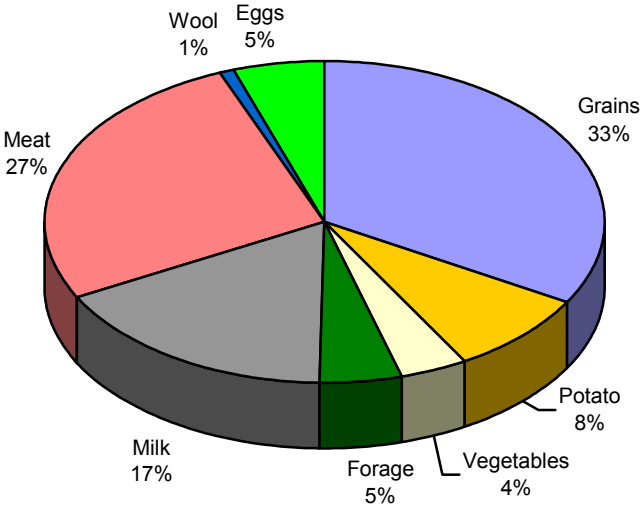
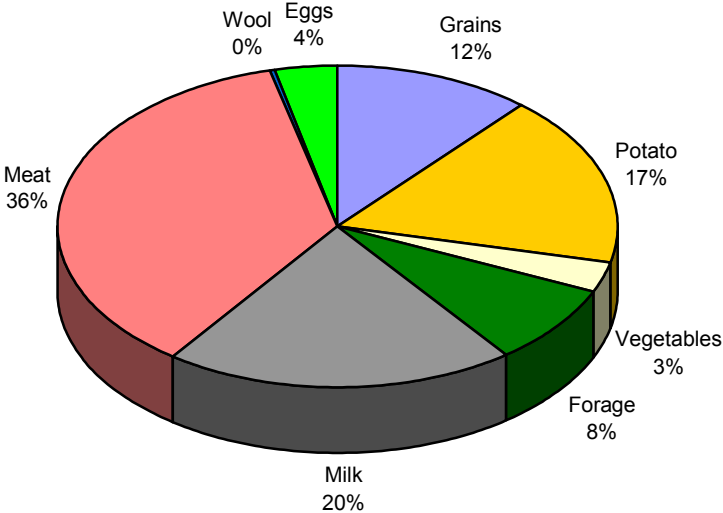


Figure 3. The structure of the agricultural product mix in Lori region (% of the total value)



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3.1.1. Cattle-breeding

Cattle-breeding accounted for 49.6% of total agricultural production in Shirak in 2002. In Lori the same figure stands at 60.1%. These ratios are likely to be maintained over the next few years with minor adjustments. Progress in this sector is moving very

slowly because of low consumer buying power and a general difficulty associated with selling the agricultural produce.

As a result of low consumer buying power it is rare that farmers are ever able to save sufficient amounts of money to support their livelihoods from year to year. Typically, an average farming entity produces enough agricultural products to cover its own needs plus a small amount that can be sold in the markets. If we take into account the fact that 99% of agricultural products are supplied by single family farms, then it is possible to conclude that given an expansion and increase in demand (or the ability to attract consumers with increased buying power) the aggregate agricultural supply can be dramatically enhanced.

Despite these problems, agricultural, including cattle-breeding, indicators have been growing steadily.

Table 6. Changes in the farm animal head count in 2000-2002⁸

Shirak Region	Measure unit	01.01.2001	01.01.2002	01.01.2003
Cattle	Head	71,428	77,687	79,908
<i>of which cows</i>	Head	37,600	38,545	41,875
Pigs	Head	7,141	13,728	19,846
Sheep	Head	54,400	66,023	65,586
Goats	Head	1,200	1,264	1,769
Horses	Head	600	624	658
Birds	Number	327,000	351,000	355,000
Bee-hives	Number	-	6,715	7,200

Lori Region	Measure unit	01.01.2001	01.01.2002	01.01.2003
Cattle	Head	56,269	56,034	59,380
<i>including cows</i>	Head	31,400	31,813	33,208
Pigs	Head	10,551	13,813	17,044
Sheep	Head	31,959	34,357	34,810
Goats	Head	4,541	4,712	5,267
Horses	Head	3,051	2,942	3,203
Birds	Number	103,690	116,438	144,806
Bee-hives	Number	6,591	7,174	10,576

Both in Shirak and Lori the main purpose and the final products of cattle-breeding are milk and meat. These two products (milk also includes all side-products such as cheese) comprise a large amount of consumption items of the population. Because of this, producers place production emphasis on them and consider them less difficult to sell in the marketplace.

Table 7. Dynamics of cattle-breeding produce in 2000-2002⁹

Shirak Region	Measure unit	2000	2001	2002
Meat	Tons	12,000	11,600	11,800
Milk	Tons	61,900	63,300	72,600
Eggs	Thousands	30,900	30,100	32,500
Wool	Tons	145	131	-

Lori Region	Measure unit	2000	2001	2002
Meat	Tons	10,800	10,600	8,500
Milk	Tons	55,100	56,300	54,600

⁸ Source: Numbers in RA Regions 1998-2001, Statistical Yearbook, National Statistic Service, Yerevan 2002.
Social-Economic Situation of RA, 2002, Statistical Yearbook, National Statistic Service, Yerevan 2003

⁹ Source: Numbers in RA Regions 1998-2001, Statistical Yearbook, National Statistic Service, Yerevan 2002

Eggs	Thousands	17,300	16,800	17,100
Wool	Tons	84	68	

Both in Shirak and Lori milk is the main item of production. Milk as a product is considered in its two main forms, based on its future application, both in Shirak and Lori and in Armenia overall:

- Milk – as a final product
- Milk – as an ingredient and a component intended for future reprocessing

Half of the milk produced in Shirak is either used for the personal consumption needs of local producers (this means that amount does not enter the market) or is realized outside of the region (milk processing organizations conduct the purchase and transportation of the milk). Processing companies pay 80-100 Dram (equivalent of 0.137-0.171 USD) for a liter of milk.

It is almost the same picture in Lori. 30% of all milk is purchased by processing companies either within or outside of the region. Prices fluctuate between 70-100 Dram (0.12-0.171 USD).

As a final product the milk is sold at a wide variety of prices. Prices that producers charge in the market are 50% higher than what they charge companies who buy it for future processing. These processing companies themselves charge the highest prices to the consumer, sometimes close to 250 Drams (equivalent of 0.427 USD).

This hierarchy of prices in a more simple form exists with almost all other agricultural products. More extensive research regarding price dynamics is presented in section 3.3.

3.1.2. Land Farming

Total land farming production in Shirak in 2002 amounted to 50.4% of total agricultural production and 39.9% in Lori respectively. Grain cultivation is prevalent in Shirak due to its climate and plateau geographical location. Despite the fact that most farmers complain about difficulties associated with the market and with generally low prices, wheat accounts for 53.5% of all grain production in Shirak. It has guaranteed demand because Armenia is able to cover only 40-50% of its own wheat needs (depending on the specific harvest levels annually). On average, 23% of all Armenian grains are cultivated in Shirak – more than any other region. Indeed, 22.5% of all grain in Armenia in 2002 was harvested in Shirak region.

Table 8. Dynamics of land farming products in 2000-2002¹⁰

Shirak region

Plant-growing products	2000			2001			2002		
	Sowing area, hectar	Crop yield, 100kg/hectar	Gross harvest, tons	Sowing area, hectar	Crop yield, 100kg/hectar	Gross harvest, tons	Sowing area, hectar	Crop yield, 100kg/hectar	Gross harvest, tons
Grains	38,119	10.2	36,913	42,028	19.5	80,873	44,173	21.8	93,654
Potato	2,841	79.2	22,247	2,528	98.2	24,780	1,995	129.0	25,717
Vegetables	1,251	112.3	13,120	1,344	215.9	28,934	1,113	164.0	18,284
Gardening plants	-	-	-	5	102.0	51	-	-	-

¹⁰ Source: Numbers in RA Regions 1998-2001, Statistical Yearbook, National Statistic Service, Yerevan 2002
Agricultural Departments of Shirak and Lori Regional State Authorities

Fruits	202	32,4	632	215	33,0	709	316	35.2	957
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Because of its geographical specifics, Lori has more modest indicators. Potatoes have the largest share of cultivated products. Lori is second in terms of the amount of potatoes being produced (after Gegharkunik region). 47,300 tons of potatoes were produced in Lori in 2002, comprising 12.6% of total potato production in Armenia.

Table 9. Dynamics of land farming products in 2000-2002¹¹

Lori region									
Plant-growing products	2000			2001			2002		
	Sowing area, hectar	Crop yield, 100kg/hectar	Gross harvest, tons	Sowing area, hectar	Crop yield, 100kg/hectar	Gross harvest, tons	Sowing area, hectar	Crop yield, 100kg/hectar	Gross harvest, tons
Grains	10,889	10.9	11,375	14,265	25.8	36,727	16,268	18.0	28,786
Potato	10,017	65.4	65,25	8,162	98.1	80,037	6,434	73.5	47,300
Vegetables	1,292	76.9	9,485	1,304	124.7	16,257	1,329	90.9	12,062
Gardening plants	7	23.6	17	8	51.6	41	11	18.5	20
Fruits	1,528	41.9	5,570	1,567	18.6	2,442	1,698	7.9	1,170
Grape	69	37.5	259	69	38.1	263	-	-	55

3.2. Processing of agricultural products

The creation of agricultural processing companies in the Shirak and Lori regions is pre-conditioned by the existence of high-quality local raw materials, although certain market problems still faced by processing companies hinder its development. First of all, the domestic market is tight or small. As was mentioned above, the purchasing power of the local population is low, and they cannot effectively afford even a minimum consumer basket. Therefore, in the Shirak and Lori regions, in which the urban population (the most susceptible to poverty) is about 59-61% of the total population, the urban population cannot be relied upon as sustainable consumers of processed agricultural products. The processing companies have to target the Yerevan market, as it is the largest wholesale and retail trade destination in Armenia. Here, though, the processing companies of Shirak and Lori run into harsh competition from processing companies of Yerevan and the other regions (which are physically closer to Yerevan). Even succeeding in this competition processors from Lori and Shirak regions will extremely need additional markets in abroad. In its turn it is delayed by insurmountable ways of export. Besides this assume additional large scale investments in equipment, packaging and promotion, which can not be easily done for the moment. These are the fundamental obstacles to the development of processing companies for these two northern regions.

Processing of agricultural products is a more developed industry in Lori than in Shirak and the number of companies involved in the business is greater. There are 36 companies involved in milk processing, which produce pasteurized milk, matsoun, creamed milk, cottage cheese, regular cheese, and butter. Of these, only cheese is sold

¹¹ Source: Numbers in RA Regions 1998-2001, Statistical Yearbook, National Statistic Service, Yerevan 2002
Agricultural Departments of Shirak and Lori Regional State Authorities; Social Economic Situation in Armenia – National Statistical Service

outside of the region¹² and is somewhat competitive with products of other processors. There are 13 companies involved in grain processing, which produce wheat and related products. Final products are sold primarily in the Shirak, Lori, and Tavush regions. Some wheat is sold in Yerevan markets. There are also several canneries in Lori region; however, only Gugark Can Factory remains open and works at low capacities.

There are about a dozen processing companies in Shirak. There are 4 companies involved in milk processing with low production volumes with most of the output being sold locally. In addition to all milk products mentioned above these companies also produce yogurt. There are small grain processing factories that primarily satisfy local demands.

3.3. Prevailing sectors of agriculture

As mentioned earlier, agriculture remains the leading sector of the economy both in Shirak and Lori. Due to climate and geographic factors, grain cultivation is prevalent in all agricultural activities in Shirak. It mainly consists of wheat and barley. Despite the fact that wheat prices are dropping year after year [in 1998 the price in Armenia was 113 Dram/kg (equivalent of 0.193 USD), and in 2002 82 Dram/kg (equivalent of 0.140 USD)], grain cultivation is still a primary segment of agriculture in Shirak.

In Lori many farmers are involved in different types of agricultural activities. However, the primary segment is cattle-breeding. Production of meat and milk is prevalent. Processing companies consider milk produced in this region especially important as it is of higher quality and environmentally cleaner. This is the reason why one of the largest milk producers in the country has set up a private storage facility where wholesale milk purchases are executed and taken to the final factory destinations later.

In the process of systemization of all data gathered about most agricultural activities in Shirak and Lori regions we were able to create the following table of agricultural products based on their “popularity”.

Table 10. Prevailing segments of agriculture in Shirak-Lori regions.

Shirak region	Lori region
Grains	Milk
Meat	Meat
Milk	Grains
Potato	Potato
Edible plants	Edible plants
Eggs	Gardening plants
Gardening plants	Eggs
Honey	Fruits
Fruits	Honey

¹² Production of Tashir Cheese Factory is also exported abroad

4. Agricultural products available in the markets of Shirak and Lori regions of Armenia and Erzurum and Kars states of Turkey

The opening of borders between Turkey and Armenia would have a positive economic impact, especially on the border regions of Shirak and Lori in Armenia and Igdir and Kars of Turkey. In the case of establishing these types of ties, Armenian producers will be able to export some of their goods to these states and also use them as a transit territory for further exporting into Europe. In addition, Armenia can well become an additional market for Turkish goods. According to official statistical data¹³ the turnover between Armenia and Turkey in 2002 totaled to USD 38,864,000 including USD 37,966,100 imports from Turkey and only USD 897,900 exports to Turkey. Some independent experts estimate that the unofficial trade between Armenia and Turkey currently runs into much more volumes.

4.1. Comparison of main agricultural product assortments

Both Shirak-Lori regions and Kars-Igdir states are located in the same geographic territory. Therefore the agricultural product assortment is very similar. However, this fact does not presume that because of the similarity of products no agricultural trade would be possible to establish. There are huge discrepancies in the prices for the same agricultural products on different sides of the border. Consequently, it can create a conducive impact for exporting those specific goods into the neighboring country.

Those differences are especially characteristic of meat products (beef, pork, lamb). Prices in Armenia are significantly lower but exporting meat to Turkey is prohibited. Such a decision has been made because of animal epidemic outbreaks and these types of dangers overall, therefore demand for meat in Turkey far outstrips the supply.¹⁴

Armenian farmers provided open border can enter into fresh fruit and vegetable markets if their produce has seasonal and qualitative advantages or if it is offered at lower and more competitive prices. In this sense, the produce will be supplied as raw materials or as semi-finished goods which will subsequently hinder the growth prospects for local companies involved in agricultural product processing. Conversely, they will act as a stimulus for primary agricultural entities. This process will allow Armenian farmers to use connections of Turkish processing firms abroad in order to realize local produce in the markets of the third countries.

Export of dried fruits to Turkey has an ultimate goal of further re-export to other countries. Turkey represents 15% of the world's demand for dried apricots. The production of Armenian farmers (particularly for dried fruits' case) is noted for its high quality raw material base and special technologies using sun, moreover these unique technologies are unavailable in the neighboring country. Complimentarily, the Turkish side has developed an excellent sales network in Europe and USA which could serve as a link in the process of realization of Armenian produce to those regions. This could create additional earnings and stimulus for many farming entities, especially in Shirak and Lori.

Currently, one of the largest articles of trade between Armenia and Turkey is the export of Armenian animal hides. In 2000 the quantity of cow skin exported to Turkey

¹³ Source: Social economic situation in Armenia, NSS yearbook, Yerevan 2002s

¹⁴ Source: "Turkish market and Armenian agrobusiness", DAI/ASME, 2002

amounted to 2,660 and 970 tons in 2001, and sheep amounted to 242,000 in 2000 and 210,000 pieces in 2001. In monetary terms these amounts are estimated to be at 1.3M USD in 2000 and 750,000 USD in 2001¹⁵. In the event that the borders do open, these types of exports would grow both quantitatively and monetarily. Another factor is the fact that both in Shirak and Lori have a well developed and substantial base of cattle-breeding farms.

Other types of agricultural products that we would like to briefly mention are fish, honey, and milk products. These products can be exported for two purposes: final consumption and future re-export.

4.2. Price comparison

In order to conduct a complete price comparison it is necessary to perform a dynamic comparison of prices of agricultural goods that have been formed on both sides of the border, including factors such as seasonality, exchange rates, etc. It is hard to be precise using this sort of approach, which is why we have done the comparison in a specific moment of time.

The information regarding prices for the main agricultural products in Shirak and Lori has been received from "The Center for Agrobusiness Development" CJSC. The table below shows wholesale prices for different products in the month of May 2003.

Table 11. Prices for agricultural products in Shirak and Lori regions as of 15.05.2003 (USD per unit)¹⁶

Product	Measure unit	Shirak		Lori	
		Gumri	Spitak	Vanadzor	Alaverdi
Potato	kg	0.20	0.19	0.20	0.21
Tomato	kg	0.95	0.83	0.83	0.71
Cucumber	kg	0.42	0.36	0.42	0.36
Pepper	unit	0.18	0.15	0.14	0.15
Cabbage	kg	0.12	0.08	0.11	0.09
Onion	kg	0.24	0.18	0.17	0.15
Garlic	kg	0.95	0.95	1.01	0.95
Beet	kg	0.14	0.14	0.15	0.14
Carrot	kg	0.14	0.14	0.15	0.14
Apple	kg	0.47	0.36	0.36	0.30
Pear	kg	0.53	0.42	0.42	0.42
Orange	kg	0.77	0.77	0.77	0.77
Wheat	kg	0.12	0.14	0.14	0.13
Barley	kg	0.12	0.14	0.14	0.13
Rice	kg	0.33	0.31	0.34	0.36
Buckwheat	kg	0.53	0.53	0.53	0.53
Cereal (Dzavar)	kg	0.24	0.27	0.26	0.28
Hachar (Armenian)	kg	0.30	0.33	0.33	0.33
Lentil	kg	0.42	0.50	0.50	0.51
Peas	kg	0.40	0.45	0.45	0.45
Haricot beans	kg	0.53	0.47	0.51	0.51
High quality flour	kg	0.19	0.20	0.20	0.21
First class flour	kg	0.18	0.18	0.18	0.18

¹⁵ Source: Animal hides and skins market survey, DAI/ASME, Yerevan 2002

¹⁶ Source: Agrobusiness development center report, May 2003, Yerevan, RA

Beef	kg	1.42	1.42	1.42	1.31
Pork	kg	1.42	1.42	1.42	1.31
Mutton	kg	0.95	1.13	1.19	1.13
Chicken	kg	1.31	1.25	1.25	1.13
Chicken legs	kg	0.77	0.81	0.81	0.81
Fresh Sig (white-fish)	unit	0.26	0.24	0.26	0.26
Cow	head	288	271	271	254
Sow	head	153	127	127	119
Sheep	head	34	34	37	37
Brood hen	livestock	3.4	3.6	3.2	3.6
Boiled sausage	kg	1.31	1.13	1.13	1.13
Egg	unit	0.05	0.06	0.06	0.06
Honey	kg	3.56	3.32	3.32	3.20
Milk	1l	0.18	0.19	0.19	0.19
Matsun (dairy product)	kg	0.18	0.19	0.21	0.20
Sour cream	0.2kg	0.21	0.21	0.20	0.20
Butter	kg	1.54	1.60	1.60	1.60
Salted cheese	kg	1.19	1.19	1.31	1.19
Tomato paste	1l	0.71	0.74	0.75	0.76
Peach juice	1l	0.59	0.50	0.51	0.51
Roseberry juice	1l	0.59	0.49	0.50	0.51
Apricot juice	1l	0.59	0.50	0.51	0.50
Apple juice	1l	0.59	0.50	0.51	0.50
Orange juice	1l	0.71	0.64	0.64	0.64

The table below shows prices, which we received from primary sources, for exactly the same agricultural products in the Kars, Igdır and Erzurum regions of Turkey.

Table 12. Prices for agricultural products in Turkey's Kars and Igdır states (USD per unit)¹⁷

Products	Measure unit	Kars	Igdır	Erzurum
Potatoes (Patates)	1kg	0.15	0.12	0.15
Tomato (Domates)	1kg	0.73	0.60	0.67
Cucumber (Hıyar)	1kg	0.50	0.33	0.50
Pepper (biber)	1kg	0.83	0.67	0.83
Cabbage (Kabak)	1kg	0.42	0.30	0.40
Onion (Soğan)	1kg	0.20	0.15	0.20
Garlic (Sarımsak)	1kg	3.67	3.17	3.33
beet(pancar)	1kg	0.10	0.08	0.08
Carrot (Havuç)	1kg	0.57	0.53	0.53
Apple (Elma)	1kg	0.93	0.73	0.93
Pear (Armut)	1kg	1.00	1.00	1.00
Orange (Portakal)	1kg	0.83	0.67	1.00
Wheat (buğday)	1kg	0.33	0.33	0.30
Barley (arpa)	1kg	0.22	0.22	0.18
Rice (Prinç)	1kg	0.90	0.62	0.73
Buckweat(karaca buğda)	1kg	0.30	0.33	0.27
Cereal(hububat nevi)		-	-	-
Lentil (Mercimek)	1kg	0.73	0.53	0.65
Peas		-	-	-
Haricot beans (fasulye)	1kg	0.67	0.50	0.57
Flour (un)	1kg	0.65	0.67	0.43
High quality		-	-	-

¹⁷ Source: MANEC virtual market database, 2003

First class (Birinci Sınıf)		-	-	-
Beef (sığır eti)	1kg	5.00	5.50	4.83
Pork (domuz eti)		-	-	-
Mutton (koyun eti)	1kg	5.33	6.00	5.17
Chicken (piliç)	1kg	3.17	3.33	3.33
Chicken legs (piliç but)	1kg	3.83	3.83	3.67
Fresh Sig (fish)		-	-	-
Live cate (canlı sığır)	1adet	533.3	666.6	666.67
Cow (dişi sığır)	1adet	500.0	566.6	533.33
Sow (dişi domuz)		-	-	-
Sheep (koyun)	1adet	133.3	166.7	133.33
Brood hen (yumurta tavuğu)	1adet	10.00	6.67	6.67
Boiled sausage		-	-	-
Half-smoked sausage		-	-	-
Sausage (sucuk)	1kg	0.77	8.00	8.33
Basturma (pastırma)	1kg	18.67	20.0	20.00
Sugeukh		-	-	-
Egg (yumurta)	Tane	0.10	0.1	0.08
Honey (bal)	1kg	12.00	10.0	11.67
Macaroni (makarna)	1kg	0.60	0.60	0.60
Sugar (şeker)	1kg	1.31	1.31	1.30
Milk(süt)	1 l	0.33	0.50	0.27
Yogurt(yoğurt)	1kg	0.83	0.90	0.83
Sour cream (ekşi kaymak)		-	-	-
Butter (tereyağı)	1kg	3.17	3.67	3.17
Salted cheese (tuzlupeynir)	1kg	1.67	2.00	1.67
Margarina (margarin)	1kg	2.30	2.30	2.33
Oil (sıvı yağ)	1kg	1.27	1.17	1.17
Tomato paste (domates salçası)	1kg	1.17	1.17	1.07
Peach juice (şeftali suyu)	1kg	1.70	1.67	-
Rosaberry juice(kuşburnu suyu)	1kg	1.70	1.33	1.67
Apricot juice (kayısı suyu)	1kg	1.70	1.50	1.50
Apple juice (elma suyu)	1kg	2.50	2.00	1.50
Orange juice (portakal suyu)	1kg	2.33	2.33	2.33

This data gives a clear picture in terms of price comparison and also allows for drawing conclusions as to which products have greater prospects for exporting or importing. Nevertheless, these numbers can be referred to as a basis for making a comparative analysis from the technical point of view only. This is due to two main reasons: these prices are static: often they change quite dynamically over very short periods of time, e.g. weeks or even days. Besides, reviewing of protection barriers was out of the scope of this study. An example could be the strict policies that Turkey employs regarding meat imports.

5. Freight transportation issues

Armenia has transport pathways with all of its four neighboring countries¹⁸. The borders are closed with two of those countries since 1991: Azerbaijan in the east and Turkey in the west due to difficult political relations. Transportation exists with Iran, Armenia's southern neighbor, but only via roadways. Most freight transportation occurs through the northern route, the state of Georgia, via both roadways and railways.

¹⁸ See the map in Appendix 2

Volumes of freight transportation in Armenia¹⁹ via railways in 2002 amounted to 2,019.3 thousand tons (a 44.4% increase over the previous year) and 4,694.6 thousand tons via roadways (a 79.9% increase over the previous year). Such rapid growth in freight transportation is primarily due to the general high economic growth levels in Armenia (GDP grew 12.9% in Armenia in 2002.)²⁰ and more utilization of transportation routes. This growth was stipulated mainly by growth in construction, trade and services, and industrial sub-sectors. Moreover, railways are used primarily for export-import purposes (import levels exceed export levels by 5.7 times). Roadways are mostly used for inner country freight transportation, which accounts for 91.0% of all auto freight transportation or 4,270.5 thousand tons.

Shirak's share of all auto freight transportation within the country is 15.2% or 649.1 thousand tons, and Lori is 2.7% of 113.7 thousand tons respectively.

5.1. Automobile freight transportation: forms, routes, and tariffs

Seven interstate highways connect Armenia with neighboring countries (except Azerbaijan). Three of them connect with Georgia, three with Turkey, and one with Iran. There are many communication routes connecting to Azerbaijan, however due to the current conflict and long-time abandonment, they are currently in very poor condition.

Communications with Iran go through the Syunik region and the border checkpoint in the town of Agarak. This route is considered Armenia's southern gate. Unfortunately, from the point of view of industrial production, agricultural and a wide range of other products, Iran does not represent a viable consumer market. It can serve as a transit country, but because of protectionist policies it cannot be considered a market. Instead, a large amount of consumer products are imported from Iran.

Yerevan-Tbilisi highway to Georgia, with a border checkpoint at Bagratashen and Sadakhlo, is an important route for exporting and importing products. One of the largest Armenian-Georgian trade spots - the Bagratashen/Sadakhlo trade fair - is located on this highway. The significance of this trade fair is due to the fact that not only Armenian and Georgian products are realized in this wholesale market, but also products of Turkish origin. Sadakhlo wholesale market is located 78 km north of Vanadzor. This market is actually one of the unofficial locations where economic cooperation between Armenia and Turkey occurs. Armenian and Turkish products are being exported to Sadakhlo where they get re-exported to Turkey and Armenia respectively as Georgian products for future consumption.

Two other routes connecting Georgia and Armenia are Vanadzor-Gogavan/Bolnisi-Tbilisi and Gumri-Bavra-Akhalkalak. They are primarily passenger routes and levels of freight transportation are miniscule, except for the bus route Yerevan-Istanbul which passes through Bavra checkpoint. However, most products that are imported via this bus route are industrial and in the context of this study do not present principal value.

There are three routes connecting Armenia and Turkey, but presently all of them are closed due to the current political situation. Two of them pass through Armavir region: Echmiadzin-Margara-Igdir and Armavir-Kaghzvan. The third one is Gyumri-Kars highway. Its length is 75 km and it is in relatively decent shape.

¹⁹ Source: Social-Economic situation in RA, 2002. NSS yearbook, Yerevan-2003

²⁰ Source: Social-Economic situation in RA, 2002. NSS yearbook, Yerevan-2003

In the theoretical event of borders opening, the Gyumri-Kars highway would achieve primary importance for export purposes and for ensuring a somewhat inexpensive route for imports. First, this route will become a powerful alternative to Sadakhlo, where Armenian-Turkish trade is being intermediated by the Georgians - a reason for higher prices. Second, the Gyumri-Kars highway is a shorter way to get products from Turkey to Gyumri and Vanadzor. Transportation costs would drop not only within Armenia, but also in Turkey.

Border trade would be the primary beneficiary of open borders. The establishment of a border trade point such as Sadakhlo won't take long. We also predict economic and trade development and cooperation between Gyumri and Kars.

The opening of Gyumri-Kars highway is dependent upon further improvement in the political relations between Armenia and Turkey. If such a trade point would become unique in its nature then all freight transportation to and out of Igdirdir state of Turkey would occur through Gyumri-Kars-Kaghzvan-Igdirdir route which is a relatively long proposition (at least a 200 km leg in Turkey alone). There is also a checkpoint (Margara) on this segment of the border which in the past used to be the principal way of transportation. If several checkpoints are being put into use, then Vagharshapat-Margara-Igdirdir and Armavir-Kaghzvan routes would become more efficient than Gyumri-Kars-Kaghzvan-Igdirdir route.

We can discuss several possible case scenarios in the event of open borders. In the case of light border trade (primarily agricultural products) most transportation will be conducted via private non-freight cars and trucks. From this point of view transportation expenses are directly equal to gas expenses, which are not much on Gyumri-Kars 75 km highway.

In the case of more freight (8-10 cars up to 20 tons), transportation services will be provided by outside contractors for a negotiated price, (i.e. 100-200 USD). This expense could have a heavy toll on some products and raise their prices. Because of this there would be little need to involve large transportation-expeditor companies, as local freight carriers would charge substantially less for the same service.²¹

In the case of larger freights (40-60 tons and more) or in the event of container freight transportation, exporters and importers will outsource it to large specialized transportation companies. However, a feasibility study would have to be done, as it is likely that such large volumes would be moved cheaper via railroad.

Unfortunately, this theory is also somewhat flawed because Kars is the farthest the railways extend into Turkey from Armenia. In order to get to Igdirdir, a combined transportation mechanism will be necessary. However, it is possible to conduct all freight transportation to Igdirdir and Kaghzvan strictly via roadways.

5.2. Railroad transportation, routes, and tariffs

5.2.1. Routes

The Armenian railroad is part of the Transcaucasus regional railroad communication system which connects Armenia, Georgia, and Azerbaijan. From Georgia and Azerbaijan it branches north into Russia and from Armenia there is a short route to Turkey in the form of a Gyumri-Kars segment.

²¹ This conclusion was drawn after interviewing several transportation companies.

Total operational length of the Armenian railroad is 760 km, 165km of which pass through Shirak regions and 126km through Lori.

In the event of the opening of the Armenian-Turkish border and the establishment of freight transportation and border trade, Gyumri can again reclaim its importance as a major railroad hub. The Akhuryan station, located in the southwestern part of Gyumri, has such technical capabilities that would allow for uninterrupted transportation of goods. The main issue is that the length of Turkish and Armenian rail is different:

- Turkish railroad - rail width is equal to 1435 mm,
- Armenian railroad - rail width is equal to 1520 mm.

Akhuryan station is located 2 km away from the border. Turkish railroad continues up to this station where it divides itself into three separate branches. In 1988-1989, Akhuryan station was rearmed with new gadgets to effectively and quickly service the difference in the rail widths. They are so-called "jacks" by means of which wagons were lifted and their two-wheeled system was quickly changed. In the Armenian section of railroad connection, there is a capacity to change three trains simultaneously. As to what pertains to the reloading procedure on the Turkish side, the Armenian section of the railroad continues 2 km deep into Turkish territory, towards Dokukap station. The first large station-city is Kars which is situated 72 km off the border.

Freight transportation between Gyumri and Kars was stopped in 1991, when Turkey unilaterally closed its borders with Armenia. In the last 12 years this section of the railroad has not been used at all. "Jacks" at the Akhuryan station have been dismantled for over ten years now in order to preserve their operability. According to V. Gasparyan, Director of "Gyumri Station", which is a subsidiary of "Railroad Transportation Means" CJSC within the Ministry of Transportation, it will be possible to become fully operational within a month after borders open.

The only section of the railroad that is presently used for freight transportation is the Yerevan-Gyumri-Vanadzor-Poti (Georgia) line. The distances to Poti and another port-station, Batumi (located closer to Turkey but more costly and ineffective to get there) are presented below.

Table 13. Distances from railroad stations in Shirak and Lori regions to Poti and Batumi shipping centers²²

	Railroad distance to Poti	Railroad distance to Batumi
From Gumri	532 km	569 km
From Spitak	483 km	520 km
From Vanadzor	463 km	500 km
From Alaverdi	417 km	454 km
From Ayrum	391 km	428 km

Today, Armenia has no other alternative but to use the Yerevan-Gyumri-Vanadzor-Poti (Georgia) route mentioned. This method of transportation is cost-effective for those involved in large-scale freight transportation. Taking into account that farmers are primary producers of agricultural products, we can conclude that on very rare occasions they use railroad communications for the purpose of transporting their produce or conduct large-scale freight transportation.

²² Source: The atlas reference book of RA, Yerevan-2002 and "Tariff Policy of Georgian Railway", Tbilisi 2002

5.2.2. Tariffs

The Armenian railroad defines its tariffs for freight transportation based on the principles of the Commonwealth of Independent States (CIS) Tariff Agreement (TA). Most CIS countries' railroad management bodies have signed onto TA. The purpose of TA is for all member-countries to meet together annually, discuss and decide over the next year's maximum tariff rates for freight transit through their territories. Tariffs and transit rates are calculated in Swiss Francs. Every year new tariffs are designated. Railroads of member-countries have a right to set their own tariff rates, which can not be higher than the maximum limits defined by the TA.

The railroads in Armenia, Georgia, and Azerbaijan are also members of TA. In terms of railroad freight transportation, Armenia is not a transit country because communications with Turkey and Azerbaijan are presently closed and is considered a dead end. Thus there are no separate transit rates set up by the Armenian railroad and TA tariffs are used as a base.

Table 14. General railroad tariffs in Armenia ²³

Product	Fee for 1t/km in USD, excluding VAT	
	Inter-state communications	Inner-state communications
Export of 1 ton of copper concentrate	0.012	0.012
One 20 foot container (=20 tons)	0.024	-
One 40 foot container (=40 tons)	0.0432	-
1 ton of construction materials	-	0.0168
1 ton of gold ore	-	0.0153
1 ton of perlite export	0.0120	0.0120
1 ton of all other products	See Appendix 1	0.024

It is important to take a look at the Georgian railroad tariff system if borders with Turkey open and railroad communications are re-established, because the Turkish route will become an alternative to the Georgian. Three countries that neighbor Georgia (Armenia, Azerbaijan, and Russia) conduct transit freight transportation. That is why the Georgian railroad has its own tariff system within the framework of the TA.

Georgian railroad tariffs have a "cross-diminishing" scale based on the distance and weight of the transported goods. We find it appropriate to present only those tariffs that are being paid or theoretically may be paid by economic subjects in the process of importing-exporting goods to and from Armenia.

That is why it is necessary to view those distances that are railroad transit paths in and out of Armenia. That path can be viewed as the distance from the last railroad station in Armenia (Ayrum) however it will be calculated from the first station in Georgia (Sadakhlo).

Table 15. Distances from the last railroad station in Armenia (Ayrum) and the first railroad station in Georgia (Sadakhlo) to Georgian shipping centers of Poti and Gantiadi ²⁴

	Railroad distance	Importance
Ayrum-Poti	391 km	Poti is a principal port and railroad junction which serves as a primary center for most of the Armenian import-export process. In the event that Gumri-Kars railroad that goes through Abkhazia does not resume its operations, Poti will remain the one and only route for freight
Sadakhlo-Poti	386 km	

²³ Source: "Tariff Policy of Georgian Railway", Tbilisi 2002

²⁴ Source: "Tariff Policy of Georgian Railway", Tbilisi 2002

		transportation.
Ayrum-Gantiadi	581 km	Gantiadi is the last station of the railway that goes through Abkhazia as it enters the territory of Russia. This route has been closed for more than 10 years because of the Georgian-Abkhazian political conflict. Re-launching operations of this railroad has been a topic of Russian-Georgian negotiations and theoretically it is possible to see it working before the actual relations between Georgia and Abkhazia stabilize.
Sadakhlo-Gantiadi	587 km	

The following tariffs are fixed for international freight transit through the following four railroad sections: Sadakhlo-Poti, Poti-Sadakhlo, Sadakhlo-Gantiadi, and Gantiadi-Sadakhlo.

Table 16. Georgian railroad tariffs²⁵

Price for 1 ton of freight in Swiss Francs (international transit is free of VAT)

Km	Load weight in the wagon, tons										
	< 12 t	13-16 t	17-23 t	24-26 t	27-31 t	32-36 t	37-40 t	41-46 t	47-51 t	52-55 t	56 t <
A1 – Sadakhlo-Poti	71.82	59.94	47.95	45.51	42.32	37.77	34.13	30.95	28.67	26.85	25.03
A2 – Poti-Sadakhlo	86.18	71.93	57.54	54.61	50.79	45.33	40.96	37.14	34.41	32.22	30.04
B1 – Sadakhlo-Gantiadi	104.12	86.80	69.49	65.93	61.32	54.72	49.45	44.83	41.54	38.91	36.26
B2 – Gantiadi-Sadakhlo	104.12	86.80	69.49	65.93	61.32	54.72	49.45	44.83	41.54	38.91	36.26

Both in Armenia and Georgia, for certain specific products (i.e. oil products, gas, chemical substances) there are special tariffs established which are not included in this study.

6. Agricultural support projects in Lori and Shirak regions. Analyses and reports

There are not many agricultural support projects presently operating in Armenia. The ACBA Bank program is one that draws special attention. This bank has been very active in financing agricultural activities in all regions of Armenia, including Shirak and Lori. ACBA Bank finances both private/family agricultural economies (farms and farmers) and larger farming entities and processing companies. The Bank is quite successful with an excellent credit portfolio performance and high rates of principal repayment.

The Bank's monetary means are formed with the help of donor organizations and several international programs such as International Fund for Agricultural Development (IFAD), World Bank (WB), Agricultural Reform Support (ARS) Program and others. The ARS program is being financed and implemented through several other banks in both Shirak and Lori.

Poverty levels are quite high in Shirak and Lori, which is one of the reasons that microfinancing foundations and organizations that are actively operating throughout the Republic of Armenia, entered into these specific regions. "Aregak", FINCA, and

²⁵ Source: "Tariff Policy of Georgian Railway", Tbilisi 2002

MDF-Bridge are actively engaged in microfinancing activities in these two regions, especially in agricultural sectors.

The USDA Marketing Assistance Program (MAP) and the American DAI consulting firm are also very active in the region. The former has conducted extensive research in the agricultural product processing sectors of both regions and has financed several companies. The bulk of them specialize in the production of milk products and cheese. In 2001 USDA MAP has credited \$18,000 worth of programs in Lori, given \$8,300 worth of grants, and financed \$23,400 worth of leasing programs. The same organization has financed \$30,750 worth of programs, and \$2,200 worth of grants in Shirak. Implementation of such programs (investment fulfillment) assumes a study of the agricultural situation in the region, which the USDA MAP program conducts rather regularly (i.e. USDA MAP Impact on Regions in RA, Regional Marketing Survey 2001, etc.)

DAI pays special attention to these two regions based on certain issues and goals including special treatments for these regions heavily damaged during the 1988 earthquake in order to implement technical assistance programs.

In December of 2002, DAI ASME has drafted "The Turkish market and Armenian Agrobusiness" report, which attempts to evaluate the possible prospects, opportunities, strengths, and weaknesses of Armenian-Turkish economic relations. The report presents a picture of the Turkish agricultural products' market; it discusses possibilities and difficulties associated with exports of certain Armenian products.

In October of 2000, World Bank specialists prepared a concise report called "Trade assistance in the Caucasus region". Detailed opinions of World Bank specialists regarding the future development of economic relations between three Transcaucasus countries, its suitability and the mutual benefit of entering into new markets from the point of view of cost-efficiency and stimulating economic growth are presented in this report.

7. Conclusions

In summary, we can conclude that the establishment of economic ties, including border trade, will be mutually beneficial to the entire Caucasus region and absolutely and undoubtedly executable. Thus we have drawn the following conclusions:

- The absence of economic relations between Armenia and Turkey and the factor of closed borders substantially diminish the potential markets for Armenian producers. As a result, the economic stimulus to improve agriculture and other sectors is being lost.
- The Shirak and Lori regions of Armenia and Kars and Igdir states of Turkey have satisfactory transport communications in order to establish and develop economic ties.
- The use of the Gyumri-Kars railroad can secure a more efficient route for freight transportation, rather than the current alternate route through Georgia, improving levels of exports-imports for both countries.

- Despite the absence of economic relations, there is trade between Armenia and Turkey estimated at 50-150M USD annually. This confirms the fact that both countries can become major markets for each other for a variety of products.
- With opened borders, Armenia can become a major transit country in the context of Turkey, Azerbaijan and Central Asia economic relations ensuring significant transportation cost savings for Turkey and transit tariff income for Armenia.
- After comparing prices of different agricultural products between the Kars-Igdir and Shirak-Lori regions we can conclude that border trade will not only ensure an alternative pricing mechanism, but will also solve major issues related to seasonality and lack of quality products. Furthermore, it would create economic competition and lead to investments in new technologies.
- In terms of certain agricultural products (mainly fruit) Armenia can evolve into a major source of raw materials for Turkey to complement and enhance Turkey's leading role in dried and canned fruits.

APPENDIX 1. Armenian railroad tariffs set for the second quarter of 2003 in \$ excluding VAT ²⁶

Km	Freight load in the train cars,. in tons										
	< 12 t	13-16 t	17-23 t	24-26 t	27-31 t	32-36 t	37-40 t	41-46 t	47-51 t	52-55 t	56 t <
1-10	0.52	0.41	0.36	0.31	0.29	0.26	0.23	0.21	0.20	0.18	0.17
11-20	1.50	1.24	1.03	0.98	0.91	0.81	0.74	0.67	0.62	0.58	0.54
21-30	2.53	2.12	1.71	1.60	1.49	1.33	1.20	1.09	1.01	0.95	0.88
31-40	3.51	2.95	2.38	2.22	2.07	1.84	1.67	1.51	1.40	1.31	1.22
41-50	4.55	3.77	3.05	2.89	2.69	2.40	2.17	1.97	1.82	1.71	1.59
51-60	5.53	4.60	3.72	3.51	3.27	2.92	2.64	2.39	2.21	2.07	1.93
61-70	6.56	5.48	4.39	4.13	3.84	3.43	3.10	2.81	2.60	2.44	2.27
71-80	7.55	6.30	5.06	4.81	4.47	3.99	3.60	3.27	3.03	2.84	2.64
81-90	8.58	7.13	5.74	5.43	5.05	4.50	4.07	3.69	3.42	3.20	2.98
91-100	9.56	7.96	6.41	6.05	5.62	5.02	4.53	4.11	3.81	3.57	3.33
101-110	10.49	8.73	6.98	6.62	6.15	5.49	4.96	4.50	4.17	3.90	3.64
111-120	11.27	9.41	7.55	7.13	6.63	5.92	5.35	4.85	4.49	4.21	3.92
121-130	12.09	10.08	8.06	7.65	7.11	6.35	5.74	5.20	4.82	4.51	4.21
131-140	12.92	10.75	8.58	8.17	7.59	6.78	6.12	5.55	5.14	4.82	4.49
141-150	13.70	11.42	9.15	8.68	8.07	7.21	6.51	5.90	5.47	5.12	4.78
151-160	14.52	12.09	9.66	9.20	8.56	7.64	6.90	6.26	5.80	5.43	5.06
161-170	15.30	12.76	10.23	9.72	9.04	8.06	7.29	6.61	6.12	5.73	5.34
171-180	16.12	13.44	10.75	10.23	9.52	8.49	7.67	6.96	6.45	6.04	5.63
181-190	16.95	14.11	11.27	10.70	9.95	8.88	8.02	7.27	6.74	6.31	5.88
191-200	17.73	14.78	11.83	11.21	10.43	9.31	8.41	7.63	7.07	6.62	6.17
201-210	18.55	15.45	12.35	11.73	10.91	9.74	8.80	7.98	7.39	6.92	6.45
211-220	19.43	16.18	12.92	12.30	11.44	10.21	9.22	8.36	7.75	7.26	6.76
221-230	20.26	16.90	13.49	12.82	11.92	10.64	9.61	8.72	8.07	7.56	7.05
231-240	21.09	17.57	14.06	13.39	12.45	11.11	10.04	9.10	8.43	7.90	7.36
241-250	21.96	18.29	14.63	13.90	12.92	11.52	10.44	9.46	8.73	8.22	7.65
251-260	22.79	19.02	15.19	14.42	13.41	11.97	10.81	9.80	9.08	8.51	7.93
261-270	23.62	19.69	15.76	14.99	13.94	12.44	11.24	10.19	9.44	8.84	8.24
271-280	24.50	20.41	16.33	15.50	14.42	12.87	11.63	10.54	9.77	9.15	8.53
281-290	25.32	21.14	16.90	16.02	14.90	13.30	12.02	10.89	10.09	9.45	8.81
291-300	26.20	21.81	17.47	16.59	15.43	13.77	12.44	11.28	10.45	9.79	9.12
301-310	27.03	22.53	17.98	17.11	15.91	14.20	12.83	11.63	10.78	10.09	9.41
311-320	27.80	23.20	18.55	17.62	16.39	14.63	13.22	11.98	11.10	10.40	9.69
321-330	28.63	23.88	19.53	18.14	16.87	15.06	13.60	12.33	11.43	10.70	9.98
331-340	29.41	24.55	19.64	18.66	17.35	15.48	13.99	12.69	11.75	11.01	10.26
341-350	30.23	25.22	20.15	19.17	17.83	15.91	14.38	13.04	12.08	11.31	10.55
351-360	31.06	25.89	20.67	19.64	18.26	16.30	14.73	13.35	12.37	11.59	10.80
361-370	31.83	26.56	21.24	20.16	18.74	16.73	15.12	13.71	12.70	11.89	11.09
371-380	32.66	27.24	21.76	20.67	19.22	17.16	15.50	14.06	13.02	12.20	11.37
381-390	33.44	27.91	22.33	21.19	19.71	17.59	15.89	14.41	13.35	12.50	11.65
391-400	34.26	28.58	22.84	21.71	20.19	18.02	16.28	14.76	13.67	12.81	11.94

²⁶ Source: "Tariff Policy of Armenian Railway", Railway department, Yerevan 2003

APPENDIX 2. Armenia, Georgia, and Turkey: Main transportation routes