

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
ARMENIAN DEVELOPMENT AGENCY (ADA)

**THE STUDY  
FOR  
DEVELOPMENT OF PRIVATE SECTOR  
IN  
THE REPUBLIC OF ARMENIA**

**FINAL REPORT  
(SUMMARY)**

SEPTEMBER 1999

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## PREFACE

In response to a request from the Government of the Republic of Armenia, the Government of Japan decided to conduct a Study for the Private Sector Development, and entrusted the study to Japan International Cooperation Agency (JICA).

JICA sent to Armenia a study team headed by Mr. Yujiro Higashi, CRC Overseas Cooperation Inc. and organized by CRC Overseas Cooperation Inc. and Tohmatsu & Co. from October 1998 to July 1999.

The team held discussions with the officials concerned of the Government of Armenia and conducted a field study. After its return to Japan, the team conducted further studies and compiled the results in this report.

I hope this report will contribute to the further development of the private sector in Armenia and to the enhancement of friendly relations between the two countries.

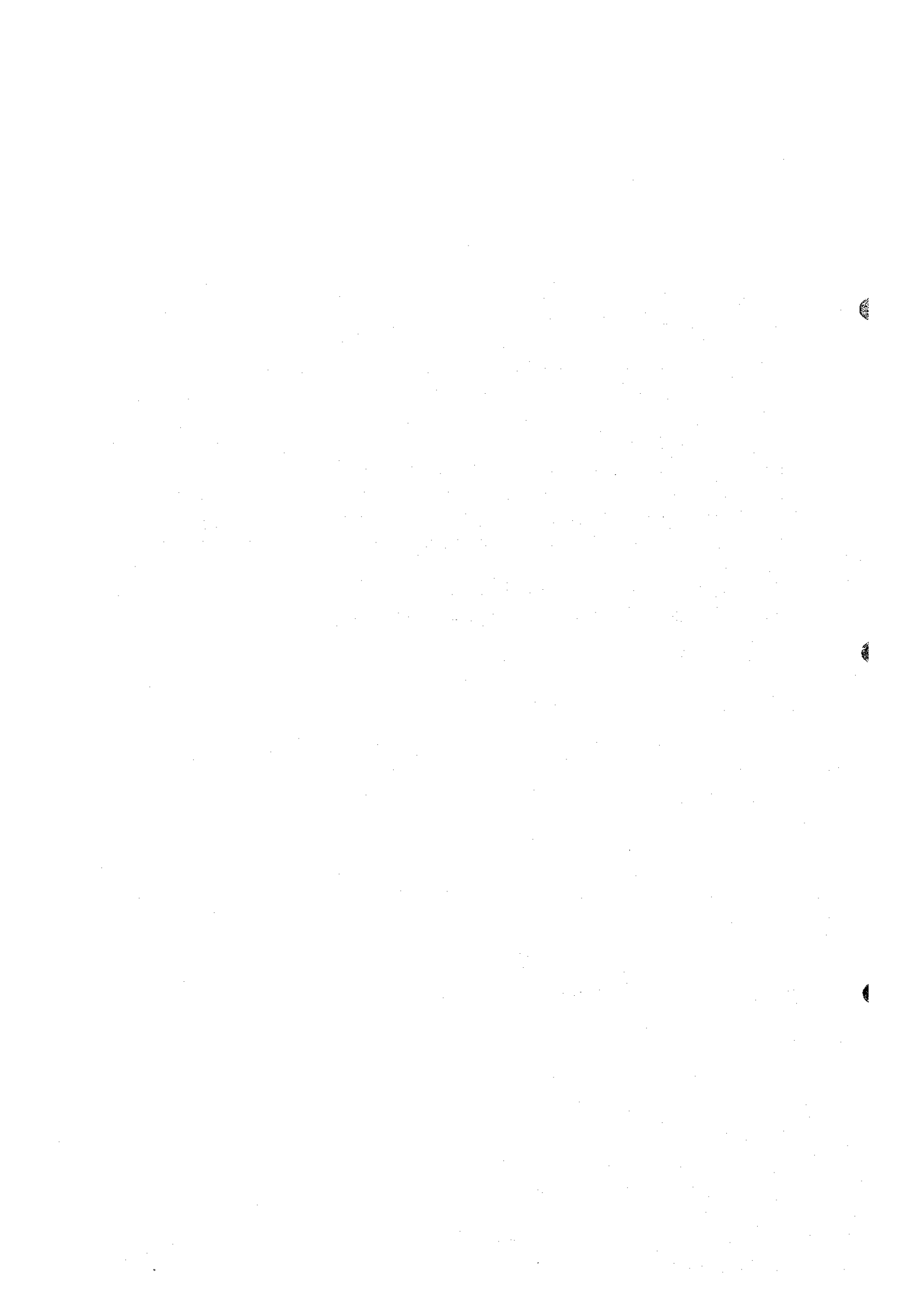
I wish to express my sincere appreciation to all those who participated in this study project for their close cooperation with the team.

September 1999



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Kimio Fujita  
President  
Japan International Cooperation Agency



September 1999

Mr. Kimio Fujita  
President  
Japan International Cooperation Agency

### Letter of Transmittal

We are pleased to submit herewith the Final Report of the Study for Development of Private Sector in the Republic of Armenia.

This report has been prepared as the Master Plan for the promotion of the Armenian private sector. It includes analyses of the principal issues facing the economy, detailed examinations of model enterprises including management improvement guidance, as well as identification of the development needs for the target sub-sectors as distilled through the micro level, formation of the Medium-Term Development Vision for the Armenian economy, the establishment of development priorities, development strategies and methodologies, recommendations for the enterprise management for the rebuilding of the enterprises and policy recommendations for the Armenian government including implementation programs.

The people of Armenia, over the past 11 years have suffered through unprecedented series of difficulties including the Spitak earthquakes in 1988, conflicts with Azerbaijan and the ensuing border blockages, the collapse of the FSU and the breakdown of the economic linkages resulting from the independence of the NIS states, collapse of the industries, hyper inflation, and the energy crisis. Armenia, amidst these difficult times, has led the way among the CIS countries in the transition to a market economy based upon the principles of democracy.

Sustainable economic development in Armenia rests upon the dynamic development of the private sector.

In this report, recommendations on the role of the government and some of the steps that need to be taken by the government that are essential for the private sector development are presented in some detail. The study team strongly believes that by the Armenian government, using the report as a reference, formulating and implementing the necessary development measures, an arena will be provided, in which the enterprising entrepreneurs can be productive and stimulus given to people's abilities and those measures will put Armenia's economic development on a sustainable track. In this respect, the study team sincerely desires that the report will become a document that may serve for the upcoming formulation and implementation of government policies.

Throughout the course of the study, we have received immeasurable amount of support from the Japan International Cooperation Agency and the related governmental agencies of Japan for which the team wishes to express their deep appreciation. We also would like to extend our appreciation to ADA, as well as to the relevant agencies of the Armenian government and the management of the enterprises for their support and cooperation.

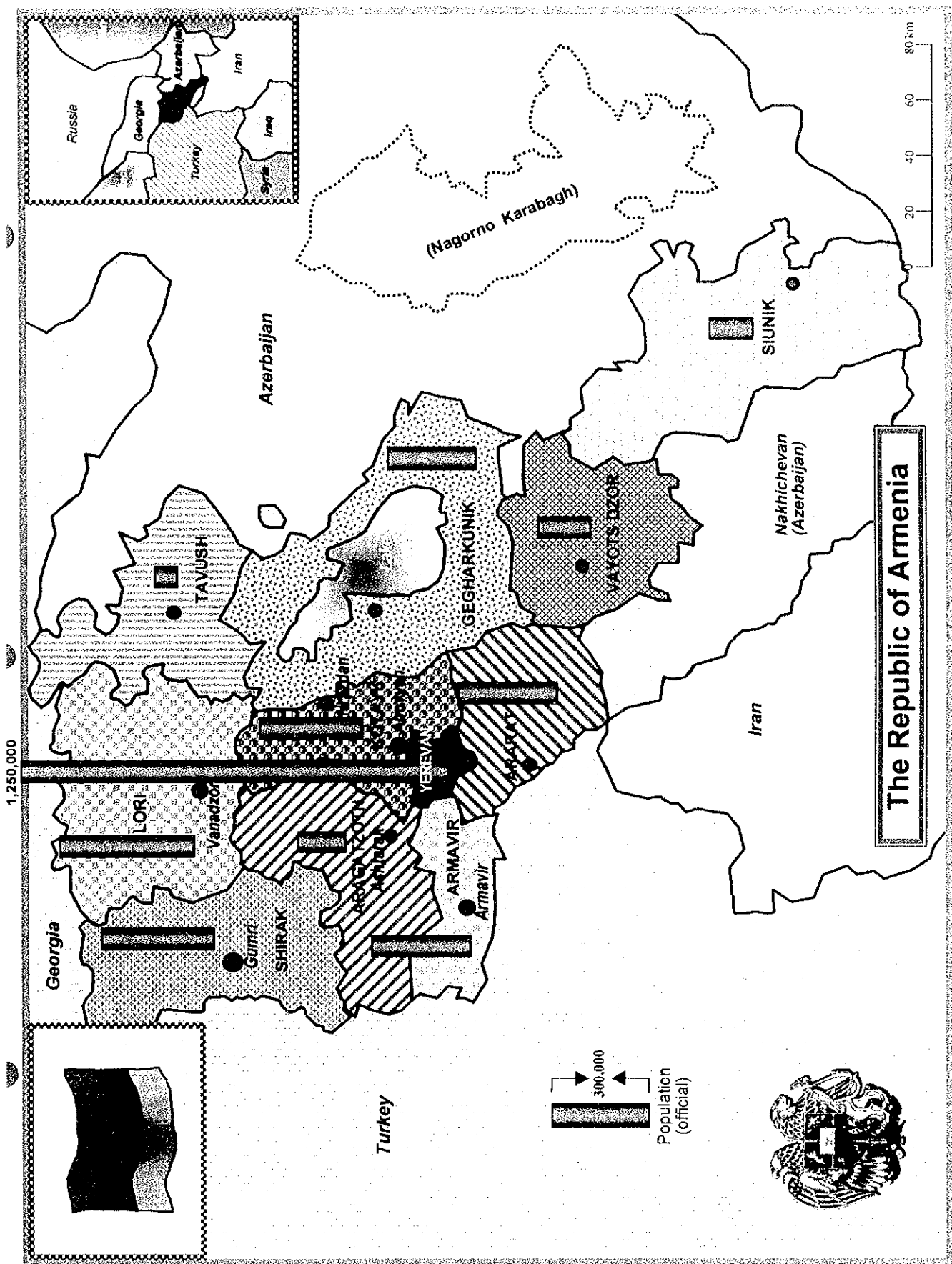
Very truly yours,

东 贞 次 郎

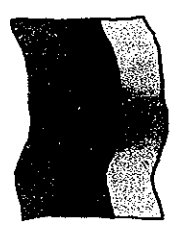
Yujiro Higashi, Team Leader  
Study for Development of Private Sector  
in the Republic of Armenia







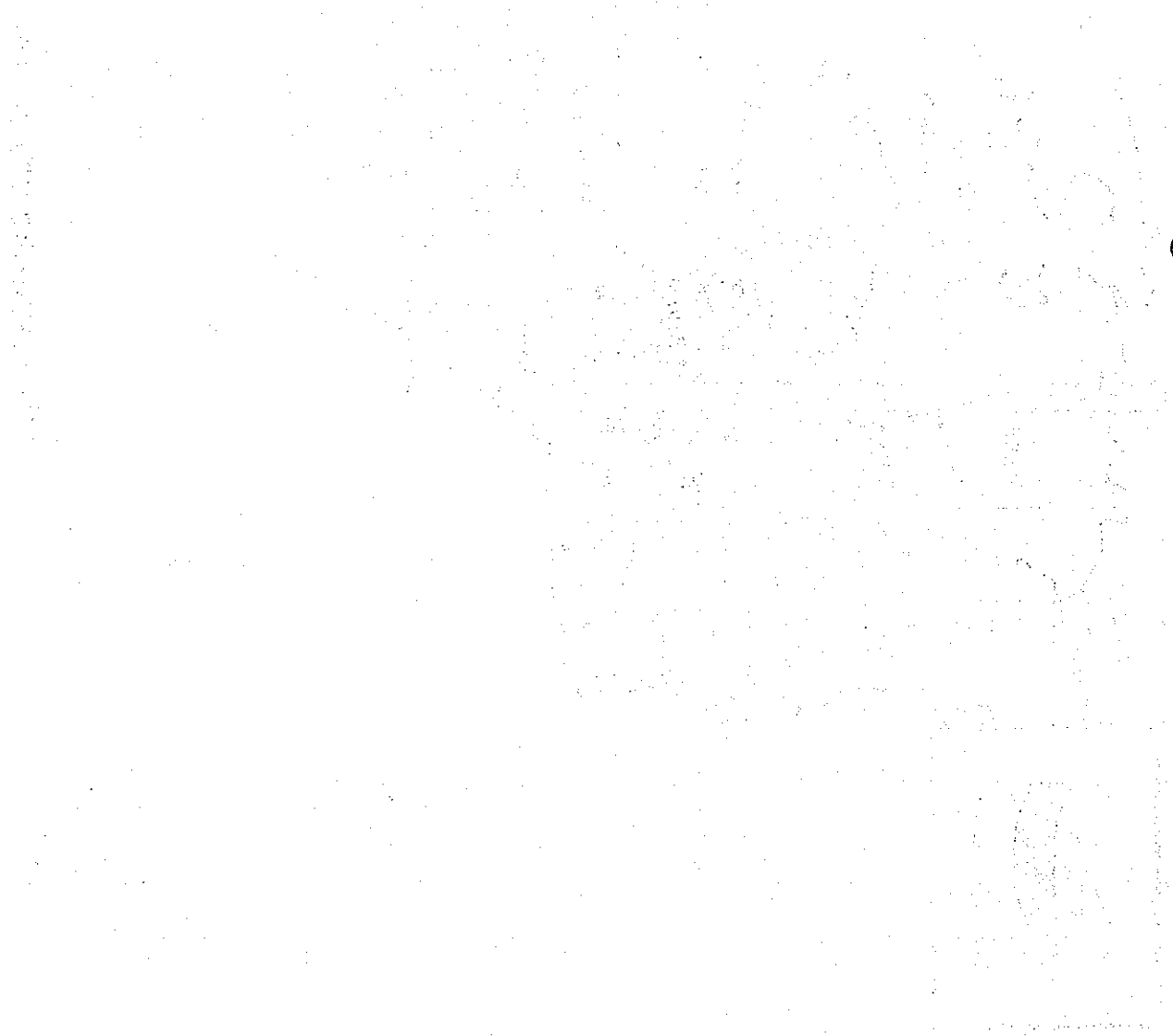
**The Republic of Armenia**



300,000  
Population (official)

1,250,000

80 km  
60  
40  
20  
0



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# 1. Background and the Objective of the Study

## 1.1. Background and the Particulars to the Study

Armenia, since its independence on September 23<sup>rd</sup> 1991, amidst many political, foreign, social and economic turmoil has positively effected reforms to realize the principles of democracy and market economy and has taken the necessary steps toward legal reforms and privatization of the state owned enterprises. The collapse of the FSU had also caused the collapse of the industrial linkages among the CIS countries and Armenia, which had been industrialized under the FSU, faced dire economic conditions as the result of the disintegration of its industries. Many of the privatized enterprises are still shut down or operating at partial capacity.

Under this state of affairs, the Armenian government, who had placed a priority on the promotion of foreign direct investments and exports that are needed for the rebuilding of the economy, had requested the Japanese government to undertake the “The Study on Master Plan for Development of Private Sector”. Based upon this request the Japan International Cooperation Agency (JICA) and the Government of Armenia agreed upon the Scope of Work (S/W) for the study. This “Private Sector Development Master Plan Study” is executed based upon the Armenian Government request and on the S/W that had been agreed.

## 1.2. Objective and the Scope of the Study

The Study has been undertaken with the objective of preparing a master plan for the Private Sector Development and submitting the same to the Government of Armenia. The Study Team undertook detailed studies of the Target Sub-Sectors that were defined under S/W, agreed on June 22<sup>nd</sup> 1998 between the Japan International Cooperation Agency and the Armenian Development Agency (ADA), which were the electric and electronics industry, machinery industry, and chemical (pharmacy) industry.

The scope of the Study spans multiple areas as outlined below:

- (1) Review and analysis of policies and current state of the Private Sector Development
- (2) Survey and analysis of the current status of the Target Sub-Sectors
- (3) Detailed survey on the model enterprises selected from each Target Sub-Sectors
- (4) Formulation of a Master Plan and an action plan for the Private Sector Development
- (5) Formulation of a sector wise development vision and action plan for the Target Sub-Sectors

The Study in order to achieve the objectives was set out by combination of 2 approach; from the study of macro issues relating to the macro economy, social issues, Government policies, institutional framework and others, and from micro studies in the 3 Target Sub-Sectors (36 enterprises), including a detailed examination and management assistance to the Model Enterprises selected through the quick surveys.

Through these two approaches the factors that were the roots of the issues were extracted, analyzed and concrete policy recommendation with respect to Private Sector Development in Armenia was prepared.

Fig. 1-1 is a schematic of the study including the technical transfer.



**Fig. 1-1 Conceptual Framework of the Armenian Private Sector Development Plan Study**

Following 2 enterprises were selected as the Model Enterprises.

From Electric and Electronics industry... ..**SIRIUS**

From Machinery industry... ..**Hi Team**

In the Chemicals (Pharmacy) industry sector there was no enterprise that corresponded to the criteria set for the selection of model enterprise and the Study Team proposes a "Scheme for the Production of Medicinal Amino Acids" which utilizes promising technology potentially possessed by Armenia.

Throughout the Study the Study Team endeavored to pass onto the counterpart and to officials of the Armenian Government connected with the Study, expertise and techniques related to the Study. For the above purpose, the Study Team also held repeated seminars for those concerned with this Study.

### Overview of the Republic of Armenia

(Day of Independence: September 23, 1991, Presidential Republic, Unicameral System (131 members)

President: Robert Kocahrian, Prime Minister: Vazgen Sarkisian

- |                            |  |
|----------------------------|--|
| 1. Location:               | Latitude 40°N. Longitude 45° E.  |
| 2. Area:                   | 29,800 Km <sup>2</sup> (1/13 <sup>th</sup> of Japan, smallest among FSU) |
| 3. Boundary:               | E-Azerbaijan, W- Turkey, S.- Iran, N. – Georgia                          |
| 4. Capital:                | Yerevan  |
| 5. Major Cities:           | Gyumri, Vanadzor   |
| 6. Landscape:              | Arable land 20%, pastures 20% other 60%                                  |
| 7. Climate:                | Continental highland climate   |
| 8. Official Population:    | 3,791.2 thousand (as of January 1,1998)                                  |
| 9. Gross Domestic Product: | US\$1,885 million (1998)   |
| 10. Per capita GDP:        | US\$497 (1998)   |

## 2. Conditions and Issues in the Social Economy

### 2.1. Conditions of the Social Economy

(1) **The Gross Domestic Product (GDP)** of Armenia has been recovering smoothly with a real yearly growth rate of 5.6% on average since the May 1994 cease-fire agreement with Azerbaijan, as shown in Fig. 2-1.

It can be said that this smooth economic recovery of Armenia is the result of a collective effort made by the government, the people of Armenia combined to the various financial and technical assistance of the IMF, the World Bank, Donor countries, and so on.

The cumulative real economic growth for the recent 5 years corresponds to more than 1.3 times of that in 1993, but this economic recovery in recent years in comparison with 1990 shows that the GDP in 1998 recovered to only 61.7% of that of 1990 (See Fig. 2-1).

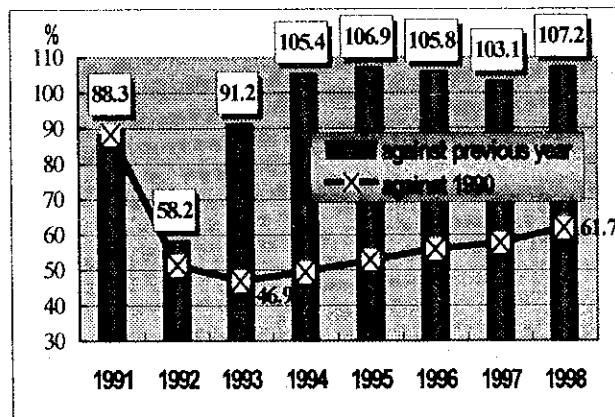
Armenia's GDP in 1998 was US\$1,885 million (AMD951,900 million) and the GDP per capita (based on the official population) was US\$497. The economic situation of Armenia, without changes, still remains difficult.

The agricultural and commercial sectors have mainly supported the economic growth since 1994.

(2) **The industrial sector** is still in a state of stagnancy.

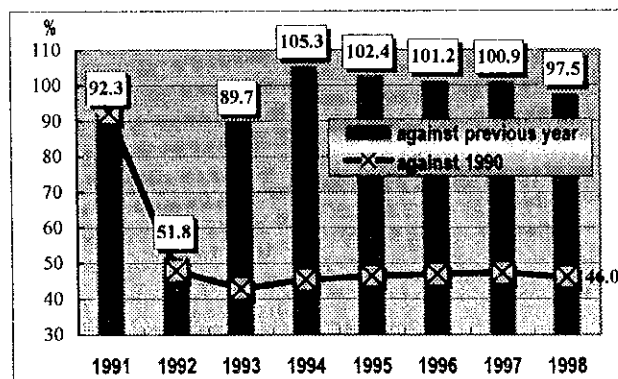
The industrial production of Armenia has not recovered from the sharp decline of production until 1993 as shown by Fig. 2-2.

The industrial output (including electricity) in 1998 was equivalent to 46% of that in 1990, and 38.7% in comparison with 1988. At present many large state enterprises and privatized former



(Source: Ministry of Statistics, State Register and Analysis)

Fig. 2-1 Dynamics of Real GDP Growth



(Source: Same as Fig. 2-1)

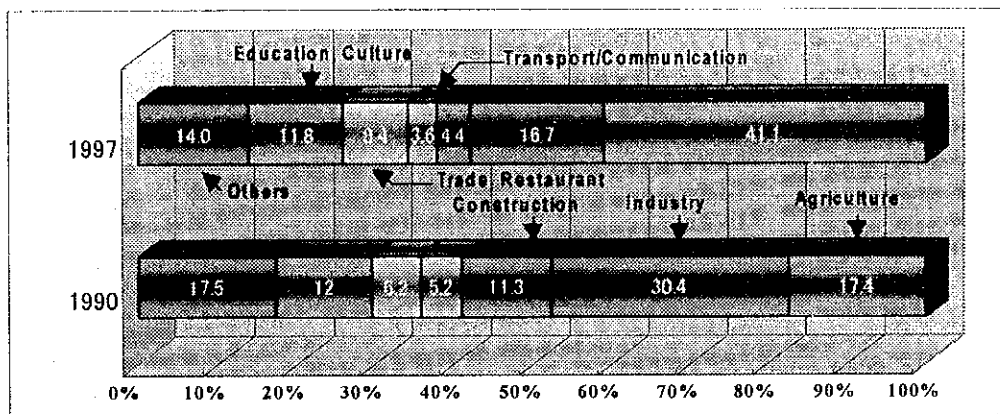
Fig. 2-2 Dynamics of Industrial Output



major enterprises are either in the state of shutdown or partial operation, and many of them have no prospects for rebirth.

(3) The agricultural output in the same year grew by 13.1% versus the previous year mainly because of a good harvest of the cultivation agriculture favored by fine weather, and produced AMD402.1 billion (US\$796 million) amounting to 33.2% of GDP. Agriculture has been the biggest GDP output sector in Armenia since 1993.

(4) The GDP output structure by each sector has substantially changed since 1990 as shown by Fig.2-3.



(Source: Same as Fig. 2-1)

**Fig. 2-3 Change of GDP Output Shares by Sectors**

As the graph shows, the share of the **primary industries** (agriculture/forestry/fishery -- virtually only agriculture in the case of Armenia) in Armenia's GDP increased by approximately more than 2.6 times from 12.5% in 1990 to 33.2% in 1998. Simultaneously, the share of the **secondary industries** (industry, construction) decreased roughly by half from 62.5% to 32.5%.

The share of the **tertiary industries** increased from 25% to 34.3% because of increase of commercial and restaurant business, etc.

The gross industrial output of US\$340 million (excluding electricity) equals the output of a machine tool manufacturer with around 500-600 employees in Japan, and the above-mentioned figures show that the present Armenia transformed itself into a mainly subsistence farming low-productive **agricultural and trade country** from a former **industrial country**.

(5) Armenia was hit by the severest **hyperinflation** among CIS countries, as it was shown in Table 2-1.

In 1998, the CPI was 108.45% and the PPI was 113.4% despite the economic crisis in Russia.

**Table 2-1 Dynamics of PPI and CPI (unit: Times)**

	1991	1992	1993	1994	1995	1996	1997	1998
CPI	2.2	10.5	9.9	48.1	3.8	1.22	1.19	1.084
Against 1990	2.2	23	229	11,000	41,800	50,996	60,685	65,782
PPI	2.2	10.5	9.9	50.6	2.7	1.19	1.14	1.134
Against 1990	2.2	23	229	11,572	31,244	37,180	42,385	48,064

(Source: Ministry of Statistics, State Register and Analysis)

(6) As for the fiscal budget in 1998, there was a fiscal deficit of AMD40.2 billion (US\$79 million), equals a shortage of 24.3% versus the revenue that corresponds to 4.2% of GDP, although Armenia was implementing minimized severe budget under the guidance of the IMF.

Table 2-2 shows the Government revenue, expenditure, fiscal deficit and ratio to GDP in 1998.

**Table 2-2 Revenue, Expenditure and Deficit of the Government Budget**

	1997	1998
Revenue (Billion Dram)	126.1	165.0
(% to GDP)	(15.8)	(17.3)
Taxes	102.8	130.3
Revenue other than Taxes and Grant	23.2	34.6
Expenditure (Billion Dram)	146.8	205.2
(% to GDP)	(18.4)	(21.5)
Deficit (Billion Dram)	-20.7	-40.2
(% to GDP)	( 2.6)	( 4.2)

(Source: Same as Table 2-1)

The revenue reached an amount equivalent to 17.3% of GDP and it would not be realistic to expect further significant increases. The only possibility of increase would be via new tax collection from the Shadow economy. Taking the scale of the national budget and the very limited possibility of dissolution of the deficit by a future large increase of tax revenue into consideration, this deficit amount must be considered to be an enormous fiscal deficit for Armenia.

The government issued in 1997 various short-term treasury bills with a maturity of 1 to 12 months at the yields of 31.5~81.2% per annum (**yearly yield average was 53.3% p.a.**) in order to cover the budget shortage. It totaled AMD 1~4.5 billion every month and AMD 37.2 billion during the year. Also, there was issuance of treasury bills at the yield of 31.5%~63.9% per annum (**yield average from January to September was 44.5%**) in 1998.

The issuance of these high yield treasury bills caused increase of the fiscal deficit of around US\$20 million per year.

A drastic reduction of the fiscal deficit is an immediate task for the government of Armenia.

(7) **The current account balance** of Armenia in 1998 was deficit of US\$442 million. Current Account Balance in Armenia shows a constant structural deficit due to **the huge trade balance deficit**. In 1999 the situation remains without any improvement and there is apprehension that the vicious cycle of Huge Trade Account Deficit → Large Current Account Deficit → Increase of External Borrowings will be magnified.

(8) **The trade balance** of 1995~1998 is shown in Table 2-3.

**Table 2-3 Trade Balance of Armenia** (Unit: Million US Dollars)

	1995		1996		1997		1998	
	Total	(CIS)	Total	(CIS)	Total	(CIS)	Total	(CIS)
Exports	271	170	290	128	233	95	223.4	85.1
Imports	674	334	856	278	893	300	895.7	221.2
<b>Trade Balance</b>	<b>-403</b>	<b>-164</b>	<b>-566</b>	<b>-150</b>	<b>-660</b>	<b>-205</b>	<b>-672.3</b>	<b>-136.1</b>

(Source: Same as Table 2-1)

As the above table shows, the trade of Armenia is in a large deficit with both of Non-CIS and CIS countries. In the trade with CIS countries both exports and imports tend to decrease constantly. Since August 1998 exports to Russia have been sharply decreased due to the economic crisis in Russia.

The amount of the trade balance deficit (US\$672.3 million) in 1998 corresponds to 35.7% of Armenia's GDP or more than 1.5 times bigger than the amount of Government Budget Expenditure, that is an enormous deficit considering the economic size of Armenia.

**It must be said that for the reconstruction of the Armenian economy, improvement of the trade balance is one of the biggest problems together with the reduction of the fiscal deficit.**

This constant deficit of trade balance composes the main reason for the deficit of the Current Account balance, and external borrowing covers the balance of international payments of Armenia.

As a result **the balance of external debt**, at the end of 1998, reached US\$801 million that corresponds to **43% of GDP**. Also in 1999 there is no real prospect for reducing the external debt.

(9) **The Gross International Reserve** at the end of 1998 was US\$309 million and **the Net Official International Reserve** was US\$99.5 million.

(10) Armenia introduced its own currency the **DRAM (AMD)** in December 1993.

AMD to US\$ has been exchanged at a relatively stable rate. The Russian Ruble has declined to about one fourth since August 1998 after the currency-credit crisis, but the AMD rate has not declined much so far.

The Central Bank of Armenia has been playing an important role such as strict control of currency supply in the achievement of relative stability of the currency in recent years in Armenia.

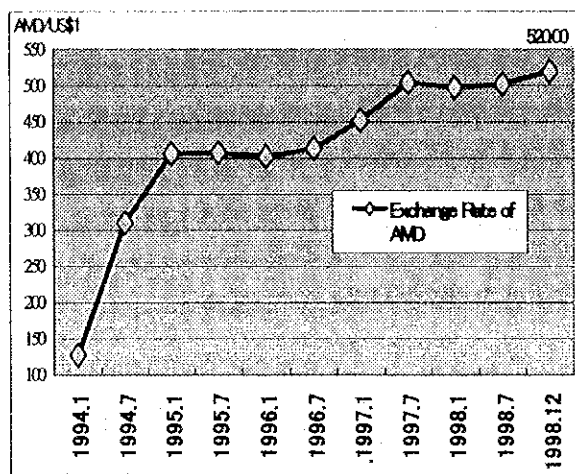
Another reason that may explain the stability of the AMD exchange rate is the constant supply of US Dollars to the market through cash remittance from the Armenian people staying in Russia, the USA, Europe and other countries (yearly amount is estimated at US\$150-200

million) as well as the wide and deep spreading of the US Dollar in Armenia's economy. Incidentally, since the beginning of 1999 the remittance from Russia has been decreasing substantially.

**(11) Privatization** in Armenia is overall performed successfully.

Privatization in the agricultural sector began at an early period and up to now over 95% of the agricultural land have been privatized.

1,460 enterprises out of 1,875 state enterprises, mainly from the industrial sector, have been privatized. Progress of privatization as of January 1<sup>st</sup>, 1999 is shown in Table 2-4.



(Source: Central Bank of Armenia)

**Fig. 2-4 Dynamics of AMD Exchange Rate**

**Table 2-4 Situation of Enterprise Privatization as of 01.01.1999**

Form of Privatization	Number of Enterprises	Privatized	Others		
			On process	Failed (1-st time)	Failed (3-rd time)
Open type Joint Stock Co.	1,319	1,085	29	202	3
Voucher	1,251	1,023	29	196	3
Auction	68	62	0	6	0
Closed type Joint Stock Co.	142	129	1	12	0
Selling of Assets to Tenant	184	178	2	4	0
Auction	35	16	0	16	3
Tender	154	45	4	57	48
International Tender	18	7	0	11	0
Liquidation	23	-	-	-	-
<b>Total</b>	<b>1,875</b>	<b>1,460</b>	<b>36</b>	<b>302</b>	<b>54</b>

(Source: Ministry of Privatization)

7 enterprises were sold to foreign companies such as Armen Tel (to a Greek company "OTE"), Yerevan Cognac Factory (to a French company "Pernod-Ricard"), Hotel Armenia, Hotel Ani and 3 other state enterprises.

**(12) The number of unemployed**, as of the beginning of April 1999, was 159,700, and **the official unemployment rate** was 10.5%. However, the invisible unemployment will reach to about 500,000 (32.5%) according to an estimate of the Study Team.

**(13) The average monthly income of a household** was AMD 55,094 (US\$109). The income from salary makes up only 1/4 - 1/5 of the gross income and the transfer income is almost equivalent to the salary income (in the case of Japan the income from salary composes 94% from gross income). This means that people are making their living, covering the shortage of income from salary by the various measures, such as remittance from abroad, selling own property and so on, and it is quite characteristic phenomena of Armenia.

## **2.2. Conditions of the Industry Sector**

### **(1) Overview**

A closer examination will reveal that if the aggregate production value in 1998 is defined as 100, electricity is 34, production by enterprises under the Ministry of Agriculture's jurisdiction accounts for 10.9, other category accounts for 1.4 and the enterprises for which the jurisdiction and the production details are unclear accounts for additional 34 and production by enterprises for which the Ministry of Industry and Trade has jurisdiction accounts only for 19.7 producing a meager AMD\$1.23 billion (US\$101.5 million) or 5.4 % of the GDP (See Table 2-5).

### **(2) Production Trends by Products**

Table 2-6 shows the present trends of representative products of each sub-sector. It must be borne in mind, however, that as Armenian statistics do not publicize all sector details under uniform standards in some areas detailed volume figures are missing.

Table 2-6 highlights the lingering stagnation of electric-electronic industries and a mild recovery being experienced by light industries where problems regarding production equipment and transportation are not as pronounced. The figures should be interpreted as merely an indication of the overall trends.

**Table 2-5 Overview of Industrial Production** (Unit: AMD million)

	1997	1998		1998/1997	
	Output	Output	to Output		to GDP
<b>1) All Industries</b>	266,806	260,136	100%	27.3%	97.5%
<b>2) Total excluding Energy</b>	<b>178,466</b>	<b>171,707</b>	<b>66.0%</b>	<b>18.0%</b>	<b>96.2%</b>
<b>3) Total of 3 Target Sub-Sectors</b>	19,050	14,073	5.4%	1.5%	73.9%
Electric & Electronics Industry	8,616	5,851	2.2%	0.6%	67.9%
Machinery	2,954	2,466	0.9%	0.3%	82.0%
Chem./Biotechnology	7,480	5,757	2.2%	0.6%	75.6%
<b>4) Total of other Sub-Sectors</b>	36,035	37,156	14.3%	3.9%	103.1%
Metallurgy	9,524	15,454	5.9%	1.6%	159.4%
Precious Stones/jewelry	14,581	8,521	3.3%	0.9%	57.4%
Light Industry	4,053	4,667	1.8%	0.5%	113.1%
Construction Materials	7,419	7,991	3.1%	0.8%	105.8%
Others	458	523	0.2%	0.1%	114.2%
<b>5) MIT total (3)+4))</b>	<b>55,085</b>	<b>51,229</b>	<b>19.7%</b>	<b>5.4%</b>	<b>93.0%</b>
6) Ministry of Energy	88,341	88,429	34.0%	9.3%	100.1%
7) Ministry of Agriculture	47,909	28,267	10.9%	3.0%	59.0%
8) Ministry of Urbanization	2,213	1,762	0.7%	0.2%	79.6%
9) "Hykoop"	2,976	1,896	0.7%	0.2%	63.7%
10) Unknown (Undisclosed Fields)	70,282	88,553	34.0%	9.3%	126.0%
<b>GDP</b>	<b>887,966</b>	<b>951,900</b>			<b>107.2%</b>

(Note) Figures of 1997 Production are calculated based on the ratio of 98/97.

(Source: Same as Table 2-1)

Diamond processing experienced sharp increases in recent years as the result of a subcontract processing agreement with De Beers but due to problems related to, among others, quality issues the agreement had been canceled in 1998 and the production suffered a substantial decline. Production of brandy also declined dramatically as a result of the sharp decline in exports to Russia.

Production of shoes has declined substantially over the previous year but many people boast that some of the Italian shoes sold in Moscow are actually made in Armenia. In short, in the production of consumer goods that have relative competitiveness there are cases where, while it declines in the Surface economy, it is thriving in the Shadow economy.

Table 2-6 Output of Industrial Products

	(Unit)	1998	1997	98/97(%)	Trend
<b>Electric Engineering/Electronics</b>					
Large Electric Machines	set	16	43	37.2	↓
AC Electric Motors	pcs.	4,465	4,955	90.1	↓
Relay	1,000 pcs.	470	726	64.7	↓
Power Cable Max 1kWt	km	1,180	705	140.6	↗
Small size Electric Motors	pcs.	2,416	4,755	50.8	↓
Bare Copper Wire	ton	15	22	68.2	↓
Portable Generator	pcs.	75	48	156.3	↗
Electric Lamp	pcs.	0	963	-	↓
Transformer	pcs.	0	16	-	↓
<b>Machinery</b>					
Metal Cutting Machine Tool	set	355	529	61.7	↓
Special Purpose Machine	set	90	64	140.6	↗
Automobile	pcs.	51	27	188.9	↗
Centrifugal Pumps	pcs.	3,075	5,914	56.8	↓
<b>Chemicals/Pharmacy</b>					
Caustic Soda				86.0	↓
Synthetic Rubber				58.2	↓
Pharmacy				127.5	↗
Paint				50.2	↓
<b>Metallurgy</b>					
Rolled Aluminum				207.0	↑
Aluminum Foil				67.6	↓
Copper Concentrate				135.3	↗
<b>Light Industry</b>					
Cotton Fabric	1000 m <sup>2</sup>	289	149	193.1	↑
Silk Fabric	"	262	172	152.2	↗
Carpet	"	13.9	13.8	100.7	→
Socks	pair	506	473	107.1	↗
Nit Wear	1000 pcs.	913.8	422.8	216.1	↑
Cotton Yarn	ton	144.8	37.3	388.2	↑
Jacket	1000 pcs.	1,060	488	217.2	↑
Shoes	1000 pair	65.4	87.7	74.6	↓
Apparel	mln AMD	3,822	2,329	121.2	↗
<b>Diamond, Precious Metal &amp; Stones</b>					
				57.4	↓
<b>Construction Materials</b>					
Porous Filler				138.0	↗
Clinker				124.2	↗
Cement				105.1	→
<b>Food Industry</b>					
Beef & Beef Products	1000 ton	44.8	43.7	102.6	→
Ice Cream	ton	718	423	169.5	↗
Brandy	1000 doz.	252	392	64.4	↓

(Source: Same as Table 2-1)

## 2.3. Key Economic Issues and Causes

### (1) The Factors of the Key Economic Issues

The economic adversities facing Armenia in the recent past and today stem from various historical factors. Among them three major categories can be cited.

- 1) Spitak Earthquake of 1988
- 2) Conflict with Azerbaijan over territories of Nagorno-Karabakh between 1988 and 1994
- 3) The collapse of the FSU, break-down of industrial linkages among the CIS countries and Armenia and loss of demand for many products

### (2) Issues Confronting the Government, Enterprises, Household and Economic Environment - Causes and Effects

**Table 2-7 Major Economic Issues and Principal Causes and Effects**

	Principle Issues		Principal Causes (Causes ← : Effect →)
Government	Fiscal Deficit	←	Tax revenue shortfall ← Insufficient enterprise profitability/Low wages ← Depressed sales ← Tax evasion/Shadow Economy ← Ineffective tax collection system/Moral hazard ← Loss making state owned enterprises, high unemployment
	Current Account Deficit	→ ← →	Issuance of high yield Short-Term T/B → Aggravation of fiscal deficits Large trade deficits ← Depressed exports Increase in external debt → Decline in country's international credit rating
Enterprises	Depressed Sales	← ←	Loss of demand in CIS markets ← Production of products without underlying demand Lack of product competitiveness ← Deficient quality/performance ← Lack of marketing ← Lack of management capabilities ← Depressed conditions of customers in the CIS countries ← Bottlenecks in transportation/high cost of transportation
	Cash Shortage	← → →	Imports of low priced medium quality goods → Depressed domestic production Difficulties in securing materials ← High cost of transportation Lack of investment → Obsolescence of technology
Household	Low Income	← ← ← → →	Sharp decline in employment ← Effectively bankrupt enterprises Low wages Low productivity/Marginal farming Lack of purchasing power → Depressed consumption → Depressed production Low ability to save → Lack of capital formation for investments
Economic Environment	Under-developed Financial System	→	Lack of confidence in the financial system → low rates of saving → lack of capital formation
	High Interest Rates	→ ←	Shortage of working capital in enterprises Mismanagement of financial institutions ← Earning from high yield short term treasury bills and transfers
	Lack of Confidence	→ →	Depressed inflow of foreign investments Flight of domestic capital



## 2.4. Current State of Institutional Infrastructure

### (1) Legal System

Since new laws and regulations have been adopted by the National Assembly so quickly without proper deliberations, some of specialists pointed out that the legal system is opaque and contains some inconsistencies with other relevant laws. Some laws lack proper implementation regulation and guidance.

Civil Code was adopted in July 1998. However, an anti-monopoly law is still missing.

The Law on Foreign Investment lack transparency.

Knowledge of the legal business framework is generally limited among business people and company managers.

It is important that the trust of all parties concerned be formed with respect to the enforcement of clear and fair laws and the implementation of fair judiciary system for resolution of conflicts.

### (2) Taxation

#### 1) Overview

The new "Law on Taxes" ratified in July 1998 defines the (corporate) profit tax, (individual) income tax, value-added tax, excise tax, property tax, and land tax. The National Assembly is now working on a Universal Tax Code, which is expected to be adopted in 1999.

Each tax is summarized in the table 2-8.

**Table 2-8 Main taxes and their rates**

Name of Tax		Description
Profit tax (corporation)		25 % of marginal tax rate Loss carry-over is allowed permanently.
Income tax (individuals)		30% of marginal tax rate
Value-added tax		20% of single tax rate, EU type value-added tax using invoices
Excise tax		Tax on luxury consumer products
Property tax		Tax on automobiles, buildings and others
Land tax	Farm	15% of assumed income (Alternative of income tax for farmer)
	Other than farm	Tax on land user: 0.5%-1% of appraisal value

(Source: Tax Inspectorate of RA)

Taxation system is simple enough and there are some complaints of taxpayers towards its implementation depending on Tax officer's judgement.

All exports from Armenia are duty free. The import tariff schedule is rated either 0 or 10 %. The 10% tariff is levied on the items consisting mainly of consumer goods and luxury items. Zero rates are usually applied for equipment and raw material. Valuation of merchandise can be done by

Customs Officials and is reportedly often a source of bribery.

Interest on late payment of taxes is high especially after 90 days (0.30%/day), which is over 100% annual interest rate.

## **2) Tax Incentives for Foreign Investment**

There are tax incentives for foreign investors with investments over AMD 500 million (about US\$1 million) since January 1, 1998. Profit taxes are reduced by 100% for the first 2 years, then by 50% for another 8 years at most, which depends on year of investments; 8 years for investments made in 1999, 6 years for 2000, 4 years for 2001, and 2 years for investments made in and after 2002.

## **(3) Financial System**

The Central Bank (CBA) is well organized and conducting the national monetary policy. The financial system is at an elementary stage and does not satisfy the current needs of the enterprises.

As of January 1999, there were 35 small banks in Armenia including one state bank, Sberbank. Main income sources of those 35 banks are purchasing of short-term high yield Treasury bills and international money transfers. Detailed data on Treasury bills issued and problems with issuance of Treasury bills are specified in the article 2.2.1. of the Report.

The amount of short-term T-bills issued during March 1999 totaled AMD 22 billion (roughly US\$42 million), a sharp rise over the prior amounts.

Virtually interest-free loans from WB and EBRD are available in a 2-step loan. However, these loans are operated not in favor of end users, because final fund users shall pay an interest at a rate of 15-21% in U.S. dollars, as the Government extends these loans to commercial banks at LIBOR + 2%, and the banks takes high commission for their lending service.

Interest-free funds of the LINCY FUND (Kerkorian Fund) have been made available to local enterprises in three years loans. At the initial stage of its introduction, the loans were intended in U.S. dollars with an interest rate of 12.5%-15% to the borrower enterprises. As the stages progressed towards actual implementation, the conditions to the borrowers were improved to much more usable level in the elimination of exchange risks in shifting the denomination of loans to AMD with the maximum interest rate of 15% in consideration by the Funds of pointing-out from the relevant spheres including the Study Team. Although this level of interest is still high from an international perspective, the government's margin is small, thus lower the final interest.

There are 4 stock exchanges. The largest is the Yerevan Stock Exchange, which has 74 companies listed with a total market capitalization of US\$ 16.3 million at the end of October 1998 (out of which 60 are over the counter listings). But the bulk of stock transactions are made

between individuals without going through the stock exchange for the sake of safety security or some other reasons.

#### **(4) Accounting and Auditing System**

The new accounting law was approved by the National Assembly to suit the new Armenian accounting standards which based on International Accounting Standards (IAS).

The audit law is also under review. Ministry of Finance and Economy is currently establishing new auditing standards based on the International Standards on Auditing (ISA).

Currently, three Accountants' Organizations exist in Armenia and are in the process of merging into one organization.

Adoption of international accounting standards and international standards on auditing allows enterprises not only to develop financial statements required for strategic negotiation on cooperation with foreign partners, but also promote enterprises in improvement of management methodology.

#### **(5) Business Supporting Systems**

Armenian Development Agency (ADA) is practically only the organization, which promotes development of foreign trade and introduction of foreign direct investment.

ADA primarily aims at reinforcing the competitiveness of Armenian businesses at home and abroad. Specifically, ADA's major roles are; 1) formulating the republic's economic development strategy, 2) creating an environment for enhancing the competitiveness of Armenian businesses, 3) promoting and implementing development, especially advancing foreign direct investment and export projects.

ADA is expected to play a role as a "ONE-STOP-SHOP" for foreign investors and domestic exporters. However, ADA has a severe shortage of funds and human resources, and therefore these activities carries out with only a small staff. In particular, ADA does not have experts on issues concerning international rules for investment, marketing, finance, international settlement and export. As such, it is not adequately playing a role as a "ONE-STOP-SHOP" for foreign investors and domestic exporters seeking the necessary, and detailed, information and data, as well as useful advice.

The new Armenian government formed in June 1999 is, in consideration of the role of ADA in the rebuilding of the country's economy, formulating a plan to enhance the latter's function as the implementing agency of the government's policy for the promotion of FDI and export. In this connection, ADA is in the process of finalizing its own 4-year business focused on being the "ONE-STOP-SHOP" in the promotion of FDI and export.

ADA is seeking for the assistance in financial resources from international and bilateral sources that can support enhance ADA's ability, as the approved budget is greatly insufficient.

## **2.5. Social Issues**

### **(1) The Outflow of Population**

One of the most serious social issues is the outflow of population. According to the data of the official statistics, the population of Armenia, as of January 1, 1998, is 3,791.2 thousands.

All the economic data related to population such as GDP per Capita is calculated based on the above-mentioned population both by the government authority of Armenia and the international organizations.

However, it can be presumed that this total population of 3,791.2 thousand of Armenians and its area distribution differs from the population actually residing in Armenia.

- There was an inflow of refugees as a result of the conflict with Azerbaijan during 1988-1994, big population movement do to by the 1988 earthquake in the northern area (Spitak earthquake).

- On the other hand there was an outflow of many Azerbaijan people residing in Armenia.

- There was a return home of Armenians from other republics and an outflow of some people of other ethnic groups from Armenia accompanied by the collapse of the Soviet Union and the independence of Armenia.

- There was an outflow of many Armenians mainly males in the prime of life to Russia, the USA and the EU because of the difficulty of living since the independence, and this tendency still persists today.

However, the data by which to know exactly such population movements does not exist.

The reason is that the real state of the population movement has not been exactly grasped statistically because a considerable portion of the population movement inside the country and to foreign countries has been made without the alteration of resident registrations.

It is recognized for the first time in Statistical Yearbook 1998 that approximately 600 thousand Armenians had flown out abroad during the period of 1992~1998. This figure of 600 thousands is the figure of deducting the total number of the Armenians entering the country from the total number of the Armenians leaving the country during the above-mentioned period at Yevlevan airport.

In addition there was movement by land via Georgia and Iran, though this movement was limited. Assuming the total of the land movement was about 100 thousands, the number of Armenian population outflow is estimated at around 700 thousands. Such premise leads to the

estimation that the population of Armenia in the beginning of 1999 was around **3 million** (plus 313 thousand refugees who had not yet gotten their nationality). The problem is that the males aged 20~39 years old in the prime of their life (bachelors, business bachelors, and persons with family) are estimated to account for most of this approximately 700 thousand people who flew out abroad.

(In the Report you can see detailed analysis and an estimation of population structure by age and sex.)

## **(2) Meaning of the Population Outflow**

1) In order for the outflow of population to stop, it is necessary that the number of jobs increases, venues must be created where intellectual workers can work and exhibit their ability, and the level of the salaries must rise. At the same time, it is crucial to create a national atmosphere where people can be confident of future prospects and development of the country.

2) The number of males aged 25~39 years old is quite scarce, and the male-female ratio is roughly 1 to 2 (1 male versus 2 females). (Some specialist pointed out that among the generation of marriageable ages the actual male-female ratio became 1 to 5 ~ 1 to 7.)

The number of marriages per 1,000 people declined from 8 in 1990 (the number of marriages throughout the year was 28,233) to 3.3 in 1997 (the number of marriages throughout the year was 12,521) equals 44% from 1990 to 1997.

The number of childbirth declined from 79,882 in 1990 to 43,929 in 1997.

It tells that the rapid decrease in recent years of the number of males of marriageable age has resulted in the decrease of the marriages and the number of birth. It is highly possible that the birthrate of child in Armenia will further decline, bringing about a rapid decrease of the population.

3) The economic situation and above-mentioned movement of population in Armenia result in offering good investment opportunities as far as the labor force is concerned from the viewpoint of foreign capital investment.

## 3. Target Sub-Sectors and Model Enterprises

### 3.1. Purpose of the Survey

#### (1) Quick Survey

The Study Team conducted a simplified survey (the "Quick Survey") of the 36 candidate enterprises including research institutes as agreed upon with the Armenian side to select one model enterprise (the Model Enterprise) for each Target Sub-Sector. The results of Quick Survey constitute the basic information of the comprehensive management improvement program for each Model Enterprise and of the Development Plan of Target Sub-Sectors.

The Study Team visited the candidate enterprises and executed Quick Survey in accordance with its procedures that include the hearings from the management of philosophy to run the company, current situation of operations, future vision, organization and human resources, technological base and major problems. For the above purpose, a set of questionnaire in Russian language was given to each enterprise and the filled out and returned questionnaires were analyzed and evaluated.

#### (2) Selection of Model Enterprises

For the selection of Model Enterprise, weighted evaluation of the prescribed criteria was applied, i.e. (1) competitiveness of products, (2) technology level including performability of equipment, (3) growth potential, (4) talents and ability of the management, (5) worker's skill and willingness to work, (6) compliance with environmental protection and (7) global and integrated evaluation.

As the result of Quick Survey, Sirius from Electric and Electronics Industry and Hi Team from Machinery Industry were selected as the Model Industries respectively. There was no enterprise to qualify as the Model Enterprise under the selection criteria in the Chemical (Pharmacy) Industry. The Study Team, instead, proposes a scheme for pharmaceutical amino acid production.

#### (3) General Features and Common Problems of the 3 Target Sub-Sectors

##### 1) General Features:

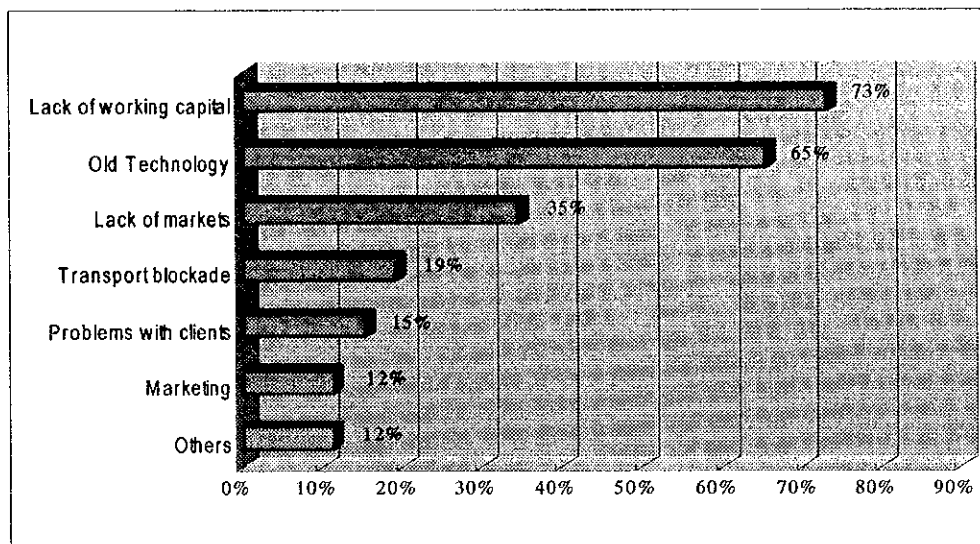
- There is a number of industrial data and information regarding manufacturers' basic knowledge and experience as well as production facilities which were succeeded from the FSU and can be utilized for new development activities.
- Existence of high educational level of human resources and technological institutions

##### 2) Common Problems:

- Many enterprises cannot get rid of the ex-Soviet management style (e.g. accounting system, industrial standards of products).

- Lack of Funds (undeveloped banking and other financial sector, high interest rate, etc)
- High cost and vulnerable infrastructure (power, gas, water supply, communications and transportation systems)
- Incomplete systems (e.g. unclear tax regulations and double imposition of VAT on imported materials from Russia, etc.)
- Loss of markets and difficulty in the procurement of raw materials due to the breakdown of FSU
- The production of enterprises depending on Russian market decreased sharply or stopped due to the Russian economic crisis of August, 1998.
- Lack of the Government support to the private industrial sector.

The above stated common problems are also indicated in the summarized results of questionnaire to the enterprises (Fig. 3-1 Biggest Problems from Enterprises Views), out of which (1) lack of working capital, (2) old technology, (3) lack of markets and (4) transportation blockade are the 4 major problems from the views of the management of enterprises. Their recognition of insufficiency in the management ability and flaws of the management system is not thorough.



**Fig.3-1 Biggest Problems from Enterprises Views**

#### **(4) Plan for Industrial Zone under Study**

There is a plan to construct an industrial zone in Yerevan, which is initiated by the Ministry of Industry and Trade, envisaging restoration of industry and promotion of export as well as investment. The site of ex-Industrial Exposition of 35 ha is to be utilized with renovation of infrastructure and buildings all to be upgraded to international levels. The lots within the zone are to be leased to viable enterprises with an attractive low rent. SMEs will be centered among the tenants of the industrial zone.

## **(5) Latest Developments of the Pending Government's joint Programs with International Firms**

The following is the information obtained through the international media with respect to the latest developments of the pending Armenian government's joint programs with international firms:

Electronics industry: Sale to Interfoundry, USA of 51% of state company Transistor's shares for semiconductors production, initial investment US\$ 2.5 mln

Automobile industry: Creation by General Motors of the assembly plant for minibuses, trucks, small tractors for Russia, CIS & domestic markets, initial invest. US\$ 2 mln

## **3.2. T/A and Comprehensive Management Improvement Program to Model Enterprises**

### **(1) Electric and Electronics Industry**

1) Sirius, the Model enterprise, has the 3 strategic business units (SBU), i.e. resistors, PCB and Audiocassette. Audiocassette is their new product, while the two others are conventional products. Sirius is the only manufacturer of resistors in the neighboring markets of Caucasus and Middle East, though the production has been stopping since 1993, and the company is keeping order-based production of PCB on a small scale.

The Study Team rendered T/A to the company, focusing on the re-opening and continuation of production activities.

#### **2) T/A on common issues among the 3 SBUs**

- Formulation of a Business Plan
- Recruitment of Technology Specialists
- Grasp of Demand in New Markets
- Enhanced Reliability Assurance
- Reopening of production line
- Workshop Improvement, Facility Maintenance
- Conversion of Products into the Int'l Standards

#### **3) Propositions and guidance to each SBU**

The Study Team made propositions and guidance to each SBU in terms of restructuring/improvement of production line and target production volume based on the break-even point analysis.

#### **4) Effect of T/A to Sirius**

The management of the company fully realized the following items of the Study Team's point-outs, which they had not noticed or they had not grasped accurately since they had been dependent only on rough estimate:

- Importance of Long/Medium Term Business Plan
- Recruitment of Technology Specialists
- Enhanced Marketing for Production Securing
- Production Capacity, Process Ability, Maintenance



- Required Man-Hour, Yield, TAT\*

\*TAT: Turn Around Time

As a result of the T/A the whole organization of Sirius was activated and the company succeeded in obtaining fresh orders. The production of Resistors has been resumed since July 1999.

The profitability of Audiocassette has improved with increased orders and lowering of procurement cost of raw materials.

## (2) Machinery Industry

1) Hi Team Group, the Model Enterprise, are engaging in the manufacture of steel furniture (such as airport/park benches), rolling shutters, kiosks, aluminum profiles, etc., shifting their main line of business from machine building to metal processing related to construction works. The company commenced investment for its new production facilities and equipment in 1997 and started real production activities in 1998.

2) T/A to Hi Team was executed focusing on improvement of management skills described below rather than engineering technology based on the findings of its detailed survey.

- Management Rule and Organizational Reform
- Enhanced Marketing
- Reduction in Materials Cost
- Monthly Management System
- Management Information System by computer
- Report System & other Mgt. Support Systems
- Increased Productivity (Standard Costs, Proper Production Plan)
- Setting up Target Figures, Simulation of Medium Term Business Plan
- Cost Management
- Time Schedule for Action Program

3) Based on the sales forecast and production cost composition secured through the hearing from its management, the Study Team demonstrated a sample case of simulation of the company's 5 year Business Plan. The main items of the simulation are shown in Table3-1.

**Table 3-1 High-light of the Simulation of 5 year Business Plan** ( in AMD mln )

	1999	2003	2003/1999
Sales	550	1,237	225%
Net Profit after tax	-22	348	
Profit ratio	-4%	28%	
Break Even Point	496.2	301.5	
New Capital Investment	400	0	
3-Year Loan	300	0	Pay off in 2001
Employee	177	255	144%

(Note) Amount of Loan includes the initial procurement of materials in AMD 44 mln.

The simulation indicates that in the case of New Capital Investment of AMD 400 mln in 1999, in

2003 Sales would amount to AMD 1,237 mln (225% of 1999) and Net Profit after tax would be AMD 348 mln (Profit Ratio 28%). Productivity which is the sales amount of one employee would increase and reach AMD 4,851 mln (156% of 1999). Break Even Point would be steadily bettered to AMD 301.5 mln (Marginal Profit Ratio 49.9%) as compared with AMD 496.2 mln (Marginal Profit Ratio 33.6%) in 1999.

#### 4) Effect of T/A to Hi Team

- Acquirement of methods analyzing/ evaluating the enterprises activities
- Learning the significance of accounting as a management tool
- Recognition of the usefulness of information system by computer network

As Hi Team has thoroughly learned the analyzing method and technique for the formulation of medium term business plan from the Study Team, the company was able to prepare by themselves the application documents for Kerkorian Fund consisting of the investment project outline, income statement and cash flow statement in English. Such documents were submitted through one of the 14 designated Armenian commercial banks of the Fund for the further screening in U.S.A.

5) As for International Accounting Standards (IAS), the Study Team assisted the Model Enterprises, Hi Team and Sirius to apply for the "Armenian Enterprise Accounting Reform" seminar of USAID program executed by SIBLEY INTERNATIONAL, U.S.A.

### **3.3. Development Direction and Promising Products**

#### **(1) Vision of Development and Action Plan**

The Study Team formulated the vision of development for the 3 Target Sub-Sectors and the action plan for it as shown in Table 3-2. The contribution of the Target Sub-Sectors to the country's economy with added value creation and promotion of export as well as investment is keenly expected.

**Table 3-2 Target Sub-Sector Development Vision and Action Plan**

Sub-Sector	Development Direction	Market	Promising Products	Action Plan
Electric and Electronics	Short-Term Target	CIS Middle East RA	Resistors,PCB, Spare Parts for conventional electric/ electronics products	Reopening of production, using existing facilities , technology, material procurement source and staff
	Medium-Term Target	USA,etc. RA	Semiconductors-OEM Small Hydro Power Plant	Subsidiary of US firm Execution subject to National investment
	Long-Term Target	(mainly) Foreign Markets	LSI Design Center Semiconductor Device  Products of RA seeds	Realizing High Tech in collaboration with foreign firm  To utilize originality of SRI
Machinery	To act under common recognition that improvement of machine processing technology is useful for all mfg. industries	RA Russia  Russia CIS Iran Russia CIS Iran	Aluminum Profiles Rolling Shutters, Subcontracting Auto Parts CNC, Motion Controller Welding Devices	To further develop applied and derivative field of machinery industry
	To develop business operations with wide angle view covering agriculture construction transportation and trade	Russia CIS Iran and RA	Each process of machine processing technology could become an independent business	To develop specialty of individual firm and to form effective networks of firms having specialty for saving resources
Chemical	Precondition: Technology, price competitiveness of Nairit Indigenous materials such as Perlite	Russia CIS other export market and RA	Chloroprene Rubber  Filter and Additive to cement using Perlite	Depending on RA gov't future treatment of Nairit Environmental protection  Viability must be verified by feasibility study
Pharmacy	Proposition: Scheme for Pharmaceutical Amino Acid Production	Export to Europe and RA	Pharmaceutical Amino Acid	Precondition: Collaboration among Foreign partner, RA: industry sphere, institute, Government

**(2) Proposition of the Scheme for Pharmaceutical Amino Acid Production**

The reason for proposition, prerequisite, tie-up with foreign firm and collaboration among the concerned parties of Armenian side are summarized as follows:

### 1) Reasons for Proposition

- a) Pharmaceutical utilization of Amino Acids is rapidly expanding worldwide.
- b) As the Pharmaceutical Amino Acids are high value added products, they would suit for export since Armenia is currently under restricted condition due to the transportation blockade.
- c) Armenia has high levels of technical background in microbiology.
- d) There are two pharmaceutical enterprises that are designed in accordance with the concept of GMP. Those enterprises could be domestic clientele of the Pharmaceutical Amino Acids to be produced.
- e) While the operations of Lizin factory has been stopped and no possibility of resumption, a new company to be established can utilize part of its facilities and staff.

### 2) Prerequisite for realization of the Scheme

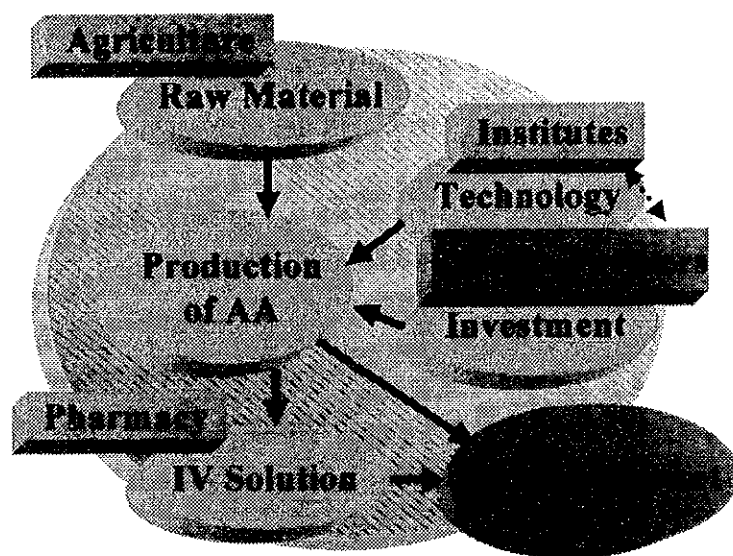
a) New investment for 300-500 t/year production of 8 kinds Amino Acids <ul style="list-style-type: none"><li>– Utilization of part of facilities currently possessed by Lizin</li><li>– Environment protection (waste water treatment and emission control)</li><li>– Anti-frozen device for winter time operations</li></ul>	US\$ 40 mln
b) Latest technology from foreign firm and training of human resources <ul style="list-style-type: none"><li>– Tie-up with foreign firm possessing high technology indispensable</li><li>– Division of responsibility between Institute of Microbiology and Institute of Biotechnology in accepting technology and training human resources</li></ul>	Foreign direct investment or Technical tie-up
c) Exploitation of European and Middle East Markets <ul style="list-style-type: none"><li>– Main clientele: manufacturer of intravenous solutions in RA and Europe</li></ul>	
d) Research and development of sugar source as a main raw material <ul style="list-style-type: none"><li>– imported crude sugar → potatoes → topinambur</li></ul>	

### 3) Tie-up with Foreign Partner

Conceptual framework is shown as Fig.3-2.

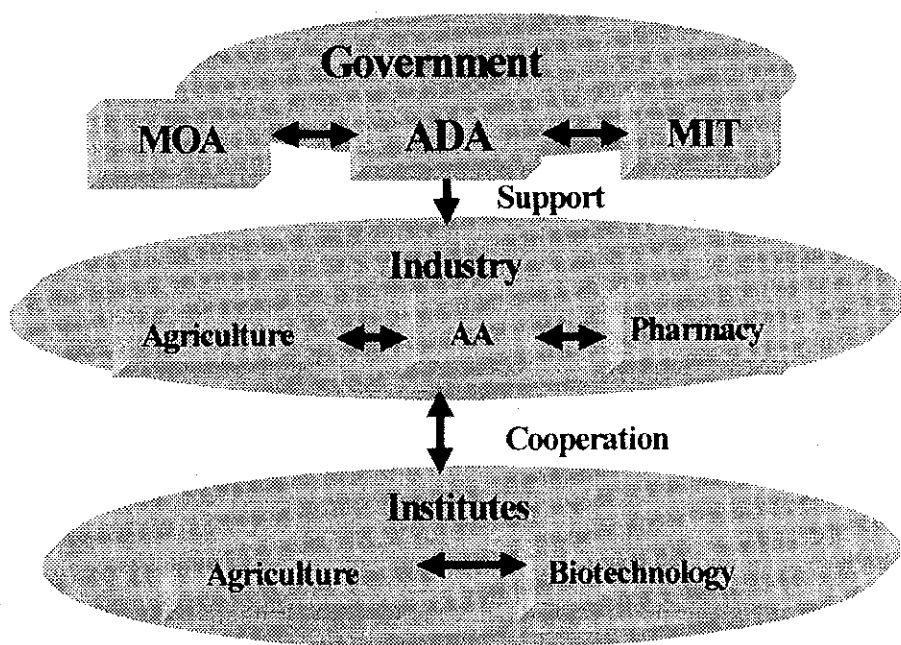
### 4) Establishment of Collaboration among the Concerned Parties of Armenian Side

Conceptual framework is shown as Fig.3-3.



**Fig.3-2 Framework of production of pharmaceutical amino acids by cooperation with a foreign enterprise**

AA: Amino Acid IV Solution: Intravenous Solution



**Fig.3-3 Conceptual framework of Cooperation**

MOA: Ministry of Agriculture MIT: Ministry of Industry and Trade ADA: Armenian Development Agency

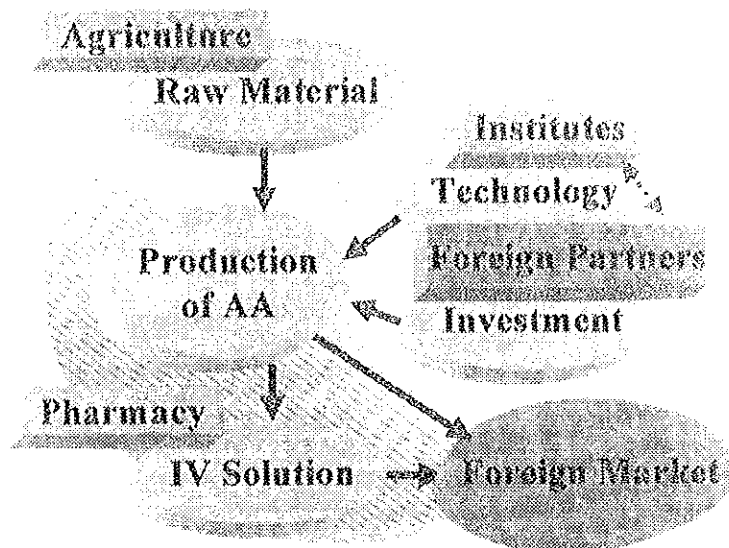


Fig.3-2 Framework of production of pharmaceutical amino acids by cooperation with a foreign enterprise

AA: Amino Acid IV Solution: Intravenous Solution

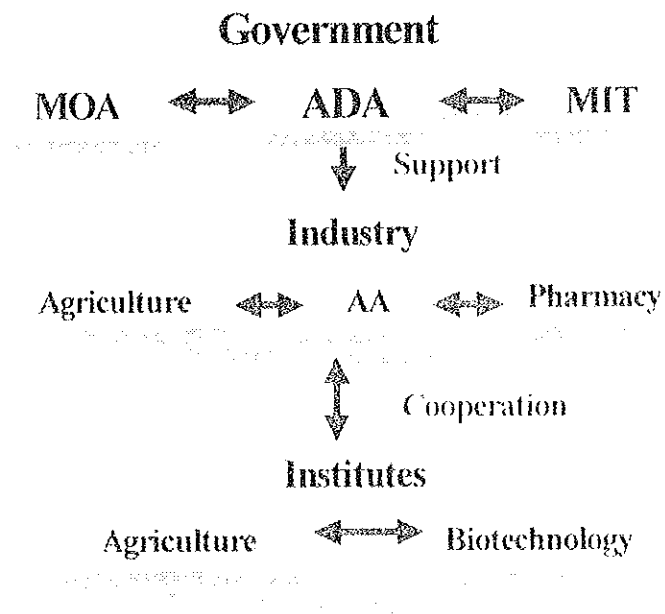


Fig.3-3 Conceptual framework of Cooperation

MOA: Ministry of Agriculture MIT: Ministry of Industry and Trade ADA: Armenian Development Agency

## 4. Recommendations to Enterprises

### 4.1. Management Reform

Armenian enterprises in private sector have a lot of problems. These problems can be categorized into outer environment, management, human resources and technology as shown in Table 4-1.

**Table 4-1 Features and Weakness in the Armenian Enterprises**

Nature of main required action:	Outer environment	Management	Human Resources	Technology
1 -Collapse of Soviet Union and related confusion and reduction of market	X			
2 -Prohibitiveness in supply of raw material	X	—	—	—
3 -Large volume, highly integrated and inflexible production system	—	—	—	X
4 -Outdated production facilities	—	—	—	X
5 -Losing technology	—	—	—	X
6 -Transportation difficult due to blockade	X	—	—	—
7 -Very low level production capacity	X	X	—	—
8 -Outflow of qualified researchers	X	X	X	—
9 -Deterioration of skill level	—	—	X	X
10 -Lack of Research & Development in factories	—	X	X	X
11 -Lack competitive products	—	X	X	X
12 -Lack of International standards in quality, price, customer expectation, marketing methodology and management	—	X	X	X
13 -No young factory workforce	—	X	X	—
14 -No working capital	X	X	—	—
15 -Disappearance of support from Scientific Research Institutes	X	—	—	—
16 -Highly centralized management structure and decision-making	—	X	—	—
17 -Weak or no appraisal of current situation	—	X	—	—
18 -No action plan	—	X	—	—

Collapse of Soviet Union and subsequent confusion and reduction of market was the problem that started all the others. As a result of drastic reduction of demand in the FSU market, products can not be sold and enterprises that have no other market are suffering from lack of working capital. The outflow of qualified researchers and labor force due to non-payment of salary made it difficult to develop competitive new products, technology and ideas. Because of the lack of capital, equipment is deteriorating and technology is losing. In this way, most of the problems are related with each other and create a vicious circle. Difficulties in transportation due to blockade and supply

of raw materials make situation more complicated.

The environment for Armenian enterprises in private sector is very hard. Nevertheless there are a large number of entrepreneurs in Armenia with ambition and ability. At present many of them are looking for somewhere to demonstrate their talent in Russia and other foreign countries. Among the surveyed enterprises, there were a few companies which, in spite of the severe management environment, have strong leadership, challenging new products, and efficient and successful investment. There are several successful, rapidly developing enterprises in food industry, light industries, construction and commerce. In these enterprises management has strong will and leadership and employees working there are motivated.

On the other hand, for many of the companies in stagnation the most serious problem is to maintain the determination and positive nature of the management through periods of difficulty.

Below we set out advice to the management of these companies:

### **(1) The Role of the Management**

The management must have **entrepreneurial spirit**. A leader with vigorous mental determination to revive the business and ability to exercise a strong leadership is the solution for a company in such a situation. Those who do not possess this kind of adaptability ought to learn this ability immediately or bring in more capable people from outside as the management.

In successful enterprises, policy and decision making of the management are clear and swift. And there are active communications between the management and employees. It is the task of the management to create an open-minded environment within the company.

Many managers regard the "loss of market" as the reason of poor activities of enterprises. They are only unable to assess changed market conditions and decide the right approach to handle such conditions. The market itself never disappears. Young people who have worked abroad and gained a feeling for the market economy should be brought into the managerial elite. Here, it is necessary to create absolute incentives.

Presently most of the production lines have ceased to operate. A decision-making in formulating a business plan could be negative. The management does not need to be too pessimistic. The most important thing for them is to formulate the business plan with a leadership and proper analysis of the current and future situation.

### **(2) Analysis of Strengths and Weaknesses**

See Table 4-1. Those problems are common to the most of enterprises in private sector. Main weaknesses are found in 3 categories besides outer environment: 1) Management, 2) Human Resources and 3) Technology.



### (3) Selection of Promising Products and Markets

Enterprises should cultivate also a domestic market. There will be a certain level of demand if they search business chances with an open mind not only to manufacturing but also agriculture, construction, transportation and the field of commerce etc.

A procedure to discover business opportunities and promising products is shown below:

- 1) Take inventory of own engineering resources (knowledge, skill and facilities), and pinpoint the strong or unique point.
- 2) Determine the type of business (material processing, parts making, sub unit, finishing goods, system development, service offering etc) that makes the best use of this strong point.
- 3) Conduct market research.

In consideration of Armenia's obtaining circumstances such as highly educated human resources, high cost of transportation, limited producing of raw materials and small domestic market, one of the development's directions is a field which requires a small consumption of raw material and relatively high integrated techniques. In the machine industry mechatronics, fine-mechanical and micro-mechanics can be expected to be the promising fields in the future.

As for the electrical and electronics industry, PCB design and LSI design look highly promising.

There should be other more promising fields.

## 4.2. Marketing

### (1) Development Stage of Marketing Activities

#### 1) Development Stage of Marketing Strategy

Today the sole focus of the companies visited was cash. They are progressing from Phase I to Phase II in Table 4-2.

**Table 4-2 Marketing Strategy**

Phase of Development	I Management Objectives	II Appraise	III Stabilize	IV Growth
Focus/Company	→ Cash	→ Profit	→ Growth	
Target/Market Share	→ Sell for Cash M/S Low Priority	→ Hi-Profit Segment	→ Extend Segment	
Price	→ Raise	→ Maintain	→ Lower	
Promotion	→ None	→ a little	→ Invest	
Product	→ Cut Low-Profit	→ Add Hi-Return	→ Develop Line	
Place	→ As is	→ Adapt	→ Develop	

## **2) Market Attractiveness**

For foreign investors attractiveness of Armenian market is currently low. If the plan is to introduce foreign investment, then the reality of the above must be taken seriously and government measures must be taken to make up for the lack of appeal in this market. These enterprises must lobby the government hard in order to see this happen.

## **3) Infrastructure**

Problems such as access to available official information, competitive costs of communications and transportation, development of human resources for marketing, effective function of market research companies and advertising agencies, availability of credit (terms of payment) for enterprises must be primarily solved. The enterprises should make effort to solve these problems and lobby the government for improvement.

## **(2) How to Prepare for a Competitive Marketing Program**

### **1) Understand Current Situation**

Gather information in an organized way.

It is especially crucial to develop a marketing plan in an uncertain environment, because it helps starting to understand the environment better than competitors, also understand own company better and how successfully it responds to efforts.

### **2) Basic Characteristic of Demand**

The understanding of the basic characteristic of demand for industrial goods and for consumer goods is important in order to sell one's product and to make new product matches to demand.

### **3) Look for Improvements & Develop Opportunities**

The main questions to answer are:

- What would → Increase sales to customers?
- Increase the number of customers?
- Reduce cost & increase customer satisfaction?

By acting on → Products, Promotion, Price, Place (Distribution), Organization, Knowledge, Process (sale, warranty, service, service parts, etc...)

### **4) Establish Goals & Aim to Reach Them**

An action plan using the following processes should be established through active discussion by each enterprise's management and executives.

**TODAY → VISION → ISSUES → PLAN → RESOURCES → ACTION PLAN**  
(1) (2) (3) (4) (5) (6)

### **(3) Marketing Mix (T+4P)**

Clarified 5 five major points; Target, Products, Price, Place (Sales Channel) and Promotion (taking the first letter of each - T+4P) make up the basis for a systematic marketing plan.

### **(4) Market Research**

When each element "T+4P" is decided upon, fundamentals should be clarified. A hypothesis should be generated regarding the vague areas, and the marketing element should be set based on this. Marketing research based on the hypothesis should be carried out afterwards, and the validity of the hypothesis verified. This is the basic procedure for marketing research.

## **4.3. Improvement of Technology**

### **(1) Improvement of Quality**

As a step towards carrying out product quality control, Armenia's manufacturing industry needs to pay attention firstly to management that offers good quality and products. The collection of information on product quality after shipping is a task for the future.

There are two causes of error before shipping; design faults and production defects. It is vital to grasp scientifically and precisely the reasons behind the occurrence of faults. The management needs to recognize the importance of such analysis and they must exert control for ascertaining the cause of faults.

Product design increases the reliability of a product.

In order that design prevents breakdowns in production, businesses need to recognize the ability of the production process. They need to fully understand any process changes, and encourage design that preserves special qualities, even should there be changes to production.

A traditional quality control system, if it might still be useful, should be maintained and utilized in production.

Information (claims etc.) from customers is vital and should be both feedback for logical product improvement and also an important source for product development.

### **(2) Improvement of Technology**

In order to reach the technological level of the world market, and further to become a winner on the technological level and to ultimately win in the world market, the following points should be carried out.

Excellent engineers and technicians, even if they are a few, should be deployed at strategic positions as key people.

A practical way is to identify precisely technology gap, research and **introduce foreign technology.**

It is important to study whether or not their products are marketable in the world market. Through the study measures to improve competitiveness may be found. In due course the necessary core technology can be identified and developed. By utilizing these core technologies new products can be developed.

Another production technology requiring to be improved is the information systems. The promptness and accuracy of a computerized system are also the most suitable for the improvement of business efficiency.

### **(3) Development of New Products**

Currently, new product development in Armenian industry is inactive. This reflects low production activity.

In developing new products, first of all, existing products should be paid attention to. The seeds that require development might be found in these products. Improving the function or performance of existing products is not too difficult to achieve.

All information regarding new product development comes from the market. Therefore retrieval of market information is important.

When it comes to organization structure of development, in order to conduct R&D activities effectively, a system whereby both R&D and manufacturing departments are managed under the same person is preferable. If capability of development in own enterprise is not sufficient, such consolidations as recombination of SRIs and enterprises, establishment of R&D division in the enterprises, cooperation between “academy” and “industry” in development of new products are required.

## **4.4. Implementation of Immediate Measures**

We propose that companies should not delay in taking the three steps set out below.

### **(1) Formulation of Short/Middle/Long term Business Plans**

Formulate Short, Middle and Long -Term Business Plans and a definitive action plan for achieving them. To make a business plan, prepare a plan for the Middle -Term that will realize the Long -Term Plan, and a Short -Term Plan suited to the first year budget of the Middle -Term Plan. Further prepare the monthly plan that follow up the Short -Term Plan.

There must be continuity to each one of the short, middle and long-term business plan. The Short -Term Plan is the most close action plan. The most important thing is to think out concrete Short -Term Plan and realize it.

Tasks of each term are shown in Table 4-3.

**Table 4-3 Building a strategy for future development**

Period	Short term (1~2Yrs)	Middle term (3~5Yrs)	Long term (6~10Yrs)
Business objectives	Develop demand, Secure orders Define the direction of the company	Strengthen management foundations Expand turnover Creation of new products 1. Production, sales of products for domestic demand = import products 2. Export parts and processing technology for foreign companies	Export a globally unique product or service Establish status and a share in the global industry
Technology	Establish and strengthen technology at which company excels	Catch up to the world technological level	Establish world-class technology Develop exclusive product or technology
Action	Discover business opportunities (interchange in same and other business worlds)	Marketing in the world market, take orders collaboratively with company tie-up	Establish cooperative relationships with multi-nationals

## (2) Introduction of Plan Management Cycle

The business plans should be administered (and revised if required) according to the regular cycle on a monthly basis.

Obtain actual monthly results → Compare actuality with plan → Evaluate the degree of success of the plan → Pick up on major differences between plan and actuality → Find the right course of action → Discuss solutions to the problems → Implement countermeasures → Foresee achievements

## (3) Prepare Reports for Plan Management

For plan management, settle on the types of reports to be written, such as in the table below, and make the relevant sections responsible for their preparation and reporting to management. Companies can achieve a greater fluidity to their activity by carrying this out on a monthly basis.

**Table 4-4 Main reports for monthly management**

Section	Reports for management
Administration & Accounting	General Monthly Report, Profit/Loss Report, Balance Sheet Summary Report, Monthly Financing Report, Expense Results by Section, Personnel Constitution, Organization Chart
Marketing & Sales	General Sales Report, Sales Result Report, Sales Promotion Progress Report
R&D, Engineering	R&D, Eng. Progress Report
Purchasing	Materials Inventory Report, Purchasing & Cost Down Report
Production	General Production Report, Production Cost Report, Production Cost Report by Products, Products Inventory Report

## 5. Policy Recommendations for the Armenian Government

### 5.1. Understanding the Background

#### (1) Understanding Policy Issues

As already examined in Chapter 2.3., Armenia is confronted with critical fiscal and economic issues. Figure 5-1 below depicts the interrelationships among the principle economic issues that are mutually intertwined.

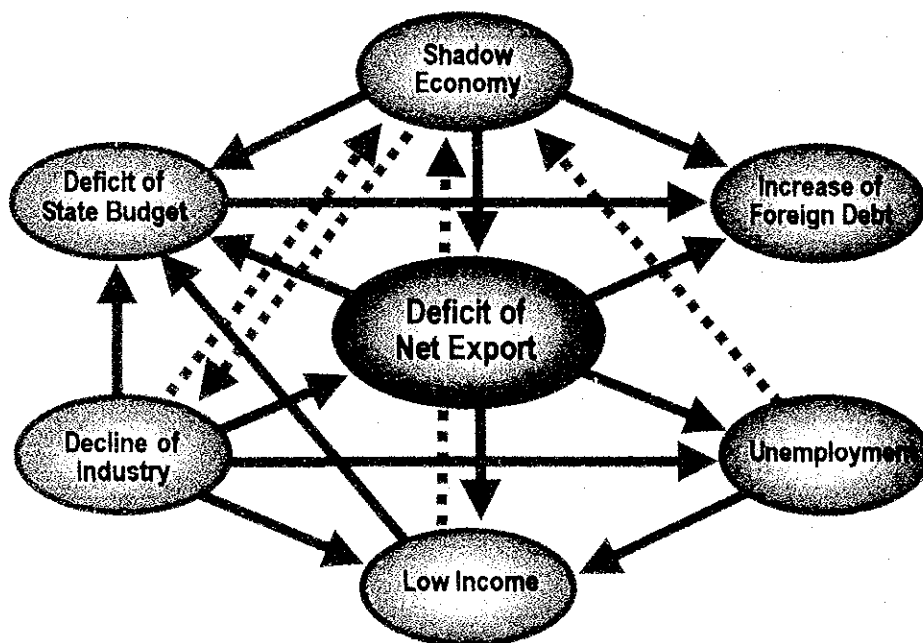


Fig. 5-1 Causes of Deficits in the Armenian Economy

A unity among the policy makers must be achieved with regard to their recognition of the intrinsic issues facing the economic regeneration in Armenia, the roots and the policy issues confronting the government in the resolution of these issues.

Figure 5-1 explained the importance of increase of production and export. The study team has categorized the principle problems and the policy issues facing Armenia today into 4 categories as described in the table below.

**Table 5-1 Principal Problems and Policy Issues Facing the Armenian Economy**

Principal Problem Areas	Principal Policy Issues	Medium to Long-Term Issues
1) Large fiscal deficits	→ Reduction of the fiscal deficits	→ A fiscal balance
2) Increase in external debts	→ Arrest increase of external debts	→ A reduction in external debt
3) Large trade account deficit	→ Increase in exports	→ A balance in trade and services account
4) Low wages and considerable number of effectively unemployed	→ Secure employment opportunities	→ Substantial improvements in incomes

A detailed explanation here is abbreviated and below only the rationale will be noted as denoted by arrows: (←).

<b>Large fiscal deficit</b>	← ① Low fiscal revenues	← ② Low tax revenues	← ③ Unprofitable private sector (depressed industries/unprofitable agriculture/low margin merchant trade)	← ④ Depressed exports	← ⑤ Production of low value added products and services of low international competitiveness (non-existence of high value added production)
		← ① People's low income levels	← ② Lack of employment	← ③ Low level of exports	← ④ Production of low value added products and services of low international competitiveness (non-existence of high value added production)
		← ① Shadow economy/tax evasion	← ② Economic Mafia	← ③ Economic environment	④ Poverty
		← ① Issuance of high yield Short-Term T/B	← ② Large fiscal deficits		
<b>2) Increase in external debt</b>	← ① Large current account deficit	← ② Large trade account deficit	← ③ Definite shortage of exports	← ④ Shortage of exportable goods	← ⑤ Production of low value added products and services of low international competitiveness (non-existence of high value added production)
		← ① Fiscal deficit	← (the same as 1 - ① onwards above)		
<b>3) Large trade account deficit</b>	← (the same as 2-② and onwards above)				
<b>4) Low wages, considerable number of effectively unemployed</b>	← ① Shortage of employment opportunities				
	← ② Production of low value added products and services of low international competitiveness (non-existence of high value added production)				

As it is shown in the above, the fundamental roots of all economic problems that are interrelated lie in **depressed exports ← production limited to low value added internationally low competitive products and services**. In other words, the **high value added products that are internationally competitive** are not being produced and although the gravity of the problem



differs dramatically from the above, the root can be traced also to the **shadow economy** ← **poverty**.

Even in the case of the Shadow Economy, which finds its roots in poverty, if the production and exports of high value added goods and services that are internationally competitive improved to a level that will achieve a balance in the trade accounts, it will lead to creating an economic environment in which a need for an extensive Shadow Economy will no longer exist.

Ultimately, the sole root cause that is common to all of the 4 major problems that are described in Table 5-1 boils down to the lack of production of high value added goods and services that have international competitiveness.

From the above it is possible to conclude that the **four major policy issues for the government will be achieved gradually by achieving increases in the production and exports through the increase in the value added commodity in the production of goods and services** in all sectors regardless whether it is from the primary, secondary or tertiary sector.

**The top priority policy for the government** then, must be directed toward enabling increase in the value added of the products and services being produced to make possible increases in the production and exports (including import substitution) of goods that are able to compete internationally.

## **5.2. Creation of a Vision for a Medium Term Development Plan**

### **5.2.1. Vision for the Medium Term Development Plan**

#### **(1) Preconditions for the Planning**

The preconditions that are required for the creation of the development plan are outlined below.

**1) The plan will be on a medium term (7 years). The base year of the plan will be set at 1998 and the planning period 1999 - 2005.**

**The plan will be named "VISION ARMENIA – 2005".**

There are many uncertain factors in the current state of the Armenian society and economy that long-term plan of over 10 years in horizons are not realistic as the gap with reality could be exaggerated. Development plan that is required in today's Armenia needs to be one that is shorter term within the people's horizon, realizable and a plan that can be modified to meet any changes in the external environment.

**2) The planning will be undertaken by the "VISION ARMENIA – 2005" planning committee** formed under the President and backed by a budget especially appropriated for this plan. The most

critical part of this project will be the quality of the composition of the committee. The most capable and qualified people must be mobilized for this project through a public invitation using newspapers and TV, etc.

## (2) The Tasks of the "VISION ARMENIA-2005" Committee

### 1) Setting of Macro-Economic Indicators

The committee will first set the policy objectives for the macro-economy under each item that are listed in the Table 5-2.

Table 5-2 is abbreviated for reasons of space but the policy target figures for each of the years 1999 - 2005 must be inputted and a comparison with the base year will be required. In the year 4 as the midpoint of the plan, a review will be undertaken and material changes in the internal and external factors will be examined and will be reflected in the plan as needed for the years 4 and onwards.

**Table 5-2 Policy Target Figures**

(Year)	Base Year	1-st year	4-th year	7-th year	
	1998	1999	2002	2005	2005/1998
- Economic growth rate					
- Structure of GDP					
- CPI/ PPI					
- Population					
- Economic active population					
- Employment structure					
- Unemployment rate					
- Ratio of Budget deficit to GDP					
- Export and import amount					
- Balance of international payments					
- Balance of foreign debt					
- Debt service ratio					
- Investment amount					
- (out of which) FDI					
- Others					

### 2) Setting Private Sector Development Objective Indicators

Next (in reality it will be conducted in parallel with 1) above) it will be necessary to formulate the growth targets for each of the sectors that comprise the GDP and the required human resources, goods and capital to be input. The same task will be required of each sub-sector making up each sector.