AMERICAN UNIVERSITY OF ARMENIA

College of Business Administration

CANNED FOOD SUB-SECTOR STUDY

Instructors: J.Newton

D.Sevens

Students: A.Harutyunyan

G.Avagyan

Yerevan 2000

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EXECUTIVE SUMMARY

After the devastating economic recession in the post-soviet Armenia, the local food processing industry is slightly recovering, becoming the most productive industrial sector in Armenia. However, the development of Armenian canned food industry is still going at a slow pace. Active development of canned food sub-sector of Armenian food industry will contribute to the economic development of the country.

The goal of this research project is to evaluate the potential for the development of canned food industry in Armenia, analyse the production potentials of key local players in the industry, and to identify the possible directions of effective investments for improvement in different areas of their business activities.

According to our research, the canned food sub-sector today needs financial and marketing support, as well as structures capable of serving as connecting links between the canneries, raw material suppliers and final goods consumers.

Our research findings specifically pointed out the problems of shortage of capital investments, the inadequacy of Armenian agricultural produce and processed food with internationally accepted standards and specifications, and the lack of export-oriented marketing efforts.

Based on the analysis of our findings, we propose some solutions to the most actual problems outlined above. These are:

- Establishment of a system of lease of equipment
- Improvements in standardisation of the product specifications and product quality
- Development of forward contract for agricultural products, and
- Centralised (by government or by a large wholesale agent) Internet promotion of the Armenian canned food produce

These improvements would encourage faster capital renovation of the canneries, expansion of their production capabilities, use of productivity, and decrease in product costs, and sales increase.

INTRODUCTION

The food processing industry was well developed during the Soviet period, representing at mid 80's 18% of the industrial production but, like the other sectors of the Armenian economy, it has suffered from the collapse of the Former Soviet Union and the opening-up the country to international competition.

Since 1997 the food processing industry is slightly recovering, partly due to foreign investments. This industry has become the most productive industrial sector in Armenia (39% of total industrial output and 61% of manufacturing output in 1999)[4]), with canned food, wines, vodka, flour and cigarettes [6] showing the most dynamic output increase in 1999. However, such an achievement is more due to the collapse of other industries rather than actual development of the industry.

The development of Armenian canned food industry is still going at a slow pace. Most of the companies operate at a very low capacity level (10-15%) [2], and part of them are not operating.

GOAL AND METHODOLOGY OF RESEARCH

The goal of this research project is to evaluate the potential for the development of canned food industry in Armenia, analyse the production potentials of key local players in the industry, and to identify the possible directions of effective investments for improvement in different areas of their business activities.

To achieve this goal, we decided upon the following course of actions:

- We compiled the list of canneries that are registered, actually operating, and under construction. We indicated their product range, ownership, territorial distribution, implemented projects, and other data. The data have been acquired from the Ministry of Statistics, Ministry of Agriculture and gathered from the different canneries.
- We determined the tendencies in canned food subsector development and the character of interaction of canneries with actual and potential investors, influence of investments on improvement of the productivity of agri-processing enterprises and their needs on various stages of their activities.
- In order to collect preliminary data, we conducted direct interviews with the representatives of all parties working in the sub-sector. We conducted series of personal interviews with nine cannery owners and executive directors. We also

interviewed a representatives of the RA Ministry of Agriculture, the RA Committee of Standartization, the RA custom Department.

- After collecting and analysing the data of the primary research, we presented recommendations and proposed possible solutions for the development of the canned food industry in Armenia.

CONSTRAINS AND LIMITATIONS OF THE STUDY

The study of Armenian canned food sub-sector conducted by the group has several constrains and limitations:

- Secondary data collected from the Ministry of Agricuture and Statistics of RA are not fully reliable. On some issues there was no information.
- Information from the Ministry of Agriculture contains lack of data about the private sector after privatization since they do not receive regular reports from private canneries;
- Due to remoteness of several canneries from Yerevan group did not visit all listed canneries. Only nine of them have been visited personally.
- Unwillingness of most cannery owners and executive directors to share information about canneries due to increasing competition in the sub-sector.

ECONOMIC SITUATION IN ARMENIA

Although Armenian economy revealed some signs of improvement in 1994 and 1995, overall it has contracted considerably over the last few years. Four main factors can account for this problematic condition:

- First, the sudden and dramatic disruption of traditional economic links within the former Soviet Union severely undermined traditional production and exchange relations and announced a period of acute macroeconomic instability.
- Second, the economic blockade and civil strife in Georgia have aggravated this disruption.
- Third,even without these external shocks, any country attempting to make the transition from a planned to a market-based economic system is bound to experience dislocation, and Armenia has been no exception.
- Fourth, Armenia's dependence on external energy sources, and difficulty in the acquisition of fuel have contributed to the shrinkage of the economy.

In 1994, the physical volume of industrial production contracted by 55% in relation to 1999 (in 1999 it was 51% as compared to 1990) and the gross domestic product contracted by 50.6% (in 1999 by 36% as compared to 1990). The most drastic fall in the volume of GDP was recorded in 1992 (by 42 percentage points)[3].All this affected the Armenian economy significantly.

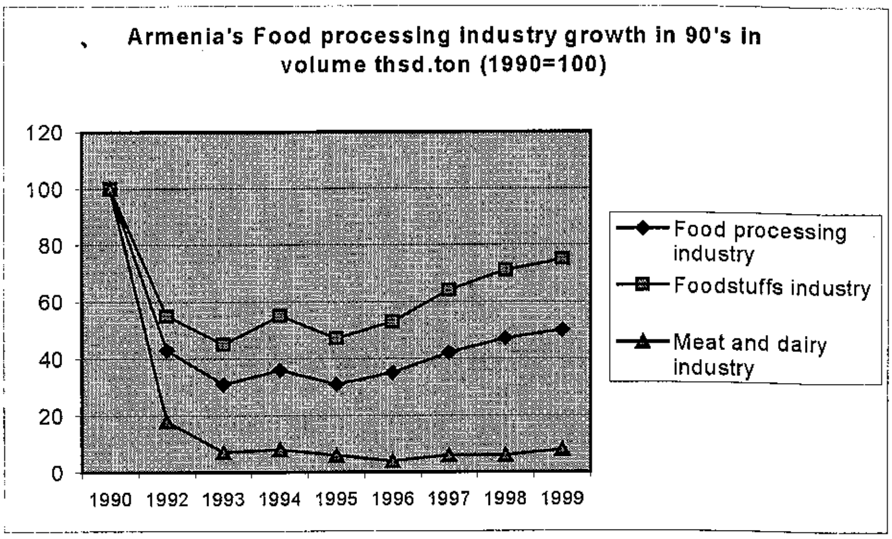
Nevertheless, macroeconomic reforms conducted by Armenian government, tight fiscal and monetary policies, and a broad range of structural reforms have resulted in sustainable real growth in GDP starting from 1994. In 1999, GDP recovery slowed and has stagnated in 2000. In 1999, GDP was still only about 40 percent of the 1989 level. The volume of GDP in 1999 was AMD 991,549.7mln, while in January-December 1998 it was AMD 958,791.2mln Inflation has been low in recent years and in this year about 2-3% instead of planned 5% due to deflation about 2.8% in comparison with the December 1999[16].

The economic growth in Armenia for the period of January-September 2000 was registered as 2.5% in comparison with the period of January-August. The major reason for this contraction of growth in agricultural sector due to heavy drought. [16] Thus, taking into consideration the above-mentioned factors we can conclude that the conditions for proper development of Armenian economy are far from optimal but some positive changes reflect the process of recovering.

GENERAL SITUATION WITH CANNED FOOD SUB-SECTOR IN ARMENIA

The canned food sub-sector of the Armenian food industry was one of the most productive sub-sectors of Armenian economy before 1991. Until 1991, two-thirds of the products in this sub-sector have been exported to the republics of Former Soviet Union [2].

According to official statistics of that period, in 1991 sub-sector produced 457mln conditional units (m.c.u.) of canned food among which 185 m.c.u. of tomato canned foods, and 216 m.c.u. of fruits [6]. However, the degradation of Armenian economy after 1991 brought about the sharp reduction in general output of the canned food sub-sector. According to the data from the Ministry of Statistics, the volume of canned food production has declined by nearly 88% between 1991 and 1999 [12].



Ministry of Statistics of RA [2]

Since 1997, however, the food-processing sector in Armenia has registered good performance in sub-sectors where foreign investments have been made - vegetable and fruit canned production, wine, beer, vodka, tobacco [10].

Significant development of the food processing industry is observed throughout the last years, mainly due to credits provided to Armenian Government by international financial organisations (more than 20 million USD, at 15-20% rate of interest) [9].

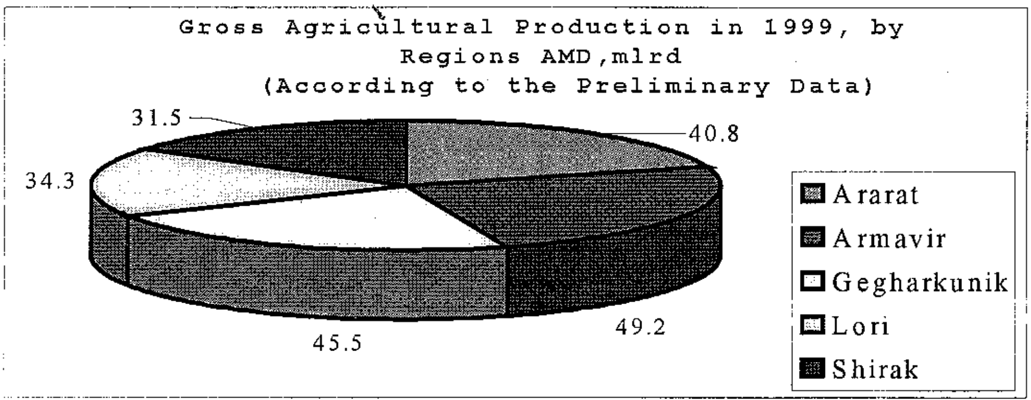
All these developments tend to confirm certain dynamism of the Armenian canned food sub-sector, as well as can serve an indirect indication of certain confidence from foreign investors in Armenia's agriculture potential. However, the further development of this industry will largely depend on the export potential of Armenian canned food produce and its ability to compete with imported products on the local market determine the perspective of the sub-sector.

RESEARCH RESULTS

A. OVERVIEW OF THE SUBSECTOR

Location. During the preliminary research we have found out that on the territory of RA according to data from the Ministry of Statistics of RA is currently registered 19 canneries. However, according to data from the Ministry of Agriculture 4 of 19 are not currently in operation. Moreover, two more canneries have been discovered by the group: one in Abovian (Kotayk) is at the last stage of construction and, according to the owner's expectations, it will start the production by the mid of November, 2000 and another next to Echmiadzin is in process of construction. These two canneries are not registered in the Ministry of Agriculture because the Ministry does not consider them as canneries yet. The enterprise will get status of cannery only after passing certification procedure terms of which are mentioned below.

Companies in the canned food processing sector are essentially located in regions were the agriculture production is concentrated. Two thirds (65%) of the agricultural production is concentrated in five regions - Armavir (15.8% in 1999), Gegharkunik (14.6%), Ararat (13.1%), Lori (11%), Shirak (10.1%) [1].



Ministry of Statistics, extract from table in [1]

About 68% of vegetables and 82.7% of grapes is produced in the regions of Armavir and Ararat, 75.1% of fruit and berries - in the regions of Ararat and Kotayk, 85.8% of the gross crops of melons and gourds - in the rural economies of the region of Armavir[1]. General production period in subsector starts at the end of May up to the end of November.

The closeness to the sourses of raw material could give the canneries several adventages in cost reduction. It resulted in lower transportation cost of perishable raw materials, lower spoilage and shrinkage of raw materials during transportation, smaller warehouses capacities and other storage facilities that also resulted in lower cost of production. *Appendix1.*

However, the current territorial distribution of canneries that was adventage in the period when railroad infrastructure was rather well-developed in Armenia can be treated as disadventage now. The transportation of finished goods from canneries to the main distributor channels are rather difficult and costly due to underdeveloped transportation infrastructure on the territory of republic. The main railroad that connects Ararat, Kotayk, Armavir,Lory, and Tavush regions of Armenia with each other and with abroad is not in operation. The other regions where canneries are situated (Vayots Dzor, Syunik, Gagarkunik) do not have railroad ways and the main transportation means there is truck transportation. Thus,the absence of railroad transportation, unreliable and expensive truck transportation, and even more, very expensive air transportation hinder the export-oriented activities of canneries, because major export markets of Armenian canned food are Russia and other CIS countries. All these factors are a hard burden on the final cost of production. Location of canned food manufacturing enterprises on the territory of Armenia is presented in the *Appendix 2.*

Ownership. All canneries are 100% privatised. Their organization types are following: one of nineteen is sole proprietorship, 3 of them are organized as limited liabilities companies, and 1 is closed joint-stock and 12 are open joint-stock ventures.

Certification requirements in food industry. Governmental regulation of food industry is conducted through the different certification procedures. Manufacturers of the processed foods, including canned foods, must comply with standards and regulations adopted in Republic of Armenia. These certifications include:

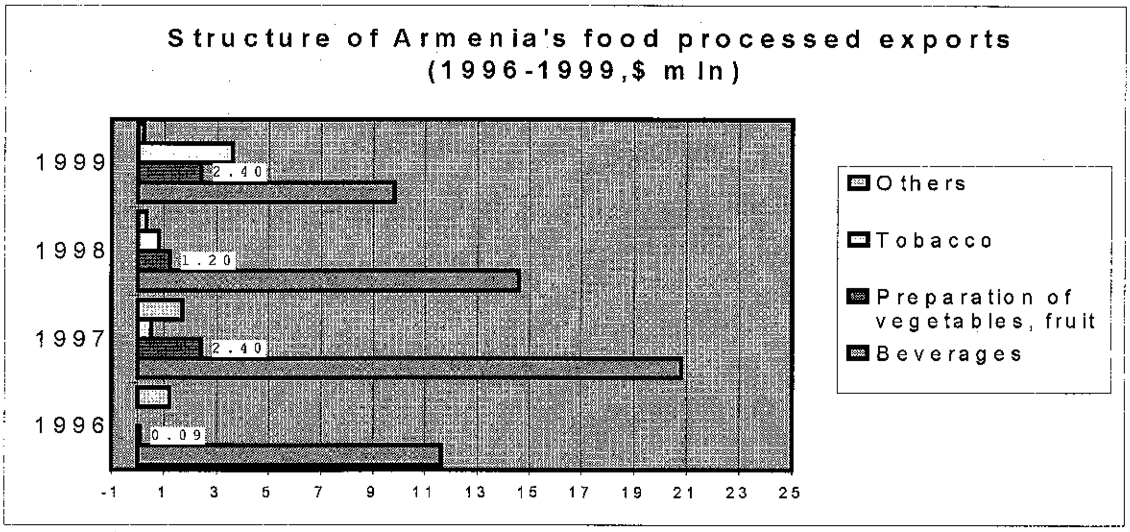
- ✓ Registration of company in the Government Committee of Standardisation and Certification to verify that the company's technical conditions are in compliance with the technical norms adopted in RA;
- ✓ Registration of company in the Government Committee of Standardisation and Certification to verify that the company's equipment are in compliance with the technological norms adopted in RA;
- ✓ Certification from the Government Committee of Standardisation and Certification asserting that the company's products are in compliance with the sanitary - technical norms adopted in RA, they specify the standards of composition, permitted ingredients and additives, levels of agricultural residues and labelling provisions;

- ✓ Registration in district sanitary control station. This contains regulations to cover the hygienic preparation of food for sale and require freedom from contamination;
- ✓ Certification of registered trademark.[12]

All companies operating in the field of food production have to possess all the above-mentioned registrations. This certification process is ensuring quality control in the industry and it is the first step for local companies to enter into international market. However, according to the representative of the Ministry of Agriculture, the quality control standards adopted in Armenia are not completely in compliance with international ones and they are currently subject to revision [12].

Product range. The breadth of products manufactured by Armenian canneries is not very large, as compared to the product range of internatonal companies[17]. It is mainly presented in following type of products: tomato products(paste, concentrate, juice); fruit juices, jams, marmelades, marinades, stewed fruits, dried fruits, and frozen fruits and vegetables, *Appendix1*.The narrow range of canned food products can be accounted for lack of information on consumer preferences of canned food on the part of management at canneries.

Export-import. General export directions of 15 currently The



Ministry of Statistics of RA [2]

operating canneries are similar. As result of findings 4 of 14 canneries export their products to CIS countries and USA, 4 are only to CIS, 2 are only to USA and 4 are not have export at all.

According to the data from the Ministry of Statistics of RA in 1999 export preparation of vegetables and fruit (mostly tomato paste and fruit juices) have substantially increased (from 1.2 in 1998 up to $2.4mln in 1999) representing 15 % of the total food processed exports.

Armenia's exports of food processed products (1996-1999,mln $)

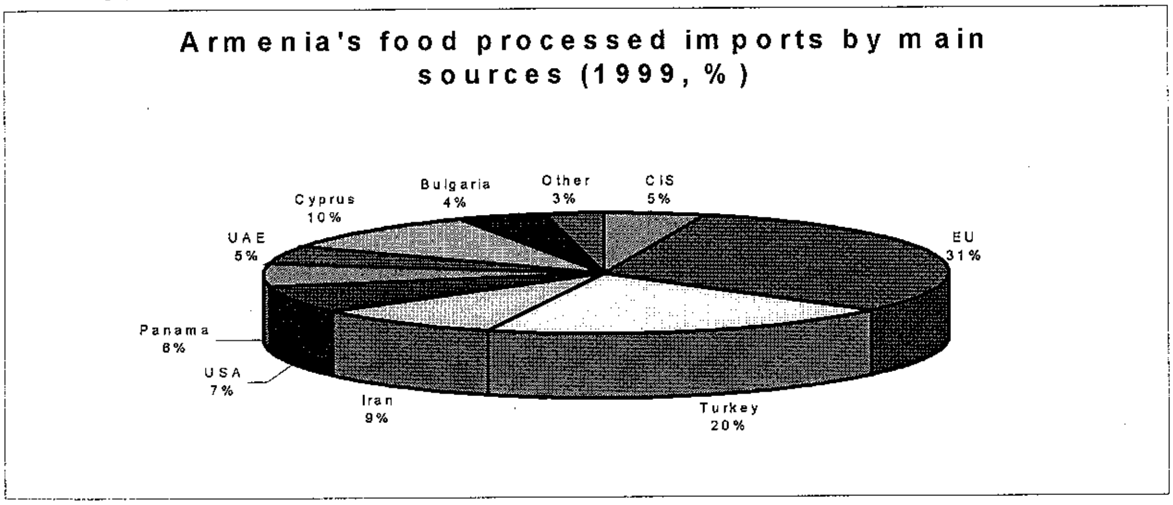
	1996	1997	1998	1999
TOTAL	12.9	25.4	16.9	16.0
Preparation of vegetables, fruit (HS 20)	0.69%	9.45%	7.1%	15%

The Ministry of Statistics of RA [8]

In the figures presented in the chart, the main markets for Armenian food processed export are Russia 89% and other CIS 8%, which includes figures of products-preparation of vegetables and fruits of Russia (44.2%) and Georgia (21.9%)[8].

These markets are well known to Armenian food manufacturers from past experience. Therefore, the agribusiness enterprises must concentrate their major export expansion efforts on these directions due to following reasons:

- Difficulties to enter the EU markets (policies related to import protecting local producers;
- Tough competition from Mediterranean countries who have concluded trade agreements with EU;
- Low compliance of local canned food's quality to the international standards.



The Ministry of Statistics of RA, [10]

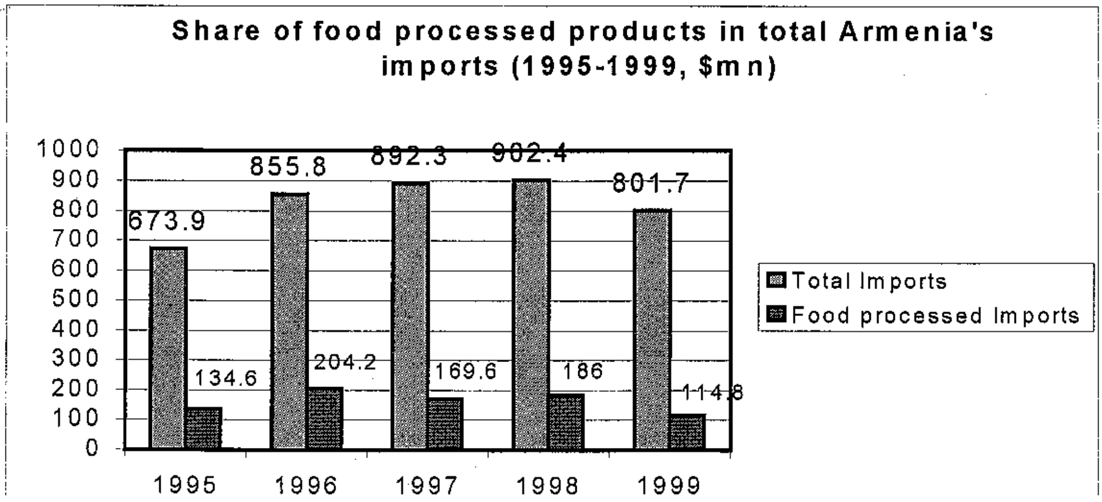
The decline of Armenian canned food sub-sector production volume in 1991-1995 gave opportunities to foreign importers to penetrate actively into the domestic market. The open roads to Iran give opportunity to import juices into Armenia from Iran and the United Arab Emirates (UAE), European products mainly imported from UAE [8]. The main imported products in the canned food sub-sector are tomato pastes, marinades from Iran and natural fruit juices from Bulgaria, Cyprus, Greece, and Turkey. Most of these products are low quality and, subsequently, will be subject for import prohibitions. To overcome this problem, the Committee of Standardization recently has started the activities directed to impose the required standardization procedures for all imported foodstuffs.

After many years of strong growing tendency, the imports of food processed products have fallen by 38% attaining $115mln in 1999 (compared to $186mln in 1998) or the equivalent of half of the total Armenian export [8]. Such new trend can be viewed from several aspect both positive and negative.

The contraction of import could result from various factors:

✓ falling prices in the domestic market;

✓ decrease of the demand due to the increasing emigration (at



least 78 000 persons left the country in 1999)[3],

- ✓ the positive one - the active development of the local food industry and successful import substitution by locally produced prepared foodstuff.

Production of the canned food products is increased by 5.1 times from 57507.2 to 11371.0 thsd. pots in the period of January-December 1999.[3]

Moreover, in result of interviews with the cannery representatives we have found out that currently operating canneries are underutilized and have idle capacities and can absorb and process all output of agricultural sector. The main problem that hinders this process is absence of initial working capital to start production and difficulties with final goods realization due to lack of market information in this sub-sector.

In 1999, the total volume of fruits produced throughout Armenia was 88.1 thousand tons and vegetables are about 449.4 thousand tons [14]. In this year the total volume of agricultural products forecasted to be lower due to drought [12]. The summarised results concerning the canneries are presented in the Table of Canneries *Appendix 1.*

Credit programs in agribusiness. In order to support the agricultural sector, several programs have been developed with the assistance of international organizations (USDA, World Bank, UNDP, Development Alternatives Inc(DAI) and OXFAM) to help farmers, restore the irrigation system (World Bank, IFAD) and develop agri-processing enterprises ($43mln and $14.5mln respectively) [15]. Agricultural credits are available to agribusiness from a number of Armenian Banks. Among these programs can be mentioned following:

- Short- term **Agricultural Reforms Support Program** (available only in Tavush, Syunik, Gegharkunik, and Kotayk districts) - Short- term credit (1 year), 16% annual interest rate, up to $2,000
- **Mid -term Agricultural Reforms Support Program**-Mid-term (up to 3 years), 13.6% annual interest rate, up to $50,000
- OXFAM Credit Program-24% or 30% annual interest rate, up to $10,000
- **Marketing Support Program of Agricultural Department US**-Mid - term credit (up to 3 years),15% annual interest rate, $10,000-$50,000
- **LINCY Foundation Program**-Mid-term credit (up to 3 years), $100,000 - $1,000,000
- **Armenian-German Fund of SME Credit Program**-Mid- term credit (up to 2 years), 19% (production and service sectors), 24% (trade)"Eurasia- Izmiryan" Fund Program -Long -term credit (up to 3 years), 18% annual interest rate, up to $100,000.[9]

As can be seen from the list of credit programs all loans are either short or mid-term loans, but the minimal payback period

(Length of time that it takes for investment in production to recoup its own initial cost out of the cash receipts that it generates: Payback period = Investment required /Net annual cash inflow) for the investments in canned food factories is not less than 3 years [18]. Since the cycle of production in canned food sub-sector is seasonal (from May to November) so the short-term nature of loans can be considered as hindering one in the process of sector development.

The ~~In~~ result of this research, we have found out that loans and technical assistance on these programs support currently seven investment projects. These projects include: Gugarq cannery (purchase of processing equipment), Yerevan cannery (purchase of refrigerator system to enhance capacity of warehouse and purchase of packaging equipment for frozen fruits), Tavush cannery (purchase of processing and packaging equipment for juice production), Artashat cannery (purchase and installation of a packaging line for production of natural juices), Parenardshin (processing and packaging equipment for fruit and vegetables processing), Ashtarak cannery (equipment for processing of frozen fruits, "Artashes" sole proprietorship(purchase of equipment to enhance production capacities).

Business associations and consulting companies in Armenian agribusiness. In the process of research, we overviewed the main business associations and consulting companies that are involved in the agribusiness in Armenia. We have found out that 10 associations develop their activities in field of agriculture. One of them the "Association of Armenian Canneries" ~~is~~ was established in the June of 2000 and aimed to assist in the solution of economic problems of canned food sub-sector. Its main objective is following: the establishment of fair playing field for enterprises involved in canned food sub-sector. The association assists the canneries in the more effective utilisation of resources. It is done through the reductions in prices by wholesale supply of materials used in the production (particularly sugar and spices); through the overcoming of quantitative bars in the export of goods, and through the establishment of norms to achieve international standards of goods and services.

Moreover, the number of programs currently is subject of development in the Armenian agribusiness. Among them US AID funded Development Alternatives, Inc. (DAI) that implements Armenia Agribusiness SME Market Development Program, which is designed to increase market opportunities for private agribusiness and investment. DAI began implementation of the ASME project on August 2, 2000. The ASME project is a four-year effort funded by the US Government.

Another program funded by World Bank is Agriculture Research and Development Program that is designed for consulting and development of restructuring plans for large and medium enterprises operating in the field of agriculture. The restructuring of enterprises includes consulting related to the organisational structure, production issues, marketing, introduction of international quality systems and quality control, cost accounting and other financial issues.

B. PROBLEMS AND NEEDS OF ARMENIAN CANNERIES

The relative low business activity in Armenia has a direct negative influence on the situation with canned food sub-sector, that is caused by many factors (such as transition period, rupture of business relations with partners from former Soviet Union, blockade from the side of Azerbaijan, and energetic crisis). The main problems encountered by canneries and current needs pointed out by the cannery owners are following:

- Obsolete processing and packaging equipment and insufficient financial means to replace them;
- Inadequately developed raw material supply process affecting the ongoing production cycle;
- Lack of management experience among canneries owner and managers;

- Lack of marketing related experience among canneries owner and managers;
- Inadequate payment infrastructure that cannot properly assure payments during export-oriented activities;
- Short term nature of most loans;
- High air transportation cost [13] (*Appendix 3*).

C. Factors Preventing the Development of Canned food sub-sector in Armenia

Summarizing the results of the research we can conclude that among the factors impeding canned food sub-sector development are the followings:

- **Absence of the satisfactory infrastructure** on the majority of production territories and need of great capital investments for its creation.
- **Inability to ensure the presence of necessary current assets.** Investing own financial means in enterprises in order to start operations, owners of canneries often already are not able to ensure the acquisition of current assets necessary for further activity.
- **High cost of production** as a consequence of price increments on raw materials, especially sugar and spices, and electrical power and fuel, as well as high expenses connected with

transportation (e.g. one ton of air transportation to Russia costs USD $1000[13]).

- **Lack of current and financial assets.** The lack of current and financial assets results in the inability of enterprises to assure search of information regarding market and organize promotional campaign causing problems with product sales (65% of enterprises in Armenia have problems with sales [8]).
- **Lack of understanding** among the cannery owners about the necessity to apply to consulting and auditor centers in order to get necessary consultations connected with accounting, legal, tax and customs problems, as well as to acquire information regarding market and representation of the enterprise on the market.
- **Inability of enterprises to export their products by themselves.** Most canned food producing enterprises use local raw material and equipment, which having direct influence on the quality and design, reduces the competitiveness of production. Moreover, the lack of reliable information on the export markets makes it difficult to correctly adjust export-oriented activities of canneries. (80% of production turned out by enterprises is being sold on local market, and only 20% - abroad and in CIS countries [8]).
- **Short-term nature of credits damps the loan taking activity of enterprises** due to seasonal nature of their production cycle and because both collateral and sustainable disbursement opportunities are limited due to difficulties in output

realization. Therefore, access to quality inputs and machinery (equipment) becomes difficult. However, the high level of risk in output realization due to small market size, low purchasing power of population and limitation of exporting opportunities prevent many canneries to take loans. For instance, the processing and packaging line to produce natural fruit juices and packaging material from Tetra Pak purchased and installed by Sardarapat costed USD$1,516,000 and $855,000 respectively in 1998[11]. Thus, the above-mentioned loan programs don't provide sufficient resources for purchase and installation of appropriate equipment to all canneries. Therefore, the necessity of introduction some new instruments arises to support manufacturers.

- **The low quality of employees in many enterprises**, which does not ensure sufficient knowledge for the qualitative changing of the production bases, technologies and infrastructures necessary for improvement of efficiency of these enterprises, increase of the volume of production and quality of production.

RECOMMENDATIONS

The recommendations presented below are the attempt to offer some means to overcome main obstacles in sub-sector development.

Forward contracts. One of the solutions for the establishment of proper financial infrastructure is a system of forward contracts and leasing agreements. These will facilitate the canneries' ongoing operations.

The forward contracts on commodities are broadly applied in international markets. In Armenia, however, such kind of risk management instruments for commodities have not been applied before due to low economic activities of Armenian enterprises. Yet, the need for such instruments is well articulated since Armenian enterprises involved in the agribusiness encounter the problem to secure the supply of raw materials that are necessary for ongoing production process due to the increase in the output.

The Armenian Commodity Exchange currently works only with spot contracts on commodity, generally with gold. The transactions on other type of commodities are subject to purchase, sell on spot terms, and have very low volume. The reason for these is following:

-absence of norms on standardized goods;

-lack of information on the subject among involved parts(farmers and cannery owners).

There are several types of forward contracts. Two of them can be considered as applicable in Armenian agricultural sector: fixed-price and minimum-price forward contracts.

In a fixed-price forward contract, the farmer commits himself to deliver at an agreed time a certain quantity of commodities, of a specified quality. The price that he will then receive is already determined in the contract. Normally, the farmer is only paid on delivery, although this type of contract can be used as a tool to obtain pre-harvest financing.

Farmers can commit themselves to deliver everything to be produced in their fields at a certain price (not uncommon in contract farming arrangements); or (rather uncommon these days), to deliver all their production from a certain field for a given amount (that is, the buyer takes the quantity risk).

To the extent that farmers know their production costs, this type of contract evidently eliminates an important risk factor. Speculative use of this instrument by farmers is not likely. The main disadvantage of this instrument is that from the buyer's point of view, there can be a significant counterpart risk: if market prices increase from the moment of signing the contract to the moment of delivery, the farmer can decide to default on the forward contract. Thus, except in countries with a good system of legal recourse or situations where contract performance can enforced, the price offered to farmers under such contracts tend to be discounted by a relatively high risk premium.

Minimum-price forward contract is similar to a fixed-price forward contract, except that the farmer is assured of receiving a certain price even when market conditions changed. When the market price increases, he receives a higher price. From the farmers' side, this eliminates an important risk factor; and the incentive to default on the contract is less than is the case for fixed-price contracts. Nevertheless, there is a cost that particularly in the case of highly volatile markets or longer-term contracts can be high [15].

Both farmers and agricultural product processors can use the above-mentioned contracts with some variations. The farmers will get the definite degree of reliance in realizing of harvest, receiving the payments for it, and they get ability to access to quality inputs and machinery. At the same time canneries will become assured that they will be provided with raw materials to maintain ongoing process of production and will have stable price to estimate future expenditures.

The implementation of these contracts should be done through following steps:

1. Develop regulatory framework:

- uniform quality standards for main agri-products in food processing sector;
- uniform contract terms(periods, commissions, delivery).

2. Provide information support and consulting from association involved in the field of agriculture.

Lease contracts. Since in most cases the loans are additional burden to weak financial position of enterprises, broader implementation of lease contracts between canned food enterprise and manufacturers of processing and packaging equipment can be the possible appropriate solution of problems in replacement of obsolete equipment

Several types of existing leasing terms and some of them with variations can be applied with changes in agri-sector. Most popular are operating and financial leases. Operating lease is generally used for short-term leases of equipment. The lessee can acquire the use of equipment for just fraction of the useful life of the asset. The lessor may provide additional services such as maintenance and insurance. Type of lease classified and accounted for by a lessee as a purchase and by the lessor as a sale or financing, if it meets any one of the following criteria:

(a) the lessor transfers ownership to the lessee at the end of the lease term;

(b) the lease contains an option to purchase the asset at a bargain price;

(c) the lease term is equal to 75% or more of the estimated economic life of the property (exceptions for used property leased toward the end of its useful life); or

(d) the present value of minimum lease rental payments is equal to 90 percent or more of the fair market value of the leased asset less related investment tax credits retained by the lessor.

General term applied to most types equipment leases is financial lease. Typically, a finance lease is a full-payoff, non-cancelable agreement, and the lessee is responsible for maintenance, taxes, and insurance.

Leasing agreements provide some advantages to both parties involved and can be successfully applied to facilitate industry recovering. The international organizations involved in agricultural business development in Armenia must become the active intermediaries of this process due to their well-established links in the international market.

Marketing support. Since during the research many canneries indicated the absence of market related information regarding consumer preferences in domestic and foreign markets as one of the main problems it would be reasonable to create a unified information system of information flow in the agribusiness through:

- creating and promoting of web pages both for local and foreign companies;
- publishing commercial offers of Armenian and foreign companies through INTERNET.

The good examples of such kind information system are web sites **www,aris,ru** and **www,agroinform,md** of Russia and Moldavia.

CONCLUSION

Active development of canned food sub-sector of Armenian food industry will contribute to the economic development of the country. According to our research, the canned food sub-sector today needs financial and marketing support, as well as structures capable of serving as connecting links between the canneries, raw material suppliers and final goods consumers.

To overcome the factors preventing the development of canned food sub-sector, all the parties involved should join their efforts:

- To carry out market investigations on specific matters concerning Armenian domestic and foreign food sectors;
- To elaborate market information on external markets for local producers and exporters and to assist them to participate into trade-fairs, business-trips and any kind of other events which could lead to products export and/or the establishment of joint-ventures;
- To provide contacts and information concerning the Armenian food system to foreign companies, so as to help them to establish operation in Armenia;
- To develop and establish financial infrastructure to facilitate industry development (forward contracts, lease, etc).

Our research indicated that the factors mentioned above exist in Armenia and need further development in order to accelerate increase in the canned food sub-sector development.

Our research findings specifically pointed out the problem of shortage of capital investments, which are vital for development of the canneries. This problem might be solved through a system of lease of equipment. Such a system would spur faster capital renovation of the canneries, expansion of their production capabilities, use of productivity, and decrease in product costs. Meanwhile, it would be good incentive for Armenian canneries to reorient their production to export markets. The development of equipment lease for Armenian canned food enterprises would be a very perspective direction of technical assistance of international donors to Armenian agricultural business. Still another problem that our research finding highlighted was the inadequacy of Armenian agricultural produce and processed food with internationally accepted standards and specifications. It is certain that in the near future, the canneries themselves will not contribute major investments in this area, partly because of lack managerial understanding of the importance of quality standards, partly because common financial shortages.

In our opinion, the development of a system of forward contracts for Armenian canned food produce will be a natural incentive for Armenian canneries to concentrate on the issues of standardisation of product quality. Of course, the very process of standardisation must be strongly supported by the government, who may even allocate some of technical assistance funding from international organisation to this goal. The commodity exchanges, in their turn might also develop their own product specification systems, based on internationally recognised standards. Consulting associations working with Armenian agribusiness will also find product standardisation, production processes quality control, and TQM as a realm of their future activities in their work with Armenian canned food companies.

The lack of promotion of Armenian canned foods was also emphasised in our research. We propose, as an essential start of promotional process, including e-business in the main activities of Armenian agricultural producers. One of the possible solutions could be government-funded Internet B2B (Business to Business) Company that would promote the agriculture production to the world-wide wholesalers. On the one hand, it would be a good start to the international business community for those canneries that do not posses the managerial and technical competence to run export-oriented business themselves. On the other hand, this would secure the demand for agricultural production.

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Appendix 1

Table of canneries

Company	Location	Warehouse	Employees	Ownership	Product range	Export countries
SARDARAPAT OJSC	Armavir (Armavir)	20000 ton	300	• 100 % private	• Tomato paste • Fruit juices • Jams • Ketchup • Marinades	• CIS, USA, Baltic States, Canada
ARARAT CANS OJSC	Artashat (Ararat)	5000 sq.meter	265	• 100% private	• Tomato paste • Fruit pastes • Fruit juice concentrates • Jams and preserves	• CIS
MAP OJSC	Armavir (Armavir)	5000 sq.meter	182	• 100% private	• Tomato paste • Peach puree • Apricot puree • Brandy & wines	• Russia, Bulgaria, Lithuania, USA, Europe
YEREVAN CANNERY OJSC	Yerevan	10000 sq.meter under restructure	120	• 100% private	• Frozen fruits and vegetables • Tomato products • Fruits cans	• No exports
ARTASHAT CANNERY OJSC	Artashat (Ararat)	5000 sq.meter	112	• 100% private	• Tomato paste, juice • Fruit juice • Marinades • Stewed fruits • Jams and preserves	• CIS, Bulgaria, Baltic states
NEW WAVE LTD	Armavir (Armavir)	No own warehouse Use Sardarapat warehouse	100	• 100% private	• Marinades • Fruit juices • Stewed fruits • Jams • Preserves	• CIS, USA, Canada
AYRUM OJSC (not in operation)	Ayrum village (Tavush)	NA	NA	• 100% private	• NA	• NA
MEGHRI CANNERY OJSC	Meghry (Syunik)	2000 ton	45	• 100% private	• Jams • Preserves	• USA
ARARAT-NOVA CJSC	Yerevan	No own warehouse	8-20	• 100% private	• Fruit juices	• No exports

ARTASHES Sole proprietorship	Dzoraghbyr village (Kotayk)	1000 sq.meter	4-10	• 100% private	• Walnut jam • Fig preserve • Boysenberry preserve	• USA
TAVUSH CANNERY OJSC	Varagavan village (Tavush)	4000 ton	6-18	• 100% private	• Walnut jam • Fig jam • Cornel jam	• No exports
"KARMIR LOLIK"LTD	Edzmiatsin	1000 sq.meter	12	• 100% private	• Tomato paste	• CIS
EDZMIATSIN OJSC (not in operation)	Edzmiatsin	NA	NA	• 100% private	• NA	• NA
GUGARK CANNERY OJSC	Vanadzor (Lori)	NA	60	• 100% private	• Juices • Jams • Preserves • Stewed fruits	• No exports
ASHTARAK OJSC	Karpi village (Ashtarak)	5000 ton	30	• 100% private	• Frozen fruits and vegetables • Tomato products • Fruits cans	• CIS
"EUROTERM" LTD	Yerevan	8000 ton	32	• 100% private	• Tomato paste, juice • Fruit juice • Marinades • Stewed fruits • Jams and preserves	• CIS, USA
HARDZIS OJSC (not in operation)	Hardzis	NA	NA	• 100% private	• NA	• NA

Appendix 2

Map of Armenia with distribution of canneries in the regions

Not available in electronic version

Appendix 3

General cargo rates of Armenian Airlines

(In USD)

WEIGHT RANGE (KG)	EVN PAR	PAR EVN	EVN AMS	AMS EVN	EVN FRA	FRA EVN	EVN THR	THR EVN	EVN BEY	BEY EVN	EVN ATH	ATH EVN	EVN DXB	DXB EVN	EVN IST	IST EVN
N	2	2.9	2	2.9	2	2.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6
45	1.6	2.2	1.6	2.2	1.6	2.2	1.4	1.4	1.6	1.6	1.5	1.5	1.2	1.5	1.4	1.4
100	1.2	*	1.2	*	1.2	*	1.2	1	1.2	1.2	1.2	*	0.4	1.3	1.2	1.2
250							1	0.6	0.6		1				1	
500							0.8		0.4		0.8				0.8	
1000	1		1		1											
2500																
5000																
M	62	62	62	62	62	62	58	58	58	58	62	62	58	58	58	58

*Rates for shipments above 100kg are granted to GSA as NET NET.

WEIGHT RANGE (KG)	EVN MOW	MOWE VN	EVN OVB	OVB EVN	EVN SVX	SVX EVN	EVN AER	AER EVN	EVN ASB	ASB EVN	EVN SIP*	SIP* EVN	EVN ODS*	ODS* EVN	EVN VOG	VOG EVN
N	0.7	0.9	1.2	1.45	1.1	1.2	0.6	0.5	0.7	0.8	0.7	0.8	0.7	0.7	0.65	0.7
45	0.65	0.8	1.13	1.35	0.95	1.1	0.45	0.4	0.6	0.65	0.6	0.65	0.6	0.6	0.55	0.6
100		0.7														
250	0.6		1.05	1.25	0.85	1	0.4	0.35	0.55	0.6	0.55	0.6	0.55		0.5	0.55
500	0.55	0.6	0.8	1.2	0.7	0.95	0.35	0.3	0.5	0.55	0.5	0.55	0.5	0.55	0.45	0.5
1000																
2500	0.5	0.55	0.75	1.15	0.65	0.9	0.3	0.25	0.45	0.5	0.45	0.5	0.45	0.5	0.4	0.45
5000	0.45	0.5	0.7	1	0.6	0.85	0.25	0.2	0.4	0.45	0.4	0.45	0.4	0.45	0.35	0.4
M	20	20	25	25	25	25	10	10	20	20	20	20	20	20	20	20

*Cargo tax charged per 1 ton of exporting or importing cargo-10 USD.
Handling fee in both cases is 0.07 USD.