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## 1. Social Economic Background & Current Indicators of Syunik Region

Syunik Region historically was one of the most industrially developed areas of Armenia. Since 19<sup>th</sup> century the outstanding mineral resources of Syunik, rich with copper, molybdenum and to less extent gold attracted first at that time significant foreign direct investments, financed primarily by French businesses. Old mines of Kapan and Kajaran and their surrounding neighborhood till nowadays enjoy some infrastructure, cultural and civil heritage left from those times.

In Soviet times, the region was structured into four districts, including Kapan, Goris, Sisian and Meghri. Although the mining industry is more developed in Kapan and Meghri rather than in two other districts it was still the fundamental industry for the overall Zangezour region. Thanks to the mineral resources the Soviet Government has established in the region a well-developed industrial and social infrastructure. As a result, people in Kapan and Kajaran enjoyed living standards significantly higher than average in Armenia.

In addition to the mining industry the centralized planning economy system of FSU developed in Syunik regions other key economical sectors, such as the followings:

⇒ Electronics

The electronics industry in Syunik region was concentrated primarily in Kapan and to less extent in other districts of Syunik. Having a qualified support provided by Kapan branch of State Engineering University of Armenia (SEUA) a former Yerevan Polytechnic Institute the FSU Government initialized the set up of several at those times pretty advanced electronics plants, including “Kapan Electron”, “Kapan Relay”, “Kapan Condensators”, “Kapan Lamps”, “Goris Gamma”, “Sisian Transistor Plant”, “Sisian Lamp Plant” and “Sisian Condensators Plant”. While details of former performance and current status of those enterprises will be further analyzed within the course of the study, the Consultant would like to emphasize that this sector is among the most suffered economic activities of Syunik region.

#### ⇒ Textile

The textile industry was another developed sector of Syunik region. There are textile plants in Kapan, Goris and Sisian. The Kapan Knitted Wear Factory, currently “SonaTex” OJSC was one of the outstanding enterprises in Armenian textile industry. The plant was fully renovated and re-equipped in late 80’s. The main equipment and technology are unique knitting machines manufactured by Swiss “Dubiet” company. The other relatively big textile plants in Syunik region are Zangezour OJSC (Goris) and “Sisakan” Knitted Wear Factory (Sisian).

#### ⇒ Machine Building

The machine building industry in Syunik had the important objective to support the huge needs of mining industry. The key enterprises in this sector were “Kapan Machine Renovation Plant” and “Goris Microengine Plant”

#### ⇒ Food Processing

The food processing industry in Syunik was established to properly utilize rich resources of Syunik region. Specifically, the region had canneries in all four district centers, including Kapan, Goris, Sisian and Meghri. At present Meghri Cannery, which is an export oriented company is the only cannery in Syunik operating on relatively industrial scales. The other developed agricultural and food-processing industries were cattle breeding, milk-processing, production of cheese (especially in Sisian) and meat processing.

#### ⇒ Tourism

Syunik region was also quite famous for its tourism industry. The management of Zangezour Copper Molybdenum Combine and other mining enterprises established numerous vacation houses in the areas surrounding Kapan, specifically in

Karmrakar village on the highway connecting Kapan and Goris and in mountainous areas between Kapan and Kajaran. Notwithstanding with the above mentioned, the vacation houses were established as a result of the beautiful nature, while other tourist attraction sites were fully underutilized. In this respect it is important to stress that Syunik region has such a fascinating tourism attraction sites, as Tatev Monastery near Goris (illustrated below), an ancient observatory in Sisian and numerous early Christian churches located throughout the region.



The other more or less developed industries in the region were construction, production of furniture, energy and mechanical plants. The industrial sectors were accompanied by quite extensive and developed social infrastructures, including health system, education, services, trade etc.

The main communication route for the inflow and outflow of products and passenger traffic in the region was railway connection. The big part of the railway connection was passing through the territory of Azerbaijan and is out of the operations from early 90's. Since the break up of the Soviet Union and especially after the escalation of the conflict with Azerbaijan over the Nagorno Karabakh issue, both the social and the economic situation in the region started to dynamically degrade. The region being located on the longest distance from Yerevan is currently experiencing one of the highest levels of unemployment and poverty all over Armenia.

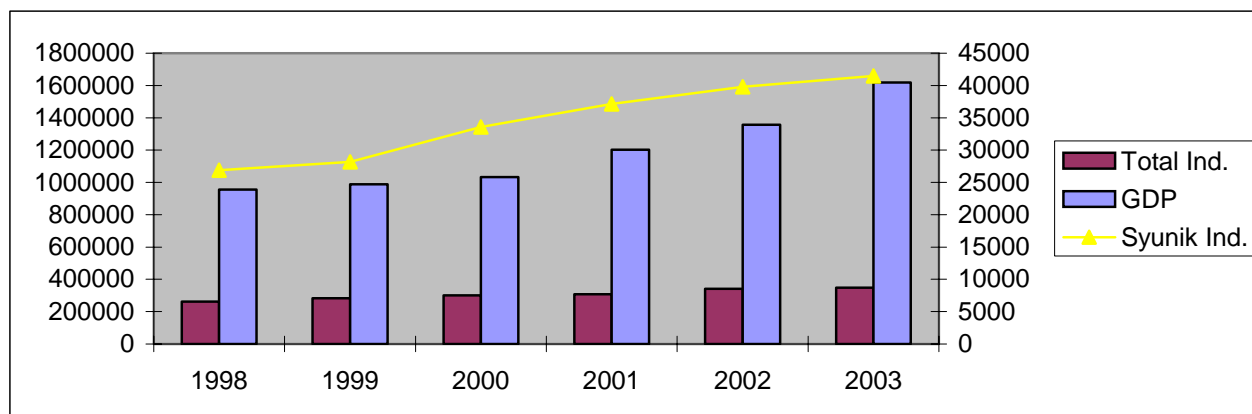
The key economic indicators and other interesting facts about the region are as follows<sup>1</sup>:

- ⇒ Share of Syunik in gross industrial production of the country is 8.1%
- ⇒ Share of Syunik in gross agricultural production of the country is 11.8%
- ⇒ Share of Syunik in retail turnover of the country is 1.3%
- ⇒ Share of Syunik in gross services of the country is 1.6%
- ⇒ Unemployment is 20.5% (worst region after Shirak)
- ⇒ Population density per km<sup>2</sup> is 36 men (lowest indicator after Vayots Dzor)

### Industry

The key economic indicators of Syunik region as compared to the other marzes of Armenia as well as dynamics of those indicators for the last five years are as follows<sup>2</sup>:

**FIGURE 1. Dynamics of Syunik Industrial Output as Compared to Total Industrial Output of Armenia and GDP (AMD Millions)**



As summarized in the above graph, the industrial output of Syunik region was gradually growing along the growth directions of GDP and total industrial output of

<sup>1</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

<sup>2</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

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the country, reaching AMD 41.4 billions in year 2003. Moreover, the compound average growth rate experienced by industrial output of Syunik marz for the period of 1998 – 2003 has significantly outperformed the similar indicators of total industrial output of the country and was even a little faster than the outstanding GDP growth rate of Armenia. Indeed, these indicators are as follows:

- CAGR GDP (1998 – 2003) – 9.3%
- CAGR Total Industrial Output (1998 – 2003) – 6.9%
- CAGR Syunik Industrial Output (1998 – 2002) – 10.4%

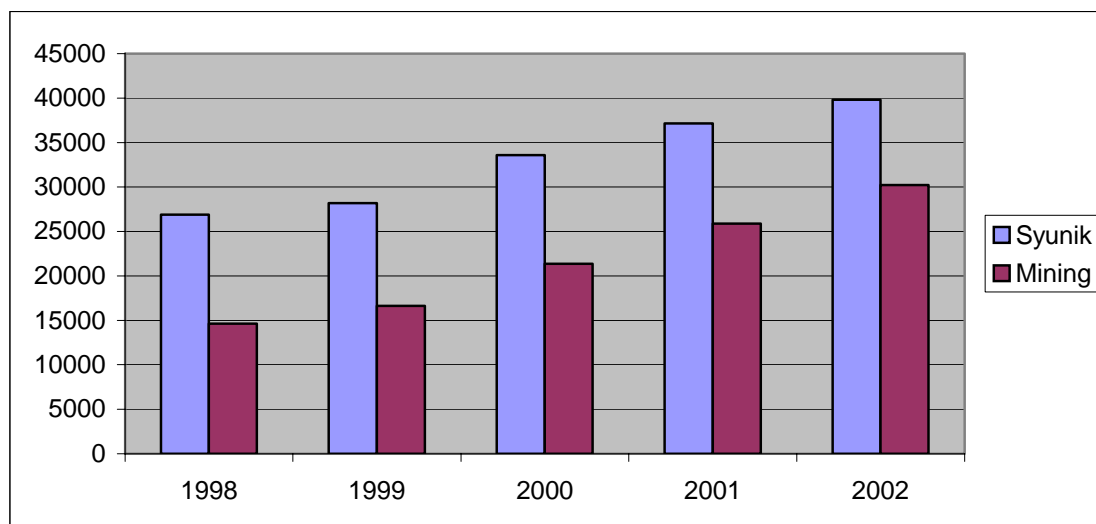
Notwithstanding the above mentioned, such intensive growth rates have relatively little influence on the improvement of the social- economic situation in the region due to the two key facts. First, the overwhelming contribution to the growth was made by a single mining industry and moreover single enterprise, namely Zangezour Copper Molybdenum Combine (ZCMC) and second, the output level in the late 90's was so small that growth indicated during last three years is outstanding. Indeed, the CAGR of Syunik's industrial output for the period of 2000 – 2003 is 2.26% or almost four times lower than the same indicator for the period of 1998 – 2003.

As a proof that the industrial output of the Syunik region is due to the mining industry and specifically the ZCMC, Agarak Copper Molybdenum Combine (ACMC) and Kapan Ore Enrichment Plant (KOEP), the Consultant compared dynamics of Syunik industrial output as compared to the total output of the mining industry of Armenia for the same period, as summarized in the following figure<sup>3</sup>:

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<sup>3</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

**FIGURE 2. Dynamics of Industrial Output of Syunik as Compared with Mining Industry Output (AMD Millions)**

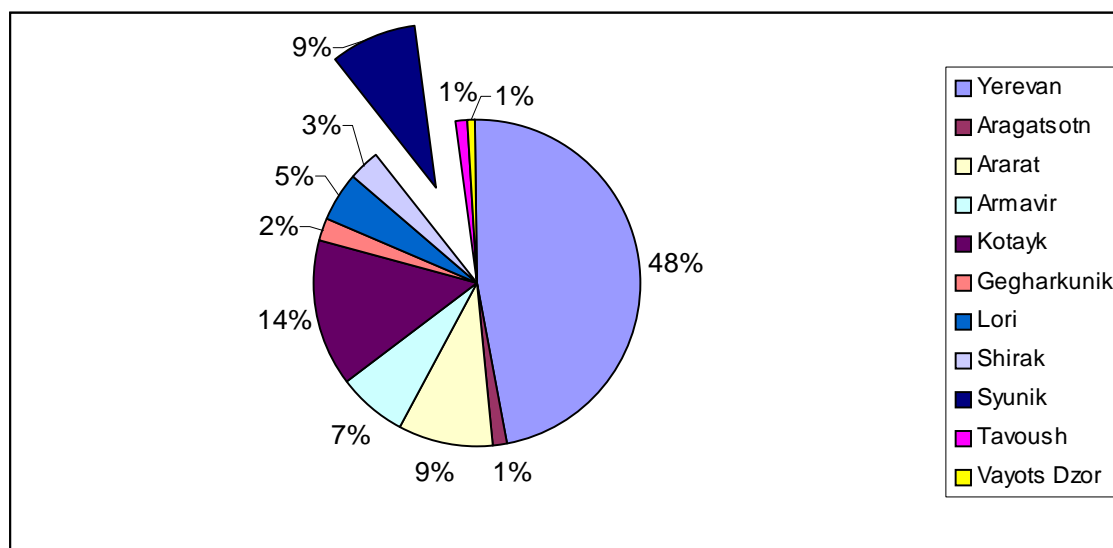


As summarized on the above graph, during the period of 1998 – 2002, the industrial output of Syunik Marz was developing along the same curve as the Armenian mining industry. The correlation coefficient between these two data series is equal to 99.36%, which means that 1% growth in one field leads to the 0.9936% growth (almost identical) in another.

The share of the Syunik region in the total industrial output of Armenia is as follows<sup>4</sup>:

<sup>4 4</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

**FIGURE 3. Share of Regions in the Industrial Output of Armenia**



As summarized on the graph, Syunik has the fourth output after Yerevan, Kotayk and Ararat regions. However, as we have already highlighted it is due to the mining industry and moreover single enterprise of ZCMC, which employs 2,400 persons (about 4,500 persons total in mining industry in Syunik) out of total about 50,000 people employed in the region. However, relatively significant, growing industrial output of the region still does not influence the poverty reduction issues, since unemployment in Syunik is above 20%, which is twice as bigger as the country average and is the worst indicator in Armenia after the earthquake damaged Shirak region<sup>5</sup>.

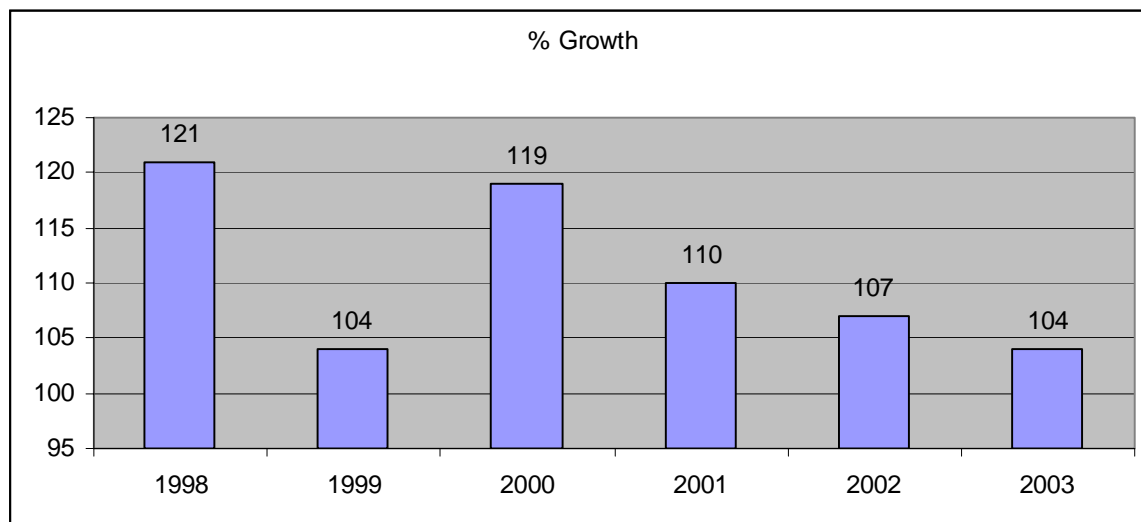
In physical terms, the industrial output produced in the Syunik is growing as well. The index of physical volume of the output is summarized in the following graph<sup>6</sup>:

<sup>5</sup> Poverty Reduction Strategy Paper

<sup>6</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)



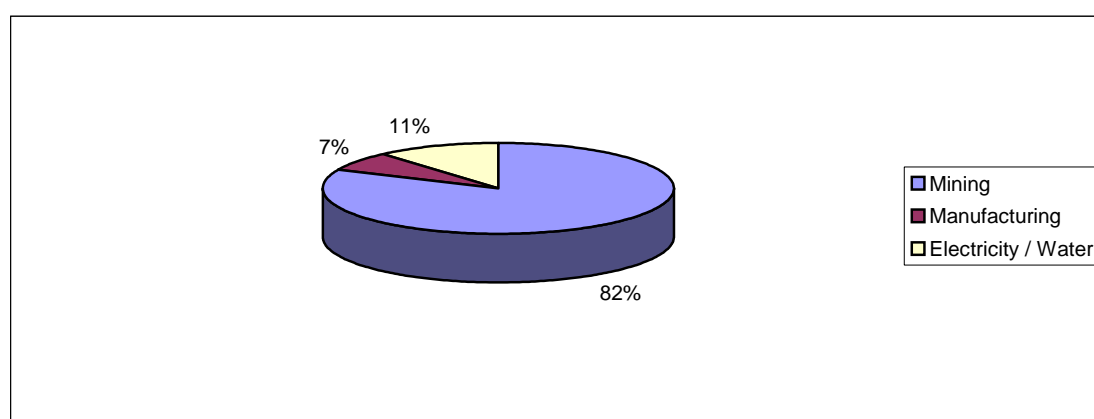
**FIGURE 4. Dynamics of the Index of the Physical Volume of the Syunik Output**



As summarized in the graph, despite fluctuations in the growth rates, within the period of 1998 – 2003 the index of physical volume of the output for each consecutive year was overperforming the previous year result.

The structure of industrial output of Syunik in year 2003 according to the key sectors is as follows<sup>7</sup>:

**FIGURE 5. Structure of the Industrial Output of the Syunik by Sectors**

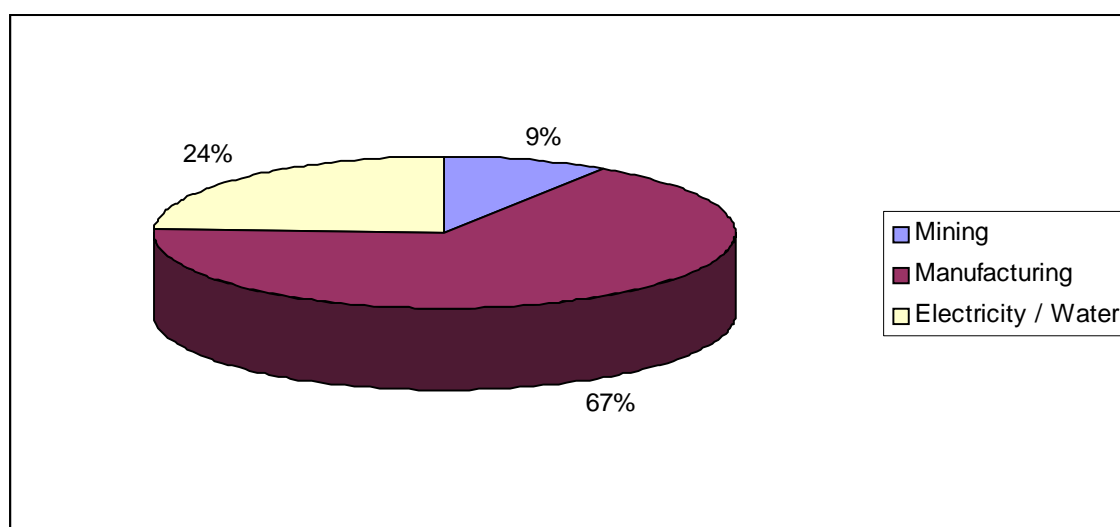


<sup>7</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

As summarized on the graph, 82 % of the output of the Syunik region is attributable to the mining industry, which once more proves that the entire region is heavily relied on the ZCMC.

The same above-mentioned structure for the entire Armenia is as follows:

**FIGURE 6. Structure of Industrial Output by Sectors**



Mining has significantly smaller share in the total Armenian industry as compared to utilities sector and especially manufacturing.

Within the structure of mining industry in Syunik, the share of ZCMC with the total output of approximately USD 41 millions<sup>8</sup> is about 69%, while the rest of 31% have approximately equal split between Agarak Copper Molybdenum Combine and Kapan Ore Enrichment Plant.

In terms of the utilities sector the biggest share belongs to the Vorotan Hydro Power Plant (HPP), which is the biggest HPP in Armenia.

The structure of the output within the rest of the remaining 9% for year 2003 is as follows<sup>9</sup>:

<sup>8</sup> Syunik Government

<sup>9</sup> Syunik Government

**Table 1. Structure of Processing Output**

Industry	AMD millions	% of Previous Year
Food processing, including beverages	2,359.3	101
Yarn processing & products	116.6	42
Production of garments & furs	33.8	195
Wood processing and manufacturing of wooden products	10.1	116.4
Chemistry	9.3	140.5
Resin and plastic products	8.4	110.2
Other non metallurgical minerals	124.7	199.3
Equipment & machinery	195	79.6
Other products	126.8	87.3
<b>Total</b>	<b>2,984</b>	<b>95.4</b>

As summarized in the above table all the sectors except of the mining and utilities have jointly less than 5% decrease as compared with the previous year. In the entire structure of the output, production of food and beverages has 79% share. The biggest part in this subsector belongs to bread production. The structure of physical volume of the output in this specific subsector of food processing is as follows:

**Table 2. Structure of Food Processing Output**

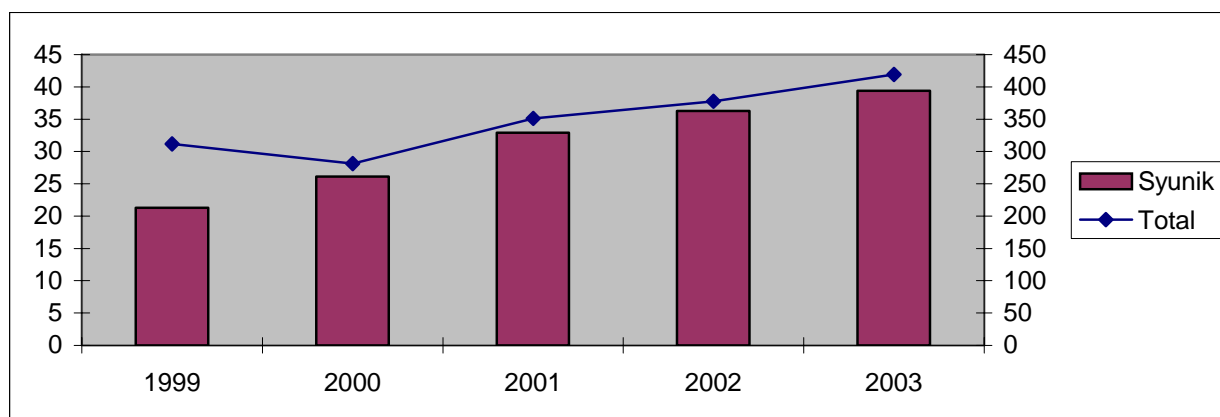
Products	2002	2003
Meat, tons	47.9	43.3
Milk and dairy products, tons	2.9	2
Cheese, tons	40.7	38.3
Cans, thousands conditional jars	103.1	152.9
Natural juices,	0.3	1.4
Wheat, tons	674.8	512.9
Bread and bakery products, tons	2836.8	2702.4
Confectionary, tons	11.4	11.1
Macaroni, tons	60.9	48.8

As highlighted in the above table, indeed bread has the biggest share in the food processing products. Additionally, except of the production of cans and natural juices all the other subsectors in this sector experienced certain decline as compared with the previous year. Moreover, the output in some fields like milk and meat processing is really miserable.

### Agriculture

The gross agricultural output of Syunik marz was also growing for the recent period. For the period of 1999 – 2002 dynamics of agricultural output of the region was as follows<sup>10</sup>:

**Figure 7. Dynamics of Gross Agricultural Output as Compared with Syunik (AMD Billions)**

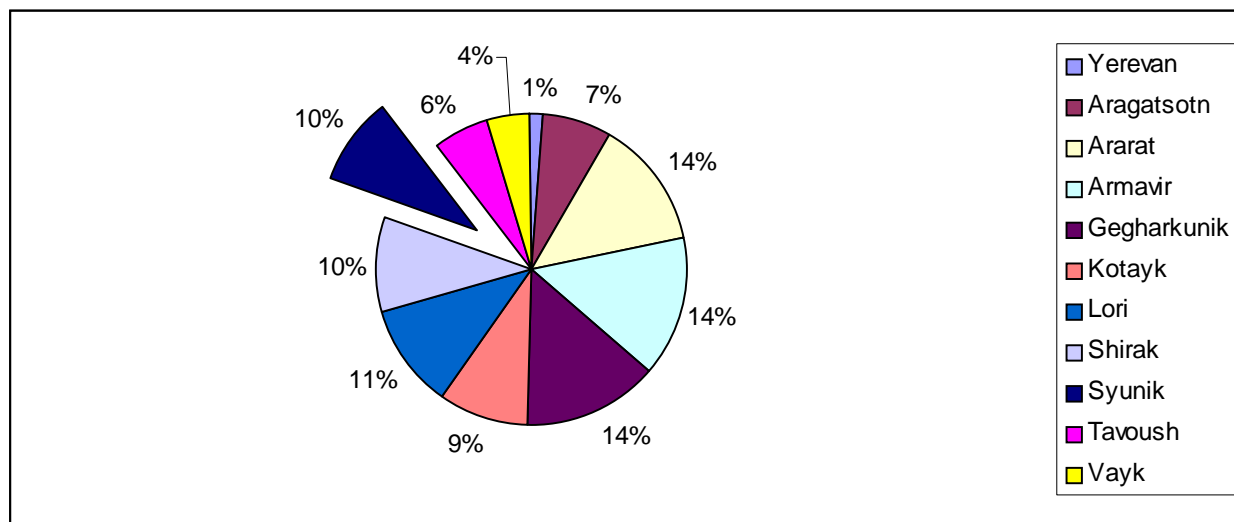


The CAGR experienced in the observed period in Syunik region was significantly bigger than the CAGR experienced by the total agricultural output of Armenia making an outstanding 16.8% as compared with 8.3%. While in comparative year to year terms the agricultural industry in Syunik seems to be performing quite well in absolute amounts it is very small as summarized in the following chart<sup>11</sup>:

<sup>10</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

<sup>11</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

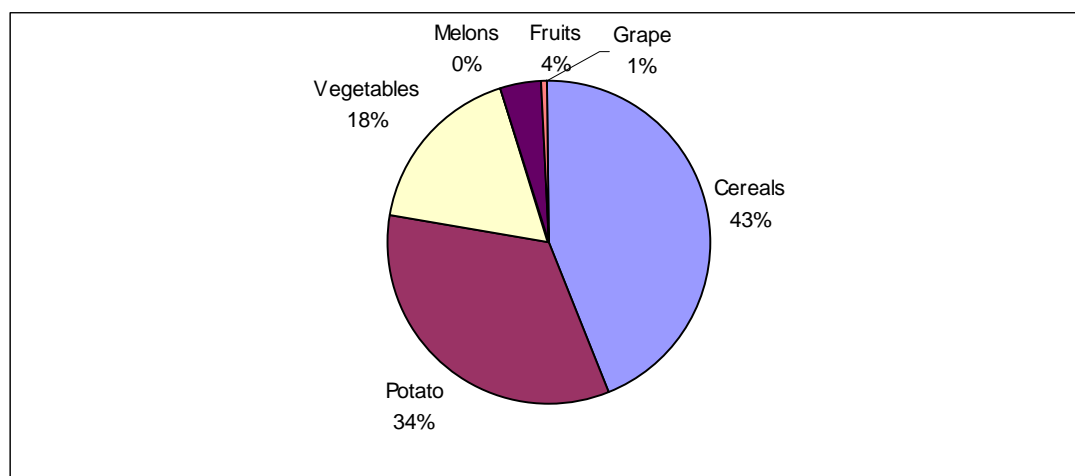
**Figure 8. Share of Syunik in Agricultural Output (Value terms)**



As summarized in the chart, in absolute terms, despite the big size of the region, Syunik was outperformed by many other regions such as Ararat, Armavir, Gegharkunik, Lori and Shirak. This primarily is based on the lack of agriprocessing factories in Syunik, as compared with the Ararat, Armavir and Aragatsotn regions, as well as lack of crop for industrial cultivation, like tomato, peach or apricot.

The structure of the agricultural output of Syunik region is as follows<sup>12</sup>:

**Figure 9. Structure of Agricultural Output of Syunik (Volume terms)**

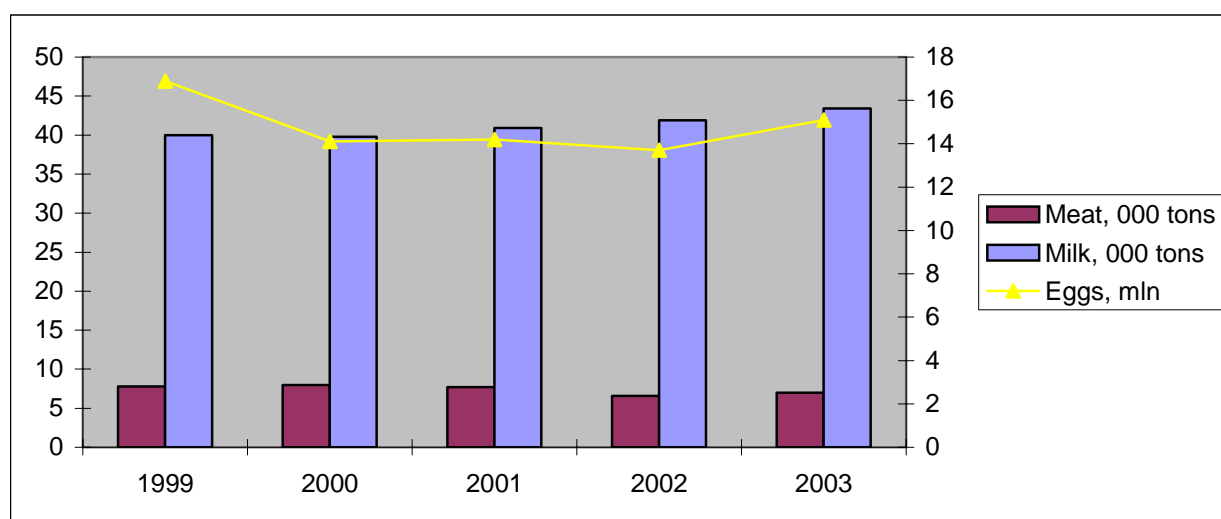


<sup>12</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

As summarized on the above graph the biggest share in the entire agricultural output of the marz belongs to cereals, which is primary due to the cultivation in Sisian district. The second position is hold by the potatoes, while vegetables have some 18% of share. The other crops such as fruits, grape and melons have miserable share in the agricultural output of Syunik marz.

The situation with cattle breeding and poultry sectors of Syunik agriculture is as follows<sup>13</sup>:

**Figure 10. Dynamics of Cattle Breeding & Poultry Sectors**



As summarized in the table, while the general situation in Armenia has rather development trend, meat, milk and eggs production in Syunik over the last five years was more or less stable, with even some slight downward dynamics. Indeed for the observed period the CAGR of the three products were as follows:

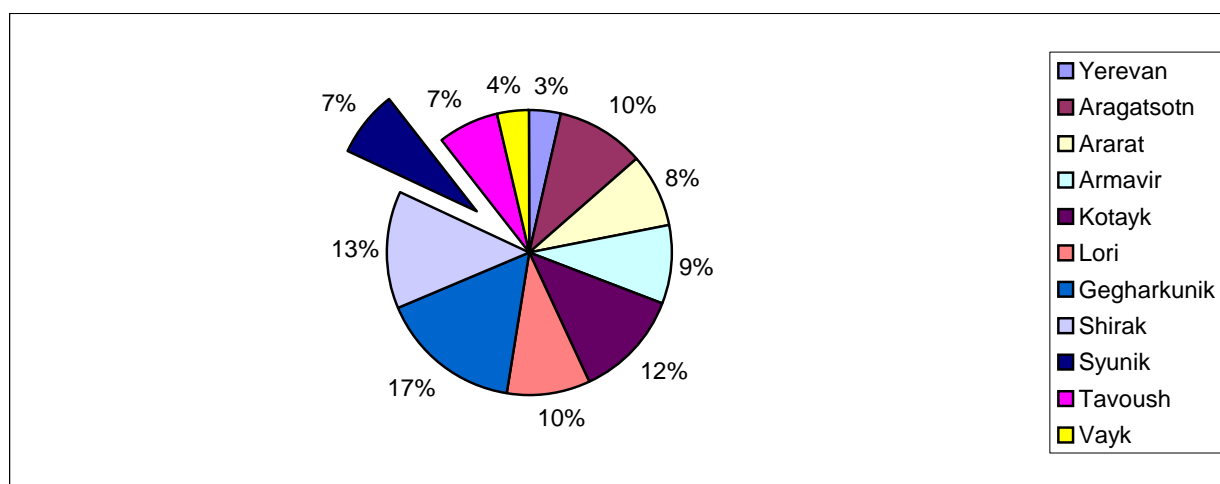
- ⇒ CAGR Meat (-2.3%)
- ⇒ CAGR Milk 2%
- ⇒ CAGR Eggs (-2.2%)

<sup>13</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

Nevertheless, one should note that during the last year all three directions have eventually experienced a progress, which could be a starting point for the further development of this sector of agriculture.

The share of the region in the total Armenian output for all three directions is as follows<sup>14</sup>:

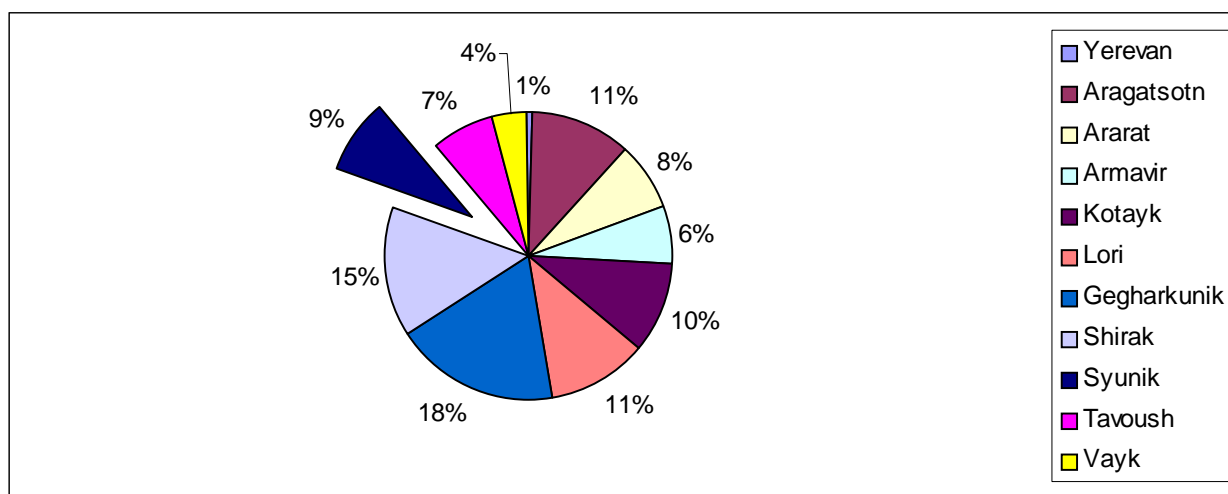
**Figure 11. Share of Syunik in Meat Production**



As summarized in the graph the share of Syunik region in the entire meat production is about 7%, which is one of the poorest indicators countrywide. In this respect as compared to other regions, all the other rural regions of Armenia except of Tavoush and Vayk are overperforming Syunik.

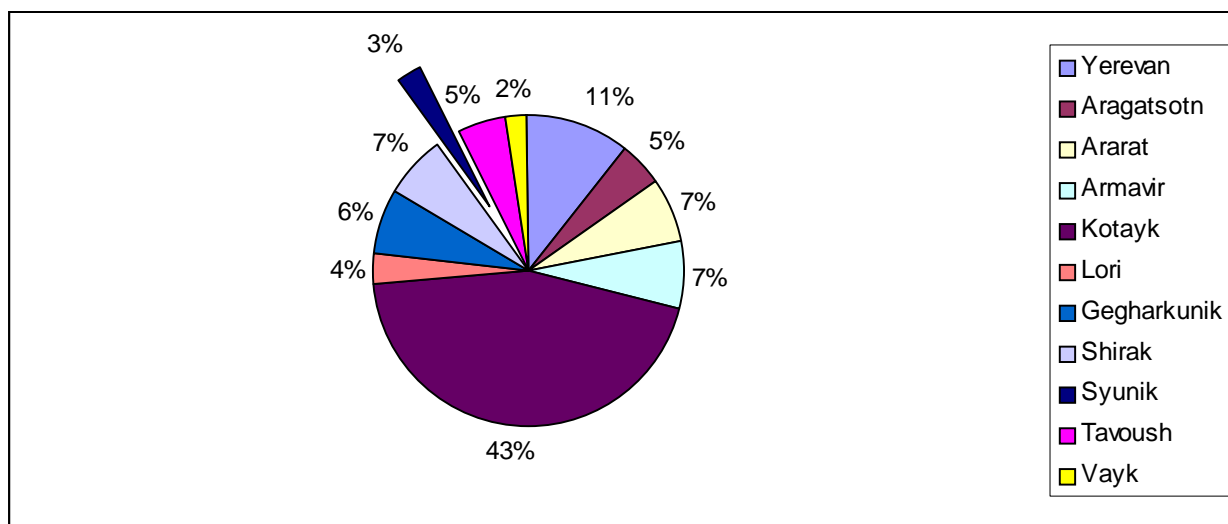
<sup>14</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

**Figure 12. Share of Syunik in Milk Production**



In case of milk Syunik is still one of the poorest regions, which is doing better than Vayk, Tavoush, Ararat and Armavir only.

**Figure 13. Share of Syunik in Eggs Production**



In eggs production, Syunik is again one of the poorest regions in Armenia.

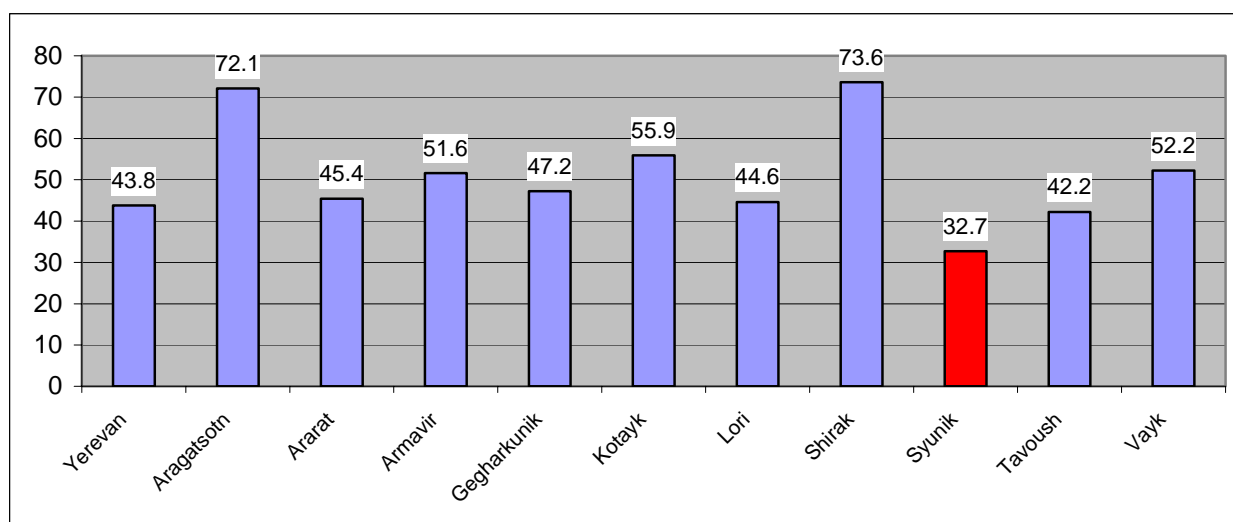


## Social Issues

According to the official statistical sources currently the number of population in Syunik marz is about 134,000, including 88,000 urban residents and 46,000 rural residents<sup>15</sup>.

According to the same source of the National Statistical Service, the level of poverty in Syunik marz as compared with the other regions of Armenia is as follows:

**Figure 14. Poverty Level by Regions (%)**



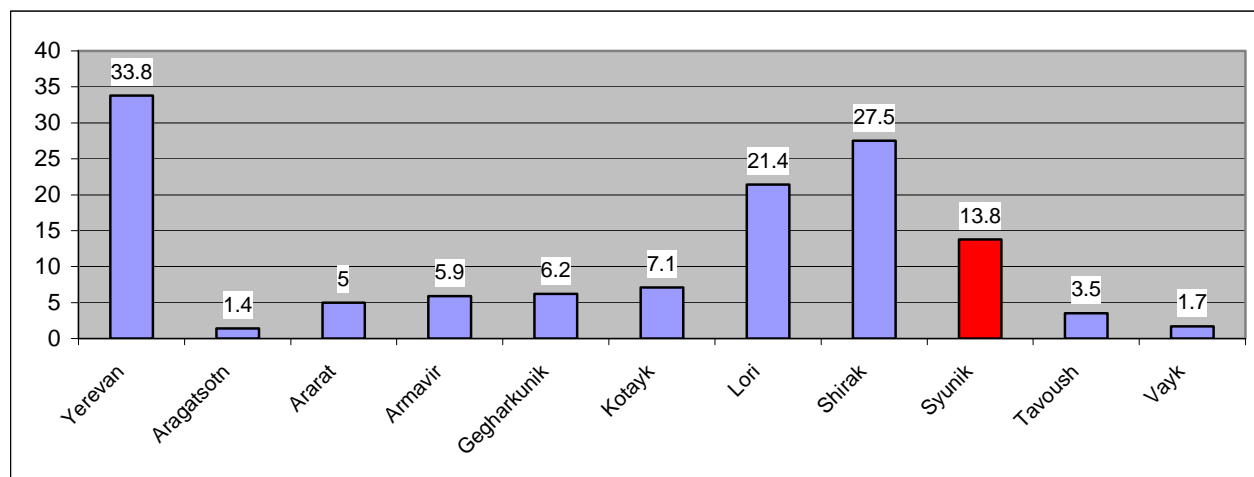
As summarized in the graph, Syunik has lowest poverty level in Armenia. However, this result might be strongly biased by the survey results accumulated in Kadjaran, which is one of the socially most secured cities in Armenia. On the other hand the other big communities of the Syunik, such as Kapan, Goris and Sisian have really very high level of poverty, since both the industry and commercial agriculture are rather underdeveloped here.

One of the indicators proving the last statements is the level of unemployment in the country, which according to the same source is as follows<sup>16</sup>:

<sup>15</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

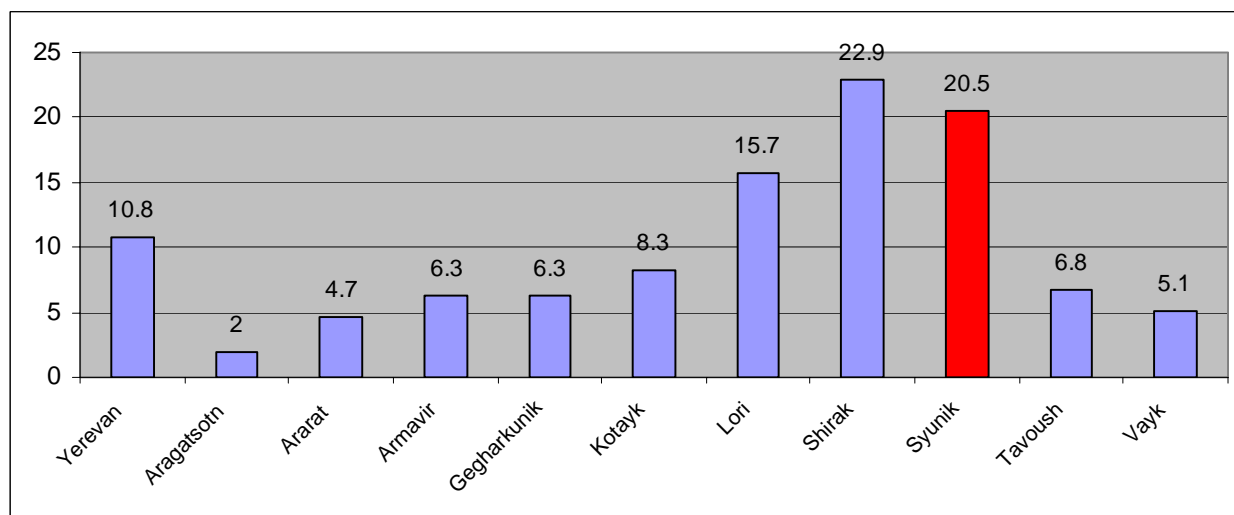
<sup>16</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

**Figure 15. Unemployment Level in Regions (Thousands of Persons)**



As summarized in the above graph, by the number of unemployed people Syunik is one of the worst regions along with the Shirak and Lori. In terms of the unemployment as percentage of the population the performance of Syunik marz is even more negative as summarized on the next graph<sup>17</sup>:

**Figure 16. Unemployment as % of Population**



<sup>17</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

At present the total number of employed population in Syunik is 49,531, including 15,751 working in state organizations. The structure of employment per economy sectors is as follows:

⇒ Industry	- 11,527
⇒ Agriculture & Forestry	- 15,698
⇒ Construction	- 1,625
⇒ Transportation & Communication	- 1,184
⇒ Retail Trade & Catering	- 2,783
⇒ Communal Services	- 952
⇒ Health, Sport & Social Security	- 1,326
⇒ Education, Culture & Arts	- 5,173
⇒ Science	- 182
⇒ Credit & Insurance	- 629
⇒ State Administration	- 1,305
⇒ Other Sectors	- 7,117

The situation with unemployed population is as follows:

**Table 3. Structure of Unemployment**

Indicators	As of 30.06.2003	As of 30.06.2004
Employment seekers	16985	16296
Unemployed	14008	13185
Unemployment	19.3%	18.6%

Decreased number of employment seekers is adequate to decreased number of unemployed. The summary of the unemployment in Syunik is as follows:

**Table 4. Structure of Unemployment (Continued)**

Indicators	As of 30.06.2003	As of 30.06.2004
<b>Education</b>		
Higher Education	1186	1172
Specialized Education	4298	4118
Secondary Education	8010	7425
Less than Secondary	514	470

<b>Age</b>		
Less than 18	62	0
18-22	1229	910
23-30	4258	4013
31-50	7595	7501
More than 51	864	761
<b>Duration of Unemployment</b>		
Less than 3 months	355	189
3-6 months	2175	406
6-12 months	4796	1226
More than one year	6682	11364

The structure of newly employed is as follows:

**Table 5. Structure of New Jobs**

<b>Newly Employed</b>	<b>30.06.2003</b>	<b>30.06.2004</b>
<b>Education</b>		
Higher education	25	34
Specialized education	59	54
Secondary education	85	79
Less than secondary education	7	9
<b>Age</b>		
18-22	6	3
23-30	52	27
31-50	113	128
More than 51	5	18
<b>Duration of Unemployment</b>		
Less than 3 months	2	1
3-6 months	11	9
6-12 months	31	28
More than 12 months	97	136
<b>Profession / Specialties</b>		
Engineer	2	11
Accountant	1	1
Agricultural specialists	3	2
Technicians	3	8
Economists	1	5
Veterinary	0	0
Biologists	1	1

Mathematicians	2	0
Construction specialist	7	5
Other professions	121	141
<b>Economy Sectors</b>		
Industry	40	42
Transportation & Communication	2	7
Construction	1	5
Communal Services	8	11
Health & Sport	3	5
Education, Culture & Arts	17	8
Crediting & Insurance	5	2
Retail Trade & Catering	11	19
State Administration.	5	3
Other Sectors	49	72

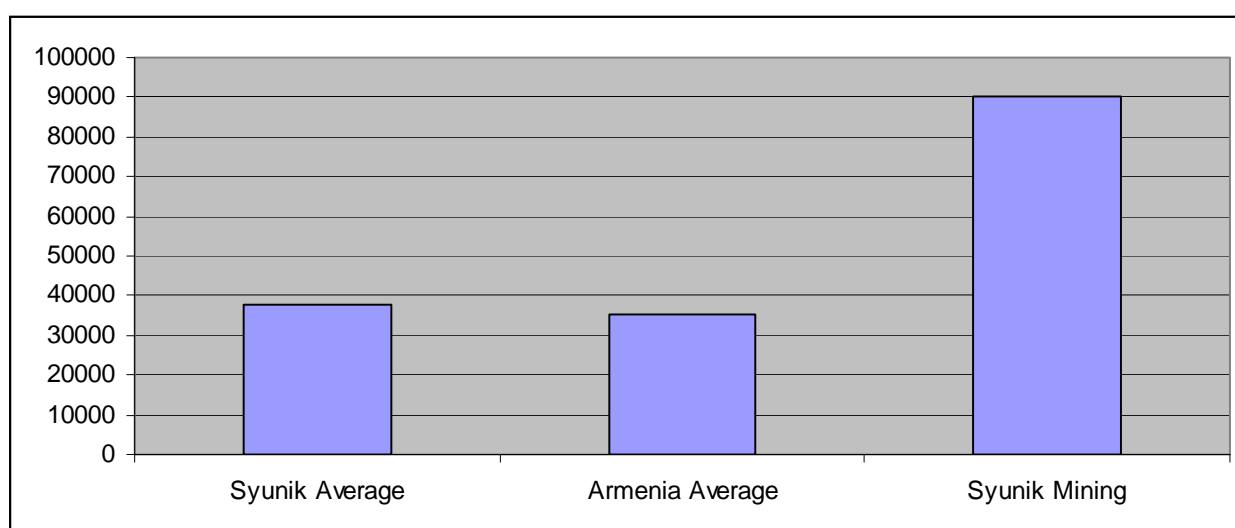
The analysis of the employment market of Syunik region reveals that a significant increase of the productive capacities and the output of mining plants and integration of many other different enterprises of Syunik region in the outsourcing and operations of mining enterprises through supply of various services, components and products is contributing to establishment of new jobs, for technical, engineering and blue collar personnel and most important for newly graduated young specialists. The extension of the activities of these enterprises contributes to at least partial resolution of social issues related with high level of unemployment in Syunik. At present the mining sector of Syunik employs around 4,000 personnel, which is approximately 70% of all industrial employment. However, establishment of new jobs in mining sector now depends on the new investments in the sector, which is anticipated after the privatization of key enterprises and specifically ZCMP.

The light industry now employs less than 10% of formerly working 4,000 personnel, who are mainly women in Kapan, Sisian and Goris. Some improvements in this field are anticipated as a result of the implementation of quite labor-intensive manual carpet weaving projects in Kapan and Meghri districts. The implementation of this project will lead to the establishment of around 200-300 new jobs.

The analysis of current situation, the existing trends and assessment of development perspectives of the region can lead to conclusion that there are opportunities for the establishment of new jobs in non metal mining sector, agriculture and food processing, services, SME's and tourism sectors.

The macroeconomic indicators related to the income of the population of Syunik and specifically the compensation of the employed population is again quite positive. Indeed, the average monthly salary in Syunik region is AMD 37,602 (or about USD 67), which is one of the highest indicators countrywide and 6.3% higher than average country level of AMD 35,369<sup>18</sup> (inclusive significantly higher salaries in Yerevan). However, such a positive general situation with numbers is still attributable to the very high salaries paid in three mining enterprises in Syunik region, namely ZCMC, APMC and KOEP. In these enterprises the total employment makes about 4,500 persons (or almost 10% of total 50,000 employment) and an average monthly salary is reaching to AMD 90,000, thus securing relatively high average for the entire region:

**Figure 17. Average Monthly Salary Level (AMD)**



As was summarized throughout this chapter Syunik region in terms of most of the key macroeconomic indicators is one of the best performing marzes of Armenia. However, the Consultant has numerously emphasized that general positive trends are due to the three mining enterprises located in the region. Without consideration of these enterprises Syunik will be the region with poorest social economic situation in Armenia.

<sup>18</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)

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## 2. Key Problems & Constraints

Syunik region as the entire Republic of Armenia following the break down of the Former Soviet Union started to experience numerous problems and bottlenecks related to various fields of socio-economic development. While the general problems experienced by Armenia since the independence, such as energy crisis of early and mid 90', high transport costs for inflow and outflow of products to and from the country, administrative barriers toward business development and rather small correlation of living standards of population with the general GDP growth are pretty well analyzed and presented in the studies and surveys implemented by various international organizations and technical assistance initiatives, Syunik region in addition to those constraints has unique problems, which are summarized in the following chapter, structured on objective and subjective problems and constraints.

### *Objective Problems*

#### Consequence of Military Conflicts

Syunik marz is the region most suffered by the military conflicts between Armenia and Azerbaijan over Nagorno Karabakh issue. Since 1992 till mid 1994 the biggest communities of the region, including Kapan and Goris towns were under intensive missile and aviation attacks from Azerbaijan. The military conflict had a significant negative impact on the economy and general social-economic situation of Syunik.

First, the extensive bombing resulted in massive ruining of residential buildings and social and industrial infrastructure. Extensive investments of the Government, SMEs and population were required for rehabilitation of the region.

Second, as a result of the military conflict significant areas in Syunik region were mined. Since, the process of mining was rather chaotic there are areas without proper maps for mine-clearing. As a result, at present in the Syunik districts

located on the border with Azerbaijan there are 1,500 hectares of mine-strewn areas. This factor alone is an essential constraint toward development of agriculture in those 1,500 hectares of land.

Third, the military attacks targeted on the peaceful population led to massive immigration of people from the region, which caused additional problems such as smaller internal market size, lack of resources for agricultural projects etc.

### Urban Predominance

During the industrial and energy crisis of early and mid 90's in Armenia, the country thanks to the agricultural reforms initiated right after Independence had at least agricultural sector with more or less stable performance. This was reflected in more than 40% of share of agriculture in Armenian GDP of mid 90's. In late 90's with development of industry and services the agriculture lost its huge share in GDP. However it was the sector that in a critical time supported at least minimal social and nutrition conditions in the country. Stable performance of agriculture was due to the privatization of agricultural lands and availability of skilled rural population in most of the Armenian regions capable for land cultivation.

In this respect Syunik has another constraint. The industry in the region, except of mining is still in deep crisis, while there are no sufficient rural population for proper cultivation of agricultural lands. Indeed, Syunik region, which has the biggest agricultural areas in Armenia and has the overwhelming urban predominance. According to the official statistics structure of urban and rural population in the region in year 2003 was as follows<sup>19</sup>:

**Table 6. Structure of Population in Syunik**

District	Total Population	Urban	Rural
Kapan	62,600	54,100	8,500
Goris	44,300	23,100	21,200
Sisian	33,900	17,100	16,800
Meghri	12,200	9,600	2,600
Total	153,000	103,900	49,100

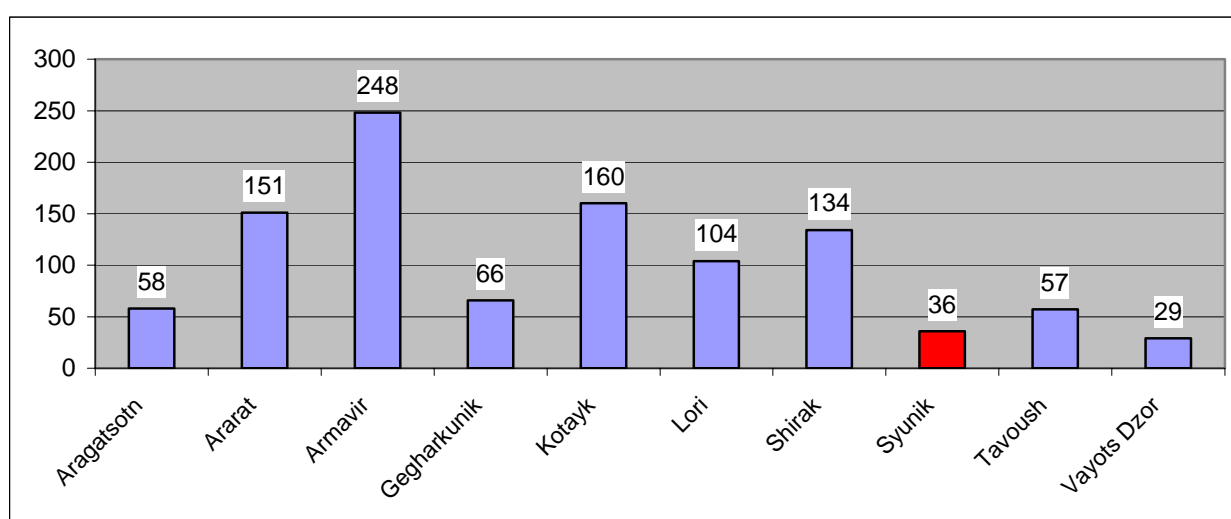
<sup>19</sup> National Statistical Service [www.armstat.am](http://www.armstat.am)



As summarized in the above table except of the Goris district, where the shares of urban and rural populations are almost equal in all the other districts urban population is predominant with about 68% of the share in the total population of Syunik.

Such a strong predominance of urban population in Syunik is a significant constraint toward development of the agricultural and food processing sectors in the region. Moreover, in addition to strong urbanization of the region there is another key problem, which is extremely small number of population per square km in Syunik. Population density in Syunik is lowest in Armenia after Vayots Dzor region. The comparison of population density indicators with the other regions is as follows:

**Figure 18. Population Density (persons per km<sup>2</sup>)**



### Lack of Transport & Communications

Another significant problem of the region is lack of transport and communication resources. The region has one of the weakest indicators in terms of Internet access, while a significant part of Syunik region is still out of mobile service coverage. Indeed, currently there are serious obstacles to Internet service development, since the region is experiencing serious problems with availability of Internet services for commercial purposes. At present access to Internet is possible either through

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Yerevan telephone numbers (some organizations in Syunik inherited from Soviet times or recently set up Yerevan telephone numbers) or via Internet provided by a few humanitarian organizations, like Project Harmony, which prohibits usage of Internet for commercial service. Transport problem is another constraint. This is related not only to the transport to and from Yerevan, but also within the marz. Due to long distances between all districts, as well as nature of the road coverage the access from one to another key town is complicated. This is especially an important problem for non-town communities, especially in Meghri, Goris and Sisian districts. Rural communities have no sufficient authority and capacity to solve numerous problems of people and automatically direct them to higher authority, which Marzpetaran located in Kapan. As a result, people usually spend several hours to reach Kapan from other areas and sometime need more than one day to discuss and try to solve their topics.

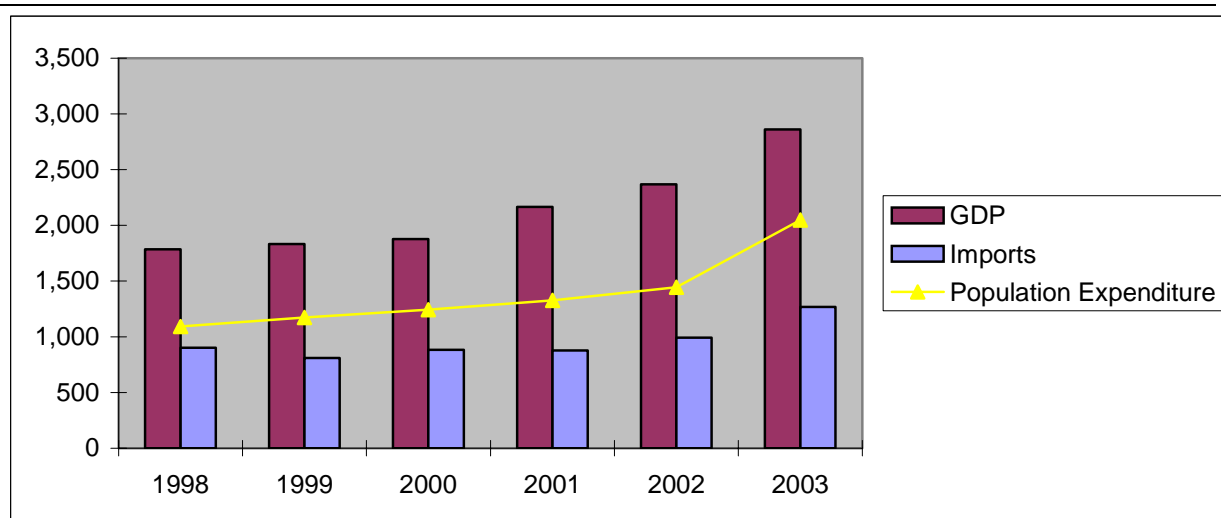
### Longest Distance to Yerevan

The availability of domestic market with relatively big size is one of the key factors for industries growth and SME development, especially in introduction stages. At present Armenia is experiencing a significant growth in domestic consumption of wide range of products and services. This statement is supported by the following dynamics of growth rates of GDP, Imports and Population Expenditures for the period of 1998 - 2003<sup>20</sup>:

### **Figure 19. Dynamics of GDP, Imports & Population Expenditures (USD Millions)**

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<sup>20</sup> National Statistical Service [www.armstat.am](http://www.armstat.am)



As summarized in the above graph, all three indicators have quite dynamic growth with outstanding aggregate rates as follows:

- CAGR GDP – 11.9%
- CAGR Imports – 12.3%
- CAGR Population Expenditures – 15.8%

However, despite such a significant growth rates experienced by the above-mentioned indicators the most of the consumption within the country is concentrated in Yerevan. As a result, the country has relatively big market size, but demand for goods and services in regions and specifically in Syunik marz is extremely small. In this respect Syunik, as compared with the other regions of Armenia has the worst position since it is located on the longest distance from Yerevan. Moreover, due to the location of highways in mountains the timing from Syunik to Yerevan is not adequate to the distance. As a result the access to the main consumption market is relatively weak creating serious disadvantage for industries and especially SMEs in the region.

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## *Subjective Problems*

### Lack of Entrepreneurial Skills

Many problems that are unique for the Syunik region are inherited from the former Soviet legacy. Indeed, during the Soviet times the central government based on the mineral resources available in Syunik and specifically Kapan, Kajaran and Meghri established well-developed industrial and social infrastructure in the region. Specifically in addition to the mining enterprises described above, the Government established numerous industrial facilities in the fields of electronics, engineering, textiles, food processing, construction and many other fields to secure employment of the population. Additionally for the organization of the socio-cultural life of the people the Government established wide infrastructure throughout the region to provide high quality secondary, professional and higher education, health support and cultural events. Moreover, specifically in Kapan and Kajaran the Government established so called “ORS” (Department of Supplies for Employees) system, that had numerous stores in the those cities and was responsible for organization of proper supply of various goods, including food and consumer goods of Western origin for the employees of industrial enterprises. As a result of these undertakings, as well as very high salaries adopted in mining enterprises of Kapan, Kajaran and Agarak, people in Syunik region had very high standards of life and Kapan was considered as one of the best places for life in Armenia.

Under these circumstances, several generations of people had fully secured life and unlike many people living in other regions of Armenia for example Yerevan or Ararat valley had no need to source additional income for their families. Indeed, in almost all the other regions of Armenia people were engaged in commercial cultivation of agricultural lands to generate additional revenues, while Kapan and Kajaran despite the relatively big rural communities were always supplied by agricultural products by the peasants from other regions and even Azerbaijan. As a result, after the break down of FSU most of the population of Syunik had almost no entrepreneurial skills and was not ready to the challenges of free market economy. This is one of the key factors for such underdeveloped SME role and status in Syunik.

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## Additional Administrative Barriers

Administrative barriers are serious bottleneck for business and especially SME development in Armenia. However, while in Yerevan and regions located near the capitol the administrative barriers are limited to interaction with tax, social security, customs and licensing authorities in Syunik in addition to these authorities there are some evidences of excessive interactions of SME's with number of other government agencies and authorities, which by law have to have extremely limited access and interaction with SMEs.

This poor situation is again inherited from Soviet times, when due to the well developed industry the Government has also established strong “control & punishment” mechanisms based on the numerous institutions. The tradition of strong and influential security, police and prosecutors remained till present times and is an essential factor toward business development in the region.

Another weakness in Syunik region associated with this problem is the lack of opportunities and mechanisms to dispute voluntary decisions of the above-mentioned institutions. Businesses there are far from central media and democratic institutions, while the similar regional initiatives are underdeveloped.

In addition to the points highlighted above, the Consultant has also identified that especially in Kapan, which is the marz center, businesses are experiencing problems related to bottlenecks created by double authority of marz (regional) and city officials.

## Dependency on Mining and Energy Sectors

As was emphasized throughout the first chapter, the entire industry of Syunik region is strongly dependant on the mining sector and specifically the performance of ZCMC and to less extent ACMC and KOEP. In addition to macroeconomic indicators summarized above the following list of the top ten performing enterprises in Syunik region again proves the high level of dependency on mining<sup>21</sup>:

1. Zangezour Copper Molybdenum Combine (mining)

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<sup>21</sup> Syunik Government

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2. Agarak Copper Molybdenum Combine (mining)
  3. Kapan Ore Enrichment Combine (mining)
  4. Vorotan HPP (energy)
  5. Kapan Machine Building Plant (leading position within top ten is held due to the big volume of machine renovation services provided to ZCMC)
  6. Sisian Shik (stone extraction and processing)
  7. “Zangezour Textiles” (leading position within top ten is held due to the big volume of textile articles, specifically bags and working uniforms supplied regularly to ZCMC)
  8. Sisian Grand Marcos (travertine processing)
  9. Meghri Cannery (food processing)
  10. Vible (production of lime)

As a result, as summarized in the above list out of top ten performing enterprises of Syunik region six are directly working or associated with the mentioned sectors of mining and energy. Moreover, out of the rest four enterprises three companies are involved in extraction of different types of construction stones and their processing. Availability of advanced mining factories in the region is an obvious advantage for Syunik. However, strong dependency of other industries and infrastructures on mining is a threat for economic development of Syunik, since potential downward dynamics in that specific sector or negative situation in metal exchanges might lead to negative trends in the other industries as well.

### Lack of Information Sources

Syunik is the peripheral region of Armenia, located on the longest distance from the capitol city of Yerevan. This factor influences availability of the information required for development of business and business environment in particular. The lack of information is related to almost all information sources, including

- TV (not all Armenian TV channels are covering entire territory of Armenia and Syunik certainly is among uncovered marzes);
- Radio (FM channels are covering the area of Yerevan plus surrounding territory with the radius of about 50 km)
- Internet (Syunik despite having one of the best indicators of people with high education has probably the weakest Internet access position in Armenia)

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- Direct information sources (People usually communicate with each other directly or on specific events in Yerevan and the information the spread all over the country. The closer areas to Yerevan the more extensive is the information received from this source)

As a result of these shortcomings, people in Syunik and specifically SMEs have lack of information regarding the following issues:

- i) Debt and equity financing sources and conditions;
- ii) Opportunities provided by international technical assistance initiatives;
- iii) Legal and regulatory field covering the business environment;
- iv) Modifications in tax and other business related legislation
- v) Other business and SME development related info

### Lack of Communication & Feedback Between Communities and International Organizations

Community leaders in Syunik region, especially those representing rural communities have lack or often even no information about various interesting resources, technical assistance projects and other opportunities provided by international organizations. This is very often is a result of the lack of information briefly summarized above. However, in many cases this is the result of the weak professional and educational background of the community leaders, who sometimes are not capable of properly finding, analyzing and utilizing the information regarding international project opportunities.

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### 3. Assessment of Economic Resources & Potential

#### Hydropower Generation

As was summarized in the chapter of economic background the energy field and specifically hydropower generation is currently the second biggest industrial sector of Syunik with the total output reaching about 1,343 million kWh or approximately AMD 4.5 billion in year 2003. The biggest enterprise solely responsible for the overwhelming portion of this output is Vorotan HPP.

The installed capacity of Vorotan HPP is 400 MW, while current operational capacity is nearly 320 MW. This indicator makes the plant responsible for about 20% of total energy generation operational capacities in Armenia, about half of the total hydro power operational capacities of Armenia along with Sevan Hrazdan Cascade of HPPs and about 24% of total 5,519 million kWh of energy produced in Armenia<sup>22</sup>.

In addition to Vorotan HPP at present there are a few other small HPPs operating in Syunik. Recently the Government of Armenia in cooperation with international donor community, specifically the World Bank, EU, USAID and EBRD launched several initiatives targeted on promotion of renewable energy generation sources and specifically development of small and medium hydro power plants throughout the country.

Indeed, at present almost 60% of total electricity generated in Armenia is produced in Metsamor Nuclear Power Plant and Hrazdan Thermal Power Plant. The operations of these two plants have significant disadvantages. Nuclear plant was established in 70's and is currently a long-term environmental threat not only for Armenia but also for the entire region. Moreover, the nuclear fuel used in the plant is very expensive, requiring external financial interventions during each supply and creating further crucial environmental problems with burial of radioactive wastes. The thermal power plants on the other hand although have less environmental impact but are too costly, because they are based on expensive gas and/or mazut

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<sup>22</sup> National Statistical Service, [www.armstat.am](http://www.armstat.am)



imported from abroad and delivered with usual for Armenia high transport costs. This makes the cost of one kWh of electricity generated in TPP higher than USD 0.034, which is in average almost three times as bigger as the average cost of electricity generated in HPP. Under these circumstances, the Government supported by donors created an environment for boosting small HPP establishment in Armenia. In this respect Syunik is one of the most efficient regions in Armenia for development of hydropower generation business. The region as illustrated on the following map is quite rich by water resources.



According to meteorological observations the amount of annual rainfall is about 2,930 million m<sup>3</sup> or 620mm, of which 1,520 million m<sup>3</sup> or 340mm evaporates and the rest part comes out to the surface in the form of springs or feeds the water horizons of artesian reservoirs of inter-mountainous concavities.

The rivers in Syunik are mainly short, fast and shallow. They belong to the Araks reservoirs. The biggest rivers of Syunik are Vorotan, Voghchi, and Meghryget. The river Vorotan rises from Syunik plateau and has 178km length, of which 119km passes through the territory of Armenia. The reservoir is 5650km<sup>2</sup> and it flows into Araks. It is a mountain-river and flows through a deep canyon, the fall on 1km makes 16m, annual average consumption (near Vorotan settlement) is 21.5m<sup>3</sup>/sec, annual flow is 680 million m<sup>3</sup> (maximum flow in RA territory is 350m<sup>3</sup>/sec, minimum flow is 11m<sup>3</sup>/sec). The river has mixed supply (50% are underground waters). It is not steady, it becomes faster in spring and in the beginning of summer. The main brooks are Sisian, Aragildjur, Shaki with the picturesque waterfall with the same name, Lernashen, Shamb, Vaghatni, Vararak (Goris), etc. The Spandaryan, Angeghakot, Tolors and Shamb reservoirs and the Spandaryan, Shamb and Vorotan HPP are built on the river. The Spandaryan and Vorotan irrigation systems are also supplied from Vorotan.

The river Voghchi rises from Kapoutjough peak of Zangezour mountain chain. It has 82km length, the reservoir is 1175 km<sup>2</sup> (56.9 km<sup>2</sup> in RA territory), the annual average consumption is 9.6 m<sup>3</sup>/sec and the annual flow is 302.4 million m<sup>3</sup>. The supply is mixed, the river becomes faster in April-June. The main brooks are Kadjaran, Geghi, Vachagan, Norashenik, Geghanush. The Voghchi and Kapan HPPs are situated on the river. The towns Kapan and Kadjaaran are on the banks of the river.

The river Meghry is the left brook of Araks. It rises from Kapout Lich (Blue Lake) of Zangezour mountain chain. It has 36 km length, the reservoir is 274 km<sup>2</sup>. It has snow-rain and underground supply, average consumption is 3.34 m<sup>3</sup> /sec, annual flow is 102 million m<sup>3</sup>. It becomes faster in spring. Down the Meghry river, on the right bank is Meghry town.

There are more than 30 small lakes, including Sev (Black) and Al (Red) in Goris district, Gazana, Tsaghkakar, Kaputan in Kapan district and Kapout lich (Blue

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Lake) in Meghry district. They mainly have dam origin and are situated in the valleys generated from ice-fields where the snowmelts and spring waters are piled up. Current and potential hydro power projects in Syunik region are summarized in the Annex 1<sup>23</sup>:

While the majority of the project sites have no formal developer right now, the Consultant conducted survey among specialized research institutions and identified that for almost all the sites recently the potential owners initiated development of engineering project, which will be the first step for licensing and construction of plants. As summarized in the table the implementation of these projects could lead to production of electricity with the total output of about 273 millions of kWh for the total value of USD 9.5 millions (without serious marketing costs), which will lead to more than 13% growth of the industrial output of the marz and establishment of hundreds of new highly compensated jobs.

Based on the above brief review, the Consultant concluded that HPP sector of Syunik, based on the availability of low cost resources and current increasing demand have big potential and would be able in a future to provide a significant share to country energy generation and also contribute to energy security of Armenia.

## **Tourism**

The presentation of current resources and growth potential in tourism sector of Syunik region is structured by districts as follows:

### *Sisian*

Sisian district is rich with numerous tourist attractions. The sites that can be used to attract tourists to Sisian are summarized in the Annex 2:

Currently there are three hotels in Sisian district. The brief summary of those hotels is as follows:

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<sup>23</sup> Scientific Research Institute “ArmHydroEnergyProject” CJSC

**Table 7. Summary of Hotels in Sisian District**

Name	Number of Rooms	“Lux” Rooms*	Number of Beds	Number of baths/toilets	Condition	Restaurant	Other Services	Required Investments
Hotel “Dina – Albert”	31	8	80	8	recently renovated	Available	Satellite TV, local and international phone, tourist routes, guide service, translator service, different types car rentals, hot water available	There is a need for installation and set up of 23 baths/toilets. Total investments USD 34,500
Hotel “Basen”	50	50	75	50	recently renovated	Available	Tourist routes, guides, different types cars rentals, sauna, national cuisine, hot water available	Minor improvements for about USD 10,000
B&B “Karandzav”	3	0	11	3	recently renovated	Available	No additional service	-

*\*Improved, comparably convenient rooms*

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### *Goris*

Goris district of Syunik region is another unique area, where in addition to ancient historic and cultural monuments potential tourists can enjoy beautiful environment and natural parks. The most tourist attractive site of Syunik region, Tatev monastery is also located in Goris region. The key tourism areas of Goris are summarized in the Annex 3:

Currently there are four hotels in Goris district, as summarized in the following table

**Table 8. Summary of Hotels in Goris**

Name	Number of Rooms	Number of Beds	Number of baths/toilets	Condition	Required Investments
Goris	40	90	40	One floor is fully occupied by refugees; Needs to be fully renovated and re-equipped	All rooms must be renovated; new cold and hot water system to be installed; equipment and furniture to be fully renovated. Total cost about USD 100,000
B&B	3	7	1	Recently renovated	Facility is planning extension of services, specifically acquisition of resort, construction of pool, carriage trips. Total Investment USD 10,000.
B&B "Khachik"	3	6	1	Recently renovated	No additional investment needs by the owners
B&B	1	3	1	Recently renovated	Needs to extend and to establish surrounding resort. Total size of investment is USD 2,500.

### *Kapan*

Although Kapan district does not have such a unique and renown historical, cultural and architectural monuments like Tatev monastery it also has significant potential for attraction of tourists to both historic and cultural monuments and natural resorts and specifically forests and mountains spread throughout Kapan district.

The key tourist areas of Kapan are summarized in the Annex 4:

Currently there are the following hotels in Kapan:

**Table 9. Summary of Hotels in Kapan District**

Name	Number of Rooms	Number of Beds	Number of baths/toilets	Condition	Required Investments
Caravan	4	8	4	Hotel is newly constructed and is equipped with restaurant and sauna as well as TV and video facilities inside each room. All rooms have permanent hot and cold water. Open-air café is also available.	N.A.
Darist	27	27	27	Hotel is newly constructed and is considered as one of the best hotels in Syunik. All rooms have permanent hot and cold water.	N.A.
Lernagorts	60	70	60	Soviet time constructed hotel. Only 10 out of 60 rooms are equipped with hot water facilities.	About USD 20,000
Tourism Bureau	8	40	8	The “hotel” occupies three-floor building and consists of 7 two bed rooms and one 26 beds room.	About USD 30,000
Gandzasar	14	30	14	Soviet time constructed hotel. Two bedroom facilities are considered as “Lux” and have permanent water, including hot water supply. The other rooms do not have hot water supply.	About USD 30,000



### *Meghri*

Due to climatic conditions and location far from Yerevan and the center of the country Meghri district is probably the least attractive from tourist point of view. On the other hand Meghri is located on the border of Armenia with Iran and due to such location is always hosting guests both from Armenia and Iran.

The summary of key tourist attractions is given in Annex 5 of the study:

The summary of hotels in Meghri is as follows:

**Table 10. Summary of Hotels in Meghri District**

Name	Number of Rooms	Number of Beds	Number of baths/toilets	Condition	Required Investments
Meghri	40	60	40	Non renovated	Hotel needs to be fully renovated. Total costs is about USD 90,000
Mila	6	12	6	Equipped, permanent hot and cold water	-
Hayer	3	6	1 joint	The hotel occupies second floor of a cottage. It has joint facilities such as toilet, bathroom, kitchen etc. Hotel is equipped.	-
Otevanatun	2	4	1 joint	The facility occupies two bedrooms of three-bedroom apartment. All facilities are joint. Facility is equipped.	-
Otevanatun	1	2	1 joint	One bedroom apartment. Apartment is equipped. No hot water is available.	-
Elya	20	20	1 joint	Rooms are equipped. The joint bath facility has permanent hot and cold water supply.	USD 1,000 to renovate bath facility.

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As the above chapter on tourism shows the region have significant historic, cultural and architectural resources as well as nature and environment to attract tourists. However, due to the lack of infrastructures, specifically hotels and other similar accommodation facilities the tourism here is underdeveloped. In this respect, one should note that currently the tourism industry and especially internal tourism is experiencing a boom in Armenia. Areas and regions like Tsakhkadzor, Sevan and Dilijan are selling hotel facilities at daily price of about USD 30 – 50 and have very high occupancy rates.

In Syunik although some new investments were financed, specifically in Sisian and Kapan, there is a big floor for institutional investors. For instance, the ZCMC with it's profilactorium facility might be the pioneer in the development of tourism industry in Syunik.

In development of tourism business in Syunik it is important to stress not only end users but also specialized travel agencies, which have significant role in development of tourism in lake Sevan and Tsakhkadzor areas.

Another important fact related to tourism is that revenues generated from visitors spread through wide public, who will sell small products and services to tourists. At present the World Bank has sponsored a pilot project called Tourism Development in Tatev. The idea is to teach and motivate people in surrounding villages to offer services and products to tourists visiting the monastery complex.

Another positive aspect of tourism development is that construction and operations of small cottages as a starting strategy for tourism development (as was done in Lake Sevan area) will also lead to SME development and increase of income in rural areas.

In development of tourism in the region it is important to stress and concentrate not only on cultural and historic monuments, but also on the areas with unique nature and special tourism segments such as hiking, mountain climbing, hang glider flights etc.

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## **Electronics & Engineering**

Electronics and engineering were among the most developed sectors of Syunik economy in late Soviet period. The electronics industry in Syunik region was concentrated primarily in Kapan and to less extent in other districts of Syunik. Having a qualified support provided by Kapan branch of State Engineering University of Armenia (SEUA) a former Yerevan Polytechnic Institute as well as other high technical institutions located in Yerevan the FSU Government initialized the set up of several at those times pretty advanced electronics plants, including “Kapan Electron”, “Kapan Relay”, “Kapan Condensators”, “Kapan Lamps”, “Goris Gamma”, “Sisian Transistor Plant”, “Kapan Machine Building Plant”, “Sisian Lamp Plant” and “Sisian Condensators Plant”. The overwhelming portion of the output was sold throughout the FSU with the major concentration on defense industries.

However, following the break down of FSU and disintegration of former economic links, the sector in Syunik became most suffered and currently has almost no chances for potential recovery. According to the official statistics, in year 2003 the total output of “Equipment & machinery” sector was only AMD 195 millions (approximately USD 348,000), which made 20.4% decrease as compared with the previous year.

The status of main plants and operational facilities representing the sector is as follows:

### ***Goris Gamma***

“Goris Gamma” OJSC is probably the most successful enterprise in the sector in Syunik region. The company is specialized in design and manufacturing of electronic instruments, electric machinery, precise mechanical articles and optical articles. The output of the company in year 2002 was around USD 206,000, which for more than 75% was attributable to exports mainly to Russia and Canada. The other positive issue in respect to this company is that during the last several years it was experiencing a stable growth.



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Currently the company has a total staff of around 130 persons, with average salary of about AMD 30,000. The owners of the company are Armenian individuals. The company has ISO 9001 certificate and is regularly participating in relevant local and international events, such as CEBIT 2003 in Germany. While the equipment of the company mostly consists of the technologies of Soviet origin installed in eighties, it is well preserved and still capable of producing relatively competitive output.

### ***Kapan Electron***

From its establishment until 1996 the company was specialized in the design and manufacture of special computer technologies and components for the defense industry, digital modems, and other electronic technology for aviation and submarines. The company reached production and employment peaks in 1991. The volume of output was equivalent to about USD 11 millions and the number of staff reached 850 persons.

After the FSU breakup and the complete disintegration of former relationships with clients in Russia, the company was involved in the production and mechanical processing of metal construction. The company ceased operations since 1998. At present it has 8 employees mainly for security purposes. Moreover, due to negative location of the plant on the land with free flowing grounds, it's premises now are considered as dangerous and have extremely limited real estate value.

### ***Kapan Relay***

The company has not operated since the year 2000. The main specialization of the company was production of relays. In addition to this main specialization the company was also involved in design and production of remote controls for TV sets, stabilizers and motors for tape recorders, shooting toys, electric water heaters and automobile interior fans. Kapan Relay plant reached employment and output peaks in the period of 1988 – 1991. At that time the staff of the company consisted of 1,500 persons. The entire output was selling in Russian market.



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Currently the company has 13 employees, who are people mainly responsible for the security of the area and workshops. The plant is equipped by Soviet technologies. About 50% of all equipment was produced and installed in late 80's. The other part is older. As compared to two other huge FSU plants, like Kapan Electron and Kapan Condensators this plant is much better preserved and maintained. The majority of equipment is still in place. However, the production was designed for the output, which has no demand now and maintenance of the key profile of enterprise seems to be unrealistic.

### ***Kapan Condensators***

The enterprise during late Soviet period has substantial output and big personnel. At present it does not operate. Moreover, the enterprise lost almost all technologies and equipment. The building is in awful condition and has extremely limited value for future utilization, since requires extensive rehabilitation and complete installation of roofs.

### ***Goris Micro Engine***

The company is specialized in design and production of electric machinery with small capacity (-200 Watt), in particular electric engines, electric pumps for chilling liquids of metal cutting machinery, roof fans, other types of fans. Goris Micro Engine reached both employment and output peaks in the period of 1989-1990. At that time the total output was equivalent of USD 6.2 millions, while the staff comprised of about 900 persons.

In year 2002 the total output of the company was equal to USD 52,000 or less than 1% of late FSU time. At present the company employs 53 persons staff with an average monthly salary of about USD 25.

### ***Kapan Machine Building Plant***

Despite the name of the plant, both in Soviet times and currently it is mainly involved in rehabilitation of machinery and big transportation means of mining



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enterprises. At present the enterprise is considered as a satellite of ZCMC. It has permanent cooperation agreements with ZCMC and provides professional repair and maintenance of machinery of ZCMC. The main part of revenues is related to service of huge “BELAZ” trucks utilized by ZCMC.

In addition to its core activities, the company is also involved in service field. Specifically it is the distributor of Armenia Lada Company in Syunik region, as well as distributor of “Belarus” engines in Armenia. Kapan Machine Building Plant has currently about 160 persons staff and is ranked by marz authorities among top ten performing Syunik enterprises.

The enterprises in electronics and engineering sectors of Syunik are few and unique. Therefore, instead of elaboration of brief overview of the sector the Consultant visited plants and made brief overview of each enterprise. Following the assessment of the situation, the general rank of the sector is negative. Moreover, despite the performance of two companies could be considered as more or less satisfactory, the sector has almost no development potential, since the rehabilitation of the plants will require multimillion investments, while on the other hand there are better equipped plants in Yerevan and surrounding areas, which are still greatly underutilized.

The other regional plants that have been quite successful in Soviet times but not operate now are Sisian Medical Instruments Plant and Sisian Lamps Plant.

### **Agriculture & Food Processing**

For the analysis of the prospects of Syunik region in food processing industry the Consultant has initially conducted an assessment of the resources of Syunik region in various food products and raw materials. The assessment of the Syunik agricultural resources is structured according to the districts of Kapan, Meghri, Goris and Sisian. Information is provided by districts not only to provide data as detailed as possible that can be further utilized by marz and community authorities, but also due to the fact that all four districts are located far from each other. Therefore, utilization of agricultural resources of one district by another would be also problematic issue. Within the framework of the project the

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Consultant conducted interviewing and survey in all urban and rural communities of the region. The information is summarized as follows:

### *Sisian Agricultural Resources*

The break down of Sisian resources according to villages and stock breeding products is summarized in the Annex 6:

As a result of the data summarized in the Annex 6 Sisian district in year 2003 produced 491.6 tons of meat; 13,869.5 tons of milk; 1.92 millions of eggs; 46 tons of wool; 54.2 tons of leather and 88.2 tons of honey.

Milk produced and collected in Sisian is sufficient for the set up of industrial facilities and relatively large-scale dairy production. However, due to the long distance from the key consumer market of Yerevan, cheese is the only economically feasible product. Sisian district is famous by high quality of cheese. However, the recognition of Sisian as cheese production district significantly loses to other areas, specifically North Western regions of Armenia. To solve this situation the region needs investments into modern cheese production and packaging facilities. Data on the milk availability along with the additional program on development of cheese industry in Sisian has to be communicated to potential profile investors in Armenia to attract required investments. Additionally, while the quality of cheese produced in Sisian is relatively high the awareness of Sisian cheese in the country is not adequate.

The meat resources summarized above can allow establishment of a few small sausage production workshops targeted on the Yerevan based clientele. Additionally, the Consultant should note that each year Sisian district is supplying a significant amount of unprocessed leather to traders and processors in Yerevan. More than 50 tons of leather produced each year could be sufficient quantity for the set up of the small leather processing facility in Sisian.

The current situation with stockbreeding and specifically the quantity of cattle, pigs, sheep and goats, poultry and honeybee hives in Sisian district is summarized in the Annex 7:



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Currently, as summarized in the Annex 7 Sisian district has total 17,024 heads of cattle, 25,479 heads of sheep and goats, 537 pigs, 30,000 chicken and hen and 5,880 bee hives. The situation with the vegetables grown in Sisian district is summarized in the Annex 8. As summarized in the Annex, the only crop output allowing industrial processing is wheat. Currently there are several mills in Sisian, which are based on the supply of the local wheat. The output of fruits and berries in Sisian is so limited, that they are all grouped into single column jointly making 31.4 tons annually.

### *Goris Agricultural Resources*

The summary of agricultural output in Goris with detailed per products and per community break down is summarized in Annex 9:

As summarized in the Annex the output of Goris district in year 2003 according to key product lines comprised 1,630 tons of meat, 16,442 tons of milk, 6.5 millions of eggs, 58.6 tons of wool and about 18,000 pieces of skins. The above-mentioned amounts of meat and milk are sufficient for set up of milk and small meat processing facilities in Goris district. Like in case of Sisian to target the Yerevan market, the milk processing must be concentrated on cheese production primarily.

The situation with fruits, vegetables and crops cultivated in Goris is summarized in the Annex 10. As summarized in the Annex 10 Goris district has very small gross output in all kinds of fruits, vegetables and crops. Such a limited quantity of resources limits the business opportunities in food processing sector. In addition to the above-mentioned output Goris district has annually a total output of 32 tons of blackberry.

### *Kapan Agricultural Resources*

The agricultural resources of Kapan district related to cattle breeding and land cultivation are summarized in the Annexes 11 & 12. As highlighted in the Annex 11 and specifically in total quantities summarized in the last row, Kapan district has relatively big output in cattle breeding related agricultural fields. While the total meat output of 325 tons is not sufficient for development of meat processing businesses, the output of milk is relatively sufficient to promote milk processing workshops and small dairy plants. The importance of promotion of small dairy

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workshops and specifically cheese making facilities is even more vital due to the fact that the total amount of milk will be supplied not by the few farmers, but rather by hundreds of peasants. As a result, numerous families would benefit from those initiatives. The similar initiative was recently started by Kapan Enterprise Development Center based on the financing provided by OXFAM Great Britain.

Procurement and processing of skins is another field that have potential for economic growth and development. The resources in this subsector region wide are sufficient for set up and development of leather processing facilities. The situation with the output of fruits, vegetables and crops in Kapan district is summarized in the Annex 12. In addition to the crop summarized in the Annex Kapan district annually has the total output of 44.6 tons of blackberry. As the Annex summarizes Kapan district does not possess resources sufficient for large-scale industrial processing of fruits and vegetables. However, the gross output in fruits, vegetables and berries might be sufficient for restart of retail market oriented activities of Kapan Cannery or new smaller scale canning facilities.

### *Meghri Agricultural Resources*

The agricultural resources in Meghri district are summarized in the Annex 13. The cattle breeding related agricultural output of Meghri district, except of milk production is very limited for any kind of industrial processing. The situation with the production of fruits, vegetables and crops in Meghri district is more positive and is summarized in the Annex 14. In addition to data summarized in the Annex 14, Meghri district annually has about 6 tons of blackberry output. As summarized in the Annex 14, unlike the poor output in cattle breeding related fields the output of fruits in Meghri is quite substantial. This allows Meghri district not only to have most advanced cannery in Syunik region, but also enables population to grow wide range of fruits and sell them throughout the region and in Yerevan.

There is a discrepancy between figures summarized in this chapter and in the macroeconomic indicators. However, one should note that these figures are based on the survey and direct interviewing conducted by the Consultant in exclusively all communities of Syunik region. The region wide summary of key agricultural output of Syunik region is as follows:

**Table 11. Syunik Agricultural Output (Tons)**

	Meat	Milk	Eggs (000'pcs)	Wool	Skins (pcs)	Honey	Wheat	Vegetables	Fruits	Potatoes	Berries
Kapan	325.3	5,665	2,546	7.3	5,342	N.A.	1,756	2,525	331	3,191	64.4
Goris	1,630	16,442	6,540	58.6	18,345	N.A.	14,800	1,529	1,070	3,524	49.7
Sisian	491.6	13,869	1,920	46	7,700	88.2	11,737	6,150	314	14,690	0
Meghri	191.7	1,487	417	3.9	1,507	N.A.	0	422	2,600	336	11.7
<b>Total</b>	<b>2,638.6</b>	<b>37,463</b>	<b>11,423</b>	<b>115.8</b>	<b>32,894</b>	<b>88.2</b>	<b>28,293</b>	<b>10,626</b>	<b>4,315</b>	<b>21,741</b>	<b>125.8</b>

The total figures summarized in the above table are quite indicative and could be used for elaboration of regional agri-processing policies and whenever feasible, initiation of specific investment projects.

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## **Mineral Resources (other than copper & molybdenum)**

The Consultant has emphasized throughout the text the importance of mineral resources and specifically copper and molybdenum deposits available in Syunik for the entire industrial and social infrastructure of the region.

Indeed Syunik is rich by identified and researched deposits of wide range of mineral materials, including stones and metals. The processing of mineral materials in Syunik and specifically bronze, copper and other metals started thousands years ago. During the intensive mining and construction processes in Syunik a lot of archeological findings such as a small bronze statue (1400-1700 B.C.) found in Syunik village, Bronze Age axe found in Kadjaran mine, stone forms for fusing swords (II millennium B.C.) found during the Kapan-Kadjaran road construction appeared to support those facts.

The contemporary utilization of Syunik mineral resources started in mid 19<sup>th</sup> century. The first industrial mining started by French, Greek and Russian companies in Agarak and Kapan. At those time the primary targeted material was copper. In that period, i.e. from mid 19<sup>th</sup> century till the Soviet times in 1917 the Syunik mines produced around 33,000 tons of copper<sup>24</sup>.

Currently the most important mineral resources of Syunik are non ferrous metals, mainly molybdenum, copper, zinc, lead and tin as well as to less extent precious metals, such as gold and silver. However, along with the highly expensive metal resources the region is also pretty rich by less expensive, but still very valuable non metal mineral resources and primarily construction stones. The importance of this sector is currently more increasing thanks to the outstanding growth experiencing by Armenian construction industry throughout the last five years.

At present in Syunik region there are 27 mines operating with appropriate license provided by the Government. The biggest mines are utilized by Zangezour Copper Molybdenum Combine in Kajaran, which is followed by Kapan Ore Enrichment Combine and Agarak Copper Molybdenum Combine. The ZCMC operates mines, which have 8% of the worldwide molybdenum deposits. Currently investigated deposits of copper and molybdenum could be mined by ZCMC for another 200 years.

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<sup>24</sup> [www.syunik.am](http://www.syunik.am)

Apart of these resources the region has significant resources of nonferrous and ferrous metals, such as molybdenum, copper, lead, iron, manganese etc concentrated in mines of Svarants, Erkatakar, Kajaran, Agarak, Dastakert, Aygedzor, Lichk as well as copper-pyrites mines of Kapan, gold mines of Shahumyan, Terterasar, Mardjan, Lichkvaz and Tey.

In addition to main metals, copper-molybdenum ores include also constituent elements that are of economic importance. More important among them are rhenium (in copper-molybdenum ores) and cadmium (in zinc contained ores). As constituent elements gold and silver are found in copper-molybdenum ores. Among non-metal fossil minerals marble and marble-made limestone (Kapan and Goris districts), basalt (Sisian district) and granite (Meghry district) are found. The mentioned minerals are used as facing stones. There are considerable resources of construction stones (basalt) in Goris and Sisian mines. Angeghakot and Artsvanik volcanic slag and Shaki sand-pebble mines are rich in construction fillers. Considerable resources of basalt are found in porifrite, diorite and diatomite mines of Giratagh (Kapan district), Meghry and Vorotan (Sisian district).

According to the most recent investigations conducted by specialized research institutions, at present there are many deposits of construction materials and other mineral resources in Syunik region as summarized in the Annex 15<sup>25</sup>:

Notwithstanding with such a significant resources, at present there are only 27 business units operating in mining sector of Syunik. Apart of the three key plants of ZCMC, APMC and KOEP the more or less advanced enterprises are the followings:

- ⇒ Shik Ltd (Construction stone extraction & processing)
- ⇒ Grand Marcos (Travertine extraction & processing)
- ⇒ Vible Ltd (Limestone)
- ⇒ Manarbi Ltd (Construction stone extraction & processing)
- ⇒ Sipan –1 Ltd (gold & silver mines)

Out of the five companies specified above four are active in stone extraction and processing. In this respect one should note that operations of these enterprises are based on the availability of raw materials in the region. However, during the

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<sup>25</sup> Scientific Research Institute of Mining & Metallurgy

interviews with some of the managers of those enterprises the Consultant found that the stone processing facilities in Syunik are equipped with rather simple and outdated technologies. As a result the value added in Syunik is rather limited. The modest investments of up to USD 500,000 into new processing technologies for one facility would be able to significantly increase value added, to secure production of 80,000 m<sup>2</sup> of products annually and to provide up to 300 highly compensated new jobs.

#### Case Study: “Sipan – 1” Ltd

The company has the licenses provided by the Government of Armenia for extraction of mineral resources from Lichkvaz-Tey and Terterasar gold deposits located in Meghri district of Syunik region of Armenia. The total mineral resources concentrated in these two deposits are about 3.8 millions tons, with gold and silver concentration in Lichkvaz Tey at an average grade of 5.15g/t Au and 33.2 g/t Ag and in Terterasar at 10.42 g/t Au and 73.3 g/t Ag containing total 421,000 ounces of gold valued at current prices as more than USD 150 millions. The Company has already invested significant resources into concentration of appropriate technology in extraction process as well as construction of gold processing plant near the mines, equipped with contemporary gold processing technologies. Currently, the management of Sipan – 1 is considering additional investments for the expansion of production. Within the framework of the project the company targets reaching the level of annual extraction of mineral resources of 50,000 tons for the total amount of 400 kg of processed gold. For the implementation of project objectives the company will invest additional USD 500,000, will hire a total 80 persons staff, consisting primarily from local people and will annually pay total about USD 300,000 compensation.

The mining industry is a locomotive of the entire region. However, many niches of the entire industry, such as stones are underutilized. Based on the availability of resources as well as dynamically growing construction market the sector has significant investment potential, which has to be still properly utilized.

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## Textiles

Textile and in general light industry sector was another developed field of Syunik economy before 1991. The leading textile enterprises of Syunik namely “Kapan Knitted Wear Factory” and “Sisian Knitted Wear Factory” were the industry leaders, while “Kapan Knitted Wear Factory” currently “Sona Tex” OJSC was one of the most advanced and well-equipped textile enterprises of Armenia. In late 80’s and early 90’s before collapse of FSU the company acquired and installed Swiss “Dubiet” knitting equipment with provided the company to produce significant volumes of high quality final products. The enterprise located in the center of Kapan had more than 1,000 employees and was supplier of garments all over FSU. “Kapan Knitted Wear Factory” as the entire industry of Syunik has suffered from FSU collapse. The management of the company has undertaken several efforts to develop sales. Specifically, the company has established contacts with various agents and has implemented several export projects to North America and Europe. Additionally, Sona Tex received about USD 500,000 loan from the credit facility of Lincy Foundation that was also directed on development of export sales. However, despite certain efforts and availability of high quality technologies the company runs at less than 10% of its capacities.

In this respect, one should note that despite availability of significant domestic market size, Armenian textile and garments sector has rather poor performance, which is due to the several key factors, including, but not limited to the followings:

- ⇒ Inadequacy of production facilities and fixed costs planned in Soviet times to current output levels, resulting in higher cost of production
- ⇒ Weaker tax and customs discipline and approaches toward shuttle traders of Chinese, Turkish and other Asian products as compared to local producers
- ⇒ Lack of own design capability and understanding among almost all domestic manufacturers
- ⇒ Low brand awareness in domestic market for Armenian textile products

Another previously advanced textile enterprise is “Sisakan” CJSC former “Sisian Knitted Wear Plant”. The enterprise was not so well equipped like Kapan plant, however it had more than 1,000 persons employed and was considered as leading

regional enterprise. In late 90's the enterprise was privatized by US based "Garni Group Inc" a company, which also owns huge Maralik Spinning Factory located in Shirak region. Despite an investment from US entity, Maralik was rather more prioritized by the owners of the company as compared to Sisakan. Notwithstanding with the above mentioned, thanks to foreign investment the company in association with Maralik Spinning Factory was able to generate some export sales to North America and mainly USA. Nevertheless, the output level is again miserable as compared to capacities of plant.

In general the production summary for Syunik region for year 2003 was as follows<sup>26</sup>:

**Table 12. Output Level (AMD Millions)**

Product	Output	% of Previous Year
Yarn processing & products	116.6	42
Production of garments & furs	33.8	195

As summarized in the table, the total output of textile industry in Syunik in year 2003 was AMD 150.8 millions or approximately USD 268,000. However, even such a miserable volumes were not attributable to former industry leaders briefly summarized above but rather to "Zangezour Textiles" a company located in Goris. This company was not so famous previously as Kapan Knitted Wear Factory, however managed to get permanent contracts with ZCMC for supplies of wide range of products, including uniforms, bags and other textile materials. Zangezour Textiles unlike Sona Tex and Sisakan was ranked by Syunik authorities among top ten enterprises of the region. However, the relative success of this plant is also not sustainable since it depends exclusively on the relations with ZCMC.

Despite availability of well-maintained textile technologies in the region, the Consultant does not consider Syunik having significant competitive advantages in textile and does not consider this sector as a priority direction of economic development for marz, unless key enterprises summarized above are restructured resulting in significant decline of operational costs. Notwithstanding with the above mentioned, to promote the textile industry in Syunik, the Consultant recommends conducting additional research, including operational due diligence of targeted

<sup>26</sup> Syunik Government



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enterprises and research of targeted markets, including specific niches in Armenia and export countries.

## **Infrastructures**

Irrigation, gas supply and highways are key infrastructures in Syunik region that suffered a lot after the break down of the FSU and are currently serious impediment for the social-economic development of the region.

During FSU times Syunik region had about 15,000 hectares of irrigated agricultural lands. The last inventarization of regional agricultural lands indicated about 8,208 hectares as subject to irrigation. However, according to the assessment made by regional authorities at present 1,534 hectares only are being irrigated from centralized irrigational sources. In addition to these lands, approximately 3,000 hectares of agricultural lands were irrigated through other water sources.

Detailed summary of the inventarization of irrigated agricultural land structured by each district and each village is attached in the Annex 18 of this study.

Such a low level of agricultural lands irrigation is based on the several key reasons, including, but not limited to insufficient profitability of agricultural lands, far distance for main communities, location on inclined surfaces, small water demand by cereals, which are especially popular in Sisian district, lack of intercommunity irrigation network etc.

Summary of recommendations for improvement of the irrigation situation in Syunik structured by all districts is presented in the chapter of proposals and recommendations of this survey.

Since the break down of the FSU in the beginning of 90's, out of the entire highway network of Syunik region, only 260 km of interstate highway was renovated. Caving, landslips, bombing and usage of heavy military machinery during the military conflicts damaged about 730 km of state, regional and community roads and highways. Damaged infrastructure has not been rehabilitated for many years and as a result became completely out of order. Some formerly existing highways are now just passable, but cannot be used for proper utilization of transportation means. Before 90's the transportation of products to and from the region was for

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about 90% based on the railroad. At present, due to the absence of other transportation modalities, highway is the only transportation mode used in Syunik both for cargo and passengers.

Research and studies conducted by marz authorities revealed, that current poor situation of regional highway network has negative impact in terms of higher costs, on the competitiveness of products and especially agricultural goods produced in Syunik both for internal regional market and overall Armenian market.

For the improvement and rehabilitation of the overall highway network the regional authorities has to allocate around AMD 13 billions (USD 25 millions). Detailed summary of costs and timetable for the improvement of the highways is presented in the relevant section of proposals and recommendations as well as in the Annex 20 of the study. The map of Syunik roads and highways is attached in the Annex 19 of the study.

Before the break down of the FSU, Syunik region had 15,321 gas subscribers. The system of centralized gas supply especially for households was completely ruined since the beginning of 90's in Syunik as well as in the entire country. At present, simultaneously with the process of gas supply rehabilitation carried throughout Armenia, the system is starting to develop in Syunik as well. Currently 7,930 households and 25 legal entities have gas supply either through rehabilitated pipelines or through newly constructed and installed networks. Starting from year 2003 gasification has covered Kajaran and nearby located Lernadzor village. The works in Kajaran will be finalized in year 2005, supplying permanent gas to approximately 2,000 new subscribers. Within the period of 2004-2006 gas re-supply to 7,000 subscribers in the region is planned. This will cover several communities, including Syunik, Geghi, Noravan, Angeghakot, Uyts, Shaki and other villages.

Out of the entire region, Meghri district is still absolutely non-gasified. The construction of Iran-Armenia gas pipeline could have facilitating potential for gasification of Meghri district and villages located near Kajaran. According to intergovernmental agreements between Armenia and Iran, Iranian side will be responsible for construction and installation of gas pipeline from Iran to Kajaran. The construction of this part of the pipeline has to be finalized till the beginning of year 2007.

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The extended gasification will lead to less forest cutting practices, since gas is significantly cheaper source than wood. Therefore, the gasification will be one of the key components in the entire process of forest rehabilitation in Syunik. Gasification will also have a positive influence on the development of various industries as well as development of social infrastructure through organization of relatively cheap heating of educational, health, administrative, cultural and other buildings.

Detailed map of gasification in Syunik region is summarized in the Annex 21 of the study.

### **Forest Management**

As summarized on the next map, the Republic of Armenia has two relatively forested areas concentrated one in the Northern Armenia, including Tavoush and Lori regions and the second in Southern part of Syunik region. Moreover, as light green areas on the map show, the entire forested areas in Armenia have significantly reduced during the last few years.



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- d) Goris sanctuary
  - e) Plain three lane sanctuary, a unique territory covered by plain trees

In addition to these protected areas, at present within the framework of the mentioned WWF Leopard Protection Project the establishment of sanctuary near Shvanidzor village is already initiated.

Despite availability of several protection zones covering a significant part of the entire region the total forested area in Syunik region has significantly reduced. The process was especially fast since the break up of the FSU and the resulted economic and severe energy crisis. As a result of the lack of energy supply and specifically, gas, centralized heating and electricity people started to heavily use forest wood as almost only energy source. This was further transformed also into business supplying wood not only to Syunik, but also to other regions of Armenia. While in general, since late 90's with the improvement of the energy situation in Armenia the forest cutting was significantly reduced a lot of people in Syunik, even in urban communities still use wood as a primary heating source.

The other reason for reduction of the forest areas in Syunik is related to the lack of financial resources to properly fund activities related to forest protection. Specifically, the protected forest areas should have relevant regularly compensated staff sufficient for monitoring of specified areas, transportation means and fuel, uniform and many other issues required for the minimum efforts for forest protection. All this kind of support was drastically reduced since the beginning of nineties. Fore instance, Kapan Forest Enterprise in FSU times has about 160 forest officers only, without consideration of other staff such as administrative, economic, drivers, productive etc. Now the total staff decreased to less than 30 people. Kapan forest enterprise was declared bankrupt having millions of AMD debts, including extensive unpaid salaries. Goris and Meghri regions are doing just a little better. These reasons simultaneously with the economic crisis had huge negative impact on the forest in Syunik region.

The legal and regulatory framework covering Armenian forests is consisting of the Forest Code and "National Forest Strategy". These documents are of rather common nature and have declarative style. Moreover, forest related legislation as well as all the initiatives, policies and regulatory framework are based on the

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Soviet times principles and assumptions and does not address the challenges of the free market economy and specifically the current infrastructure situation in the region and particularly lack of gas supply and absence of centralized heating.

The major forest related projects and initiatives implemented in Syunik as elsewhere in Armenia are based on the basic assumptions developed in FSU times. Indeed, the last inventarization of the forest flora and fauna in Syunik was implemented in 1989. That was also the last time for definition of forest borders. As a result for the last 15 years all forest related activities, projects and initiatives are based on the assumptions with high error probability. Conducting an inventarization and assessment of the forest borders and resources will give answers to the following questions:

- Which kind of resources are available in the forest
- What is the quantity of resources
- What is the maximum scope of the human activities that will not have very negative impact on the forest
- What is detailed action plan required for organization of forest maintenance, management and development

Recently southern Syunik area, specifically Kapan and Meghri districts were selected by UNESCO for the implementation of the “Demonstrating biodiversity conservation & socio-economic development of rural areas in Southern Armenia through the establishment of the first UNESCO biosphere reserve” project within the scope of the UNESCO MAB (Man and Biodiversity) Programme. The key objective of the project is to create a multi-sectoral platform for dialogue and cooperation between local authorities, civil society and the private sector to:

- Develop innovative approaches to sustainable natural resource use,
- Raise awareness and increase capacities of various local stakeholders for conservation and sustainable use of natural resources,
- Increase efficiency of energy use and promote the use of alternative energy sources to decrease desertification caused by unsustainable logging,
- Promote community-based conservation to complement governmental efforts,
- Develop alternative livelihoods to reduce poverty

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For the selection of the area for the participation in MAB projects, many criteria, including socio-economic situation of specific area, population, land utilization, biodiversity, natural reserves and sanctuaries as well as health and educational systems were considered.

The project is part of a larger process in countries of Southern Caucasus aimed at the creation of biosphere reserves. These sites include areas of high conservation values, officially called “core areas”. To assure the long-term conservation of these core areas, biosphere reserves also take into account the needs of the surrounding communities in a holistic approach. “Buffer zones” serve for research and other limited activities, in the “transition” or “cooperation” areas the local population is actively involved in the management of available natural resources.

Forest in Syunik has a significant socio-economic role not only for Syunik region and Armenia, but also for the wider region, including extensive areas in Iran and Azerbaijan. The role of the forest could be summarized as follows:

- ⇒ Securing proper and clean air, absorbing CO emissions
- ⇒ Creates esthetic atmosphere
- ⇒ Forms bio-locations
- ⇒ Support biodiversities
- ⇒ Protects soil from over evaporation and desertification
- ⇒ Contributes to establishment of soil layers

To protect and develop the forested areas of Syunik, the Marzpetaran along with the central government and especially the Ministry of Nature Protection has to elaborate an action plan, which has to be based on the very recent knowledge of the regional situation. As a result, the first activity targeted on the improvement of the forest should be detailed inventarization of the flora and fauna of the forest, which also will enable to assess the borders of the forest and how many cubic meters of trees are available. The action plan elaborated based on the inventarization will also provide detailed answers to key economic question, which is “what kind of forest resources, collected from which area at what time and in what quantity and frequency could be used by human being”.

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The economic impact of the proper forest management could be in various ways. For example, the medical plants project has capability to secure both revenues and new jobs in the region. The forested areas of Syunik are rich with more than 25 varieties of medical plants. Only collection of plants could provide for hundred of seasonal jobs. Additionally, the establishment of national parks in unique zones, such as plain-tree lane, will facilitate eco-tourism development in those areas.

## **Health & Education**

The health system of the region includes 27 organizations, including 22 closed joint stock companies reporting directly to the Marzpetaran. The other five organizations are private entities. These organizations are primarily responsible for organization and implementation of the medical service and medical support to population of the region. The system employs total 280 doctors and 681 support medical staff, mainly nurses. Notwithstanding the current number of professional medical staff, at present the region has a need for additional 60 doctors for various specialties. The total number of beds in stationary hospitals is 710. The number of doctors and nurses per 10,000 of population is correspondingly equal to 19 and 45.

Within the framework of the State guaranteed medical support and service system in 2003 hospitals and dispensers of Syunik region have free of charge treated total 6,826 persons. The number of visits to policlinics and ambulatory institutions reached to 347,397. The total budget allocations to health system in year 2003 were AMD 506.8 millions. Additionally, 789 persons from Syunik applied to paid medical services and support, plus 25,818 paid visits were registered in policlinics and ambulatory institutions. One of the positive achievements in the region is related with the births of new children. During the recent years no mother deaths were registered in Syunik. The surplus of births over deaths in the region in the period of 2001 – 2003 was correspondingly 385,405 and 577 persons.

As of September 1, 2003 118 general education and 4 specialized schools under Marzpetaran authority had 1,440 classes with total number of pupils reaching 22,788. The total number of teachers was 2,917. As of January 1, 2004 the region had 1,410 classes with 22,542 pupils. According to preliminary information for year 2004 now there are 1,386 classes with 22,000 pupils and 2,782 teachers, where 75% of teachers are women and around 87% of all teachers have higher education, while



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about 64% have higher pedagogical education. The region has also secondary educational institutions under state authority. These institutions have 325 pupils and total 60 teachers. Out of all regional schools 18 have Internet access mainly sponsored by the “Project Harmony” organization.

Total 112 teachers have gone to teach in border area schools of Syunik. Out of the total number of these teachers only 56 have specialized teaching education. However, in many border area located schools especially in mountainous areas of Kapan and Meghri districts there are numerous educational subjects that are taught by non-specialized teachers. Moreover, there are total 88 teachers without university degree who have secondary education only. These indicators cannot secure proper education for all pupils in those areas. Many schools in border and mountainous areas experiencing problems with qualified teaching staff might be closed, moreover, the problems related with the lack of educational opportunities force many people to leave these areas, since giving proper education to children is one of the key attributes of Armenian families.

As compared with the previous year, within the framework of the educational optimization project 358 teachers in Syunik lost their jobs. Moreover, starting from January 2004 the educational rate was lifted from 20 to 22 hours, leading to cutting 200 more teachers’ jobs in the region.

In year 2004 the State budget allocated AMD 654 millions, which will be directed on rehabilitation on 24 schools and construction of localized heating systems for some other schools. Taking into consideration the strategic importance of the region, the Government Decree N. 1043 dated by August 21, 2003 declared the financing of the 21 schools in Syunik region independent on the number of pupils studying. At present in Syunik 27 schools are financed based on the number of pupils studying, 60 schools are financed regardless of the number of pupils studying, 31 are financed directly from the state budget and 4 schools are included in various projects.

Despite a significant improvements registered in Armenia with securing modernization of the furniture in schools, schools in Syunik region still have problems with lack of tables and chairs, sports equipment, laboratory instruments, security systems etc. The border and mountainous area schools as was discussed have also significant problems related to the lack of the qualified teachers.

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## Urban Construction

In year 2003 capital construction for total value of AMD 6,938.9 millions (approximately USD 13.3 millions) was implemented in Syunik, including construction of industrial facilities for AMD 6,773 millions or 97.6%.

Marzpetaran using resources provided from reserve fund of 2003 State Budget has financed rehabilitation of 6 schools for the total value of AMD 49.75 millions. Another AMD 46.9 millions was spent by the Ministry of Urban Construction of Armenia to implement the construction of school in Nerkin Khndzoresk village of Goris district, while the Ministry of Education financed AMD 13.9 millions for the rehabilitation of educational complex N.3 in Kapan. In year 2004 the total amount of AMD 654 millions (approximately USD 1.25 millions) will be directed on construction and reconstruction of schools in Syunik region. This amount is about 5-6 times bigger than the average amount of spending on schools registered for the last several years.

The construction and re-construction activities envisaged for the implementation of “Hydro Power Facilities on Vorotan River” project for the total value of AMD 1,546 millions (about USD 2.97 millions) are fully accomplished and facilities are now passed for utilization.

International organizations have implemented construction activities for the total value of AMD 610.5 millions (USD 1.17 millions) in various communities of Syunik region, including irrigational projects for the total value of AMD 416.5 millions, reconstruction of kindergartens for the total amount of AMD 74.7 millions, construction in public health sector for the total value of AMD 34.6 millions.

Within the framework of the “Primary provision of apartments as compensation for homeless people, the victims of bombing and other military activities” programme AMD 52.3 millions were dedicated from 2003 State Budget to secure apartments for 32 families.

AMD 876.9 millions was spent in various highway construction and reconstruction projects implemented in Syunik region. In current year the following construction and reconstruction activities are planned (AMD millions):

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⇒ Renovation of flat roofs of multistoried buildings in Kapan	- 40
⇒ Renovation of gym school in Kapan	- 20
⇒ Renovation of Goris theater building	- 18
⇒ Complete renovation of Sisian kindergarten N.4	- 10
⇒ Complete renovation of Sisian culture house	- 20
⇒ Construction of storm water removals in Goris	- 55
⇒ Renovation of “Zvari” purification station in Meghri	- 63
⇒ Asphalting works	- 61.5
⇒ Other projects	- 154

During the next one-two years the region has to solve several construction projects, whose implementation have been many times postponed. Among these projects the key initiatives are the followings:

- Construction of schools in Khoznavar, Egheg, Lichk, Salvard, Aravus, Norashenik, Vardanidzor and Ltsen villages – AMD 1,115 millions;
- “Primary provision of apartments as compensation for homeless people, the victims of bombing and other military activities” - AMD 511 millions;
- Construction of “Double Spring – Mukhuturyan” waterline – AMD 475 millions;
- Rehabilitation of drinking water internal networks in Kapan, Goris, Meghri and Kajaran – AMD 2,110 millions;
- Renovation of multi apartment buildings, including rehabilitation of roofs, elevators, internal infrastructure etc – AMD 580 millions
- Provision of homes for population of Lernadzor village inhabited in wood cottages – AMD 200 millions;
- Provision of homes for the population inhabited in buildings marked as having damages of third category – AMD 240 millions;
- Anti landslip activities throughout region, rehabilitation of results of landslips and landslides in Syunik – AMD 993 millions;
- Renovation of educational institutions – AMD 873 millions;
- Renovation of cultural institutions – AMD 546 millions

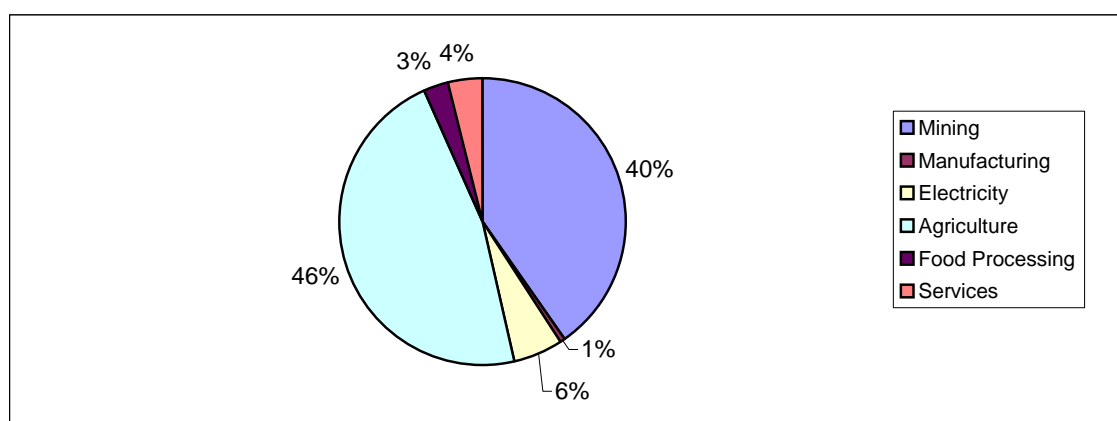
At present the urban construction sector employs around 2,000 persons. The anticipated construction activities will contribute to the establishment of hundreds of new jobs for blue collars, technical and engineering staff and construction specialists.

## 4. Development Strategies & Recommendations

### Proposed Structure of Marz Economy

As was summarized in the beginning of the study currently the joint industrial and agricultural output of the Syunik region along with the services rendered to population according to the official data is equal to about AMD 84.1 billions (approximately USD 153 Millions). The total output has the following structure as summarized on the next graph:

**Figure 20. Structure of Syunik Economy**



Gross agricultural output of Syunik has the biggest share of 46% followed by the mining industry. Manufacturing of all products, except of food processing has the miserable share of about 1% in the total pie.

Based on the brief analysis of various segments of economy summarized in this study as well as numerous interviews with the relevant stakeholders, the Consultant made the following estimation of a mid term (period of about three to five years) fluctuations in the structure of the marz economy.

Although the sectors of copper and molybdenum production of the mining industry were not analyzed in this study due to their comparably positive performance, the Consultant paid meetings to key stakeholders representing the field of metal-based

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mineral resources. Based on the conservative assumptions and the privatization plans of the Government within the observed period of 3 – 5 years the output of ZCMC, APMC and KOEP will increase by about 20% and will reach to approximately AMD 50 billions.

The electricity production based on the currently initiated projects summarized in this study is also estimated to grow by about 200 millions of kWh or by 15% in physical volume. However, as a result of the expected increase of purchasing price of electricity generated by renewable energy sources, such as HPPs to USD 0.035 per kWh paid to both current hydro plants and new private HPPs the anticipated growth in monetary terms will be significant and the total output will reach to about AMD 25 billions.

Mining sector representing other than the three plants discussed in year 2003 has experienced almost 100% growth. Additional investments into gold mines of Terterasar and Lichkvaz Tey, as well as investments into other mining projects specified in the study according to conservative approaches could generate additional USD 5 millions or AMD 2.75 billions annually.

Food processing sector as well as agricultural output is expected to grow along the growth rates projected for country GDP. According to the Poverty Reduction Strategy Paper (PRSP)<sup>28</sup> forecasts elaborated by international team of Consultants (sponsored by The World Bank, IMF, UNDP, DFID, Government of the Netherlands, Government of Germany) Armenian GDP during the coming three years will be growing with the average annual growth rate of 6%, reaching more than 19% growth for the entire period of three years. As a result, food processing and agriculture are also expected to grow by about 19% correspondingly.

The other industries, including textile, chemistry, shoes production, equipment & machinery, resin & plastics and other manufacturing have very low potential of growth and will have the steady output on the level of the current production volume in the observed perspective.

The biggest share in the services rendered to population belongs to public services, communication and banking. The tourism sector has no contribution to the service field. While the Consultant envisages growth of tourism sector, as well as other

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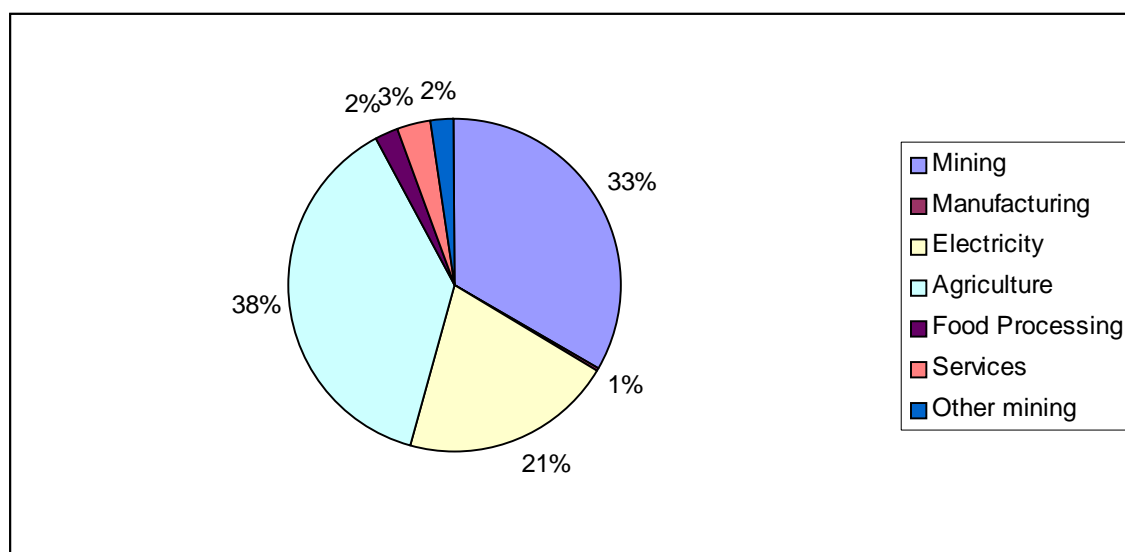
<sup>28</sup> PRSP, 2003

components of gross services, such as banking and transportation, conservatively the service sector is assumed to be growing along GDP growth rates i.e. 19% in three years perspective. This should be also supported by the SME owned and managed services, such as auto services, taxi, laundry, barber shops, small construction and renovation offices, various deliveries etc that are now widely adopted in Yerevan and generate significant aggregate revenues.

As a result, based on the above mentioned estimations and in case of promotion of investments in the attractive sectors in the mid term perspective of about three to five years the total gross industrial and agricultural output of Syunik region might experience total about 44% growth and increase to about AMD 121.9 billions (approximately USD 220 millions).

The forecasted structure of the marz economy would be as follows:

**Figure 21. Proposed Structure of Marz Economy**



As summarized on the graph, despite an anticipated active investment promotion process in the attractive sectors of the Syunik economy, due to forecasted increase of production by three leading mining enterprises of Kajaran, Agarak and Kapan the mining sector (copper and molybdenum) will still maintain it's current high share in the output of Syunik at the level of 33% (although decreased from current 40%). The entire economy, almost 100% of gross output will be still depending on mining, agriculture, energy, services and food processing sectors. Notwithstanding

the above mentioned, promotion of investments in the attractive sectors and general improvement of the business environment can allow to increase industrial and agricultural output of the region by about 40 - 45% in the three to five years perspective and will contribute to the establishment of thousands of new workplaces.

In the entire economy of the region the following sectors based on the growth rates and opportunities has to be prioritized:

### **High Priority**

- Metal Mineral Resources
- Non-Metal Mineral Resources
- Hydropower Generation
- SME Owned Services & Tourism

### **Low Priority**

- Stockbreeding
- Food Processing

## **Investment Needs & Opportunities**

In this section the Consultant avoided estimation of investments required in the improvement of the general infrastructure in Syunik or the social sectors like health, education, culture etc. On the other hand the Consultant concentrated on the sectors of economy with attractive investment opportunities, such as the followings:

**Table 13. Summary of Sectoral Investment Opportunities**

Sector	Description of Investment Opportunities	Investment Size
New Metal Mining	There are underutilized mines of gold and other metals in various areas of	An initial investment of approximately USD 0.5



	Syunik as was summarized in the relevant chapter of this study.	millions for the organization of extraction from single mine is required
Non Metal Mining	There are underutilized deposits of basalt, granite, travertine, limestone, gypsum and other construction materials in various areas of Syunik as was summarized in the relevant chapter of this study.	Approximately USD 0.3 – 0.5 millions is required to set up production based on the one stone processing line
Hydro Power Generation	At present there are potential 59 hydropower plant projects in Syunik region that can secure production of 77.4 MW of energy or 273 millions of kWh in mid term perspective.	In average, depending on the exact location and water flow about USD 0.6 – 1 millions is required for generation of 1 MW of energy. In total USD 40 to 80 millions can be efficiently absorbed by energy sector of Syunik economy
Tourism	For the promotion of tourism in the numerous attractive areas of Syunik in addition to rehabilitation of roads there is a need to significantly improve quantity and quality of lodging. This should be accomplished via renovation of currently existing hotels and other similar premises as well as through construction of new facilities.	For the estimation of the total investments required by accommodation business the Consultant proposes conducting additional tourism sector development project. The current study shown that approximately USD 328,000 is required for renovation of currently existing operable hotel facilities.
Leather	Syunik, especially Sisian district has	The assessment of the





	significant output in skins that are further sold unprocessed outside of the region. To increase the value added in Syunik, an investment in tannery has to be considered.	scope and the size of investments required in this specific field have to be based on the additional pre-feasibility study.
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### **Proposals & Recommendations**

This section is elaborated with the main objective to develop proposals and recommendations for the improvement of the situation with key problems and constraints existing in the region as well as to promote promising fields of economy and specific investment projects. The main recommendations are structured in the following matrix, highlighting terms of implementation and responsible authority. Text following the matrix gives detailed explanations of each recommendation. The background for each recommendation is summarized in Chapter 3 “Assessment of Economic Resources & Potential” of this study.

**Table 14. Summary of Recommendations**

	Short Term (1- 3 years)	Mid Term (3 – 5 years)	Long Term (5 – 10 years)
Local authorities	<p>Improvement of entrepreneurial &amp; management skills</p> <p>Elimination of administrative barriers</p> <p>Promotion of hydropower sector</p> <p>Promotion of mining sector</p> <p>Administration of official web site of Syunik Marz</p> <p>Attraction of renown investors</p> <p>Conducting investor conferences</p>	<p>Diversification of Industry through promotion of SME</p> <p>Improvement of information access</p> <p>Improvement of the communication &amp; feedback among community leaders &amp; international organizations</p> <p>Increase of cattle productivity</p> <p>Improvement of forest management</p> <p>Improvement of Medical Services</p>	<p>Rehabilitation of Marz infrastructures</p> <p>Re-opening of airport</p>
Central authorities	<p>Elimination of administrative barriers</p>	<p>Improvement of information access</p>	<p>Promotion of population movement to rural and</p>



			Set up of downstream productions integrated with ZCMP Improvement of forest management	especially border areas Rehabilitation of Marz infrastructures
Private business	Improvement of entrepreneurial & management skills Promotion of hydropower sector Promotion of mining sector		Set up of downstream productions integrated with ZCMP	
International community	Improvement of entrepreneurial & management skills Administration of official web site of Syunik Marz Institutional strengthening of Syunik business centers Institutional strengthening of business centers		Improvement of the communication & feedback among community leaders & international organizations Improvement of forest management	

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- Improvement of Entrepreneurial & Management Skills

Lack of entrepreneurial skills inherited from the FSU times was mentioned among the key problems for SME development in Syunik region. For the improvement of the situation there is an urgent need for the organization of training activities on both specialist and executive levels on the wide range of topics, including but not limited to management, marketing, entrepreneurship, finance & accounting, business planning etc. While the initiative with the improvement of the situation has to belong to regional government, to secure efficient transfer of the knowledge the international community has to properly respond with the organization and conducting of purposeful, targeted training activities. While the role of international organizations has to be leading in this field, domestic organizations and NGO's has also to be properly coordinated to reach the project objectives. In addition to the business development trainings, there is a need for the intensive education in other aspects, like business advocacy, democracy and civil society, NGO establishment and management as well as in regular seminars and conferences dedicated to field of interest. In the organization of training activities it is important to secure joint participation of regional government members and SME's. The joint participation in such events will not only contribute to the establishment of dialogue between SME's and government, but also will facilitate the management of the dialog on the horizontal, equal basis, which will promote an efficient discussion and at least promotion of the problems to key decision makers. The current status of training programs, especially those implemented by international organizations is quite weak in Syunik. Indeed, most of the programs implemented within the scope of the technical assistance initiatives are concentrated in Yerevan, while a few projects only are done in far regions. At present the main international projects running in Syunik are targeting social improvement issues, while upgrading of business skills is rather underestimated:

- UN WFP (food)
- UNHCR (housing assistance for refugees)
- CRF (social assistance)
- GTZ (Food security project, communities support and training)
- World Vision (credit facility)
- SEF (Credit facility)

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- IFES (election system)
  - Save the Children (social assistance)
  - OXFAM (credit facility)
  - UMCOR (credit facility)

The above-mentioned projects are summarized in the Annex 16.

The given task was summarized in the recommendations matrix as a short-term activity to be implemented within one to three years time frame, by local authorities, local private business and international technical assistance initiatives. The Consultant believes that the initiative has to be made by Marzpetaran, who is expected to elaborate a brief concept paper outlining the current business and especially SME situation in the region, constraints related with the lack of entrepreneurial and general business skills and areas of advise required. The request should be properly circulated among all donors active in the country, including but not limited to the World Bank, USAID, UN and EU programs. The business community of Syunik, which will be the key beneficiary of this initiative, on the other hand must make a commitment to properly choose and participate in all training programs, specially designed for them.

- Elimination of the Administrative Barriers

Despite underdeveloped business environment and weak economic status in the Syunik, many regional SME's as was discussed in the relevant chapter of the study are frequently facing numerous administrative / red tape barriers that are not in place in Yerevan. Probably the poorest situation in Syunik is in Kapan. SME's in Kapan need to cope with both marz and community authorities. As a result, they spend double efforts and resources to overcome constraints established by authorities. In this respect, the Consultant emphasizes the need to secure that SME's are reporting to one authority only. The control and inspection nature interaction of marz authorities with SME's has to be minimized. Additionally there is a need to conduct a campaign among regional SME's educating them about the governance structure in the region, roles and responsibilities of marz and community authorities, SME rights and advocacy. These activities will be helping to solve another problem, which is unique for Syunik. As was summarized earlier, as a result of the lack of knowledge and behavior inherited from FSU times, SME's in Syunik are often facing problems with number of authorities other than tax service,

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which along with the Customs are considered as a key administrative constraint in Yerevan. This is one of the crucial problems in the region. The central government as well as Marzpetaran must spend certain efforts targeted on the limitation of interaction between the above-mentioned authorities and SME's. In this respect the Central Government also needs to take an active role, which sometimes might require also punishment actions toward misbehaved authorities.

The recommendation was outlined in the matrix among short-term activities to be implemented by local and central authorities. However, the key role belongs to the local government. It has to undertake several specific activities. First of all the local government in cooperation with communities of Kapan, Sisian, Goris and Meghri should organize meetings with local SMEs to establish proper feedback about the business related problems and constraints. Second, Marzpetaran has to promote internal discussion of raised topics with community leaders. Third, the business environment and SMEs should be given structure of Marz government with key roles and responsibilities of marz authorities and community authorities. The separation of these two authorities should be clearly highlighted. Finally, Marzpetaran has to undertake proper actions, first to minimize the double authority and second, to minimize interaction of SMEs with non business related authorities.

The local government in its turn should have a monitoring role, with the proper interventions if the evidence of over interaction between business and authorities continues.

- Diversification of the Industry through Promotion of SME's

As was summarized in the chapter of problems and constraints, one of the key threats to the economy of Syunik is strong dependence on the mining industry and especially ZCMC. In this respect both the central government and marz authorities need to undertake specific steps toward diversification of the structure of the economy of Syunik. One of the most effective approaches to diversification of the structure of the industry is promotion of local SME's. Indeed, development of SME sector in Syunik will lead to development of other spheres, specifically food processing, services, crafts etc. However the promotion of SME sector is a complex issue to be coordinated and implemented by central and regional government, international community and NGOs. The key elements for SME promotion in

Syunik are tackling administrative barriers, business skills upgrading and establishment of the proper financial environment to support SMEs in introductory and growth stages.

In the recommendations matrix this particular issue was specified as the mid term (3 – 5 years perspective) activity under the responsibility of Syunik government. While the task requires concentration of multiple efforts and complex approaches, the key elements for SME development are the followings:

- i) Facilitation of SME start ups via proper enforcement of liberal registration and licensing procedures
- ii) Protection of SMEs from various administrative barriers
- iii) Attraction of SME funding institutions to the region

▪ Promotion of Population Movement to Rural and Especially Border Areas

The problem has two conceptual bases both economic and geopolitical. The Republic of Armenia has borders with Turkey, Georgia, Iran and Azerbaijan. Syunik region is forming borders with latter two countries. Therefore there is a strategic importance for keeping the region and specifically border areas populated. The priority and initiative in solving this national security challenge has to belong to Central government. On one hand the Government should mobilize resources for establishment of attractive infrastructure in border areas and for provision of assistance for re-location of people in these areas. The targeted group of people for re-location has to be former refugees, who still do not have permanent homes as well as other socially vulnerable groups inhabiting in other areas. While direct financial assistance is important to attract socially unsecured people, establishment and introduction of special business promotion legal and regulatory initiatives could be a momentum for development of businesses and especially agriculture.

Along with the problem of populating border areas, the regional government has to pay special attention to population of other rural areas of the region. The region has extensive lands that could be utilized for agricultural purposes. However, as a result of the lack of population in rural areas many territories remain still underutilized. On the other hand there is a significant jobless population in urban communities of Syunik. Therefore, the local Government has the challenging task to

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promote relocation of part of the population to rural areas. Indeed, in the mid or even long term number of industrial facilities that provided for thousands of jobs in FSU times will not operate at all or will not operate on the same level. Therefore the problem of unemployment even with the development of the industry in Syunik will be still in place. Since both the local and central governments have shortage of resources to provide direct incentives for relocation of population into rural areas other mechanisms of non-financial incentives has to be elaborated. Those could be tax incentives or provision of free of charge land and partially infrastructure.

The task in the recommendations matrix is specified as long-term (5 – 10 years) activity under the responsibility of the Central government with the specific contribution also from the marz authorities. In particular the following activities are envisaged:

- i) Conducting surveys among population about the potential movement to border areas (Marz)
- ii) Elaboration of the comprehensive border area development program (Central government)
- iii) Improvement of border area infrastructures, including highways, utilities, communication, health, education and other public services
- iv) Introduction of incentives for removal to the border areas, including consideration of tax incentives, water and energy usage subsidies, provision of free of charge lands etc

▪ **Promotion of Hydro Power Generation Business**

Promotion of Hydro Power business as was summarized in the appropriate chapter of this study could have quite extensive, tangible and quick influence on the overall economy of the region. There are two approaches to promotion of the sector. Since the sector is really promising and expected to be fast growing, the elimination of administrative and other red tape barriers only will be really a significant step toward promotion of the business. The second, more proactive approach would be promotion of the sector among potential investors. As a promotional tool the local government could use several initiatives such as more focused activities, including publishing of brochure on the project opportunities and distribution among potentially interested partners in Armenia and abroad, organization of the



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investment conference in Yerevan among potentially interested investors or more general instruments such as summary of the project opportunities published in popular newspaper.

- Promotion of Mining Business

As was summarized in the study, Syunik has significant resources of mineral materials, including various metal and stone deposits. While metal deposits are properly utilized, vast stone deposits still remain mostly underutilized. To follow up attraction of investments in this sector Marzpetaran has to undertake several promotional activities including but not limited to followings:

- i) Conducting additional research and identification of precise structure and volume of mineral resource deposits and their break down per each mine;
- ii) Elaboration of kind of short list of most efficient mines and contacts to specialized mining companies and profile investors;
- iii) Organization and implementation of wide and narrow focused promotional activities, such as development and launching of specialized web site on Syunik mining resources; publishing of brochure and distribution among potential investors and organization of specific investors conference in Yerevan, highlighting all the opportunities available in Syunik mining field.

- Administration of Official Web Site of Syunik Region

At present there is web site of Syunik region at [www.syunik.am](http://www.syunik.am). The project was sponsored by Bureau of Educational and Cultural Affairs of the US Department of State and is administered by International Research and Exchange Board (IREX). The communities of Sisian, Goris and Meghri also have their own web sites. While the sites give some basic background on the history, geography, economics, health, education, science, culture, tourism, environment protection, communities and government there is a need for more professional and regularly administered and updated Internet resource, which can be used to generate revenues in the marz. The proposed web site should be more business oriented and targeted on promotion of

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investments to region, sales of products produced in Syunik, attraction of tourists etc.

- Attraction of Renown Investor

The worldwide investment promotion experience, especially the last third generation of targeted investment promotion mechanisms prioritizes attraction of investments financed by transnational corporations, which further becomes kind of “green light” for other investors. Transferring the same approach to Syunik, there is a need for promotion of investments from Armenian so called “oligarchs”. The investments made by these businesses will be really important, since first, their experience will attract other investors and second, Armenian oligarchs have quite extensive and diversified range of businesses. As a result, successful investment in one direction can generate adequate investments in other fields. Moreover, since there is a kind of competition among local oligarchs, the investment made by one group, will be a facilitator for the investments by the others. The promotion of investments made by the mentioned investors requires narrow focused and top-level actions, primarily personal meetings and brief presentation of the Governor and Chiefs of Kapan, Meghri, Goris and Sisian communities with local oligarchs, such as SIL Group, Multi Group, MAX Group, X Group, Mika Limited, Valletta Ltd etc.

The investments made by these diversified business groups will lead to numerous positive accomplishments, such as the followings:

- i) Creation of new jobs and thus contributing to the improvement of worst social indicator in the region
- ii) Contribution to the improvement of general infrastructure, through implementation of specific focused projects
- iii) Improvement of labor knowledge and skills, via on job training programs
- iv) Contribution to the improvement of general business environment in the region through strong position of oligarchs to conduct dialog with various authorities and with passing the similar behavior to regional businesses

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- General Investment Conference

In addition to targeted investment attraction activities, such as investment seminars and publishing of materials related to hydropower and mining sectors and top level discussions with potential investors recommended in this chapter the Government of Syunik region with the assistance of central Government and international technical assistance initiatives has to undertake more general, widely focused PR activities, that might not have quick tangible effect, but will contribute to publicity of the region in general. As one of the effective instruments the Government of Syunik can consider organization of Investment Conference in Yerevan, with the participation of the Governor, key members of the central Government, leaders of international technical assistance initiatives, international organizations and international financial organizations, local banks, professional services, investors, industry members, professional associations, NGOs and other potentially interested parties.

The expected results from the conference could be improvement of the general publicity of the region, first step in attraction of Armenian businesses and specifically oligarchs to make investments into region, might be interesting in attracting the interest from diaspora representatives located in Yerevan at that specific time, international donors trying to follow up conference with targeted program, NGOs etc.

- Improvement of Information Access

In the chapter devoted to identification of problems and constraints the Consultant has emphasized the problem of lack of information access. This is the global problem, which has several partial solutions, such as extension of Internet access in Syunik, promotion of several FM radio channels etc. This approach is very important for the general improvement of information access among the population of Syunik. On the other hand there is a need for the improvement of specific information access among segments, which are involved in the process of social-economic development of the region. Those targeted segments include middle level Marzpetaran and municipality authorities, urban and rural community leaders, representatives of the regional business and NGO community. These people need primary information. Therefore, Marzpetaran and communities of Kapan, Kajaran,

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Meghri, Goris and Sisian has to promote participation of those targeted groups in various events conducted and/or organized by central government and /or international organizations and technical assistance initiatives. The participation has two ways. First, the Marzpetaran can coordinate with relevant central government authorities (such as Tax Inspectorate, Ministry of Justice and other institutions where people need update of information) and international organizations their visits to Syunik region and conducting relevant seminars and information sharing with relevant, interested stakeholders. The other approach is promotion of visits of representatives of Syunik to the similar events conducted in Yerevan or other marzes. The extensive participation of Syunik representatives in similar events would not only contribute to the improvement of their knowledge and information, but also will influence the view of these people on the challenging processes in the country and globally as well as contribute to establishment of leadership characteristics among the targeted groups.

- Improvement of the Communication & Feedback among Community Leaders & International Organizations

The problem and the relevant solution are partially related to the above-mentioned recommendation on the improvement of information access. On the other hand, a part of the lack of information there is another problem. Usually in most of the rural communities of Syunik region people are directly elected as a community leaders not as a result of their positive characteristics or leadership skills, but rather quantity of relatives in the community. As a result, often, elected leaders do not have leadership characteristics or elementary knowledge and skills to find out information about the project opportunities available for their communities, to be involved and to benefit from those projects. The regional government, of course could not either directly or indirectly intervene in community elections, however Marzpetaran has to spend certain efforts to educate people about the role, responsibility and the capacity of community leaders and the impact of their correct and efficient choice.

In this particular initiative Marzpetaran could also ask for the assistance of specialized international institutions, like ISEF and local NGO's committed to the improvement of electoral processes in Armenia.

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- Set up of downstream productions integrated with ZCMP and other mining enterprises

The worldwide-adopted strategies for efficient utilization of mineral resources are based on the incorporation of downstream production with the mining. Following the exploitation of the mine, the extracted concentrates are further processed in metallurgical facilities. This creates a vertically integrated industrial structure, where the final product could be in the simplest approach the raw concentrate or could go as far as production of metal based products, such as copper wires etc. The further enterprise goes with the vertical integration the more is the local value added.

At present the mining industry in Syunik and specifically the biggest plant of ZCMC are involved in rather simple low value added industrial process, based on the sales of concentrate.

To increase the regional and correspondingly overall Armenian value added related with this business the Government of Armenia, following the announcement of invitation for bids for ZCMC should pay special attention to the future plans of the potential investors in regard of the vertical integration of production.

The introduction of the metallurgical facility will have several key advantages for both the owners of facility and regions, such as extended revenues and profits of the plant with consequent tax payments to budget, higher value added, availability of metallurgical facility for other mining enterprises, including ACMC and KOEP, new jobs for hundreds of people in the region etc.

Notwithstanding with the above mentioned, one should note that the vertical integration is efficient strategy for mining enterprises in general. However, the assessment of the efficiency for specific enterprise, in this case ZCMC should be based on the detailed feasibility study, which will outline many factors such as degree of vertical integration, investment needs, technical and technological needs, markets, organizational inputs, finance etc.

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- Rehabilitation of marz infrastructures

Rehabilitation of regional infrastructures is crucial for social economic development of Syunik. The key recommendations for the improvement of infrastructures cover irrigation, gasification and roads.

In terms of irrigation the main activities structured per district are as follows:

#### Sisian District

To secure irrigation of about 5,570 hectares of agricultural lands, including 4,330 hectares of newly cultivated lands in Sisian, Angeghakot, Shake, Ishkhanasar, Uyts, Noravan, Aghitu and Vaghatni communities there is a need to pump water from Spandarian reservoir through special pressure tunnels at the rate of 2,500 liters per second. The total length of the waterline will be around 14 km. The estimated cost of the project is USD 7.4 millions.

The construction and engineering works on this project started in 1989-90. However, as a result of the break down of the FSU and lack of centralized financing the project was ceased. Current studies and investigations show that out of the entire task 840 linear meters of  $d = 1020$  mm metal pipeline is already installed. Additionally, earth-moving works for a 4 km are also completed for the total value of about USD 110,000.

The other important irrigation project to be accomplished in Sisian district is creation of waterline connecting Arevis, Tanahat, Tasik, Hatsavan and Ashotavan communities. This project will secure irrigation by gravity flow method rather than currently existing, more expensive pumping approach

#### Goris District

In Goris district the primary irrigation needs, include construction of new irrigation waterlines in Tegah and Kornidzor villages and reconstruction of several existing irrigation systems.

#### Kapan District

The main irrigation projects needed to be accomplished in Kapan district are as follows:

**Table 15. Summary of Irrigation Projects in Kapan**

Community	Description	Cost (AMD Millions)
Eghvard	Construction of 8 km, 100 mm pipeline for in-community network	60
Verin Gyodaklu	Construction of 1,000 m <sup>3</sup> of reservoir for irrigation of 7hectares	20
Uzhanis	Rehabilitation of 3 km, 100 mm pipeline for in-community network	23
Davit Bek, Eghvard, Khdrants	Uzhanis, Agarak, Construction of reservoir	1,450
Tsav, Srashen	Construction of gravity flow water lanes, 7 km, 300 mm	200
Srashen	Rehabilitation of 5km, 100 mm pipeline for in-community network	38
Shikahogh	Rehabilitation of 0.5km, 300 mm water lane, plus rehabilitation of 7km, 100 mm pipeline for in-community network	60
Khalaj	Construction of 5 km, 100 mm water lane	38
Khdrants	Construction of 2 km, 100 mm pipeline for in-community network	3
Artsvanik	Construction of 7 km, 300 mm water lane	170
Agarak	Construction of 8 km, 100 mm pipeline for in-community network	60
Syunik	Rehabilitation of water holes of Syunik reservoir	15
<b>Total</b>		<b>2,137</b>

## Meghri District

The main irrigational project designed in Meghri district is construction of water line connecting Vardanidzor, Aldara, Shvanidzor and Nyuvadi communities. The total cost of the project is AMD 1.2 billions. The Government Decree N. 417 dated in 2000 envisaged the implementation of the project. At present construction and engineering works for AMD 20 millions only are implemented.

The other important infrastructure project is extended gasification of Syunik region. Gasification will not only improve social conditions in the region, but also will contribute to significant improvement of environmental issues, primarily promoting less forest cutting practices and second will be facilitator of economic development as more reliable and cheaper energy source.

As a result of the extensive gasification process conducted during the last few years by ArmRosGazProm, at present the number of gas subscribers in Syunik reached 52% of the FSU users. The construction of the gas pipeline Iran Armenia, passing through the territory of Syunik, will further facilitate the gasification of Syunik and especially communities around Meghri and Kajaran.

Rehabilitation of highways is another extremely important infrastructure project in Syunik. The importance of the highways as well as detailed summary of schedule of key road rehabilitation projects was described correspondingly in the relevant chapter of this study as well as in Annexes 19 and 20. The summary of key rehabilitation needs is as follows:

**Table 16. Summary of Road Rehabilitation Projects**

District	Total Distance (km)	Cost (AMD Millions)
Kapan	157.6	3,278.8
Goris	138.1	2,949.2
Sisian	112	2,381.3
Meghri	64	4,076.6
<b>Total</b>	<b>471.7</b>	<b>12,685.9</b>



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As summarized in the above table, Syunik region needs total more than 470 km of roads to be rehabilitated for the total cost of about USD 24 millions.

- Increase of cattle productivity

As was summarized in the relevant chapter of this study, while Syunik region has plenty of cattle the quantity of milk produced is very limited. The basic reason for such a poor situation is that the average daily productivity of one cow in Syunik is about 5 liters of milk, as compared with the daily average of 15 liters in Eastern Europe, more than 20 liters in Western Europe and about 25 liters in Japan. The situation with insufficient milk productivity is not unique for Syunik, but is rather common for the entire Armenia.

The problem has to be analyzed from the strategic point of view. Following the privatization of agricultural assets in the beginning of nineties, the former relatively big agricultural enterprises became separated in many small farms. Each farm owner is managing his stock as he is capable to manage. Therefore, there is no strategy for livestock breeding. The owners of cattle and/or sheep do not have clear objective which kind of output does they prioritize milk, meat, wool etc.

The first issue to be initiated in this field is to address this message to farmers and peasants and to introduce them with the most efficient varieties of animals suiting this or that objective. This should be accompanied with the readiness to simultaneously offer wide range of paid services, such as the artificial insemination, selectivity etc.

The similar process for substituting the variety of tomatoes was successfully implemented by USDA in Ararat and Armavir marzes. With the growth of cannery business in those locations peasants were not able to supply sufficient quantity of crop to canneries. As result, based on the consultancy and seeds supplied by USDA they shifted to other sorts, which resulted in significant increase of the output.

The process is relatively expensive and should be done in coordination with the Ministry of Agriculture of Armenia and the international technical assistance initiatives, such as USDA. As a first step the assessment of the local conditions and the environment should be done to specify what is the most efficient objective for local farmers and which varieties of animals will be more efficient. As a next stage

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Marz should have relevant resources, such as laboratories, veterinary stations and most important human resource to accomplish such an ambitious initiative.

Although additional research for provision of specific recommendations in this field is required, the Consultant considers even doubling of current milk yield will have serious impact on the income of rural population in Syunik and the economy of the marz.

- Improvement of forest management

Syunik is one of the few regions of Armenia, which still has forested areas. The biological, environmental, economic and political role of the Syunik forest encompasses not only the Syunik and Armenia, but also an extensive region covering territories in Iran and Azerbaijan.

While the economic role of the forest was mentioned, it does not mean the wood industry, but rather considers other areas of human economic activities such as development of tourism in natural parks, development of medical plants etc.

For the protection and development of the forest the local government has to initiate a strategic program, which has to be started by inventarization of the forest. The last inventarization of Syunik forest took place in 1989. Since that time the forest was subject to intensive human activities. The impact of the last 15 years and mainly extensive logging for energy purposes has never been assessed. The inventarization will help to identify the current actual borders of the forest as well as will provide for detailed flora and fauna structure.

The inventarization of the forest is sophisticated and expensive activity, which requires allocation of various resources, including professional expertise, high technology and finance. Obviously, the Syunik Marzpetaran cannot afford to fund this initiative neither in a short nor in a mid term. Therefore, Marzpetaran should prepare project proposal and disseminate it among various donors, including, but not limited to UNDP, GEF, World Bank, UNESCO etc. In these activities Marzpetaran should coordinate it's efforts with the Ministry of Nature Protection of Armenia.

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The next stage after inventarization should be detailed and comprehensive action plan, which will outline the following information:

- ⇒ Where and what kind of natural reserves, sanctuaries and nurseries should be established
- ⇒ Detailed description of the permitted human activity in each zone (e.g. natural reserves, sanctuaries, nurseries, buffer zones etc)
- ⇒ Which kind of flora and fauna representatives needs specially elaborated approach and treatment
- ⇒ Elaboration of specific programs for saving disappearing species
- ⇒ Specification of what kind of wood, from which location at what time and what quantity can be logged
- ⇒ Specification of alpine zones available for cattle pasture and relevant pasture schedules

Following the elaboration of action plan, the central and local governments should allocate sufficient funds for the project implementation. The funds have to secure several key directions of the program implementation, such as:

- a) Compensation of the forest officers staff
- b) Equipment and machinery
- c) Resources required for maintenance and usage of equipment and machinery
- d) Other materials required for timely treatment as specified in the action plan

- Re-opening of airport

Formerly Syunik region had three airports located in Kapan, Goris and Sisian. Airports were capable of serving helicopters, small airplanes as well as relatively bigger airplanes such as Soviet YAK – 40, designed for 42 passengers.

As a result of the military conflicts with Azerbaijan the airports stopped their operations. The last airport to stop was Kapan airport, which was under direct fire from nearby located villages occupied by Azeri troops. Since the mid 1994 the fire was ceased and the situation in region started to normalize. However, neither of airports was reopened.

Although final decision regarding reopening of airport should be based on detailed technical, market and financial due diligence there are several following key pros for the re-opening of Kapan airport:

- ⇒ While the highway from Yerevan to Goris, through Sisian is passing along comparably plain areas and takes about 2.5 – 3.5 hours, the 60 km of road from Goris to Kapan area passing through mountains with numerous passing and turnings and takes about one and half hour of driving. Moreover, in winter months the road sometimes is closed for safety reasons;
- ⇒ Far location of marz administrative center of Kapan from Yerevan creates additional constraints for marz authorities and local businesses in proper communication with the center. Often in order to attend a short meeting in Yerevan, marz authorities need to be out of the work for three days, including almost two days spent on the road;
- ⇒ Kapan district is preparing to accept the major foreign investment in the country through privatization of ZCMC. Before the privatization and in the initial stages all the potential bidders and the eventual investor will visit the plant and will send hundreds of different professionals for short and longer-term missions. Kapan airport being prepared to serve airplanes can benefit from the anticipated big flow of passengers;
- ⇒ Finally, availability of airport will create another transportation option for strategically located region of Armenia, especially considering the geographical location of Goris-Kapan highway and the physical condition of Tatev-Kapan road.

As an initial stage for the reopening of the airport the Consultant suggests conducting technical assessment of the current situation with the consecutive technical, operational, organizational, marketing and financial due diligence.

- Improvement of Health Services

Availability of high quality, reliable and affordable health services is one of the key prerequisites for proper social conditions of the population. The health services in Syunik region has to be improved to fully satisfy the regional needs and

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requirements. Proposed improvements are structured according to the following main components:

### 1. Re-equipment and renovation of the assets of health institutions

Main part of the medical instruments, equipment and tools available in health institutions in Syunik are outdated and physically depreciated. Therefore they cannot be fully reliable and usable. Taking into consideration high cost of modern medical equipment and instruments, the medical institutions in Syunik cannot afford commitment of financial resources to fund new procurement. Thanks to the assistance and cooperation with the international relations department of the Ministry of Health some medical institutions in Syunik will establish cooperation with similar institutions in developed countries. As a result of this cooperation acquisition of some new equipment is anticipated.

6 ambulance stations of Syunik region have total 18 ambulance cars. Out of the total number of ambulance cars 9 are completely out of the order or are not usable especially for ambulance purposes. Renovation of these cars is also economically unjustified. Equipment and instruments required for mobile stations, as well as communication tools are also completely missing.

### 2. Rehabilitation of buildings and premises of medical institutions

After the break down of the FSU almost no construction or re-construction activity was carried in Syunik health system. As a result buildings and premises are now not only inconvenient for usage but also are dangerous in anticipation of potential accidents. The internal infrastructure of medical institutions has also not been renovated for many years. As a result, now almost all hospitals in Syunik are experiencing problems with heating, water supply and sewerage.

### 3. Differentiated approach to regional medical institutions.

As a result of the geographical and geopolitical situation of the Syunik region, the long distance from Yerevan and long distance between communities in the region, Syunik needs differentiated special approach to its medical institutions and especially in terms of financing.

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The current health strategy adopted by the Government of Armenia has the purpose to provide best medical services and support and to increase the level of state financed, guaranteed free of charge health services within the framework of the resources allocated for this sector, through introduction of modern medical methods and implementation of structural and functional reforms undertaken. To increase the efficiency of medical services the health sector of Syunik has to act as one joint system, which will allow more efficient utilization of limited technical, technological, logistical, infrastructure and professional resources available in the region.

Such a strategy would allow the merger of medical institutions having similar functions. This will significantly reduce administrative, laboratory, diagnostic and other costs. Resources raised from this kind of activities could be directed on procurement of equipment and instruments.

Development of policlinic treatment is also important, since being relatively available for broad segments of consumers it provides medical services on the very early stages of medical problems, usually preventing further problems. In terms of preventing diseases on early stages the introduction and development of family medicine model is also important, since it again contributes to treatments on early stages of medical problems, creates personal touch between doctor and client and is relatively available for population.

The summary of other measures for the improvement of medical situation in the region is as follows:

- ⇒ Promotion of diagnostic services
- ⇒ To solve the problem of the lack of high quality professional medical staff to establish proper living conditions and to provide specific benefits
- ⇒ To organize permanent “open door” practices and to organize mobile medical centers, regularly checking situation in rural communities
- ⇒ To implement measures specified in National programme against AIDS and tuberculosis
- ⇒ To strengthen hygienic and anti virus measures among population
- ⇒ To promote health information and public awareness services available for entire population of the region

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- Development of Agriculture & Food Processing

In year 2003 according to the survey made by the Consultant in all communities of Syunik region 2,638.8 tons of meat was produced, which makes annually 19.7 kg of meat per capita of population of Syunik marz or about 1.6 kg of meat per month. Certainly, this amount is not sufficient for the establishment of extensive meat processing facilities relying on local meat supply only. However, since there is a certain level of meat products consumption in the region (sausages, etc) there is a potential for operations of a few SMEs targeted on regional market and equipped with small scale processing technologies and based on both the local and imported meat.

The output of the milk in Syunik is relatively significant reaching more than 37,000 tons, which makes 276 liters annually per capita. The significant amount of milk produced in Syunik is the first factor supporting relatively developed cheese production especially in Sisian district. Due to the far location from key consumption market of Yerevan, farmers and SME's in Syunik are limited to cheese production only, since other products have much more limited expiry term. A part of the quantity of the milk the other positive issue in this segment is quality of the final product. Specifically, cheese produced in Sisian has pretty high quality and reputation. On the other hand the sector still has a significant growth potential. Indeed, the annual milk productivity per one cow is about 1,600 liters or less than 5 liters per day. This is an extremely small indicator, which will be always a critical bottleneck for development of dairy sector in Syunik. At present the world agricultural technologies reached to the pretty high level enabling increase of the productivity via still natural mechanisms. In particular in this aspect both the Central Government of Armenia in terms of the Ministry of Agriculture and Marzpetaran, using the resources of international initiatives, such as USDA have to consider the artificial insemination programs and gradual change of the variety of cows in the region. Current variety of Brown Caucasian, while is better adapted to mountainous areas of Syunik, but has less productivity. Instead of that, there is an need for special expertise for the assessment of the feasibility of introduction of new varieties (such as Holstein), which will have the permanent place in the barn with timely feed supply but will have significantly higher productivity.

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The current output of wool production of 115.8 tons is not sufficient for set up of industrial enterprise for wool processing. However, one should note that current level of sheep in the Syunik region has decreased several times as compared with the late 80's. Therefore, with the potential development of sheep breeding the output of wool has a growth potential too. As a result in long-term perspective of 10 plus years this raw material could also be utilized and processed inside the region.

In year 2003 all communities of Syunik region has jointly produced almost 33,000 pieces of cattle and sheepskins. While in general it seems to be a significant output, one should note that Armenia even in Soviet times with huge skins output did not have more or less developed tannery industry. Recently the USAID funded ASME project implemented by DAI made an assessment of tannery business potential in Armenia, which could be studied before undertaking specific activities in this field.

Honey production is one of the promising sectors of food processing industry in Syunik region. While the beehive keeping is pretty common in all the districts of Syunik it is especially popular in Sisian. Indeed, the territory of Sisian district is very convenient for bee keeping, since it mainly consists of alpine type mountains, with different types of flower cover, which is crucial to produce relatively big quantities of high quality honey. Traditionally honey production is based on the family run beehives or micro enterprises specialized in honey production. As a result the sector engages numerous participants.

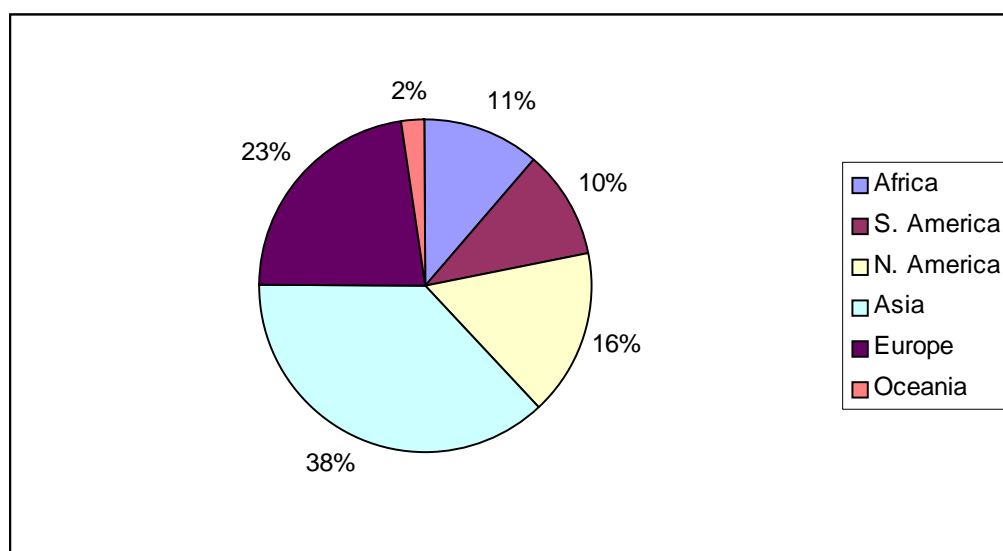
In year 2003 only in Sisian district approximately 5,880 beehives produced about 88.2 tons of honey for a total value of about USD 350,000. While the sector has strategic strengths, like traditionally inherited knowledge and skills of bee keepers; climatic conditions convenient for bee keeping; availability of plants and flowers used by bees it has also significant constraints, which are briefly analyzed as follows. Market and other aspects related to the market and marketing of the product are the main problems. As was in the FSU times, honey production is still based on the family owned and operated principles. Beekeepers do not have well-established distribution channels and sales are based on the occasionally found consumers. There are certainly some famous beekeepers, whose honey is sold immediately after production, but the majority of producers suffer to find clients. Moreover, the entire output is frequently sold in extremely small lots on the kg by kg basis. As a result, one of the main issues is to support beekeepers in establishment of properly functioning distribution channel. This could be achieved



either through “bottom – up” approach via establishment of beekeepers associations with relevant marketing department or through “up – bottom” approach via establishment of marketing center supported by the Marzpetaran, which will employ skilled salespeople and will be equipped with proper facilities for laboratory analysis and quality checks.

The other key problem for the expansion of the production is product price. For a long time honey is considered as a commodity product, whose sales are regulated by the world wide accepted prices, which are set on specialized exchanges. The current world honey market structure is as follows:

**Figure 22. World Honey Market**



The total world market size is equal to approximately 1.26 millions tons, with Asia holding leading positions. The market price (FOB) for various types of honey in year 2003 was fluctuating on international exchanges from USD 1.48 to USD 2.72 per kg. This is significantly less than average USD 3.8 to USD 5 price of the Syunik made honey quoted in Armenia. Armenian honey producers explain such a significant price disadvantage by the higher quality of Armenian honey (i.e. Armenian honey is not commodity, but is rather ingredient.) However, in that case either Armenian honey should be differently positioned in the international markets or will never be sold outside of Armenia in commercial quantities.

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Development of Armenian and specifically Syunik honey sector needs several undertakings, summarized as follows:

- ⇒ Syunik honey producers are high to medium cost producers relative to the major honey producing and exporting countries in the world. However, the industry is very fragmentized into hundreds of extremely small producers and the volumes produced are too low to realize economies of scale necessary to consolidate, process, and export honey.
- ⇒ Beekeepers have unrealistic price expectations for their honey due to isolation from global markets and an antiquated internal price structure.
- ⇒ Beekeepers need technical assistance to learn to manage bee diseases, particularly to learn more natural (less drug and chemical dependent) techniques.
- ⇒ Beekeepers need to learn queen production and regular queen replacement techniques, as well as selection for disease resistance, honey production, and other desirable traits
- ⇒ A two-tiered marketing approach could be developed: Serving the traditional local market primarily through barter, and selling bulk honey wholesale for cash.
- ⇒ Beekeepers as was already mentioned will need assistance in marketing honey on the cash market. The “consolidation” model through either “bottom-up” associations or “up-bottom” marketing centers would be an effective implementation strategy.
- ⇒ Beekeepers and small honey processors need to learn honey processing, packaging, and labeling techniques for bulk and direct consumer sales.
- ⇒ Beekeepers and honey buyers need technical assistance in determining true costs of production as well as developing realistic pricing and profit margins for the Armenian and export market. They would also benefit from bulk purchasing of supplies.
- ⇒ A honey quality assurance/brand identification program needs to be instituted to build Armenian consumer confidence in locally processed and packaged Armenian honey as well as to be used in honey consolidation and assortment processes.

Unlike honey or the other agricultural products discussed in this chapter fishery has not been traditionally strong sector of Syunik agriculture. Numerous small rivers in Syunik are inhabited with such a top scale fish types as red-finned trout.

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However, both the small size of the rivers and extremely limited quantity of fish are making impossible any kind of industrial usage of fish.

On the other hand Syunik has also relatively extensive natural and more important artificial lakes areas and reservoirs. The key water reservoirs located in Syunik are the followings:

- ⇒ Shamb
- ⇒ Spandaryan
- ⇒ Tolors
- ⇒ Angeghakot
- ⇒ Chaizami

The reservoirs were constructed with two main purposes, first to secure proper water supply to hydro power plants and second for irrigation of nearby located agricultural lands. Reservoirs were constructed in Soviet times and fishery has never been prioritized neither during the design stage nor the utilization of the lakes.

However, since the beginning of 90's, the growing poverty and lack of resources to secure food forced people to start small-scale fishery in those lakes. At present, local population continues going for fishery in lakes. However, while some people sell fish in the local agricultural markets, it still has self-consumption nature. Recently, several small scale pilot projects with red-finned trout in Chaizami Lake proved to be quite successful. Obviously the region has a potential to significantly increase fish output, however, before initiating any program a technical feasibility should be accomplished to identify which varieties of fish would be most efficient in Syunik lakes, what is the "growing plan", how many years they have to stay untouched, what food components has to be supplied, what is the time for fishery etc.

The total wheat output of Syunik region is slightly more than 28,000 tons, with more than 95% of the total output concentrated in Goris and Sisian. The wheat output of Syunik is relatively essential having approximately 9% share in the 310,000 tons of total country output. While the region lacks big milling facilities like those located in Yerevan, Lori, Shirak, Gegharkunik, Ararat and other regions, there are several smaller plants specialized in wheat processing and production of flour. Nevertheless, the survey of Consultant in the regional center of Kapan, which

is the biggest consumption market in the region, shown that the biggest suppliers of wheat to local bakeries are Armash Mill, located in Ararat region and Yerevan Mill, the biggest milling facility in Armenia. The key reason for selection of remote suppliers is the quality of wheat. Indeed, while the price of generic product such as wheat is almost identical throughout Armenia, the quality is different. The wheat produced in Syunik has a lack of quality due to technological issues. Smaller milling facilities operated by SMEs in Syunik technologically cannot compete with big plants, whose milling, cleaning and assortment processes are more efficient and secure higher quality. As a result, in order to be competitive and for regional “import substitution” the region has to attract resources in technologically more advanced facilities securing high quality of the product, as well as other processes such as assortment etc.

The other topic related to the wheat production is opportunity for set up of compound feed processing facility. According to the general wheat milling technologies, out of the entire amount of wheat milled approximately 70-75% (depending on the technology) will be flour of different sorts and the rest of 25-30% will be brans. Brans are the key component and raw material for production of compound animal feed. According to the technologies and surveyed wheat output the potential annual brans production is equal to approximately 7,800 – 8,400 tons. Actually these amounts are similar to the total quantity of brans produced by the biggest in Armenia Yerevan Mill. However, making recommendation on set up of compound feed plant has to be based on the feasibility study, which will cover technological, operational, logistical, marketing and financial aspects of the initiative. Notwithstanding the above mentioned, one should note that stable supply of affordable compound feed will be really critical factor for development of cattle breeding in Syunik region.

The total amount of main types of vegetables harvested in Syunik region is equal to about 10,600 tons. For comparison, in Ararat marz only seasonal procurement of tomato by Artashat and Ararat canneries is equal to approximately 40,000 tons each. The comparison is brought to stress how small is the vegetables output in Syunik to be reliable source for set up of industrial facilities.

The same is the situation with fruits, where the total output of different fruits is equal to about 4,300 tons. This is by far insufficient for set up and development of industrial scale production, like canneries in Ararat, Armavir and Aragatsotn

regions. On the other hand, the mentioned amounts of crop cultivated in the region are sufficient to support operations of a few retail market oriented small-scale canneries. However, one should note that the market access especially in export markets for retail oriented products is significantly more problematic and tougher regulated than for industrial products. Indeed, while products, like tomato paste, peach and apricot purees and apple juice concentrate packaged in 220 liter aseptic bags have no problems exploring and entering export markets in CIS and Europe, only small quantities of retail products are sold in export markets, mainly in Armenian colonies in Russia, Middle East and USA west coast. Along with the fruits, berries where Syunik with annual output of more than 125 tons has relatively high position can also be utilized for retail trade oriented processing, such as canning and freezing. Here Syunik has a small competitive advantage, which is the relatively big quantity of blackberry (more than 82 tons) annually collected in Syunik. Unlike the other berries, like strawberry and raspberry which are common everywhere, blackberry is rather limited supply berry and products, made of blackberry such as preserves, compotes and jellies in case of proper marketing could have success in domestic and foreign markets.

Syunik has relatively big output of potatoes, which is equal to almost 22,000 tons or about 160 kg annually per capita of marz population. On the other hand, just a surface survey of agricultural markets in Yerevan will reveal that the share of potatoes grown in Syunik is really miserable, with the overwhelming majority of products having Gegharkunik region origin. Potentially, potatoes could be used in industry for production of starch or special potato powder, which is further used as a key component in chips industry. Although additional research is required for assessment of investment needs and feasibility of set up of such a facility in Syunik at the glance it is obvious that such kind of scenario is highly unlikely, since even if an investor decides to set up similar business in Armenia, they would have more efficient areas for implementation of the project, such as Gegharkunik region, which has significantly bigger output of potatoes, plus more economic, safe and less timely access to key transportation routes.

Last, but not least criteria for assessment of potential of agriculture and food processing in Syunik is that due to the size of the region and moreover the timing required to reach from one point to another the crop cultivated and grown in one area will not always be economical to transfer to another for processing. For instance, for many villages of Sisian district it is cheaper, safer and quicker to

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deliver their product to Yerevan rather than to Kapan. Indeed, the timing required to reach marz administrative center and the capitol of Armenia is almost identical due to long distances between communities. Therefore, the aggregate figures of crop summarized in the chapter of agriculture are not always really indicative for assessment of raw material base for processing industry.

- Institutional Strengthening of Syunik Business Centers

Business service providers, mostly located in Yerevan and specifically a few consulting companies providing wide range of multidirectional services and especially investment structuring and fund raising, played an important role in dynamic economic development of Armenia within the period of 1998 till present. The Business Centers located in Syunik also has to contribute to adequate development of the region. In this respect, there is a lot of space for intervention of international technical assistance initiatives targeted on the institutional strengthening of business centers through several key undertakings, such as improvement of the knowledge and skills of key specialists, establishment and set up of relevant infrastructure, support in introduction and growth stages, professional assistance in initial projects, support in acquisition and installation of technologies and equipment as well as in participation in relevant events taking place in Yerevan and other marzes.

To facilitate this process there is a certain role for local government and international technical assistance initiatives. First, the local government should be a process catalyst and has to seek international donors project technical assistance to finance some infrastructure and mainly to teach local specialists about the key aspects of advisory services. USAID and EU TACIS sponsored activities are especially active in various programs targeted on the institutional strengthening of regional business centers.