

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF INDUSTRY AND TRADE
THE KYRGYZ REPUBLIC

**THE STUDY
ON
MASTER PLAN
OF
INDUSTRIAL DEVELOPMENT
IN
THE KYRGYZ REPUBLIC**

(SUMMARY)

NOVEMBER 1996

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**UNICO INTERNATIONAL CORPORATION
CRC OVERSEAS COOPERATION INC.
INTERNATIONAL DEVELOPMENT CENTER OF JAPAN**

TOKYO, JAPAN

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Abbreviations

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation Conference
ASEAN	Association of South-East Asian Nations
BOD	Biochemical Oxygen Demand
BOP	Balance of Payment
BPR	Business Process Re-engineering
CA	Current Assets
CIS	Community of Independent States
CPI	Consumer Price Index
EBRD	European Bank for Reconstruction & Development
EPP	Export Promotion Policy
ERRA	Enterprise Reform and Resolution Agency
FEZ	Free Economic Zone
FSU	Former Soviet Union
GDP	Gross Domestic Product
GDP	Gross Domestic Products
GOK	Government of Kyrgyz Republic
GTZ	German Technical Cooperation Agency
I/P	Implementation Programme
ICAC	International Cotton Advisory Committee
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
ISO	International Organization for Standardization
ITC	International Trade Center
IWS	International Wool Secretariate
JICA	Japan International Cooperation Agency
JSC	Joint Stock Company
KfW	Kredit für Wiederaufbau
KSEHC	Kyrgyzstan State Energy Holding Company
kWh	Kilo Watt Hour
L/A	Loan Agreement
L/G	Letter of Guarantee
LLME	Large Loss Making Enterprise
MAF	Ministry of Agriculture and Food
MIT	Ministry of Industry and Trade
MOF	Ministry of Finance
NBK	National Bank of Kyrgyz Republic
NIEs	Newly Industrialising Countries
NMP	Net Material Product
OECE	Overseas Economic Cooperation Fund
PESAC	Privatization and Enterprise Sector Adjustment Credit of the World Bank

PIP	Public Investment Programme
SCE	State Committee for the Economy
SPF	State Property Fund
UNDP	United Nations Development Program
USAID	United States Agency for International Dev.
WHO	World Health Organization

Table of Contents

1	Background, Objective and Scope of the Study	S-1
1.1	Background of the Study	S-1
1.2	Objective of the Study	S-2
1.3	Scope of the Study	S-2
2	Social and Economic Conditions of the Kyrgyz Republic and National Economic Development Plans	S-3
2.1	General	S-3
2.2	Economic Development Plans	S-4
3	Present Situation of the Industrial Sector	S-6
3.1	Industrial Structure	S-6
3.2	Current State of Infrastructure and Development Plans	S-6
3.3	Present Condition of Mineral Resources and Development Plans	S-6
3.4	Development of Human Resources	S-7
3.5	Current State of Quality Control and Industrial Standards	S-7
3.6	Supply of Raw Materials	S-8
3.7	Product Market and Competition	S-8
4	Current State of Industrial Subsectors	S-9
4.1	Overview	S-9
4.2	Machinery Industry	S-10
4.3	Electrical/Electronics and Semiconductor Industries	S-12
4.4	Textile Industry	S-13
4.4.1	Wool Industry	S-14
4.4.2	Cotton Industry	S-14
4.4.3	Silk Industry	S-15
4.4.4	Knit Industry	S-16
4.4.5	Sewing Industry	S-16
4.4.6	Non-Woven Fabric and Jute Industries	S-17
4.5	Leather and Fur	S-18
4.6	Food Processing Industry	S-19
4.7	Other Industrial Subsectors	S-21

5	Industrial Development Plan	S-23
5.1	Industrial Development Potential in Kyrgyz and Major Issues	S-23
5.1.1	Key Factors Governing Industrial Development Potential	S-23
5.1.2	Major Problems Impeding Promotion of Industrialization	S-24
5.2	Direction of Industrial Development	S-25
5.2.1	Heavy and Chemical Industry	S-25
5.2.2	Light Industry	S-25
5.2.3	Machinery and Electrical/Electronics Industries	S-26
5.2.4	Supporting Industries	S-26
5.2.5	Food Industry	S-27
5.2.6	Other Industries.....	S-27
5.3	Vision for Industrial Development in Kyrgyz.....	S-27
5.4	Selection of Prospective Subsectors	S-28
5.4.1	Criteria for Selection of Prospective Subsectors	S-29
5.4.2	Evaluation of Candidate Subsectors and Selection of Prospective Ones.....	S-29
5.5	Strategies for Promotion and Fostering of Prospective Subsectors.....	S-31
5.5.1	Textile Subsector	S-31
5.5.2	Machinery and Electrical/Electronics Subsector	S-34
5.5.3	Food Processing Subsector.....	S-36
5.5.4	Other Industrial Subsectors	S-37
5.5.5	Identifying and Fostering Non-Resource Based Industries.....	S-38
6	Policies for Conducting Industrial Development Programs and Proposal on Institutional Aspects.....	S-40
6.1	Industrial Development and Promotion Policies.....	S-40
6.2	Reform of Administrative Structure	S-42
6.2.1	Strengthening of Policy Making for Development of Industry and Foreign Trade.....	S-42
6.2.2	Administrative Reform.....	S-44
6.3	Fiscal and Financial System	S-46
6.3.1	Financial Sector	S-46
6.3.2	Tax and Fiscal System.....	S-49
6.4	Foreign Trade Promotion	S-51
6.5	Foreign Investment Promotion.....	S-54
6.5.1	Concrete Measures for Promoting Foreign Investment	S-54

6.6	Distribution and Transportation.....	S-55
6.6.1	Distribution	S-55
6.6.2	Transportation	S-56
6.7	Promotion of Small and Medium-Sized Industry Sectors	S-57
6.8	Environmental Policy.....	S-59
6.9	Reforms of Social Support Systems	S-61
6.10	Promotion of Industrial Standard	S-62
6.11	Development of Quality Control Capability	S-63
6.12	Proposals on Human Development.....	S-63
7	Development Programs and Implementation Plans	S-65
7.1	Program Organizing Export Promotion Initiatives.....	S-65
7.2	Program Establishing Industrial Development and Foreign Trade	S-65
7.3	Program Organizing Trade Associations	S-66
7.4	Educational Program on Corporate Management and Marketing Techniques for Textile Industry Executives.....	S-67
7.5	Program Organizing Supporting Industries in the Machinery and Electrical/Electronics Industries	S-67
7.6	GMP Education Program in the Food Industry.....	S-67
7.7	Quality Control Promotion Program	S-68
7.8	Support Program for Organizations Leading Technological Research and Product Development	S-68
8	Recommendations for Reform of Enterprises	S-69
8.1	Reform of Enterprises	S-69
8.2	Recommendations for Individual Enterprises	S-70

List of Tables

Table 5.5.1	Presumed Implementation Plan of Suggested Industrial Projects Development	S-39
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List of Figures

Figure 6.1.1	Flow Chart of the Kyrgyz Economic Structure.....	S-41
Figure 6.2.1	Structure of New Organization	S-45

1 Background, Objective and Scope of the Study

1.1 Background of the Study

The Kyrgyz Republic, since its independence in August 1991, started Program of Economic Reforms under support of international financial institutions led by IMF and made some degree of success in macroeconomic terms, including control of inflation and introduction of its own currency, Som. At the same time, various structural reform measures have been launched, including privatization of state enterprises, reforms of the financial sector, administrative and financial reforms, and reforms of the social security system.

Despite such efforts, the economy faced adverse conditions including a sharp decline in purchase of industrial products by the republics of the FSU (Former Soviet Union), termination of federal subsidies, and a mounting deficit in balance of payments due to a dramatic rise in imported energy and raw material prices. As a result, GDP steadily declined after 1990 and recorded negative growth of 50% in 1995 compared to 1990, while industrial production was down 65% during the same period. The sharp decline in the industrial sector, which accounts for approximately 30% of GDP and 20% of employment, has certainly had negative impacts on the economy of the republic as a whole.

In the Kyrgyz Republic that aims for market economy, there is a clear need for traditional industrial policy formulation methodology adopted in countries who have established market economy from early times - the methodology in which a medium- and long-term plan is established to include the selection of industrial sectors that are relatively competitive in the international marketplace, followed by development and implementation of candidate industries selected in the plan. Along this line, the country desires to formulate an effective and comprehensive industrial development strategy under technical assistance from foreign countries. Such strategy should contain the practical method for foreign trade for Kyrgyz industries which lack financial resources, e.g., processing on a subcontract basis, the method for establishing joint ventures with foreign investors, the guideline and method for attracting required funds, and proposed support services to be rendered by the Kyrgyz government.

On the other hand, the situation facing most companies in Kyrgyzstan is much more serious and dreary. They face built-up inventory of products which are not popular in the market, and their plants are operated far below a break-even point. They are on the brink of bankruptcy and demand emergency measures to revive their business.

For the management of these companies whose job was to meet a production quota set by the headquarters, it is difficult to adapt themselves to an entirely new business

environment where "each company makes marketable products and brings them to the market." They are simply perplexed and want to know where to start. While they feel the need for objective evaluation of their plants including effective measures for deteriorating equipment and technology that has become obsolete, there is a strong need for educational consultation in various areas of business administration that are entirely new to them, including marketing, cost control, quality control, and taxation.

1.2 Objective of the Study

The Ministry of Industry, Trade and Entrepreneurship and JICA signed Scope of Work on July 31, 1995, which states the objective of the study as follows: "to prepare a masterplan of industrial development in the Kyrgyz Republic." Given the need for consultation service mentioned above, however, the objective should logically include consultation service for existing manufacturing plants in basic areas of plant operation and management, and technology transfer through industrial promotion seminars as well as plant modernization seminars.

1.3 Scope of the Study

The Scope of Work mentioned above defined the following:

1. Review of general background of the study
2. Review of economic reform activities toward the transition to the market-oriented economy
3. General condition of industry
4. Industrial activities in sub-sectors
5. Formulation of comprehensive master plan with special reference to textile and electric/electronic industries
6. Recommendations

2 Social and Economic Conditions of the Kyrgyz Republic and National Economic Development Plans

2.1 General

(1) Outer environment and institutional problems

The collapse of FSU caused independence of the Kyrgyz Republic, interruption of economic relations between countries of FSU and loss of demands. The liberalization of prices and privatization in early days of economic restructure caused inflation. Each republic introduced its own currencies while the system for mutual payment was not settled, and it caused another problem that the payment for trading among CIS nations is difficult, and that barter trading is adopted, which deteriorates effective fund operation and profit earning. Inflation is being settled considerably, but it is still in a high level for normal economic activities. The city rate of interest is also high which is a blocking factor for capital investment. The function of monetary institution, which should be blood for market economy, are yet to developed.

(2) Demand, Production and Income

From the standpoint of production, the collapse of FSU led the following cycle of economy; the loss of demand in arms industry → loss of demand in a broad range of related industries, transition from centrally planned economy to market economy → increase of imported goods by consumers' selection → cut of inferior producers → employment reduction → decrease of income → decrease of purchasing → drop of output → deterioration of profit earning → unpaid purchase bill and back pay → drop of output.

(3) Budget & Tax System

The collapse of FSU caused cut of subsidies and investments, and hit the government budget of the Kyrgyz Republic which had depended largely on the subsidies. Moreover, decrease of tax revenue due to fall of output of enterprise, is worsening the national budget deficit. The high rates of various tax systems discourage motivated enterprises resulting in encouragement of shadow economy which reduces taxpayers. The defect of tax collecting system and low moral of tax officers are also the causes of low tax revenue.

(4) State Organization & Social Problems

The collapse of FSU and independence of each republic boosted nationalism and migration of population. Major powers and positions were grasped by members of majority ethnic groups and produced a new group of elite instead of 'Nomenklatura' in

former communist party. Nepotistic personnel management enlarged the state organization, while talented young people have fewer chances for application, deteriorating the function of the state organization.

The collapse of FSU also led to the collapse of systems for social welfare, and inflation hit the general public and impoverished them, with the weak left behind. Insufficient government budget caused short of schoolrooms and quit of teachers, resulting in quality declining of primary and secondary education.

However, the people's change of mind toward liberalization and market economy is underway.

2.2 Economic Development Plans

The long-term economic plan prepared by the Ministry of Economy, entitled "The Indicative Social Economic Plan of the Kyrgyz Republic for 1996 - 1998 Years and Economic Strategy for the Period up to 2005," was completed and published by prime minister, on May 10, 1996,

At its opening statement, the plan declares the departure from the traditional IMF principles by stating that "lessons learned from the first stage of reforms have made us realize that, to stop the decline of corporate output and promote the nation's economic development, the government's support and guidance for private enterprises is imperative."

The plan divides the ten-year planning horizon up to 2005 into two parts; a short-term planning period for the first three years between 1996 and 1998 and a long-term planning period for the latter seven years between 1999 and 2005.

The plan lists the following four items as major goals and challenges related to the short-term plan for the first three-year period:

- 1) Effective use of domestic resources
- 2) Expansion of production capacity and economic power
- 3) Employment growth
- 4) Improvement of investment climate to attract foreign investment

As for major goals and challenges related to the long-term plan for the last seven-year period, the following five items are listed:

- 1) Recovery of investment activity

- 2) Modernization of production equipment through investment and technology transfer
- 3) Product development
- 4) Strengthening of export competitiveness
- 5) Correction of disparity in regional development

Note that the indicators in 1996 through 1998, and up to 2005 are projected from the base line year of 1995, with some adjustments taking into account opinions and views of various regions and government agencies. All the indicators are assumed to grow continuously from the base line year, resulting in real growth rate of 5.7% per annum over the planning horizon up to 2005.

Exports of goods and services as a percentage of GDP will rise from 31% to 34% during the decade. On the other hand, a GDP share of imports will fall eight percentage points during the same period. As a result, international balance of payments will improve from -14% in 1995 to -6.7% in 1998, then -2.9% in 2005.

The primary goal of the industrial promotion policy is set to "foster industrial subsectors with the ability to produce competitive products in local and foreign markets." For this purpose, the following measures will be taken:

- Fulfillment of conditions required to achieve stable industrial production (e.g., industrial infrastructure)
- Production increase through the use of existing production capacities and domestic resources

3 Present Situation of the Industrial Sector

3.1 Industrial Structure

The industry in Kyrgyz has been composed of three pillars of Machinery & Metalworking, Light Industry with Textile Industry as its main force, and Food Industry with Meat Processing and Sugar Production as its main force. However production dramatically declined in these principal industries in Kyrgyzstan which depended upon FSU for most of their raw materials and markets, and subsequently Kyrgyzstan lost a big revenue source in export and came to have an industrial structure which lacked leading industries as well.

While the development of manufacturing industry in the fields which require huge investment cannot be expected for the time being under capital lacking situation, it is necessary to address first the early nurture of the agricultural products processing industry (food and textile industries) which makes the most of Kyrgyz agricultural raw materials and has a possibility to increase added value with small capital and labor as well as NET EXPORT through exportation of the products.

3.2 Current State of Infrastructure and Development Plans

Electricity is the most reliable infrastructure in Kyrgyz with relatively low cost. Various problems frequently occur in communication services like telephone, telegram, telex and facsimile. Transportation cost in Kyrgyz is relatively high which act as limiting factor for Kyrgyz products. Maintenance for both road and railway is poor because of short of budget.

3.3 Present Condition of Mineral Resources and Development Plans

Coal production in the Republic has continued to dwindle for years due mainly to the worsening of excavation conditions at coal mines. The shortage is covered by imported coal. On the other hand, the implementation of a large-scale domestic coal mine development project has been impeded by inadequate funds. Domestic output of oil and natural gas, respectively, meets no more than 10% of demand, hence the country imports most of the oil and natural gas it consumes from Kazakhstan, Uzbekistan, Turkmenistan, Russia, etc. Nonferrous metals produced in the Republic include gold, antimony, mercury, uranium, tin, and rare earth metals. Recently, gold mines are being developed actively.

This is expected to contribute much to the national economy. Nonmetallic mineral resources have not been exploited very much, though they might be useful as raw materials for the ceramics industry and some other industries.

3.4 Development of Human Resources

- (1) The Kyrgyz Republic has enormous potentiality of human resources.
- (2) The education in the Kyrgyz Republic holds many difficult problems on tight national finances.

The government designed "Belim", an educational program for people in April, 1996 and directed its efforts to reform education and improve the quality of education.

- (3) After the independence, 9 national universities were established and in spite of their financial difficulties the students are studying hard at their studies in English, laws, computer, management, accounting, etc. that are necessary for market economy.
- (4) In order to improve the quality of education and develop human resources in the Kyrgyz Republic, support from advanced nations both intellectually and materially, is urgently required.

3.5 Current State of Quality Control and Industrial Standards

Most enterprises conducted quality inspection within each process. However, inspection is largely conducted visually, rather than analysis and testing, and few enterprises have full-time quality managers.

In 1995, Gosstandard joined ISO (International Standards Organization) to step up its efforts to promote the manufacture of products in compliance with international industrial standards. However, the industries have still to recognize the importance of quality, and Gosstandard is unable to conduct ISO-conformed testing and inspection with its existing equipment.

Gosstandard is facing the shortage of manpower and equipment for testing and inspection services. Although it has 3 testing labs and 6 metrology inspection labs, their facilities and equipment are deteriorated and are not capable of performing required tests and inspection accurately and efficiently.

3.6 Supply of Raw Materials

The Raw Materials which can be supplied in Kyrgyzstan are Hides & Skins, Wool, Cotton, Meat, Nonferrous Metal, Cement and so on. Kyrgyzstan gets supply from CIS countries of Steel, Wool, Cotton and so on. Kyrgyzstan is supplied by Non-CIS countries with mainly Food.

3.7 Product Market and Competition

In the domestic market of Kyrgyzstan the products made in Kyrgyzstan from such self-sufficient raw materials as Wool, Cotton, Hides & Skins, Meat and Milk are generally dominant. Certain Kyrgyz products have market in CIS countries.

Recently China and other Non-CIS countries have appeared as export market of Kyrgyzstan and this is an indication of diversification of Kyrgyz export markets.

4. Current State of Industrial Subsectors

In response to a request from the Government of the Republic of Kyrgyz, the Study Team conducted a field survey of the country's specific industries, including machinery, electric & electronics, textile & sewing, fur & leather, chemical and other industries. The food processing industry which the Study Team judged an important industry in the Republic was also included in the survey. During the first field survey, the Study Team visited 93 companies and more than 120 during the second.

4.1 Overview

- (1) **Marketing:** The greatest problem with the Republic's industrial subsectors is the lack of knowledge and recognition of marketing. Few manufacturing companies correctly recognize their strengths in the world market, and many have the wrong idea that adequate raw materials, modern production equipment, and customer orders are all that are needed to manufacture any products which meet market demands. Because of all this, imported goods have swept over the domestic market, whereas local products, except for certain household sundries, do not seem to be very welcomed even in the domestic market.
- (2) **Production System:** Most manufacturing companies, large and small, make the whole of their products within themselves. With the present production system, they can neither improve production efficiency nor accumulate technical know-how. Nevertheless, they have respectable technical potential thanks to high levels of technical education which the FSU placed much emphasis on.
- (3) **Barter Trading and Fund Procurement:** Most of the companies visited were practicing barter in some form. Bartering not only causes the profitability to decline. It can also make it difficult to properly evaluate a particular product and cause chronic shortage of funds. Paradoxically, they have to procure raw materials by bartering just because they cannot secure operating funds.
- (4) **Lack of Information Flow Leading to Unmatched Supply and Demand:** The public research institutes do not have the means and method of disseminating their technologies to the industry, which in turn does not know availability of such technologies. The situation can be summarized into the lack of a place for information exchange (data bank), or even if there is one, it does not function properly.

- (5) **Raw materials:** Since the independence, even the active industries have found it increasingly difficult to secure raw materials. For example, high-grade wool fibers are profitably exported to China. As a result, low-grade wool fibers remain in the Republic. On the other hand, the Republic cannot help importing synthetic fibers because they are not supplied locally. However, because of insufficient funds for importing synthetic fibers, the local industry cannot produce blended yarn fabric of synthetic and wool fibers. Concerning the procurement of raw materials, not only the shortage of funds but also the practice of undercover transactions has been aggravating the problem.

4.2 Machinery Industry

- (1) **Production facilities and equipment:** Established to serve the entire Soviet Union, most of production facilities are large, situated within immense sites. In terms of production volume, the highest operating rate is limited to slightly below 20%. Most production equipment, except for some machine tools, was introduced when factories were originally constructed, and thus is more than 20 years old.

- (2) **Production technology:** The ability to produce parts from various machining processes means broad technical capabilities that work as strength. On the other hand, it means dispersion of resources to make it difficult to build up the technological base specialized in certain areas.

All in all, the technological level of the industries in the key areas, except for casting and die making, appears to be comparable with those in former East Germany, Southeast Asia, Latin America, and Belarus, if the age of equipment is neglected. On the other hand, the level of die-making technology is relatively high, while foundry technology is slightly below the average level.

- (3) **Quality:** Products which can compete in international markets in terms of quality are drills, water pumps, and radiators. Other products can only be competitive in the CIS countries or other special markets. Function is considered to be more important than quality, and appearance and design are not major concern.
- (4) **Raw materials:** Most of raw materials including steel materials are imported from the CIS countries, mainly Russia, Kazakhstan, and Ukraine. Delivery takes a few months after the order, with more than six months at most.

(5) Price: The prices of raw materials are lower than those in Western countries. Even so, some companies were complaining that the prices of raw materials were high. Considering the low labor cost, small depreciation cost, and high levels of technology, the prices of products should be lower. However, because of the high interest on bank loans, heavy tax burden, and high Som rates, it seems that the prices of products are higher than those in other CIS nations.

(6) Technological/R&D capabilities: The machines and equipment of machine shops are mostly old-fashioned and non-automated. Nevertheless, there are experienced technicians. Therefore, the production engineering capacity of those machine shops is considered high. Most of the machine shops have their engineers design their products. Thus, they have respectable design capacity as well. Each machine shop in the Republic is capable of developing new products with their own ability or with a part of assistance from outside. However, this will demand additional equipment.

(7) Sales and marketing capabilities: Since the disintegration of the FSU, the economies of the CIS nations have become markedly stagnant and the demands for products of their machinery industries have plummeted. Accordingly, both the output and sales of the Republic's machinery industry have sharply declined. The machinery industry export more than 80% of their products to CIS nations.

They are not accustomed to selling their products for themselves and find difficulty to obtain market information and, marketing is neglected now. Many enterprises have sales departments which are also responsible for product shipment and materials procurement in many cases. However, sales departments do not conduct market study, advertisement or promotional activities, and simply wait for order from regular customers.

(8) Management and administration: Due to the sharp decrease in workload, the machine shops are cutting their production staff significantly. Nevertheless, because they are still unable to maintain satisfactory operational rate, the production cost is rising.

Financially, they are suffering from shortage of funds due to the high interest rates on loans, heavy tax burden, and difficulty in collecting accounts receivable.

Managers are roughly classified into two types. One type is characterized by passive attitude "to wait and wait" as he fails to transform himself from the traditional attitude during the FSU era. Another type realizes the current situation and attempts to

enter into new business or consolidate their operations for survival in the market.

- (9) Emergence of new small- and medium enterprise groups: A major baler manufacturer, FRUNZE, 10% of facilities and equipment have been sold to 31 small- and medium-sized enterprises. In July 1996, these enterprises established their association "Bishkek selnash" for cooperative activity. Equipment purchased by these enterprises is limited to small and versatile types. Their businesses cover a wide range from metalworking to transportation, textile, and food.

In the metalworking area, there are small- and medium-sized enterprises which have equipment for machining, casting, forging, metal press, sheet metal working and welding, heat treatment, die making, and jig and tool making, manufacturing a variety of products on a contract basis, including harrow to be hauled by horse (cultivator), gear, welding rods, castings, automobile repair parts, repair of railway freight cars, wood and metal molds, jig, metal press products, bearing metal, and fixture.

In addition to the emergence of smaller enterprises as a result of divestiture of FRUNZE, factories have been purchased by smaller enterprises and some of them are looking for prospective products for commercial production.

These enterprises, together with their association, have just started and are expected to develop into supporting industries in the near future. To this end, however, the government needs to take promotional measures for these startups.

4.3 Electrical/Electronics and Semiconductor Industries

- (1) Production equipment and technology: The companies decide products to be manufactured based on the equipment they have already installed, rather than decide the type of equipment to be installed and the plant layout based on products to be manufactured. Most of the equipment on the assembly lines is nonautomated. There is much room for improvement in the future.
- (2) Quality: Each company has a quality control department, which conducts performance inspection of the finished products. In addition, the function of total inspection is built in the process. However, quality consciousness of the Republic's company is low. Since they consider function as the principal element of quality, performance inspection is the point in quality control.
- (3) Raw materials: Basically, the Republic's electric/electronics makers import all metallic materials--iron, copper, brass, aluminum, silicon steel sheet, etc. and auxiliary

materials such as insulating paper, sheets, paints, rubber, chemicals and most of electric and electronic parts. By contrast, they manufacture all machining parts for themselves. Thus, they use machining parts and components which are 100% made by themselves and electronic parts which are 100% imports. The demand for material quality is not strict. Obtaining raw materials, rather than product quality, is a matter of great concern.

(4) Sales and marketing: The companies do not have any division for collecting market information. Every owner feels the need for an organization, financial power, and know-how for marketing the needs of individual users. Since the total demand in the domestic market is limited, the industry should consider increasing exports to other CIS nations.

(5) Business administration: The companies do not have marketing, sales, and purchasing departments, hence they badly want information. Neither they have developed new sales and purchasing routes.

(6) Semiconductor Industries: Semiconductor Industries in KYRGYZ have the following two places of business as Enterprises affiliated under KYRGYZALTIN. Details of which are described in the Main Report.

- TASHKUMYR Semiconductor Factory (Polycrystal Silicon Production Factory)
- KYRGYZ Mining & Refining Kombinat (Rare-Earth Element Refining, Single-Crystal Silicon)

4.4 Textile Industry

Thirty percent of industrial output comes from light industry, of which the textile industry accounts for 73%. Basic materials, wool, cotton, and silk, are produced locally. Due to low market priority of raw materials, high quality raw wool and cotton are sold to outside the country and are difficult to obtain locally. Process equipment is installed and arranged in a systematic manner with a certain level of balance. Machinery and equipment is deteriorated due to aging and is poorly maintained to adversely affect productivity and quality.

The degree of adaptation by management to market economy varies among enterprises, reflected in difference in performance. Factory operation and management systems

(quality control, production, cost, finance) do not function well to prevent smooth operation. Management strategies are not established well, lacking consistency in management. Little cooperation within the industry and uncoordinated action of factories to result in wasteful use of resources

4.4.1 Wool Industry

- (1) **Production:** Medium-grade products with volume demand are mainly produced. Quality is better than Chinese wool but less than Turkish and Pakistan products. Yarn quality is below the average level of products in development countries, due to unevenness of yarn, fluffing, and lack of tensile strength. Fabrics quality is not good due to unevenness of yarn, hard feeling and poor tone. Dye finishing techniques need to be improved.
- (2) **Financial:** Lack of operating fund to result in insufficient procurement of materials. Low operating rate squeezes on profitability.
- (3) **Sales:** The wool industry exports 70-80% of their products, but many deals are of barter type in exchange for products, machine parts, dyes, and chemical agents. Lack of information on consumer needs and fashion trends. Weak sales organization to result in lack of marketing. Lack of product development capability and shortage of staff. The domestic market is dominated by import products, while domestic products are increasingly establishing reputation. Exports of fabrics under joint venture with Italy do not progress as planned.
- (4) **Management:** Major challenges are consolidation and streamlining of large factories.
- (5) **Operating environment:** To increase sheep stock and improve quality, farmers have started activity through cooperatives by obtaining World Bank loans of US\$16.7 million.

4.4.2 Cotton Industry

- (1) **Production:** Raw cotton is suitable for producing ordinary quality fiber. Most suitable for medium-grade products in the volume zone. Fiber quality is lower than the average due to unevenness of yarn, fluffing, lack of tensile strength. Fabric quality is not good due to unevenness of yarn, hard feeling and poor tone. Equipment is aged

and poorly maintained. Low level of production technology

- (2) **Financial:** Shortage of operating fund leads to the shortage of raw materials and other procurement.
- (3) **Sales:** The export ratio is 20-30% for the cotton industry as a whole. Sales organization is weak, more so at large factories. Information on consumer needs and fashion trends is lacking, not reflected in products. Smaller enterprises in the downstream face declining operating rates due to the shortage of cotton fiber and textile.
- (4) **Management:** Poor management ability and the lack of understanding of the market mechanism. Lack of competitive efforts in quality, technology, cost, and product development. Efforts should be focused on consolidation of large factories and efficient management. Labor management and cost control are not done well. Profitability is on the decline.
- (5) **Operating environment:** Education and training systems are not established, and technology accumulation and standardization are left behind. Cotton cultivation is on the rise partly due to government's promotional measures. There are many factories in the downstream, including cotton fabrics, knit and sewing factories, and stable supply of raw materials is important.

4.4.3 Silk Industry

- (1) **Production:** Kyrgyz cocoons are poor in quality. Fiber length is a half or one third that of Japanese cocoons. Silk goods are low quality, but mixed fabrics are produced under support of strong demand.

Internationally, raw silk produced in Kyrgyz is rated in the third rank after China and India; and South Korea and Thailand. Machinery and equipment is old and deteriorated.

Production capacity is said to be 14 million m/year. At present, silk fabrics production remains at 2 million m/year, approximately 14% of production capacity.

Silkworm rearing, cocoon drying, certification, and rating systems function well, although their level is low.

- (2) **Financial:** Lack of operating fund causes the shortage of raw cocoons.

- (3) Sales: Around 40% of products are sold to neighboring countries including the FSU countries, China, and Rumania. Major competitors in raw silk export are neighboring countries in Central Asia, namely Uzbekistan, Tajikistan, and Turkmenistan.

Mixed fabrics are highly demanded, and sales are shifted from raw silk.

- (4) Management: The large, integrated production system is not suitable for market economy. Management lacks understanding of market economy.
- (5) Operating environment: Improvement of raw silk quality requires time and cost.

4.4.4 Knit Industry

- (1) Production: All the products are manufactured in accordance with quality standards in the former Soviet Union. Production equipment is a mixture of latest equipment and old equipment. Products lack expandability, softness, and fashionability which are important features of knit products. While raw wool and cotton are locally available, nylon and polyester are imported from Russia. Poor quality of raw materials prevents improvement of productivity and product quality.
- (2) Financial: Shortage of operating fund prevents smooth procurement of raw materials.
- (3) Sales: The domestic market and CIS countries are major markets. Socks and panty hoses are sold well due to the lack of competitors in neighboring countries. Poor design is a problem, and product planning capability needs to be improved.
- (4) Management: Flexible management creates a future prospect for panty hoses and stockings. Efforts should be made to introduce new equipment and develop new products under partnership with companies in industrialized countries.

4.4.5 Sewing Industry

- (1) Production: Most machinery and equipment was installed during the FSU era and is highly dilapidated. Poor quality of raw materials adversely affect quality of final products. Poor machine maintenance, while latest machinery and systems have been partially introduced. Workers' skills vary greatly between factories, and education and

training is not always provided in a systematic manner, e.g., teaching standard motions. Poor cutting techniques and dimensional accuracy indicate the need for effective operation control. Difficult to obtain sub-materials (buttons and zippers); local production is desirable.

- (2) **Financial:** Insufficient operating fund causes the shortage of raw materials and unstable factory operation.
- (3) **Sales:** Sales organization does not function well, and the establishment of an cooperative is desirable. The market is dominated by imported products. Prices are lower than Turkish and Pakistan products, while some are more expensive than Chinese products. Poor design is a cause for losing share to imported products. Improper marketing and lack of understanding of consumer needs. Poor packaging to degrade product value
- (4) **Management:** The management does not have strong interest in collecting marketing information and user needs. Concept of production management and quality control has still to take root. The contract manufacture system works well and it should be further emphasized with efforts to create own brands.
- (5) **Business environment:** Large factories and smaller factories coexist. While large factories have relatively high technological levels, smaller factories show better business results due to flexibility.

4.4.6 Non-Woven Fabric and Jute Industries

- (1) **Production:**
 - a) **Non-woven fabric:** Machinery and equipment is relatively new and is arranged into a continuous system.
 - b) **Jute:** Machinery and equipment is deteriorated due to aging, with poor maintenance.
- (2) **Financial**

Non-woven fabric and jute: Procurement of raw materials is difficult due to financial problems. Delayed payment of wage and non-payment sometimes occur.
- (3) **Sales:**
 - a) **Non-woven fiber:** Mainly sold to the CIS countries; difficult to collect payment. Lack of ability to collect market information.

b) Jute: Previously, 32% were sold to CIS and 68% to the local market; currently, 100% to CIS. There is strong demand for jute yard for drying tobacco, and jute bags for sugar, tobacco, and wool, with few competitors.

(4) Management:

- a) Non-woven fabric: Chief engineer has excellent management capability, and factory is well operated. The factory is small in size to allow flexible and efficient operation.
- b) Jute: Because of no competitor in neighboring countries, business is viable so far as export-oriented management continues.

(5) Business environment:

- a) Non-woven fabric: As waste materials are used, high value added is obtained from products.
- b) Jute: Although supply of raw materials must depend upon foreign sources, business can be supported by strong demand, so far as more than 80% of products are exported. Extensive market research has been conducted to support export promotion.

4.5 Leather and Fur

All of leather tanneries, fur dressers, shoe plants, rubber foot-wear factories visited were in very slow operation due to lack of raw hides and skins, and lack of operation fund. Leather tanneries were operating roughly thirty percent including "wet blue" (semi-finished products) and fur dressers were operating about forty percent of their normal capacity, while shoe factories were working ten percent or less, especially leather shoe, less than 5 %.

80 to 90% of the hides and have been bought by cash, and been flown out of the Republic under illegal channels by Chinese, Turkish and other traders. These illegal trades are done mainly for tax escape, but also unable to neglect for the background is that the distribution systems have been collapsed through the drastic systematic changes, i.e., government-managed enterprises became private-owned ones, and collective farms were divided into many individual farms.

Above mentioned two problems, lack of raw materials, and lack of working capital should be solved simultaneously. Decrease of illegal trade only would not help fund-lacking enterprises, and some addition of working capital only would not be used

effectively if raw materials are still difficult to obtain.

The present low operation rates cause not only decreasing the production amount but also pulling down the stability of quality as well as workmanship. It is also observed that shortage of raw materials gives serious influence on low-efficiency in manufacturing and marketing.

4.6 Food Processing Industry

(1) Production: The food processing sector of the Republic can be divided largely into three types based on target market, plant scale, and location:

a) Factories which were politically built as a base for supply of foods to the whole market of the FSU. Even by international standard, these factories are large in scale. Formerly, they were processing large volumes of raw materials which were locally available abundantly. Now, however, they are dependent much upon imported raw materials. (Sugar refineries, sugar-making plants, and corn starch plants are included in this category).

b) Factories built to supply foods to their local market and markets of the neighboring countries. In terms of the scale of production, they fall between a) and c) described below. They are located in areas where raw materials are readily available. (Dairy goods production plants and seasoned meat packing plants are included in this category).

c) Factories built to supply foods exclusively to the market in their locality, hence they are located in areas where raw materials are readily available. (Bbakeries, confectionery plants, breweries of alcoholic beverages , and makers of soft drinks.

Type a) factories are having difficulty in procuring raw materials locally, and their average annual operational rate has remained at about 10% of capacity. In particular, the sugar manufacturing industry imports bulk sugar from abroad and concentrates on sugar refining with low value added. Nevertheless, since the industry has no competitors in any other CIS nations, the volume of sugar exports is expected to increase dramatically if the domestic production of sugar beets recovers. A corn starch/malt syrup plant has been left as it is since the supply of funds was stopped after the independence of the Republic.

Type b) factories are in nearly the same situation as are Type a) factories. The dairy

product plants and meat packing plants have been forced to cut production due to a decrease in volume of raw material milk produced domestically and in number of heads of beef cattle brought to the slaughter-house.

Type c) factories, aiming at the small market in its locality, have not been forced to cut production significantly. Even so, they, too, are having difficulty in procuring operating funds. On the other hand, in the confectionery and bakery industries in which even newcomers with small capital can start business easily, the existing factories fail to compete, in terms of product price, with very small companies and private concerns which are increasing in number recently.

- (2) Technology and development capacity: Processed foods of the Republic are mostly fundamental foods and hence, the degree of processing and the value added are not very high. At the present stage, the food processing industry does not seem to have any advanced technology. What degrades the processed foods of the Republic is not the contents themselves, but the auxiliary materials used, such as labels, bottles, caps, and cans. Another major problem is production equipment having poor processing accuracy, especially the filling and labeling machines.
- (3) Food hygiene: Food processing plants in Kyrgyz lag behind in sanitary control. Major problems are seen in poor plant layout and the lack of hygienic awareness among workers. The lack of hygienic awareness among workers at food processing plants is seen in many respects, e.g., workers wear dirty uniforms, and they do not wear white coats, caps, gloves, or masks.
- (4) Marketing and information collecting capacity: It is marketing and information collecting capacity that the food processing industry seems to want most now. What the market really needs, or "what product sells," can roughly be grasped by surveying and analyzing the prevailing market trends. The Republic's industry does not seem to have this idea.

The food distribution system in a broad sense ranges from procurement of raw materials to delivery to consumers. At present, food is distributed through a web of channels. After the traditional distribution system has disappeared, manufacturers who face financial difficulty have lost control of what and how they produce, which was taken over by distributors who have financial resources to purchase raw materials. It has become a widely accepted business practice that distributors supply raw materials to manufacturers and receive final products as payment.

In Kyrgyz, the lack of a modern distribution system, such as the cold chain (freezer and refrigerator cars and supporting facilities), shortens shelf life of food products. Also, most retail facilities do not have refrigerators or freezers.

4.7 Other Industrial Subsectors

Manufacturing industries other than the machinery, electric & electronics, textile, sewing, and leather & fur industries in the present study were classed into "other industries." With the exception of woodwork & furniture makers, they all belong to the process industry. Many of these companies are large in scale and their machines and equipment are obsolescent. Because of weak demands and raw materials problems, they lack in vigor and their equipment utilization rate is low.

Many of the large companies still place emphasis on production, rather than marketing, and on production volume, rather than product quality. In the future, they will have to learn and practice aggressive management based on the principles of market economy.

(1) Quality:

Sheet glass plant: The packing materials and packing method leave room for improvement. According to a plant worker, about 10% of sheets break during packing or transportation.

Cardboard plant: The plant does not have DIP equipment, the pulp is adjusted incompletely, the color tone and smoothness of cardboard are poor, the pressed cardboard is hung over a pole for natural drying. Any product made by such a process can hardly have desired marketability.

Paint factory: This factory produces paint exclusively for the domestic market. Quality control is insufficient and the product has no labels.

Plastics plant: Molded products have poor finish. Excessive film thickness and too thick walls of molded products cause not only quality problems but also wasteful use of resin.

(2) Technical Development Potential:

Rockfiber plant: This plant manufactures rock fibers from domestically produced basalt. The manufacturing technology the company employs was developed locally in FSU era. The company has technology for manufacturing microfiber (very fine, short fiber), as well as short and long fibers. Though this company is a small one, it has an

R&D department which is active in developing new products and applied products. At present, two lines of short-fiber production equipment are in operation. The company has its own technology, uses domestically produced raw material, and is capable of manufacturing rock fiber at low cost. If it can develop new products, it has a very bright future.

(3) Sales Force:

None of the companies surveyed pay due attention to sales problems. Nor do they have an established sales organization, responsible sales managers, and effective sales strategies. They do not study competing products either. There are still many things they should study--price, product quality, design, advertisement & publicity, distribution, etc.

(4) Raw Materials:

In many cases, Russia is the largest source of raw materials as before. Therefore, the major problems pertaining to the supply of raw materials include: the crippled production and distribution systems in Russia; the difficulty in settling accounts by foreign currency; and the shortage of funds. In order to establish stable production, distribution and sales systems in the future, it is necessary to diversify the supply sources of raw materials, including those in the Western bloc, obtain the latest market information on a stable basis, and establish an efficient procurement system.

5 Industrial Development Plan

The most important and urgent task of the Kyrgyz government is to revitalize the country's staggering economy that struggles to transform itself to the market system by invigorating industrial production, thereby to rebuild the manufacturing industry as the foundation of its economic base. To do so, the country must reconstruct the economic and industrial structures that have been built to serve the interest of the Soviet Union under the doctrine of central planning, so that the country can grow as an independent country at its own will. More precisely, it must build its foundation from the beginning under the market principle while casting off all of the old economic development policies and principles. Industrial redevelopment, as sometimes used here, must be industrial development aiming at construction of viable production systems that are firmly founded upon the country's own environment, history, culture, society, economy, and resources, rather than reconstruction of dilapidated production systems into the original state. In this chapter, an attempt is made to design and propose an industrial development plan required to establish the country as an industrial country in the context of market economy, by taking into account country's geographic, social, economic and industrial conditions and major issues as well as challenges, which were identified in the previous chapter.

5.1 Industrial Development Potential in Kyrgyz and Major Issues

5.1.1 Key Factors Governing Industrial Development Potential

Key factors in promotion of industrialization in the country, among those listed in the previous section, as well as major issues working against it are described as follows.

- (1) Political, social and economic factors
- 1) High expectation for an industrial country
- 2) Strong support from international organizations and industrialized countries
- 3) High educational level
- 4) Young population
- 5) Industrial engineers and skilled workers
- 6) Controlled inflation and stabilized currency
- 7) Well-developed tertiary industry
- 8) Foreign investment law
- 9) New financial institution
- 10) New taxation system

11) Infrastructure development

- (2) Potential related to industrial resources**
 - 1) Hydropower**
 - 2) Coal resource**
 - 3) Non-ferrous metal resources**
 - 4) Non-metallic mineral resources**
 - 5) Stock raising**
 - 6) Other natural fiber materials**
 - 7) Industrial facilities and equipment**
 - 8) Industrial technology**
 - 9) Management**
 - 10) Supporting industries**

5.1.2 Major Problems Impeding Promotion of Industrialization

- (1) Problems related to social and economic environment**
 - 1) Sluggish industrial production**
 - 2) Discouraging result of foreign investment**
 - 3) Macroeconomic problems**
 - 4) Taxation system**
 - 5) Policy measures impeding exports**
 - 6) Poor pollution control measures**
 - 7) Deteriorated infrastructure**
 - 8) Ineffective privatization**
 - 9) Financial institutions and market with weak base**
 - 10) Lack of modern accounting system**
 - 11) High interest rates**
 - 12) Uncertainty about the future of the tariff union**

- (2) Unfavorable conditions for operation of manufacturing industries**
 - 1) Dependency on imported materials**
 - 2) Small domestic market**
 - 3) High transportation cost**
 - 4) Shortage of money supply**
 - 5) Chain reaction bankruptcies**
 - 6) Excess capacity**

- 7) Lack of sales and marketing organizations
- 8) Deteriorated production facilities and equipment
- 9) Lack of modern management skills
- 10) Insufficient technical support for industries
- 11) Lack of interindustrial linkage

5.2 Direction of Industrial Development

5.2.1 Heavy and Chemical Industry

Kyrgyz is located in a mountainous area which hinders the development of transport access to neighboring countries and within the country. This makes the country disadvantageous for industries to locate, which require volume transportation of raw materials and products with low unit prices per weight. Similarly, the small domestic market (small population) is not suitable for large-scale, capital-intensive, export-oriented industries which require imports of raw materials from foreign countries due to the lack of local sources, such as petrochemical, steelmaking, and paper making. On the other hand, there are capital-intensive industries which are viable to be operated in the country, including coal chemical industries which have domestic raw material sources (e.g., tar, carbide, chemical fertilizer, ammonium, methanol), ceramic industries including cement and sheet glass, and energy resource-based industries (soda, aluminum smelting, and polycrystal silicon production). It should be noted, however, that these products are international commodities and can compete with neighboring countries who may also choose to establish similar industries, so that each product needs to be carefully evaluated to determine its economic feasibility in competitive environment.

5.2.2 Light Industry

The most feasible light industry in the country is textile using wool materials. Since the FSU era, sheep farming has been the country's prominent industry which has integrated processing facilities within the country. The industry will be able to become a major export industry serving Western countries if the production system is modernized for quality improvement and development of advanced products. Similarly, the cotton industry can utilize local raw materials which production is smaller than that in Uzbekistan and Pakistan but large enough to support domestic production. It can also rely on import from Uzbekistan when the need arises, far better than the situation in Southeast Asian countries which cotton industries have to obtain raw materials from remote sources. Finally, the silk industry has still to overcome poor quality of fiber. As efforts should start

from the improvement of cocoon quality, it will require some time before the entire industry can be fostered.

5.2.3 Machinery and Electrical/Electronics Industries

These industries need to import most of raw materials, and thus their value added comes from labor force, technology, and equipment. One possible exception is the semiconductor material (poly-crystal silicon) industry which may be able to deploy from the downstream (raw material) to the upstream. If technical and financial issues are solved, the industry will be able to become one of the few integrated industries in these subsectors. General strategic direction is to develop marketable products for neighboring countries by using existing facilities and equipment (mainly assembly lines) as well as technology, while establishing the flexible production system that can meet market needs through restructuring of existing assets and resources. As part of such efforts, machining shops of large state enterprises, which have excess capacity, need to be separated and privatized to small- and medium-sized enterprises who can serve as subcontractors using divested machinery and equipment.

5.2.4 Supporting Industries

As discussed in the previous section on machinery and electrical/electronics industries, manufacturing industries in Kyrgyz are characterized by self-sufficient supply systems for parts and components. These captive machining shops are not fully utilized and usually lag behind in level of production technology because they only manufacture for internal customers. In particular, machining shops in the machinery and electrical/electronics industries are mostly idling because the industries suffer plummeted capacity utilization rates. They can be saved from waste by selling individual machinery and equipment to private enterprises through the privatization process, who will in turn become subcontractors to supply products to a variety of industries. To foster new subcontractors at the infancy stage, cooperative initiatives to complement each other (joint subcontracting, joint purchase, etc.) need to be encouraged and promoted, together with government support in terms of subsidy and concessionary loans. If properly nurtured, these supporting industries are expected to supply parts and components which are now imported by most of industries (e.g., agriculture, mining, transportation, manufacturing). Also, they have a high potential to develop into suppliers for similar industries in neighboring countries.

5.2.5 Food Industry

While agriculture and stock raising are the primary economic base of the country, supply of agricultural products is limited due to the shortage of farmland and fails to meet the country's demand. Although agricultural policy must be discussed from various points of view, food processing is surely an important industry for the country. Also, boosting self-sufficiency rates for processed food products will be important to save foreign currency reserves, and efforts should focus on high value added products and localization on a step-by-step basis. On the other hand, the ability to export processed food products including dairy can be judged from price competitiveness in international markets, although Kyrgyz has comparative advantage in a few products when compared to neighboring countries including Kazakhstan. Thus, the food industry should be initially positioned as the import substitution industry.

5.2.6 Other Industries

Other areas which require development strategy for key industries are found in localization of industrial materials by using underdeveloped local resources and the development of new industrial products. In addition, non-resource based industries using human resources may have some prospect, including process industries, computer software development, design, and research and development.

5.3 Vision for Industrial Development in Kyrgyz

Significance of industrialization in economic development is found in the fact that the manufacturing industry has a higher development effect than any other industrial sectors in terms of productivity and value added. Also, industrialization has a number of benefits including preservation of foreign currency reserves by local production of industrial products, creation of foreign currency revenue sources in the form of merchandise export, the ability to create large employment opportunities and absorb the jobless, utilization and value-added processing of locally available resources, dissemination of industrial technology and the rise in educational levels, and modernization of people's lifestyle.

Before its independence from the Soviet Union, Kyrgyz already focused on the manufacturing sector in its economic policy. In the recent few years, however, manufacturing activity has declined dramatically to seriously affect the economy and society. Now the Kyrgyz government and people strongly desire recovery and resumed growth of industrial production.

Major raw materials and components essential for the country's economic activity are

mostly imported, including petroleum and petrochemical products, natural gas, steel plates, synthetic fiber, and plastics. The country recorded a deficit in merchandise trade in 1993, and after turning to a surplus in 1994, went back to a deficit in 1995. The trade deficit adversely affects the current account and government finance, making the improvement of trade balance an urgent task for the government. After the Second World War, Japan and many other war-damaged countries were able to overcome economic difficulties by exporting industrial products produced from their own resources or processed products, which earned them hard currency.

"Long-term Economic Plan Toward 2005" announced in May 1996 sets forth four goals for 1996-1998; "further effective use of domestic resources (including manpower resources and existing production facilities and equipment);" "expansion of production capacity;" "increase in employment;" "improvement of environment to attract foreign investment." Analysis of the four goals indicates high expectation for "promotion of domestic resource-based industries."

Having established the primary objective of industrialization to earn foreign currency through exports of industrial products, the study team developed a vision for industrial development by taking into account upper rank economic development plans, development potentials, issues, and direction of industrial development identified above. The vision is as follows; "to earn foreign currency by exporting industrial products, produced by existing industrial subsectors using locally available resources, and/or to promote local production of currently imported products, and in the meantime to identify and foster non traditional type industries, non-resource based industries and new industries based on domestic resources that are capable of supporting sustainable growth."

5.4 Selection of Prospective Subsectors

To realize the vision for industrial development, series of actions are required:

(1) As for existing subsectors:

1. To select and foster subsectors which are suitable for product export;
2. To select subsectors which have the potential ability to export products after necessary restructuring, and to devise and implement appropriate measures; and
3. To select subsectors which can supply products substituting imports, and to promote and foster them.

- (2) To identify and foster non-resource based industries capable of supporting sustainable growth in future.

In this section, criteria for subsector selection were established, and based on which, and evaluation of candidate subsectors and selection of prospective subsectors were carried out.

These actions can be classified into short-term measures in (1) 1) and 3), intermediate-term measures in (1) 2) which require a longer period for restructuring, and finally long-term development projects in (2) to identify and nurture new industries.

5.4.1 Criteria for Selection of Prospective Subsectors

Since the Kyrgyz government's financial resources are limited to prevent broad-based promotion and assistance for many industrial subsectors, it is imperative to use limited resources by selecting certain subsectors that have high growth potential and viability, and providing promotional and fostering measures in a phased manner.

The study team established the following five factors as criteria for selection of prospective industrial subsectors, which were determined on the basis of comparative advantages and limiting factors related to industrial development in the country, as identified in 5.1:

- (1) Availability of raw materials (high rating for locally available raw materials and low rating for imported ones);
- (2) Applicability of existing technology and human resources;
- (3) Availability of existing production facilities and equipment;
- (4) Demand (domestic and export markets); and
- (5) Product quality and price.

Note that data related to criteria in (4) and (5) are not available, so that the study team made subjective judgment on the basis of information obtained from interview, observation, and other sources.

5.4.2 Evaluation of Candidate Subsectors and Selection of Prospective Ones

(1) Textile industry

The textile industry has its largest comparative advantage in availability of local resources that can be used as raw materials. Also, both the wool and cotton industries are

traditional industries in the country and possess related facilities, equipment, technology, and manpower, which can be utilized to create value added within the country.

Also, managers of some enterprises in the subsector recognize what competition means under market economy through their own export experience. They are willing to adapt themselves to the new business environment brought by market economy, and in fact, they earn some profits and have the ability to mobilize financial resources for new projects, compared to other subsectors.

The sewing and knit industries have also an advantage in having local supply sources of the wool and cotton industries. In addition, some enterprises have been exposed to the principle of market economy to "supply quality goods at a low price" as they have received assistance in management and technology through subcontracting from European companies, which form the basis of working toward international quality and design standards.

On the other hand, the silk industry - another traditional industry in the country - has quality problems related to cocoons, which set off comparative advantages in availability of local resources as well as equipment, technology, and manpower, thus weakening international competitiveness.

In overall consideration to the clear comparative advantages, general understanding of the new business environment by managers, their willingness to meet challenges caused by the new environment, and relatively rich financial resources for future business expansion compared to other subsectors, four industries - wool, cotton, sewing, and knit - were selected as subsectors to be promoted for export promotion.

(2) Machinery industry and electrical/electronics industry

As discussed in Chapter 4, most enterprises in the machinery and electrical/electronics industries in Kyrgyz have all-round production equipment, technology, manpower to produce almost all types of products. On the other hand, they import approximately 90% of raw material requirements from the CIS countries, while demand for their products has been declining due to the lack of international competitiveness in quality and price. As a result, their production resources are largely idling and capacity utilization rates are very low.

The study team selected the machinery and electrical/electronics industries as a subsector which can be developed to major exporters if effective restructuring is carried out. In addition, there is an opportunity for a new industry, production of poly-crystal silicon which has a major comparative advantage in cheap electricity, while its principal application - silicon wafer - is supported by worldwide strong demand. This area requires short-term promotional efforts for development.

(3) Fur and leather industries

Similar to the textile industry, the subsector has advantages in local availability of raw materials as well as process equipment, technology, and labor force.

On the other hand, sheep stock has been on the decline to result in shortage of raw skin, and high quality sheep skin is mostly bought by foreign buyers.

The study team identified the subsector to be developed for important substitution purpose for the time being, with the medium-term objective of becoming the export industry.

(4) Food processing industry

Again, the subsector has comparative advantages in availability of raw materials as well as process equipment, technology, and labor force.

A major disadvantage is the shortage of raw milk for production of dairy products.

The study team selected the food processing industry as one of import-substitutive subsectors.

(5) Other subsectors

As mentioned in Chapter 4 (4.7), this subsector mainly consists of capital-intensive industries, which are large in size and use deteriorated machinery and equipment. While these industries should preferably be located near sources of raw materials, they have sited in Kyrgystan on the basis of the industrial allocation policy during the FSU era, with little comparative advantage. Only rock wool production can benefit from local resources, and sheet glass, cement, rock wool, and plastics industries have some advantage in existing equipment, technology, and labor force.

5.5 Strategies for Promotion and Fostering of Prospective Subsectors

5.5.1 Textile Subsector

(1) Short-term strategy

This subsector has been selected because it appears to be promising in comparison to other subsectors, and it cannot export products immediately. To convert it to the export industry, the subsector requires preparation in the following areas.

1) Securing of high quality materials

At present, wool and cotton are collected by local enterprises from producers. However, purchase prices are lower than those of Chinese and other foreign brokers,

and high quality materials are sold to brokers. Since raw materials are the most important factor in determining product quality, efforts should be made to secure high quality materials, particularly by establishing an appropriate material rating system and a pricing mechanism to establish fair purchase prices based on quality ratings under cooperation of the Ministry of Agriculture. Until these systems are established, exports of wool and cotton may be banned as transitional measures. Also, it is important to forecast annual harvest for price stabilization. The rating system can be developed under cooperation of International Wool Secretariat (IWS) for wool, and International Cotton Advisory Committee (ICAS) for cotton.

2) Consolidation of operation and streamlining of management

To leverage the advantages of the subsector, individual enterprises need to adjust their production capacities to maintain economic viability. To this end, the existing production capacities of major enterprises need to be consolidated as follows:

- a) Wool scouring factory (Ak-Bula): To replace the existing five lines with a new line.
- b) Wool knit fiber factory (Kasiet): To consolidate the existing capacity into one third the present level.
- c) Integrated cotton processing factory (Osh Cotton Factory): To consolidate the existing capacity over all the processes into one third the present level.
- d) Integrated wool processing factory (Kantol-Nootu): To consolidate the existing capacity into one half the present level.
- e) Integrated knit factory (Ilbirs): To divest into smaller specialized manufacturers.

3) Financial assistance to supplement working capital

As seen in the textile industry as a whole, the shortage of working capital prohibits the purchase of raw materials and machine components, resulting in shorter operation and product defect due to poorly maintained equipment. Bridge loans by public financial institutions will be an effective means to supplement working capital. Financial sources required for this assistance are estimated at around \$4 million for purchase of raw materials, and another \$4 million for machine parts.

4) Establishment of trade organization

To promote mutual support and information sharing among textile companies and to serve as a vehicle for export promotion, a trade organization such as Textile Industry Federation of Kyrgyz should be established.

The trade organization will be responsible for the following activities, in addition to

the securing of high quality raw materials, each of which will required MIT's support.

5) Education and training related to corporate management and marketing

Most owners and managers of enterprises did not have a chance to learn about corporate management and marketing skills and techniques that are essential in market economy. Major education and training methods are as follows:

- a) Overseas training at world-class textile companies;
- b) MIT's training institute which provides corporate trainees with a variety of training including field experience at a model factory; and
- c) Visiting consultation and assistance by advisors of the training institute for enterprises at their own facilities.

(2) Medium- and long-term strategy

For the textile industry to compete in international markets, the following measures are required on the medium- and long-term basis.

1) Establishment of model factories

Model facilities will be introduced to major factories in the wool, cotton, and silk industries (Kanovol-Nootu (wool), Osh Cotton (cotton), and Ak-Jhibek (silk), one line each, to be used as a basis of improvement of production technology toward world levels.

2) Improvement of the domestic distribution system

3) Alliance with foreign companies and attraction of direct investment

4) Learning the skills related to product planning, development of original fashion, and market research

These skills, not required under the centrally planned economy, are essential in market economy. Efforts should be made to learn and disseminate these skills throughout the industry.

5) Introduction of polyester fiber production equipment

Polyester fiber products, currently imported, are essential materials for blending with wool or cotton. To ensure stable supply of polyester fiber in terms of both quality and volume, a small production plant with dairy production capacity of around 5 tons will be constructed to produce polyester fiber from imported material chips.

5.5.2 Machinery and Electrical/Electronics Subsector

(1) Short-term strategy

As discussed in 5.4.2 (2), the study team selected the subsector as it is expected to become a major export industry through restructuring which requires a certain period of time. In addition, the subsector includes poly-crystal silicon production which needs to be promoted urgently to capitalize on worldwide demand for silicon wafer.

1) Operation of Tashkumyr Polycrystal Silicon Plant

As mentioned in Chapter 4, the Tashkumyr polycrystal silicon plant will become operational if additional investment of around \$20 million is made. For this purpose, alliance with a foreign company with related technology and funds is the feasible way to complete the plant. Although the plant has various other problems, priority should be placed on early completion of the plant, which requires investment. By start of the plant operation, 600 to 800 metric tons of polycrystal silicon can be produced annually. The product can be exported as materials for solar battery or for feed for production of monocrystal silicon, and at least \$30 million per annum of income will be expected. On the other hand, regarding the production of monocrystal silicon in Orlovka plant should focus on production of larger diameter of ingot (the current 6-inch to 8 or more inches in diameter) and/or volume production of solar battery as the medium-term strategy.

Meanwhile, long-term strategy is production of semiconductor products (ICs). Either of the cases, however, technical and commercial tie-up with partner(s) in the advanced country is pre-requisites.

2) Improvement of capacity utilization rate for existing factories.

Although they require rehabilitation, the existing factories should be operated as far as they can for the time being. Their capacity utilization rates can be boosted by manufacturing products that meet demand in the country as well as neighboring countries, as monitored on the basis of market study.

3) Establishment of trade organization

A trade organization (a tentative name "Electric-electronics Machinery Industry Association: EMIA) will be established to serve as a procurement and marketing arm of the industry (product marketing and procurement of materials and parts), a place for information exchange within the industry (procurement, machine repair, new equipment and investment, idling facilities and equipment, and product information), and provide financial service including financing and loan guarantee for financial institutions.

4) Market research and exploration

Market study and development activities should be started as industry-wide efforts in addition to individual enterprises. These activities will determine the direction of product planning and design, and investment.

5) Management education on corporate management skills

After privatization, enterprises are required to assume management functions, and managers are expected to learn corporate management skills. In particular, procurement and sales functions cannot be learned from the government and need to be mastered by self-help efforts of individual enterprises.

6) Listing of key production techniques, facilities and equipment, and human resources owned by individual enterprises

This is required to proceed with reorganization and reallocation of equipment and manpower related to key production techniques, such as electroplating, die making, plastic molding, casting, and heat treatment, owned by individual enterprises.

(2) Medium- and long-term strategy

1) Corporate restructuring

Restructuring will be carried out in the following three areas:

a) Consolidation of enterprises: Enterprises in this subsector are generally large in size and share many production processes (key production techniques) with each other. Their machinery and equipment is similar. At present, these machinery and equipment are operated at below 10% of full capacity. Thus, consolidation of these enterprises having duplicated resources is desirable to ensure the effective use of resources in the industry. The consolidation process will involve a lot of coordination work to determine which enterprises will survive to maintain resources, which facilities and equipment will continue to be used, as well as demand forecast for products and estimation of production capacity.

b) Divestiture of enterprises to establish specialized manufacturers: Reorganization and reallocation of equipment and manpower related to electroplating, die making, plastic molding, casting, forging and heat treatment should be promoted in an attempt to create enterprises specializing in each process. In fact, the industry has already started such move and FRUNZE has sold approximately 10% of machinery and equipment to 31 private enterprises through auction, which are operated as outside processors. This is regarded as a model case for this subsector.

c) **Consolidation of production capacity:** The rapid decline in production has left most enterprises to hold excess capacity. To reduce fixed costs and raise productivity, existing facilities and equipment should be evaluated from their need for operation, and disused ones must be sold or otherwise disposed for efficient capacity utilization.

2) **Preparation for expansion of export**

This will involve the strengthening of trade staff, the development of product sales and service networks to the CIS countries, and the upgrading of transportation systems. Significant financial commitment involved will make it desirable to be carried out by trade organization, rather than a single enterprise.

3) **Major investment**

As exports to neighboring countries grow to a certain level, investment for capacity expansion becomes necessary. In addition to the addition of production lines, investment related to productivity and quality improvements will become desirable. At this stage, business expansion to parts production as well as electronics will be considered.

5.5.3 Food Processing Subsector

This subsector has been selected as the import substitution type. In the short run, efforts will be made to build up capacity to meet domestic demand, and if an opportunity arises, the subsector should develop to the export industry.

(1) **Short-term strategy**

1) **Strengthening of alliance between related ministries**

To effectively lead the food processing industry, the Ministry of Agriculture must have basic functions including the monitoring of producers, collection of statistical data on production of raw materials, the establishment of treatment and processing technologies including "post harvest," hygienic control, policymaking, and budgeting. It is recommended to organize a council consisting of related ministries and agencies for this purpose in order to ensure effective inter-ministerial linkage.

2) Improvement of the distribution system

Analysis of the situation indicates that, if the adequate distribution system was available, a significant loss of products between producers and consumers could have avoided to reduce imports far below the current level. It is an urgent task to develop a distribution system including the cold chain in order to make agricultural products effectively available to primary consumption and processing.

3) Hygienic education for safe food supply

The food processing industry is mandated to supply safe products to consumers in addition to stable supply. In particular, education on "Good Manufacturing Practice (GMP)" needs to be promoted for the food processing industry.

4) Localization of key agricultural products

Major chicken farming and egg production complexes in the country have been forced to discontinue production due to poor performance caused by government control on poultry and egg prices, the shortage of feed caused by insufficient working capital, and the lack of animal medicine (mainly antibiotics for prevention of infectious diseases). Domestic demand is now mostly met by imports from Kazakhstan. Also raw milk for dairy products is in shortage.

Production of basic agricultural products including chicken, eggs, and raw milk, which can also be used as processing materials, needs to be resumed as early as possible for the purpose of saving foreign currency.

(2) Medium- and long-term strategy

- 1) Establishment of trade organization
- 2) Market study and development

To be prepared for exports to neighboring countries, market study and development activities need to be started.

5.5.4 Other Industrial Subsectors

(1) Short-term strategy

- 1) Fur and leather industry

Since the domestic market is the industry's major target, development of a distribution system for raw skin and products is required.

2) Sheet glass and cement industries

Both industries are capital-intensive and cannot maintain high capacity utilization rates by relying on the domestic market alone. To foster these industries, therefore, the development of international competitiveness holds the key. Actual measures will consist of (1) rationalization of individual enterprises, (2) introduction of effective energy saving measures, (3) process improvement, (4) local production of raw materials and fuels, (5) product diversification, and (6) market development and sales activity.

(2) Medium- and long-term strategy

1) Development of new industries utilizing unused industrial resources

In particular, the use of coal and non-metallic mineral resources will be emphasized. Industrial products to be produced will be mainly those sold to the domestic and regional markets. Government support required for these development projects will be assessment of resources, product development and commercialization, and development of related infrastructure.

Implementation of the industrial project entails the government's broad-based support. In particular, MIT's role is very important, and government reforms to maintain the support system, together with an outside support organization, must be accompanied. At present, it is very difficult, if not impossible, for the country's economy to promote these development projects, so that cooperation of industrialized countries and international organizations is essential and will have to be requested, both economic and technical, as far as possible.

5.5.5 Identifying and Fostering Non-Resource Based Industries

(1) Long-term strategy

"Non-resource based industries" in the industrial sector mean the advanced process industry based on advanced technology, various knowledge-based design services, and the software industry. All of these industries receive huge investment in industrialized countries for product development, which largely depend upon human resources, so that Kyrgyz has some development potential. In Kyrgyz, continuous activities mobilizing universities and research organizations are essential. In particular, an organization consisting of representatives of related ministries and agencies, research institutes, and universities, having the mission similar to the concept of "next-generation technology development organization," needs to be established for this purpose by allocating sizable funds.

Table 5.1.1 shows presumed implementation plan of suggested industrial projects development.

Table 5.5.1 PRESUMED IMPLEMENTATION PLAN OF SUGGESTED INDUSTRIAL PROJECTS DEVELOPMENT

Subsector	Strategy	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Textile	High Quality Material	*	****	****							
	Consolidation	*	****	****							
	Working Capital	*	****								
	Trade Organization	*	****								
	Training of Management		****	****							
	Model Factories			****	****	**					
	Distribution System			****	****	****					
	J/V with Foreigners			**	****	****					
	Market Development Skill			****	****	****					
	Polyester Fiber Plant							**			
Machinery & Electrical/ Electronics	Tashkumyr Plant		*								
	Implement of Factories		****	****							
	Trade Organization		****								
	Market Research			**	****	****					
	Management Education		**	****							
	List-up of Technology			**							
	Corporate Restructure			****	****	****					
	Preparation of Export			****	****	****					
	Major Investment							**			
	Alliance of Ministries		**								
Food Processing	Improvement of Distribution		****	****							
	Hygienic Education		**								
	Localization Key Products		**	****							
	Trade Organization			****	****	****					
	Market Research			****	****	****					
Others	Fur & Leather			****							
	Ceramic Industry Modern.			**							
	Unused Ind. Resources				****	****	****	****	****	****	****
Non-Resource Identifying & Fostering											

Note: * shows the presumed implementation schedule.

6 Policies for Conducting Industrial Development Programs and Proposal on Institutional Aspects

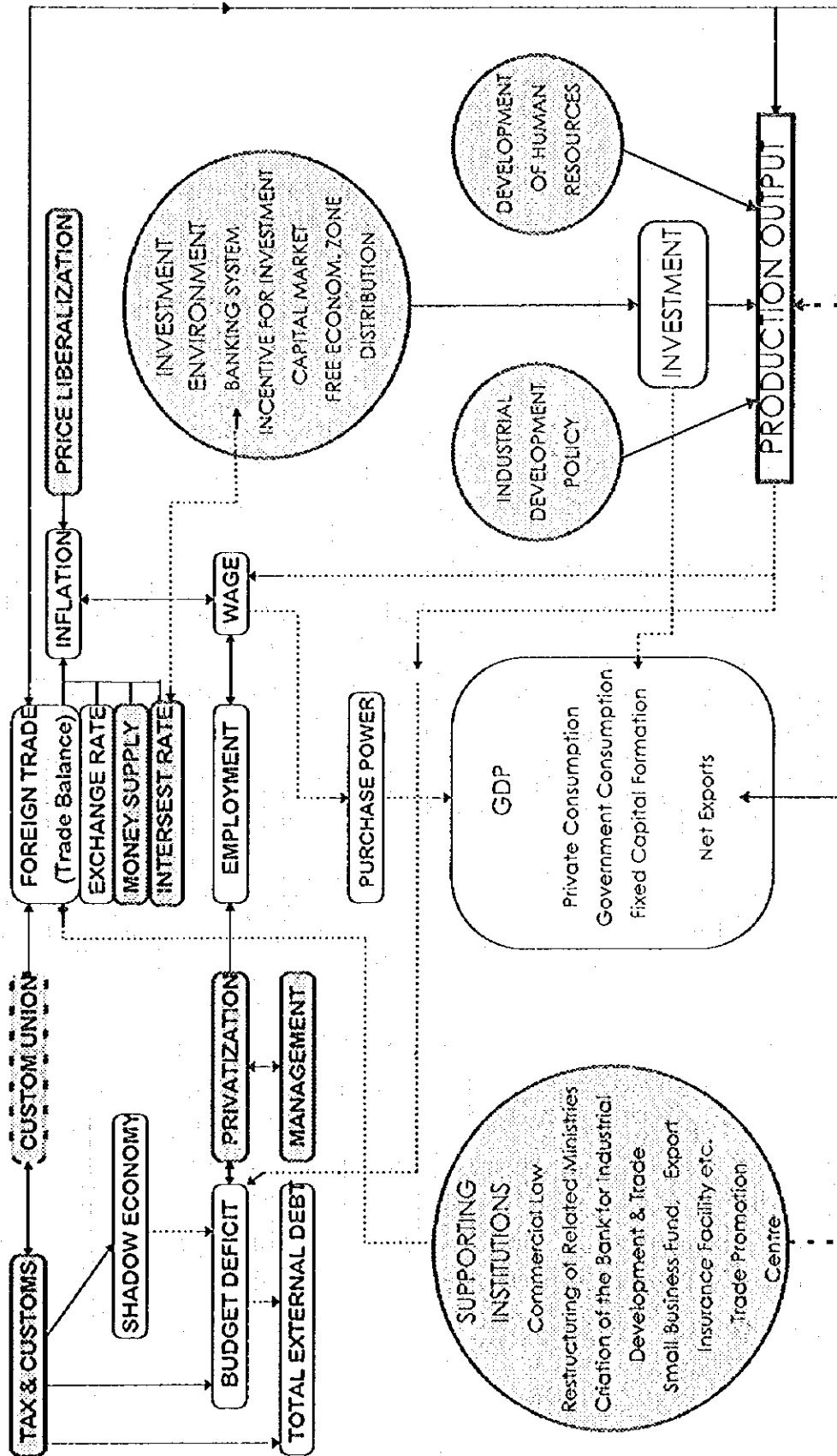
6.1 Industrial Development and Promotion Policies

It is an important duty for the government to establish necessary framework of systems to make Kyrgyz industry revive with their own idea and efforts and to improve economic environment to enable Kyrgyz industry to perform sound management.

Figure 6.1.1 shows the modeled economic structure of Kyrgyz Republic. By implementing the government policies encircled in the figure and various other policies and reforming industries with their own efforts, will lead to increase of investment → increase of production (include changes in quality) → increase of employment → increase of income → increase of purchasing power → increase of consumption → increase of GDP → increase of tax revenue. Thus the flow of economic structure should be changed to upward spiral of increase of production → activation of trade → increase of net export → increase of GDP.

To that end the measures put in the for circles in Figure 6.1.1 are essential and the reformed government organization should play active roles to realize them.

Figure 6.1.1 FLOW CHART OF ECONOMIC STRUCTURE IN KYRGYZ REPUBLIC AND NECESSARY MEASURES



6.2 Reform of Administrative Structure

6.2.1 Strengthening of Policy Making for Development of Industry and Foreign Trade

- (1) Necessity of unifying policy planning and implementation for both industry and foreign trade

In order for the Kyrgyz economy to develop and increase GDP it is indispensable that the production of the manufacturing industry increases, export of high value added commodities increases and accordingly NET EXPORT becomes surplus.

For the development of Kyrgyz economy, the policies associated with industry, foreign trade and foreign investment should be drawn up comprehensively and carried out concretely by one ministry.

In terms of function and role, MIT is not given the function as the sole governmental institution to decide policies for industrial development and foreign trade and to implement them.

Industrial and foreign economic policies are made up at a specific department in the Ministry of Economy which took over the organization and staffs from former GOSPLAN and MIT is positioned as a substantial understructure as it used to be, which executes what is decided by the Ministry or only to be questioned by the government on the result.

The Study Team proposes that the new administrative office which bears the responsibilities of the above issues should be established.

Such new organization bears the following principal function and role.

- 1) Drawing Up and Execution of Industrial Development Policy By making reference to the results of surveys of ADB and JICA Study Team, it draws up a long term industrial development program. In the short run it evaluates fields and enterprises from the standpoints of domestic and foreign markets, environment for investment, resources, SWOT, national strategy and so on. Then it selects the fields (enterprises) of priority to be supported and takes developing and supporting measures for enterprises which will be possibly rehabilitated. The new organization is also in charge of control and guidance of each industrial sub-sector and enterprises as well as industrial statistics.
- 2) Working out and implementation of foreign trade and foreign investment policies as well as making trade statistics

- 3) Improvement of Law System (introduction of commercial law, trade control, customs, industrial standard, regulation for environmental protection for manufacturing industry and so on)
- 4) Finance (Finance by the Bank of Industrial Development and Foreign Trade instituted separately as an understructure of it, and Receiving Window for aid and credits from international finance institutions and those between two nations)
- 5) Inviting and receiving window for foreign investment
- 6) Information and consulting services for domestic and foreign enterprises (through separately established foreign trade promotion center)
- 7) Investigation and preparation for signing of trade and customs agreements with foreign countries and for participation in WTO and ITC and other subjects
- 8) Reflection of intention of enterprises into policies (consultation with industrial associations to be organized by sub-sectors)
- 9) Nurture and support of small and medium-sized enterprises.

(2) Necessity of Unifying the Control Scope of Industrial Policy and Controlling Enterprises

The present MIT controls only the fields which were under the control of the former organizations unified into MIT. While the number of the enterprises which MIT controls account for more than 60% of the total number of industrial enterprises, the output of these enterprises was only 15% in 1995 and 27% in January-April in 1996 of the total output of the Kyrgyz industry.

This is because a part of state administrative organizations in the industrial field became independent, in the course of privatization, accompanied with the enterprises which had been under their control and changed into state-owned concern like [KYRGYZALTIN] and [KYRGYZGOSENERGO-HOLDING], and into joint stock company such as [KYRGYZKURULUSHIMATERIALY] and agro-industrial complex [ENTERPRISE OF PROCESSING FIELD].

These organizations are in the enterprise group which will be privatized step by step from this year and they should not play an administrative role at the same time, and should be put under the control of newly unified organization.

(3) Desirable Organization of the New Organization as well as Securing and Nurture of Men of Talent

The new organization will become the single government organization to draw out and implement industrial policies, and naturally it needs new organization and talented persons to fulfill its new roles.

- 1) The organization should be simple and flexible.
- 2) Strengthening of personnel should be conducted by screening system according to the required ability for the position. Those who are not suitable for the functions to be achieved by new organization with old way of thinking should be helped to find other jobs, and replaced with a number of young and passionate economists and lawyers.
- 3) The role of Deputy Minister will be to work out policies from broad point of view, negotiate with the government and the congress, negotiate with foreign countries, pursue human development, etc., and most part of his former duty and authority will be transferred to division directors.
- 4) It should exchange personnel on loan with other ministries, state agencies and private enterprises, so that these personnel of it may acquire broad knowledge and experiences.
- 5) Employment of new staffs should not be made through personal connections but through wide advertisement and on the basis of essay examination including foreign languages.
- 6) It should promote training of its staffs either inside or outside of the Kyrgyz Republic, or inside or outside of it. The qualification for promotion to the position should be established.

A structure chart of the new organization is shown for reference in Figure 6.2.1

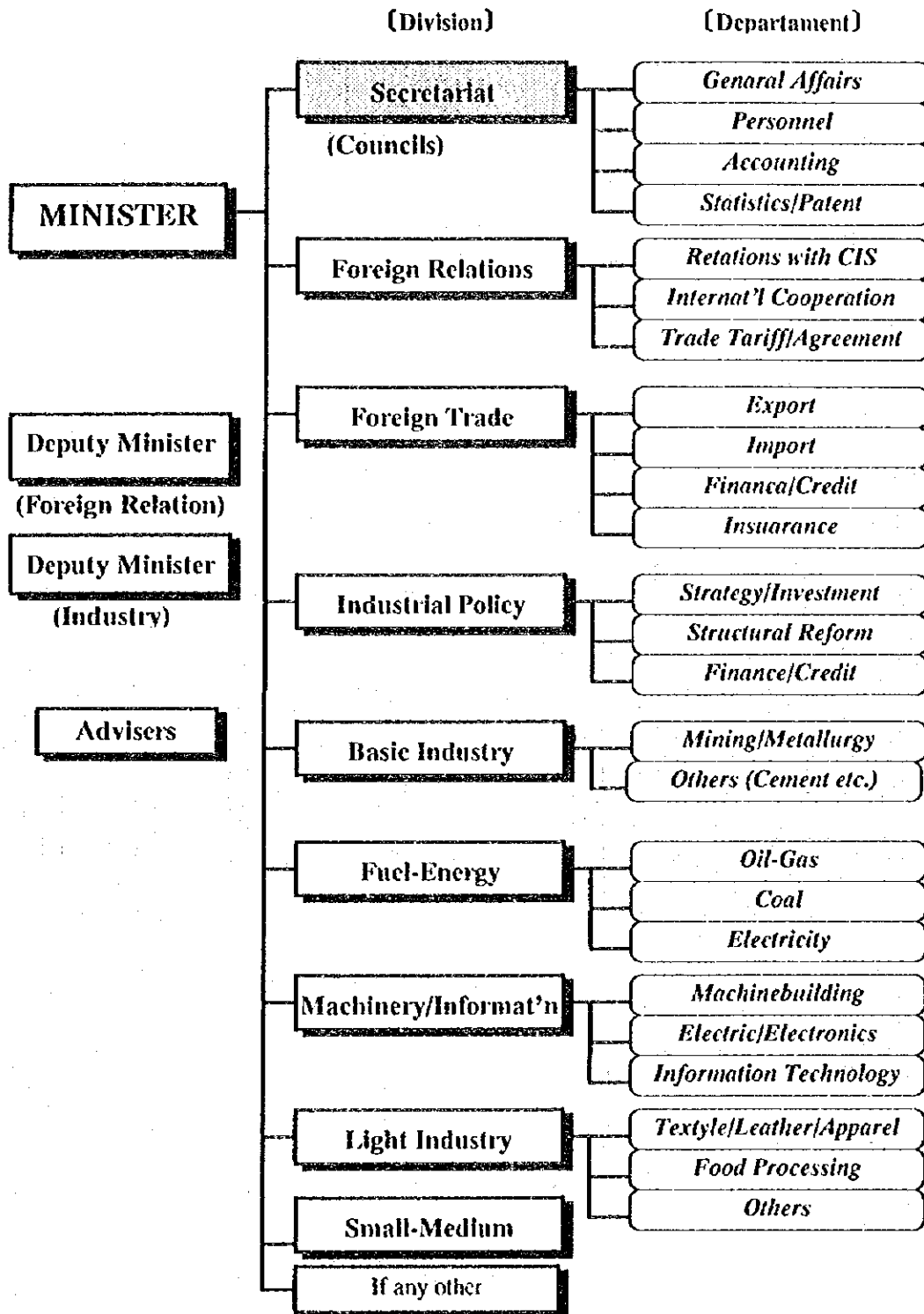
6.2.2 Administrative Reform

The government of the Kyrgyz Republic is currently required to reform its structure as the most important issue of itself, making itself more efficient and functional to reduce the budgetary deficit and fulfill the duties of the new rolls.

The existing administrative structure and roll of each government office need drastic review. It is recommended that sweeping reform of administrative structure be examined from the following points of view.

- (1) A large reduction of the number of ministries and state agencies which is now 21 by putting together their overlapping or common roles is proposed and provide them with responsibility and authority of policy planning, implementation, and budget execution in the fields under their control
- (2) Simplification of organization of each Ministry and State Agency
- (3) Extensive reduction of the number of managerial staffs

Figure 6.2.1 STRUCTURE OF NEW ORGANIZATION



6.3 Fiscal and Financial System

6.3.1 Financial Sector

(1) Establishment of Privatization Promotion Fund within SPF

In order to rebuild the Kyrgyz economy, a successful completion of the privatization of the remaining state owned enterprises, effective privatization of those that are privatized in form only and expansion of those enterprises that have been privatized must all take place. Those enterprises that have no prospect of recovering profitability or no strategic reason for being, should quickly be subject to liquidation.

The State Property Fund needs to establish a Privatization Promotion Fund within SPA, funded from the proceeds from the sale of state owned assets, to undertake such function. 120 MM Somme gathered through the prior privatization up through last year, has been taken into the national budget to reduce the government deficits. The funds should properly be used for the promotion of the success of the privatization program.

SPF has accumulated valuable knowledge and experience through previous privatization. In addition, SPF has 16 ERRA experts who have absorbed much international experience working under the World Bank program, and there are sufficient skills within SPF to undertake such tasks.

(2) Establishment of the Industrial Development and Foreign Trade Bank ("IDFT")

In order to encourage the expansion of trade, government support for financing is needed for export and import financing, long term guarantee facilities for equipment imports. At present the Kyrgyz banking system does not have the capacity to provide these financing. A new bank to finance the growth of strategic industry sectors and expansion of trade is required to fill this function.

(3) Banking Sector Restructuring

FINSAC implementation has been delayed and now expected to pass World Bank approval shortly. This is an ambitious program to progress the reforms including legislative and tax amendments. The banks must use the FINSAC program effectively as an opportunity to address the bad loan problem and reestablish itself as a forward looking institution. The capital base of the banks must be fortified and the increase in the minimum capital should be accelerated and the target level brought to a 100 Million Som level.

Banking is an industry where size can be equated with safety. The emphasis should be on the consolidation of the sector. Rather than 17 or so banks, the economy will be benefited from having 6 - 7 large capable banks with large capital bases and lending capabilities.

Kyrgyz banks lack market focus and need to more aggressively embrace marketing discipline in addressing its business. The fundamental business of the banks is to gather deposits and utilizing these resources to make loans. The banks have been passive in lending and this has to be changed. Loans should be productively marketed to target customers who fulfill the bank's desired profile. The banks must go and seek customers whom the bank considers desirable. There will be, then, natural competition which will take place to capture that customer. This will force the banks to become more creative in new product development, competitive pricing and a vastly improved loan portfolio.

Introduction of management techniques is critical and at the same time, a change in the mentality of bank management must take place. A way of achieving this is to have several selected banks contract with banks in the Western economies for secondment of a management team to the Kyrgyz banks. Under the scheme, the banks will be managed by managers seconded to it from the Western banks. The administration, credit, audit, control and marketing of the bank will be overhauled and restructured to meet with the needs of the market economy. As the systems take hold, the senior management functions will be gradually reverted to local staff (preferably to new management who have modern banking skills) and return to being locally managed.

A new banking association which is industry wide and mutually funded, should be formed. Its initial focus should be hiring a public relations consultant to design a publicity program to promote public confidence in the banking system. The association also is an excellent means by which basic banking skills training programs can be provided to the young bankers in the industry. It is also the natural interface with the government and the legislature in ensuring that the interests of the banking sector is protected in future legislative and tax reforms.

(4) NBK Bank Supervision

NBK has to develop further bank supervisory and screening skills. Ongoing audits must be strengthened, particularly in view of the many small banks who lack such skills in house.

(5) Deposit Mobilization

The banks' have not been able to successfully attract corporate and consumer deposits due to the inflationary environment and more importantly, due to the total absence of trust in the banking sector on the part of the depositors. The public must be made aware through pamphlets, television advertising and other mass means that deposit insurance now exists, and what the insurance offers and what the limitations are.

(6) Emerging Capital Market

The trading system and rules must be reviewed and revised so that the listed shares can only be traded on the exchange and by registered brokers. A share registration system should be revised and a system to record on a timely basis all transfers of ownership be set up and an establishment of a depository system be established.

In order to promote the market trading and the use of the capital market in raising funds, taxes on capital gains resulting from the buying and selling of listed shares should be made exempt. Tax incentives can be given to companies who list their shares on the exchange as well as on the financing activity itself through a favored tax treatment. Relaxation of listing restrictions should be reviewed in order to increase the number of listings and a formation of an Over the Counter market be considered.

Modernization of accounting practices and disclosure of corporate information are necessity in expanding public participation in the capital markets. The USAID project to modernize enterprise accounting process should be expedited to achieve this end.

(6) Leasing Industry

In a capital short economy equipment leasing can be an efficient means to finance plant and machinery. This can be one of the vehicles to fill the long term financing gap. In order for leasing industry to function, Kyrgyz legislative environment must be stabilized with a workable commercial and bankruptcy laws in place to protect the assets of the lessors. Tax policies must favor capital goods investments through both accelerated depreciation and perhaps an introduction of a tax credit limited to the leasing industry. A joint venture with a foreign leasing company would be an appropriate starting point with the foreign partner providing capital and expertise. Over time the local industry will develop and the reliance on foreign participation will decline.

6.3.2 Tax and Fiscal System

A new Tax Code is expected to be implemented shortly. The new Tax Code also means rather drastic changes in the way the businesses account for their activities when the full switch over to accrual accounting takes place and there will be much confusion in the process.

(1) Capital Gains Taxes

In order to promote the growth of secondary trading in securities, particularly, equities, the tax treatment for dividend income and capital gains must be amended. This will encourage stock investments which will encourage further growth of the stock exchange. This will mean a greater access to direct financing for the enterprises.

(2) Taxes On Interest Income

Interest income on small savings, say less than US \$20,000 should be tax free to the deposit holders. Treasury bills are tax free, but the access to treasury bills is severely limited and not available to the public. Tax free government bonds can also be used to attract money from the parallel economy.

(3) Means Taxes

The road tax should be incorporated as a part of a gasoline tax as use of gasoline is much more closely related to utilization of the road and the benefits from the utilization.

(4) Tax Administration

The administration, the collection and the enforcement of tax need to be strengthened. The tax inspectors must be trained and fully up to date on the new Code. Measures must be taken to improve the conditions of the tax inspectors or the quality of the inspectors themselves so as to minimize the incentive for abusing the position and powers, which seems to be common under the current system.

Penal codes must be established in order to punish those who evade taxation and in return a discount or a favorable treatment given to those who promptly file and pay taxes. Tax evasion should be a crime which carry prison sentences and not just a fine as it should be seen as a criminal activity.

(5) Tax Incentives

In principle, all income should be treated equally, but for activities that have identifiable strategic value to the economy should be protected and given tax and fiscal incentives. Those would include tax incentives for plant and equipment investments, export industry and investments in restructuring in strategic key industries specified by MIT.

In the export industries, the utilization of the FEZ should be encouraged and materials brought into the FEZ for processing and assembly into exportable goods are tariff and tax free and the goods will incur taxes only if the goods are brought back into Kyrgyz for local sale.

In order to promote plant and equipment modernization, accelerated depreciation should be available to the enterprises in addition to the shortened depreciation schedules already contemplated under the new Tax Codes. Tax subsidies should also be given to enterprises who have imported new technologies into the country to give incentive to industry to modernize the technology level in the country.

The industry in Kyrgyz needs to undertake major restructuring. The costs and investments associated with this is very high. The enterprises should be able to classify these costs as an amortizing asset to be written off over 5 to 7 years as the enterprises will not have profits for the first 1 or 2 years of the restructuring.

In order to promote the small and medium enterprises which comprise the majority of company populations in advanced countries, a Tax Holiday should be introduced. A newly registered enterprise would be exempt from paying taxes for the first 3 years and a grace period would be given to those enterprises which are already existing but unregistered to register and qualify under the Tax Holiday. This will give them an opportunity to return to the main economy without fear of penalties.

(6) Implementation of the New Tax Code

The new Tax Code, if and when passed, would be a major step forward in reducing the effective tax rate. Just as important as the reform is the implementation and the acceptance of the Tax Code. It not be an overstatement to say that, today only the small minority fully understand the tax code and how corporate taxes and other taxes are calculated.

The government has not invested sufficient time and money into tax payer education. This is an ongoing activity in even the advanced economies and classes on taxes and its

role in the government budget are taught in the elementary and secondary schools in addition to periodic mass media advertisements. Proper tax payer mentality must be instilled in the enterprises and the individual tax payers through a well structured and easy to understand public education system.

In rolling out the new Tax Code, preparation of a simplified, anyone can read version to be distributed to all enterprises and available to the public is a necessity. The pamphlet should be written in everyday language without the technical verbiage and should explain succinctly what taxes need to be paid, how to calculate the taxes to be paid and where and how to pay it. The emphasis is on simplicity. Using graphic presentations or comic type presentations whatever is the most acceptable to the Kyrgyz people is encouraged.

Tax education is an ongoing need and a up to date tax education curriculum should be established to be used. Such tools are the means by which future changes and amendments can be announced.

6.4 Foreign Trade Promotion

The statistics of Kyrgyzstan shows that Krgyzstan imported a huge amount of Natural Gas, Gasoline and Diesel Oil. For Kyrgyzstan which is obliged to import considerable portion of energy resources earning of means of payment for import i.e. exportation is of absolute importance.

(1) Discovery and Development of Commodities

The emphasis should be put for the time being on the export of raw materials supplied in Kyrgyzstan and products made from them. Concretely Electricity, Nonferrous Metals, Wool and Cotton and Textile Products made from them and Foodstuff are conceivable.

On the next stage it is necessary to aim at the export of high processed and high value added products without necessarily sticking to the self-sufficiency of the raw materials. Concretely Machinery, Electric and Electronic Products may play a central role.

Machinery on this stage does not mean sudden consideration of such one as large scale manufacturing or power generating plants but it is necessary to aim at such machinery as processing foodstuff which is cited above as the first stage products or small agricultural machinery targetting agricultural products which are raw materials of these processed foodstuff. The long term target may include manufacturing of such big machinery as power generating, mining and cement plants but it is recommended to begin with steadily manufacturing

and exporting handy machinery.

(2) Discovery and Development of Market

It is recommendable for Kyrgyzstan to diversify step by step her export partner countries by classifying them as follows from the viewpoint of emergency and time factor.

A. CIS Countries to which Kyrgyzstan should continue to attach importance (short/medium/long term important export partner countries)

Russia, Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, Ukraine, Belarus and others

B. Non-CIS neighboring Countries and Moslem Countries in the Middle East (medium/long term important export partner countries)

China, Iran, Turkey, Afghanistan, India, Mongolia, Pakistan, Saudi Arabia and others

C. Advanced Countries (countries to which to expand export from long term view point):

USA, UK, France, Germany, Italy, Austria, Japan and others

(3) Marketing, Product Development and Sales Activities

Enterprises should do its best to acquire the capability of marketing, products development & manufacturing and sales. One of the effective means for this is the introduction of foreign capital and technology as stated later.

Along with getting assistance of foreign capital and technology, it is an useful way for Kyrgyzstan to despatch official and civilian specialists to such Southeast Asian countries as Malaysia, Thailand and Vietnam which have recently achieved rapid development by utilizing introduction of foreign capital and technology as lever and to make these specialists study in detail the successful examples of these countries.

(4) Setting Institutional Framework in Order

Strong governmental support is needed, effort of enterprises being a matter of course. Two kinds of governmental support can be thought :

- 1) Support centers around privilege measures in tax system given to export contributing enterprises and export products. Various measures are conceivable like exemption of various kinds of taxes for export products as well as tax reduction for the enterprises which exported more than a certain ratio of their sales turnover.

2) Support includes the establishments of following systems and organizations under the governmental leadership and the positive fostering by government of such types of industry as trading company which are effective for export expansion.

a) Establishment of Trade Supporting Financial System

For development of foreign trade, institutional support such as export finance, import finance and long-term credit is necessary.

As to this system please refer to the description made in 6.3.1 on The Bank of Industrial Development and Foreign Trade.

b) Establishment of Export Insurance System

The substantial portion of the trade among CIS countries is conducted on barter owing to incomplete system for settlement of bill as one of the main reasons.

It is expected that this situation will be regularized in time to usual foreign trade transaction accompanied by settlement of bill and export amount will increase as well. But as a result of this regularization the risk of collecting bill which at present Kyrgyz exporting enterprises bear 100% will also become bigger naturally.

It is required that such risks of exporters are alleviated by introducing Export Insurance system covering the risk of export bill collection.

c) Establishment of Foreign Trade Promotion Center

The Kyrgyz people are handicapped in promoting foreign trade owing to such reasons as that they had little chance to conduct foreign trade by themselves during FSU times and the door was closed to the society of free market economy.

Staffs and employees of many enterprises naturally are not aware of foreign market tendency nor of foreign countries themselves. Many of them naturally do not understand to what extent their products are acceptable as commodities in foreign countries.

In the present situation it is quite difficult for each Kyrgyz enterprise to grasp the conditions of foreign markets since they originally had not marketing and sales division.

In order to promote foreign trade of these enterprises, a semi-governmental foreign trade promotion center needs to be established under the control of MIT by investment of both the government and public sector.

This center should carry out various foreign trade promotion activities including advertisement of Kyrgyz products in foreign countries, opening trade fairs,

introducing overseas markets, window to receive foreign enquiries and so on.

Participation in ITC (International Trade Center) will be effective for getting such information as international commodity market.

d) Fostering of Trading Companies

Except some enterprises which adapt themselves to market economy, many of Kyrgyz enterprises which were not in a position to receive orders and conduct sales activities have neither enough experience nor organization to conduct marketing and business activities like receiving orders, selling and collection of bills etc. Let alone domestic transaction, only a small number of enterprises are acquainted with such activities in overseas transaction. Now in Kyrgyzstan many small-sized trading companies are operating but for development of foreign trade of Kyrgyzstan it is desirable that from among these trading companies will grow general trading companies which acquired specialized know-how on foreign trade transaction, or will grow specialized trading companies which are strong in certain districts and commodities, well funded and in possession of competent manpower.

(5) Customs Union

In the negotiation with Russia for the participating procedures of the Customs Union Kyrgyzstan should claim its intention as much as possible at least with reference to the following points.

- 1) Setting the level of Common External Tariff of Customs Union as low as possible
- 2) Kyrgyzstan should make efforts in order that the privilege measures for foreign investment may not move back.
- 3) Kyrgyzstan may not become complex and irrational in course of adjusting the tax system to that of other member countries.
- 4) The effort of Kyrgyzstan to secure a freehand in its own fiscal and financial policies is necessary.

6.5 Foreign Investment Promotion

6.5.1 Concrete Measures for Promoting Foreign Investment

(1) Establishment of Laws and Regulations

For attracting foreign investment it is important to to enact immediately the Commercial Law which is the standard of all the laws related to commercial transaction.

The Kyrgyz Government has already taken privilege measures for foreign investment in Foreign Investment Law. However foreign investment in the sector of manufacturing industry has not increased as expected. It is necessary to reexamine more attractive privilege measures in order to attract foreign capital.

Further unification of ministries and state agencies of the government which controls foreign investment is quite important. In case foreign enterprises invest in Kyrgyzstan, such matter as that they move from a number of ministries and state agencies to others in pursuit of approval should be eliminated.

(2) Establishment of Free Economic Zone (referred to as FEZ)

Selective choice of export promotion areas and establishment of FEZ are effective in both aspects of attraction of foreign capital and export promotion.

There exist similar areas in Malaysia (Free Area-FZ), Thailand (Export Processing Zone-EPZ), Philippines (Export Processing Zone-EPZ) and Indonesia (Bonded Area) and these areas have contributed to introduction of foreign capital and export promotion.

(3) Establishment of Foreign Investment Attracting Center

The advancement into Kyrgyzstan of private enterprises which occupy almost all of foreign capitals is naturally subject to possibility of profit making there. When foreign capitals consider to locate in some countries, they examine the demand for their products in the domestic and surrounding markets of target country, securing of competent and low cost labor force, quantity and price level of resources and raw material, situation of putting in order of infrastructure, tax incentives and so on. Kyrgyzstan should show foreign capitals concretely detailed information and merits of Kyrgyzstan over competing countries and attract them positively.

In addition after location in Kyrgyzstan of foreign capitals such careful and helpful afterservice as support for securing engineers & workers and raw material & component etc., consultation for management of tax matters etc. are necessary. For giving such services, too, establishment of foreign investment attracting center should be considered.

6.6 Distribution and Transportation

6.6.1 Distribution

The present distribution system in Kyrgyzstan is in course of shifting from the state-operated system in FSU times to the system fitting market economy and accordingly the suitable distribution system for each industrial subsector or each product group is not yet

established.

One of the major principles of distribution in market economy is to minimize the number of steps from manufacturer to consumer and shorten the the necessary duration of time. It is necessary to build by trial and error the most suitable distribution system for each group of commodities. The characteristics of a desirable distribution system is written hereunder.

1) Differentiation and establishment of wholesale and retail

Distribution system is usually composed of wholesale and retail functions, and it is necessary that those two functions differentiate and each of them establishes itself.

2) Specialization

Since there are various and different features for each commodity, it is desirable that specialized wholesalers and retailers exist for each commodity.

3) Minimization of timewise distance between manufacturer and consumer

Minimization of the distnce through rationalization of transportation and storage etc. as well as such rationalization as minimization to the utmost of the number of stages inside wholesale system are necessary.

4) Independence

Economic activity is composed of three elements of production, distribution and consumption. Among these elements distribution has independent economic and social function different from production, that is, of adjusting place, time and demand & supply between manufacturer and consumer.

6.6.2 Transportation

- (1) Road transportation: Concentrative spending of state budget for construction and repair of the north-south route connecting Bishkek with Osh is necessary.

The Bishkek-Sary Tash-China-Karachi route is completed and experimental passage will begin in October this year.

- (2) Railway network: It will be an idea to establish a railway company through joint capital participation of the five countries of Kyrgyzstan, Kazakhstan, Uzbekistan, Turkmenistan and Tajikistan because in FSU times the railway construction must have been implemented from the viewpoint of whole Central Asia. As the construction of the north-south railway route in Kyrgyzstan gives benefit to other Central Asian countries too, this route can be qualified as an object to be invested by the railway company jointly owned by five countries.

(3) Air route: It is necessary to hasten establishment of regular air route connecting Bishkek directly with Western Europe and Asia.

It is imaginable that in the future the more Kyrgyzstan will come to manufacture industrial products of high added value, the more important air route will be.

6.7 Promotion of Small and Medium-Sized Industry Sectors

As measures to dissolve the basic problems in small and medium-sized companies and reinforce their constitution, it is necessary for the government to provide administrative guidance and incentives as described below.

(1) Forming organization

An organization for fostering small and medium-sized enterprises which are vulnerable in the early stages of foundation should be set up to: ① improve the security of those enterprises as a group, ② consolidate the strength of the enterprises as a group, and ③ let them receive administrative support as a group. The above organization may be a trade association or an association of different trades, each association having both merits and demerits. In Japan, associations of different trades are prevalent. In the case of an association of different trades, it is common practice that subcontractors in different trades cooperate with one another to produce a finished product. In this respect, it is similar to the "group of developing companies" (casting, forging, machining, plating, molding, etc.) in the Republic. The trade association is a kind of cartel. It is effective as a measure of self-defense, but it can be against the anti-trust law. Because of this, it requires the government to provide special escape clauses. Nevertheless, the trade association has a number of merits. For example, it allows for the joint marketing of products and joint procurement of raw materials and the sharing of technical and market information. With the above associations as the recipient, the government can provide various promotional and incentive measures.

(2) Providing financial support

The government's institutional financing to small and medium-sized companies is implemented in line with its policy for fostering enterprises. Because of this, the government often provides loans to priority fields and thereby guides enterprises in those fields. As another means of administrative guidance, a subsidy system is used. Institutional financing can largely be divided into two types: long-term financing (fund for plant and equipment investment) and short-term financing (fund for operation). In either

case, the terms and conditions for the loan are more favorable than those of commercial banks. In the Republic, most of the financial institutions are still vulnerable as already mentioned, hence it is difficult to set up new institutional financing agencies for special purposes. This problem may be solved by imparting a similar financing function to appropriate financial institutions. With respect to the procurement of fund for loans, the government should seek financial aid, including two-step loans, from international financial organizations.

As mentioned earlier, in order to compensate for the deficient security of small and medium-sized companies, it is also necessary to install a credit guarantee system and establish a credit guarantee association.

(3) Providing technical support

Improvement in technology of small and medium-sized companies which underlie a country's industrial structure enables improving the level of the whole industry of that country. Therefore, it is vitally important to improve manufacturing technology, control technology, design techniques, processing methods, jigs and tools; to automate production processes and save labor; to develop new products; to reinforce product competitiveness; to improve production efficiency and yields; to create efficient workshops, etc. However, most of small and medium-sized companies can hardly develop new technologies for themselves because of shortages of funds and researchers and engineers, insufficient technical assets, lack of useful market and technical information, research equipment, etc. It is, therefore, necessary for the government to provide various measures to support those small and medium-sized companies. In Japan, the following measures to support small and medium-sized companies are especially popular with many companies. They are: the subsidy system for technical development; technical guidance provided by government agencies and experts in various fields; and technical training provided by government agencies. Thus, it is commendable for the government of the Republic to install technology-related organizations (technical training centers, national testing & research institutes, vocational training centers, technical information centers, etc.).

(4) Providing support to start-ups

The government of the Republic must activate industrial investment by giving support and incentives to private enterprises. In particular, the projects that private companies with small capital first undertake are mostly small in scale, hence require financial, technical, and managerial support from the government. Therefore, it is necessary for the government to install systems and organs to promote the investment minds of private enterprises and provide extensive cooperation to them. To this end, an investment

incentive system, special tax system, investment financing system, investment insurance system, investment counseling, subsidy for research and development, etc. will have to be installed.

(5) Providing support to market development

Because of small domestic markets, many of the industrial products manufactured in the Republic are exported, mainly to the neighboring countries. In the case of small and medium-sized companies, however, few of them can carry out effective marketing activities due to weak sales organizations and lack of market information. As mentioned above, by organizing a trade association, they will be able to do joint market development, etc. Even so, the government should install suitable agencies to meet the needs. In particular, this kind of government support is indispensable for the development of export markets. The activities of the above government agencies include the participation in and the holding of trade fairs, publication of bulletins, supply of market information, and transfer of inquiries.

(6) Formation of supporting industries

Supporting industries consist mainly of small and medium-sized companies, it is necessary to decide priority guidelines for fostering them after investigating the actual conditions not only in the Republic but also in the FSU countries, especially Russia, Kazakhstan, and Uzbekistan, which make up the common market bloc. It is the metalworking industry that is the most important among those supporting industries. Since the purpose of the above investigation is to formulate a strategy which enables the Republic to establish a competitive edge over the other CIS countries, it is desirable that the government carry it out as early as possible.

6.8 Environmental Policy

There are concrete steps that can be taken to further ensure environmental protection while promoting industrial development. The recommendations by the Team are as follow:

(1) Ministry of Environmental Protection

- 1) **Training:** To the Inspection Department about how to evaluate the environmental passports of each enterprise by taking into account the overall picture of industrial contaminants produced, location and density of industries.
- 2) **Pollution modeling equipment/software:** In order to assist the MEP to achieve regional pollution management, the ministry must acquire pollution modeling software.

(2) Other Environmentally-Related Bodies

- 1) Ensure that the Center for Environmental Strategy has the capacity to promote vertical and lateral coordination between the governmental bodies.
- 2) Equipment of computers/software to track environmental data related to the activities under their bailiwick.
- 3) Integration of land planning and MEP offices at the oblast levels.

(3) Environmental Fund

- 1) Providing "start" money for the Fund: Because there is no possibility in the immediate future of the fund accumulating enough money through the prescribed channels, "start money" for the fund should be provided by an international donor.
- 2) Considering expanding the sources of revenue.
- 3) Strengthening management.

(4) Monitoring System

- 1) Providing funding for monitoring activities from the Environmental Fund or other donor funding with an accompanying plan to turn over funding responsibilities to the republic budget as the economy improves;
- 2) Creating an environmental protection data base that is compatible with the enterprise registration data base.

(5) Energy Policy

- 1) The republic needs to form comprehensive energy policy which will encourage conservation and optimize the most economical options in the republic.

(6) Toxic Wastes

- 1) Conduct thorough environmental assessments of enterprises.
- 2) Identify the means to construct a treatment/storage facility to deal with toxic industrial wastes.

(7) Production and Pollution Control Equipment

- 1) Source reduction;
- 2) Best Available Technology Economically Achievable (BAT);
- 3) Special assistance in achieving compliance with environmental regulations (e.g., financing from the Environmental Fund).

(8) Environmental Center

To provide support to the other recommendations outlined herein, the establishment of a center that serves as an information clearinghouse and offers training and consulting services to enterprises is greatly needed. It should be housed in a semi-independent institution, such as a university. A mix of financing from the government, enterprises themselves, NGOs, donor organizations and private foundations is advisable.

6.9 Reforms of Social Support Systems

(1) Policy Implications of Social Sector Reforms

It is impossible to increase the amount of spending for the social sectors. Thus, the highest priority should be given to improvement of efficiency of social support systems primarily by better targeting -- clarifying scope of who should be supported to what extent. Activities of social sector should be divided into following three categories.

Major policy options for each type of social sector activities are follows.

(a) Social Insurance

There are on-going reform programs for social insurance systems -- distinction between social insurance and social assistance, and introduction of registration system. The reform aims to establish direct relation between contributions (how much to pay) and benefits (how much to receive) for social insurance. Thus incentives for individuals to contribute to funds are expected to be enhanced. In case of pension, it is also proposed that while a pension fund for a base benefits are raised by contributions from both enterprises and employees, a fund for additional benefits, if wanted, will be raised only by individuals. In long term, it is under consideration that share of contributions by enterprises might be gradually decreased to one half.

(b) Social Assistance

Financial sources of social assistance are government's transfers. The most immediate problem to be addressed is that social assistance payments are not well targeted. It is quite unlikely that government revenue increases in the near future. Therefore, it is quite important to introduce a means-tested provision of social assistance and concentrate limited resources on the truly needy, especially poor households in rural areas where dependency on assistance is most prominent. Without this concentration of resources, social assistance allowances may not function as policy measures to alleviate poverty.

(c) Public Social Services

Regarding public social services it is important to introduce direct cost recovery systems (at least partial charges and fees) and supplementary waiver systems for low income population. Especially in urban areas, there seem to be a sizable group of people that can bear costs of services. At present, there are both formal and informal charges and fees for some services. What matters here is the fact that there is no explicit and fair waiver systems for the poor. Waiver systems could be designed as part of a means-testing mechanism for social assistance eligibility.

(2) Social Aspects of Industrial Development

With regard to social aspects of industrial development, agro-based industries have most immediate potentials to create new job opportunities in rural areas.

As data of incidence of poverty clearly indicate, poverty problems are most serious in rural areas. To create job opportunities and thus mitigate income disparities, it is needed to promote industries that have close linkages with agricultural production.

At present, linkages between agricultural sector, as sources of raw materials, and agro-processing industries are not well established. As a result, demand for agricultural products are unstable, and thus, farmers loose incentives for production. On the other hand, many processing factories are experiencing chronic shortage of raw materials. Linking supply from rural areas and processing industries is one option to meet needs for both income generation in rural areas and for industrial development.

6.10 Promotion of Industrial Standard

(1) Practical Activities for Promotion of Industrial Standards

In order to satisfy the requirement for standardization, it is necessary to start following activities.

- 1) To formulate and promote the use and application of National Standards required for the development of National Economy.
- 2) To promote standardization at Association and Company level in all sectors of the economy.
- 3) To promote Quality Assurance in all sectors of the economy.
- 4) To promote and disseminate valid measurement practices at national level.
- 5) To provide consumer education and consumer protection.
- 6) To educate and train Industry/service personnel on concepts, practices and techniques of standardization and quality management.
- 7) To provide test facilities and develop the National test capability.

(2) Promotion of Testing Capability and Function of Gosstandard

It is urgent to promote and modernize necessary equipment to Gosstandard because the difficulty is more than the level they can solve now. Especially, equipment in the following laboratories should be urgently strengthened.

- Textile related testing and inspecting equipment
- Equipment for analysis of food (including chemical analysis equipment)
- Measuring and meteorological equipment
- Electric and electronics related equipment

6.11 Development of Quality Control Capability

(1) Need for improvement of quality control capability

1) Education of QC instructors

An educational institution will be established and instructors will be invited from foreign countries to train local instructors. In particular, public institutions in the industrial field, such as Gosstandard and MIT, should send their engineers to the institution for professional education.

The first cadre of QC education will help proliferate QC education in the industrial sector. A government organization responsible for QC education will be established and will send the graduates to various industries. The organization should preferably have the ability to provide consulting service for QC activity in addition to proper education and training.

- 2) QC education by function and position**
- 3) Promotion of QC circle activity**
- 4) Organization of the nationwide quality control promotion body**

6.12 Proposals on Human Development

(1) Necessity of Practical Educational Program

The Ministry of Education and Science should probe into every problem and make up practical program, for example, exact number of schoolchildren by grade and area over to 2005 should be estimated and form a budget based on calculation how many teaching rooms and teachers will be needed every year, in each area.

Required number of students in each specialized field shall be calculated to make necessary rearrangement of universities and their departments.

(2) Establishment of Institute of foreign languages

In view of the importance of future relations with Asian and other nations, it is recommended content of lectures and studies be enriched and improved; establishment of a new Institute which aims at studying foreign languages and foreign countries.

(3) Request for Cooperation of Foreign TV Stations

TV shall be an effective methods to be most utilized to make up for shortage of good instructors and teaching materials. In local areas the problem of insufficient language teachers will not be solved for the time being. When they utilize TV they still have some problems.

(4) In-house Training

In order to make Kyrgyz enterprises well adapted to market economy and internationally competitive, change of mind for both executives and employees as well as improvement of their ability will be indispensable.

(5) Expected Active Approach of the Ministry of Education and Science

While rectors and professors of newly established universities and executives of SOROS funds are enthusiastic in wrestling with educational reform, officials at the Ministry of Education and Science do not show zeal for reform, although there is some truth to their lack of budget.

7 Development Programs and Implementation Plans

To actualize the industrial development vision proposed in 5.3, a wide range of actions are required, including organized export promotion initiatives, the establishment of trading companies, attraction of foreign investment, the development of export processing zones, the establishment of an ad-hoc organization to supply industrial development funds, the development of human resource development and vocational training institutes, the establishment of trade associations, and enactment of related laws and regulations. This section outlines development programs to be initiated by the MIT and their implementation plans.

7.1 Program Organizing Export Promotion Initiatives

The program is centered on the trade promotion center proposed in 6.4.3. The center is primarily responsible for a wide range of support for manufacturing enterprises as well as small trade companies, with emphasis on provision of trade information, support related to export/import procedures, support in the areas of product design and packaging, support related to international marketing, task force to support marketing activity in specific areas, and collection and provision of information related to raw materials and parts. In promoting the program, including organizational and institutional efforts, it is recommended to obtain assistance and guidance from International Trade Center (ITC) (headquarters in Geneva).

7.2 Program Establishing Industrial Development and Foreign Trade Bank

In order to encourage the expansion of trade, government support for financing is needed for export and import financing, long term guarantee facilities for equipment imports. A new bank to finance the growth of strategic industry sectors and expansion of trade is required to fill this function.

The outline of new bank, Industrial Development and Foreign Trade Bank, are:

- Founder:** National Bank of Kyrgyz (NBK) plus (MIFT, SPF, MOF)
- Status:** A government agency and should be a sovereign borrower status
- Capitalization:** Som equivalent of \$30 MM
- Loan Funding:** Capital and two Step Loan (Two Step Loan from bilateral or international agencies that are either project specific or that project selection is at IDFT discretion)

- Purpose:** Promotion of the growth of Kyrgyz industry and trade through extension of credit (in 2-1) to enterprises in promising industries and exporters and importers under favored terms and conditions. (Loan applications will be screened under established guidelines but must first obtain the endorsement of MIFT)
- Loan Limit:** The bank will loan 70% to 100% of the project cost.
- Management:** The management of the bank and loan operations will be under guidance of foreign experts provided to the Bank under International and Bilateral aid.

The reason why the Study Team nominated NBK as the founder are as follow:

Necessary conditions for a receptacle bank for a Two Step Loan are: (i) size and financial stability, (ii) knowledge and experience base, (iii) ability to gain international confidence. The ex-state banks are burdened with the bad loan problems and the newly established banks are far too small in size to fulfill condition (i) and there are no banks in Kyrgyz which fulfill either conditions (ii) or (iii). There no Kyrgyz banks that can fulfill the role of the receptacle bank and a new bank, IDFT must be established. NBK as the shareholder will facilitate granting the bank a sovereign status (if need be with a MOF or NBK guarantee) and with none of the bad loan problems and the institution thus fulfills condition (i) and partially (ii). It will not initially meet condition(iii), however, with assistance from bilateral donors or international agencies, it can retain foreign consultants and under their guidance accumulate the necessary experience and knowledge base.

7.3 Program Organizing Trade Associations

A proposal to organize trade associations in the subsectors is made in 5.4, As a typical example, major activities of a trade association for the textile industry are listed below. All of them require MIT's support, and it is recommended to assign full-time personnel in MIT, for instance, within the Bureau of Light Industry. Also, some activities should be carried out under cooperation between the trade promotion center and the industry.

- (1) Information exchange between upstream and downstream industries;
- (2) Hiring of international advisors in export promotion activity;
- (3) Foreign market study by sending business mission;
- (4) Collection of market information;
- (5) Display of Kyrgyz products at international trade shows;
- (6) Participation in international organizations;

- (7) Employment of technical advisors from countries having the world-level textile industry;
- (8) Establishment of joint procurement organization for sub-materials;
- (9) Establishment of a mutual loan guarantee system; and
- (10) Joint use of machining shops and equipment.:

7.4 Educational Program on Corporate Management and Marketing Techniques for Textile Industry Executives

- (1) Overseas training: Executives of selected enterprises in Kyrgyz will be sent to textile companies in Japan or Southeast Asia for several weeks learn corporate management and marketing techniques that are essential tools in market economy.
- (2) Visiting education by foreign experts: Experts will be invited from Japan, India, Pakistan, or other countries where the textile industry is at an advanced level. They will be sent by the MIT to manufacturers to teach factory operation and management techniques as well as marketing techniques.

7.5 Program Organizing Supporting Industries in the Machinery and Electrical/Electronics Industries

A government authority responsible for the program would be a department in charge of SMSEs within State Property Fund will implement the following activities:

- (1) Comprehensive survey for SMSEs in the industrial sector;
- (2) Assistance and advice in procedural aspects of financial support, establishment of the loan insurance program and medium- and long-term loans;
- (3) Support for vocational training; and
- (4) Promotion of cooperative efforts.

7.6 GMP Education Program In the Food Industry

GMP (Good Manufacturing Practice) education in the food industry will be provided to ensure safe food production. This is considered as "proactive" to meet requirements for future exports.

7.7 Quality Control Promotion Program

There is the need for establishing a system to feed back the result of product inspection to subsequent quality improvement and stabilization. A primary organization to promote quality control efforts should be organized within the MIT or jointly with the industry as a major driving force for quality control initiatives throughout the country.

(1) Training in Japan

Staff of the quality control promotion organization and corporate managers in production departments will be sent to Japan or USA for around three weeks to learn quality control techniques, in industrial research institutes, and factories of various companies.

(2) Visiting education by foreign experts

Experts will be invited from Japan and will be sent by the MIT to private enterprises in order to provide field instruction related to quality control techniques and TQC activity, and together with seminars, to promote industry-wide drives for quality awareness.

7.8 Support Program for Organizations Leading Technological Research and Product Development

The program is designed to develop existing research institutes and/or universities into organizations capable of conducting R&D projects aiming at utilization of local resources and establishing product specifications, and supporting product development upon request from the industry.

8 Recommendations for Reform of Enterprises

8.1 Reform of Enterprises

Apart from some enterprises which have already adapted themselves to market economy, Kyrgyz enterprises are faced with many difficult problems of which they must reform and solve by themselves the following three issues.

(1) BPR (Business Process Re-engineering)

It is necessary to reconstruct business through participation of whole employees by starting from hearing opinions of their customers on the reasons why their products are not salable, on the markets where they can find needs for their products and on the content of these needs.

It is required to change the business process into such cycle as Marketing → Improvement of Quality → Sales Efforts → Increase of Sales Price → Payment of Salary → Enhancement of Morale → Improvement of Productivity → Reduction of Cost → Profit Making which will subsequently enables the investment for production facility as a result of increase of profit.

(2) Reform of Enterprise Organization

In market economy it is the basis of enterprise activity to manufacture effectively with low cost the products which satisfy consumers through connecting the demand of market with receiving order and anticipating the market demand, to sell and deliver the products, to collect the bills and to make a profit. Enterprise needs the organization and manpower suitable to such enterprise activity.

The organization which Kyrgyz enterprises are in need of now is simply speaking such an organization which needs total 3 executive managers apart from president i.e. 1 for Marketing & Sales, 1 for Production including quality improvement and 1 for Finance & Accounting and Personnel Affairs & General Affairs.

It is necessary to review the jobs of enterprises and establish at an early stage the structure needed for the future growth. In case enterprises do not possess inside themselves suitable persons for requested jobs, they should dare to look for outside talents through newspaper advertisement etc. In FSU times "Enterprise was assessed by size." but in market economy "Enterprise is assessed by human resources."

(3) Mind Reform of Management

Managements of many enterprises are still in waiting attitude. It is necessary for all those concerned to carry out marketing and sales activities based on their own foot like visiting clients one by one which seem possible to become their clients, like investigating the reason why their products cannot be bought, how they will come to be bought by clients, what kinds of other products can catch demand in market, where they can find markets for their products and so on.

Then they should feed back the information obtained through above-mentioned activities to the manufacturing department, and then all those concerned should examine how and at what price they can manufacture the products demanded in markets.

Management should take the lead in above-mentioned activities. Through such leadership of management it will be possible to draw out the intelligence and will of each employee and to catch an actual chance for management improvement by knowing what should be upgraded and so on in order to gain access to actual orders. (Majority of managements in stagnant enterprises are only looking for the reason for their business depression without attitude toward How to solve difficulties and do not take the lead in facing difficulties.)

Practical reeducation of MANAGEMENT is necessary in order that enterprises adapt themselves to market economy and go into orbit for reconstruction. The new MIFT should carry out positively Management Training of enterprise by getting the cooperation of overseas assistance institutions and by mobilizing the wisdom and experiences of domestic business executives who have already shown superior managerial capability.

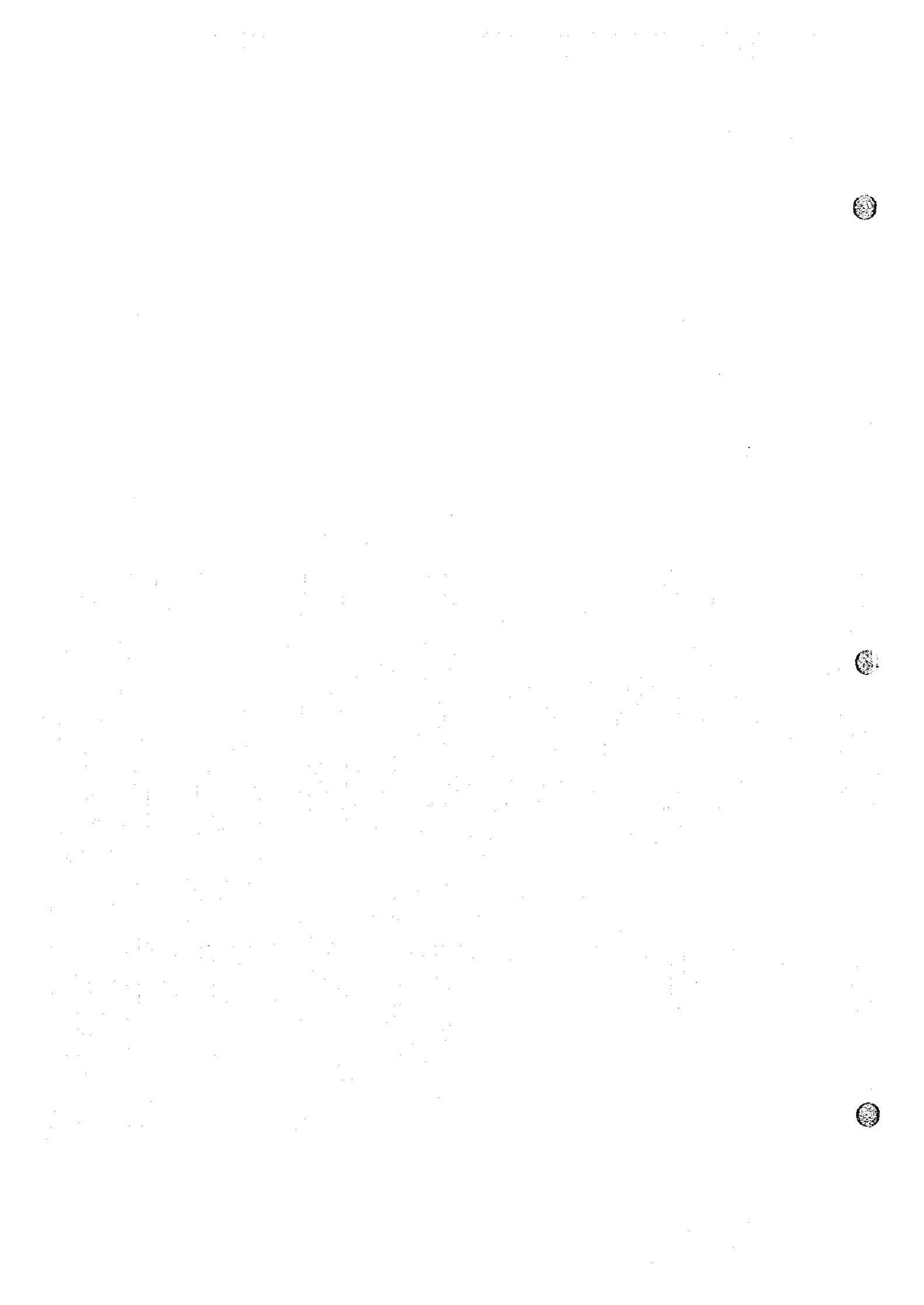
8.2 Recommendations for Individual Enterprises

On the basis of the problem commonly faced by the industrial subsectors of Kyrgyzstan the Study Team made a series of recommendations for reconstruction and renovation of each enterprise in ANNEX-1 of this Report.

Following is a list of enterprises, the recommendations of which are described in the ANNEX:

- | | |
|-----------------------|--------------|
| (1) Textile Industry: | Kanbol-Nootu |
| | Osh Cotton |
| | Ak-Jhibek |
| | Kasiel |
| | Ilbirs |

- (2) Leather & Fur:**
 Ak-Bula
 VLKSM, AIGUL, BUGU-ENE, MAILUU-SUU
 Ak-Maral, Bulgaary
 Semeter, Almech
 Kadam, Alai
- (3) Machinery:**
 Kyrgyz Automash (KAM)
 Drill Plant
 Control and Measure Device Plant
 Osh Machinery Plant
 Kyrgyz Car Assembling Plant
 Bishkek Selamash
- (4) Electric & Electronics:**
 OREMI
 Ala-Too Holding
 KEMZ
 Mailoo-Soo Electric Bulb Plant
 Nur
 (Other 12 enterprises)
 Tashkumyr Semiconductor Factory
 Kyrgyz Mining & Refining Kombinat
- (5) Silicon Industry:**
 Arpa
- (6) Food Processing:**
 Maikampa
 Kainda Sugar Plant
 (Other 11 enterprises)
- (7) Other Industries:**
 Tokmak Glass
 Kant Cement
 Too-TEC
 Tokmak Cardboard



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