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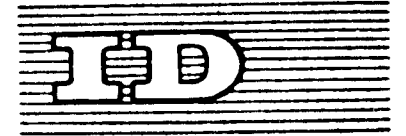
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INDUSTRIAL PROJECT PLANNING IN
THE SYRIAN ARAB REPUBLIC:
AN INTRODUCTORY REVIEW^{1/}

by

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PREFACE

This paper has been prepared by Eng. Abdelmonem Allaf, who served the Ministry of Planning of the Syrian Arab Republic as Assistant Secretary General for Engineering Studies (for the period February 1965 to August 1968) and is currently Technical Director of Metallurgie Cablerie, Beirut.

The paper is intended to provide no more than an introductory review of the Syrian experience in industrial programming and project planning, or a background material that may help stimulate the Working Group's discussions of a similar subject.

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I. INDUSTRIAL DEVELOPMENT IN THE SYRIAN ARAB REPUBLIC

A. The Second Five Year Plan in the industrial sector

The contribution of the industrial sector to gross domestic product in the Syrian Arab Republic has steadily increased since the oil production and mining exploitation started at the beginning of 1969. This new development might increasingly add to the important export potentials of the country. The course of industrial development during the second five year plan (1966-1970) has been characterized by the following:

1. Development of the mining industry;
2. Manufacturing of metal products;
3. Establishment of an integrated petroleum industry programme covering prospection, exploitation, transport and refining;
4. Expansion of the industrial projects which have already started during the first five year plan period; and,
5. Development of the electric power industry (generation transmission and distribution) which has played a leading role in reducing industrial production costs.

The second plan was intended to ensure that the industrial sector would expand in conformity with the basic industrialization strategies, which consist mainly in:

- a. Utilization of mineral resources in the country;
- b. Securing power for production and consumption;
- c. Satisfying the requirements for agricultural development; and,
- d. Increasing exports and curtailing imports.

The contribution of "oil and mines" branches to industrial income had been very limited and even inexistant in earlier years. As these new branches gain significance, the industrial sector would become an increasingly important sector of the economy. It should be pointed out that the overall trend of industrial production anticipated on the basis of old data must now be modified substantially in view of the recent development of the oil and mining branches.

The new industrial establishments which have emerged in the field of oil, mining, and major manufacturing branches are medium to large sized. Two main problems are common to all these new projects: small domestic markets and shortage of skilled labour. However, steps have been taken to provide measures and facilities that will lead to improvements in transport and training, and that will provide protection and incentives and administrative improvements to encourage industrialization.

The second five year plan (1966-1970) has developed the mining and the petroleum industry. The allocations to the industrial sector under the plan are distributed as follows:

	Investments (£.S. thousand)	percentage
----- Industry and mining	398,545	8
Fuel and power	611,951	12,4
----- -----	-----	-----
----- Grand total	<u>4,955,000</u>	<u>100</u>

These investments are to increase total national income by 41.5 percent and the five different economic sectors are expected to contribute to this expected increment, as follows:

1. Irrigation, agriculture and land reclamation sector ...27.9 percent;
2. Industry, mining, fuel and power sector30.6 percent;
3. Transport and communication sector10.6 percent;
4. Public utilities and community work sector19.0 percent;
5. Services sector11.9 percent.

This shows the leading role which the plan has given to the industrial sector.

The following table shows the main projects in the industrial sector which will be executed during the second five year plan period.

Authorities and Projects	Aggregate investments	Sources of financing		Currencies	
		Local Sources	Credit facilities	Local	Foreign

MINISTRY OF
INDUSTRY

Mining and geology projects	1,260	1,260	-	753	507
Vocational training centres	2,800	2,800	-	2,800	-
Industrial experiments and research centres	9,316	9,316	4,000	4,771	4,545
Management and pro- ductivity development centre	4,561	2,343	2,218	2,343	2,218
TOTAL - MINISTRY OF INDUSTRY	17,937	11,719	6,218	10,667	7,270

General Authority for Industrial Projects Execution

Nitrogen fertilizer factory	71,900	50,495	21,045	17,700	54,200
Dry battery factory	2,346	2,346	-	803	1,543
Exploitation of phos- phate ores plus ore processing	73,000	71,000	7,000	44,900	33,100
Iron rod factory	24,000	6,000	18,000	6,000	18,000
Onion and vegetable factory	18,000	3,000	5,000	2,500	5,500
Exploitation of salt mines	7,917	7,917	-	900	7,017
Industrial studies	200	200	-	-	200
Expenditure of the authority	2,700	2,700	-	2,160	540
SUB-TOTAL	195,063	143,658	51,405	74,963	120,100

Authorities and Projects	Aggregate investments	Sources of financing		Currencies	
		Local Sources	Credit facilities	Local	Foreign
<u>Establishment of defence factory</u>					
Electricity meters	1,299	1,299	-	146	1,153
Water meters	2,278	2,278	-	583	1,695
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
SUB-TOTAL	3,577	3,577	-	734	2,843
<u>Ministry of Supply</u>					
Bakeries	3,907	3,907	-	907	3,000
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
SUB-TOTAL	3,907	3,907	-	907	3,000
<u>General Authority of Grains and Mills</u>					
Automatic mills	10,320	10,320	3,500	10,360	3,500
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
<u>Ministry of Agriculture</u>					
Milk pasteurization in Damascus	390	390	-	410	480
Milk pasteurization in Aleppo	950	950	-	590	360
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
SUB-TOTAL	1,840	1,840	-	1,000	840
<u>General Directorate of Tobacco Monopoly</u>					
Completion of store in Lattakia	365	365	-	365	-
Completion of Aleppo Buildings	65	65	-	65	-
Previous commitments	129	129	-	129	-
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
SUB-TOTAL	559	559	-	559	-

Authorities and Projects	Aggregate investments	Sources of financing		Currencies	
		Local Sources	Credit Facilities	Local	Foreign
<u>Nasr TV Corporation</u>					
Telephone sets assembling	500	500	-	220	280
<u>General Authority of Cotton Ginning and Marketing</u>					
Projects of the authority: total	16,704	16,033	671	7,460	9,244
<u>General Authority of the Industrial Sector</u>					
Fine yarn plant	16,000	5,000	11,000	2,900	13,100
Ghab sugar plant	21,482	17,478	4,004	12,118	9,364
Asbestor cement plant	6,119	6,119	-	1,555	
Agriculture indus- trialization projects	-	-	-	-	
Bricks plant	1,000	500	500	650	
Spinning + textiles industry	26,513	26,513	-	4,745	
Chemical industries	6,057	6,057	-	1,375	
Metallic industries	2,349	2,349	-	420	
Food industries	8,000	8,000	-	1,470	
Wood, paper, leather and plastic indus- tries	2,000	2,000	-	310	
SUB-TOTAL	94,538	78,034	16,504	29,043	

Authorities and Projects	Aggregate investments	Sources of financing		Currencies	
		Local Sources	Credit facilities	Local	Foreign
<u>Syrian General Directorate of Electricity</u>					
General grid system and general stations	52,185	41,993	37,193	19,422	59,764
Transmission of electricity	20,512	20,512	-	9,963	11,149
Electricity distri- bution	90,000	90,000	-	44,923	45,077
Rural illumination projects	5,165	5,165	-	2,565	2,600
SUB-TOTAL	194,862	157,670	37,193	76,273	118,590
<u>Petroleum General Authority</u>					
Aleppo petroleum tanks	1,300	1,300	-	600	700
Adra petroleum tanks	350	350	-	90	260
Lattakia petroleum tanks	975	975	-	625	350
Hassaka and Deir ez- Zor tanks	600	600	-	450	150
Hama petroleum tanks	1,200	1,200	-	525	675
Gravimetric prospection	500	500	-	400	100
El Yarubia pet. tanks	675	675	-	300	375
Exploration drillings	13,000	13,000	-	5,048	7,952
Petroleum Refinery modification	111,100	39,180	72,000	21,090	90,090
Expanding the refinery	1,183	1,183	-	400	783
Karatchouk tartous pipeline	170,330	127,393	42,937	37,312	133,018

Authorities and Projects	Aggregate investments	Sources of financing			Currencies	
		Local Sources	Credit facilities		Local	Foreign
<u>Petroleum General Authority (Cont'd)</u>						
Development of the petr. fields	101,320	61,320	40,000	17,500	83,820	
Supervision of pipeline completion	4,475	4,475	-	2,030	2,445	
Seismic survey	5,000	5,000	-	2,000	3,000	
Petrochemical industry studies	1,000	1,000	-	200	800	
Increasing the capacity of white products	4,000	4,000	-	821	3,179	
SUB-TOTAL	417,000	262,151	154,937	89,391	327,697	
 GRAND TOTAL OF THE INDUSTRY, MINING POWER AND FUEL SECTOR						
	960,496	689,968	270,528	301,577	658,910	

B. Past developments in the industrial sector

The average yearly growth, from 1957 to 1966, was about 8.4 percent; the index of industrial production 1967/1956 was 236.

Growth of Syrian industry

Years	Basic indexes 1956 = 100	Average annual rate of growth in percentage
1956	100	-
1957	112	12.0
1958	125	11.8
1959	12	8.0
1960	143	9.4
1961	147	3.0
1962	167	8.9
1963	173	8.1
1964	197	8.8
1965	215	8.9
1966	223	8.4
1967	236	8.2

The pattern of this development by different branches for the period 1957-1967, is as follows:

<u>Branches</u>	<u>Growth Index 1967/1956 (%)</u>	<u>Yearly rate of growth (%)</u>
Mining and quarrying	(-) 055	(-)
Food	+ 066	4.8
Beverages	+ 114	7.2
Tobacco	+ 032	2.6
Spinning and textiles	+ 197	10.4
Paper	(-) 38	(-)
Rubber	+ 182	9.9
Chemical industry	+ 060	4.9
Non-metallic	+ 093	6.2
Electricity	+ 165	9.3
<hr/> Industry total	<hr/> + 136	<hr/> 8.2

The branches which produce consumption goods realized the highest growth rate during the past decade. In contrast, the industrial investments under the second five year plan give stronger emphasis on expanding the mining and petroleum industry and other based producer-goods industries. When including these projects in the plan, the utilization of important available natural resources such as phosphates, salt, and hydrocarbon materials, was taken into consideration in order to secure raw materials for the various industrial projects which would achieve a fundamental change in the structure of the industrial sector. As of 1965, the output of the food, tobacco, and textiles industries alone constituted over 70 percent of the total industrial output.

Industrial output in Syria 1965
by main branches ^{1/}

	Output in million £. S. <u>current prices</u>	<u>Structure in percentage</u>
Food and beverages	162,1	15.4
Tobacco	87,3	8.3
Spinning and textiles	494,0	47.2
Naphta products	92,5	8.8
Non-metallic products	53,0	5.1
Electricity and water	72,5	6.9
other branches	87,7	8.3
<hr/>	<hr/>	<hr/>
Industry Total	1,049,1	100.0

The following table shows the share of the industrial sector in domestic fixed capital formation:

Sectoral distribution of net domestic capital formation 1961-67 at current prices M.S.£.

	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
Industry	100	112	92	104	117	167	268
Agriculture	84	99	100	96	79	29	13
Others	249	350	300	277	249	343	383
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL	433	561	492	477	445	539	669

The average annual rate of growth of the net fixed capital formation in the industrial sector was 15 percent. The share of the industry sector steadily increased from 23% in 1961 to 40% in 1967.

^{1/} Covers enterprises with ten or more persons engaged.

C. Notable projects in the Second Five Year Plan

In the following, some details are presented of certain important industrial projects aiming at the development of mining, hydrocarbon and metal industries. This brief description includes the basic characteristics of these projects and the status of implementation as well as the guidelines formulated in the State's annual budget within the framework of the plan.

The Minister of State for Planning by Decree No. /132/ of 27/9/69 created a central preparatory committee for evaluating the second five year plan and preparing the long term plan and the third five year plan for the development of the national and social economy.

The same decree provided for the establishment of sectoral committees for each of the major sectors: agriculture and irrigation, industry, electricity, hydrocarbon, etc. The committees are concerned with the evaluation of the second five year plan and the formulation of the sectoral plan in both medium and short terms within the framework of the overall long- to medium-term plans.

These committees were obliged to submit the required reports before the end of 1969. Appraisal of the progress of work would be included in the follow-up reports.

Nitrogen fertilizer factory

This factory is composed of: 1) ammonia production unit; 2) nitric acid production unit; and, 3) calnitro production unit.

The second five year plan has allotted £S.71,9 million for the execution of this project. Production is expected to begin in 1970 with a production capacity of 150,000 tons of ammonium nitrate per annum. The project has encountered delays and come across cost overrun, but the Ministry of Oil, Electricity and Industrial Project Implementation has undertaken the necessary measures to overcome these difficulties. This project is expected to contribute an income of about 19 million S.£. per annum, in addition to its impact on the agricultural sector in terms of yield increase.

This project has been conceived with due attention to its relationship and integration with the petroleum project and irrigation and land reclamation projects.

Developing and expanding the Homs refinery

The project aims at increasing the capacity of the present refinery and expanding it in such a way so as to enable the refinery to use the Syrian oil instead of the Karkouk petroleum that the refinery has to import. An amount of S.£. 113 millions has been allotted for this project.

This project was studied by a French firm IFF, and designed by a Czech expert. The control of execution was confided to an Italian firm SPAN PROGETTI.

The new units shall start production at the end of 1969. The project connects the oil refining industry to the petrochemical industry and secures the sound integration between these two branches. Thus, it provides substitutes for oil import, raises the capabilities of oil products exports, and expands the capacity of ammonium nitrate production.

Integrated petroleum industry

In line with the industrialization strategy of the Second Five Year Plan, a pilot experiment has been established in the sphere of petroleum industry. The most important petroleum projects implemented in the second five year plan are:

- a. Petroleum storage tanks: allocation 5-6 millions S.£.;
- b. Prospecting, exploratory drilling: allocation 15-20 millions S.£.;
- c. Development of petroleum fields: total drilled depth was estimated at about 100,000 m.; allocation 101 millions S.£. and,
- d. Karatchock Tartous pipeline with average capacity of 7 million tons a year. This pipe started transportation in 1968.

Thus the aggregate investments which have been allotted for the petroleum projects amount to 220 millions S.£. and the national income which will result from these projects is about 150 million a year from 1969. Oil production will reach 6 million tons by 1970. The long- and medium-term plan for oil production aims at producing 15 million tons in 1975, and 20 million tons in 1980. Oil reserves are estimated to (1,500,000) million of barrels. Number of producing wells 30.

Power

Chief among the factors affecting the base of industrialization is the development of electricity. Before 1965, this industry was characterized by a multiplicity of projects and companies. This resulted in a waste of power. The decree No. 8 of 1965 established a public organization for electricity which was divided into five main districts.

The energy which was generated in Syria in 1967 was about 676 M.KWH

The index number 1961-1967 (1956=100) for lower production shows a constant pace of increase:

<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
169	197	206	225	233	258	265

Production of electricity will rise to 912 M.KWH by 1970.^{1/}

The following targets have been set under the five year plan 1966-70:

- a. Follow a unified policy providing large towns with electric power by building a main network linking these towns; the main generating center to be located in Homs because of the economic advantages peculiar to the site;

^{1/} Comparing with the growth of electricity production in industrialized and less industrialized countries, the rate of growth of the Syrian production for the period 1961-1970 is not particularly impressive however.

	Index number		
	Industrialized countries 1963 = 100	Less industrialized countries 1963 = 100	Syria 1956 = 100
1961	86	86	169 (82)
1962	93	93	197 (96)
1963	100	100	206 (100)
1964	103	114	225 (104)
1965	115	126	233 (120)
1966	124	140	258 (125)
1967	132	153	265 (129)

- b. Extend electricity to small towns and villages; and,
- c. Provide consumer with adequate supply of electric power.

The most important projects are:

- 1) Main network and its generating units consisting of the transmission line connecting Lamasous, Homs, Aleppo having a voltage of 230 KV; four main transformation centres, and three steam generation units;
- 2) Projects for lighting the Syrian countryside;
- 3) Projects for internal distribution of electric power; and,
- 4) Distribution projects

The second five year plan has allocated to these projects an amount of 195 million S.£. and the income which will result from the execution of these projects is estimated to 15 million S.£. per annum.

Rolling mill factory

This project is to meet the increasing need for iron rods estimated at about 120,000 tons/year. The production capacity of the project is 75,000 tons/year, which would increase after two years to reach 120,000 tons in 1971. The plan has allocated 24 M.S.£. for the execution of this project, while the annual national income which will result from it is estimated at about 10 M.S.£.

To support the industry of rolling mill, an integrated steel processing complex has been formulated and added to the industrial plan. This project would create a chain of economic activities in the field of industrial development.

As indicated earlier, the 1966-1970 plan has allocated a little over 1,000 million S.£. or 20.4 percent of total investment to the industry, mining and power sectors. Of this, 720 million S.£. has been allocated to the mining, hydrocarbons, fertilizers and metal products branches. These projects will increase the national industrial income during the second five year plan by about 400 M.S.£. per annum.

II. INDUSTRIAL PLANNING AND PLAN IMPLEMENTATION

A. Institutional basis for the formulation and implementation of industrial projects

Prior to the recent emergence of the new planning system, development activities in the public sector were undertaken through extraordinary budget programmes. These activities were modest in magnitude and comprised mostly infrastructural projects.

Early in 1954, the Syrian government drew upon a group of experts from the IBRD, to study the country's economic potentialities. The proposals made by this study group were utilized later as a basis for the extraordinary budget, which was known as the Seven year Programme 1955-61, promulgated by Law No. 110, dated 29 July 1955.

In 1957, Syria has concluded with the Soviet Union an agreement for technical and economic assistance under which the Soviet Union undertook to study and implement a number of development projects in the petroleum, mining and manufacturing sectors.

In 1960, the country's economic and social objectives to be pursued for the ten years 1960-1970 were formulated. On the basis of these objectives, the first five year plan was established.

1. Institutional set-up

Until a few years ago, Syria lacked an effective machinery for industrial development. Law No. 212 dated December 1953 was amended by Presidential Decree No. 903 of 11 June 1956, which established the Ministry of Industry to deal with matters relating to industry and mineral resources of the country.

The establishment of this Ministry was followed by the institution of a number of public bodies constituting legal entities and enjoying administrative independence, which were to undertake serious development work with flexibility and vigour, and to achieve their aims independently of the government routine.

The first entity to be established was the Public Petroleum Authority, created in accordance with Decree No. 113 of November 1961.

The Public Authority for the Execution of Industrial Projects was established by Legislative Decree No. 158 of 4 December 1961.

The Public Organization for Electricity was established by Legislative Decree No. 1 of November 1965.

The General Authority for the Public Industrial Sector was created by Legislative Decree No. 34 of May 1965. Measures are then being taken to replace these public organizations by general companies. Thus, the General Petroleum Company shall replace the Public Petroleum Authority, and shall be attached to the Minister of Oil, Electricity, and Industrial Project Implementation. The Syrian Cabinet has approved this proposal. This institutional change aims at supporting these new entities and endowing them with the flexibility necessary to achieve their objectives independently of government routines. The establishment of these new companies, which was based on the actual experience gained thereto, has proved to be a successful step towards the improvement of the basic machinery for industrial development administration.

a The General Organization for Industrial Project Study and Engineering Design

Conscious of the need for an organization able to develop and formulate industrial projects, the Syrian Government, by Decree No. 255 of 21.10.1969, created the "General Organization for Industrial Project Study and Engineering Design". The task of this organization is to make "feasibility studies" on the technical and economic aspects of projects and suggest their inclusion in the industrial plan. The Organization will study and design projects when they are approved by the authorities concerned and included in the plan.

The Organization shall be responsible for studying specially the following projects:

- a) electricity development projects;
- b) oil development projects; and,
- c) other industrial projects.

When necessary, the Organization may have recourse to services of foreign experts and licensing agreement with foreign owners. It may act in the capacity of a consulting firm on the industrial affairs. The creation of this organization may thus be considered as a very serious attempt at resolving the problem of industrial studies and project evaluation. It is a bureau for project engineering studies and design and it shall prepare reports and other studies necessary for the Ministry of Planning to work out the industrial investment plan of the country, which includes the appropriations required for the implementation of industrial projects and the objectives to be achieved by them in terms of income and employment effects.

b. Ministry of Industry

The functions of this ministry are broadly defined as follows:

- a) to supervise and raise the standard of the different industries through increased productivity, improvement in quality and lower costs of production;
- b) to carry out all matters relating to mining industry;
- c) to guide industries within the framework of the industrial development programmes through legislation, encouragement, protection and other means;
- d) to collect statistics on industrial establishments, industrial production, . . . ;
- e) to concern itself with matters relating to supporting the industry, such as formulating industrial vocational training programmes by issuing brochures and participating in the holding of international fairs, . . . ;
- f) to organize and supervise chambers of industry; after the socialist measures providing for the nationalization of the main sources of production in Syria, the General Authority for the Public Industrial Sector was established (1965) to deal with all matters relating to the nationalized industries. As a result, the Ministry of Industry, was reorganized in line with the new changes and new government plans in the sector. The main steps in this field were to create the specific industrial group "unions", namely:

- (i) Union of textile industry;
 - (ii) Union of chemical and engineering industries; and,
 - (iii) Union of food industries.
- g) dividing the public industrial sector into three unions aimed at coordinating the different branches of this sector, accelerating its development and rationalizing methods of operating and improving industries in the public sector.

All these measures are to simplify the organizational and procedural problems which might frustrate the best intentions of individual development institutions.

The distribution of the public industrial sector responsibility between the three above-mentioned unions resolved the problem relating to the degree of responsibility these institutions assume for project development.

c. Other institutions involved in project formulation

The continuous expansion of oil and electricity industries led to the creation of the Ministry of Oil, Electricity and Industrial Project Implementation. This newly established ministry is vested with responsibilities relating to operating industries concerned with oil and electricity on the one hand and to formulating and implementing all industrial projects of the public sector, on the other hand. The formulation and development of most industrial projects in Syria were being contracted to foreign consultant firms. Until a few months ago, Syria lacked such technical bureau. The creation of the "Organization for Industrial Project Study and Engineering Design", as mentioned above, constitutes the first step leading to the development of project evaluation technique, and secures linkage and cooperation with the planning authorities concerned with evaluating and determining the industrial projects to be implemented under the development plan.

Among other institutions involved in project formulation, the State Planning Organization, created by Legislative Decree No. 86 of 2.7.1962, plays a very important role. The Industry, Power and Fuel Planning Directorate, created by Decree No. 130 of 7.2.1968 issued by the Minister of State for Planning, has the function of studying, evaluating, and defining development projects. It has to formulate the production objectives, estimate project costs and suggest fund allocation among different economic sectors. It should determine industrial projects to be implemented in each periodical stage of the development plan. The directorate of long-term planning in the State Planning Organization has a special department concerned with the studying of vital projects from the technical and economic points of view and with the preparation and evaluation of project reports in collaboration with other sectoral directorate.

The State Planning Organization has also to supervise the process of preparing the industrial plan, evaluate and determine industrial projects to be implemented in each stage of the industrial plan, and suggest fund allocation among different industrial branches.

The highest planning authority in Syria is the "Supreme Planning Board" created by Legislative Decree No. 81 of 2.6.63. This Supreme Planning Board replaced the "Supreme Planning Council" which had been created by Legislative Decree No. 97 of 3.7.1963. This Board is headed by the Prime Minister and composed of the Deputy Prime Minister and 13 Ministers, the Governor of the Central Bank, the Director of the Central Bureau of Statistics, and the assistants of the Minister of State for Planning.

Under the second Five-Year Plan, 1966-70, the Ministry of Planning, in accordance with the guiding figures approved by the Supreme Planning Council, created Preparatory Committees for respective national economic sectors: industry, irrigation, etc., which were to participate in the preparation of long-term and annual plans of the national economy.

Each committee is to be established by a decree issued by the minister concerned, subject to the approval of the Ministry of Planning. Each committee is headed by the Secretary-General of the ministry whose field lies the closest to the relevant sector. Meetings are attended by a member designated by the Minister of Planning to represent the ministry and by one or more members representing the private sector. These committees are concerned with the formulation of overall long- and medium-term plans, as well as annual plans, and with the collection of data and the preparation of studies, within the framework of the second Five-Year Plan, in both global and sectoral terms.

For the purpose of preparation of the third Five-Year Plan 1971-75, Decree No. 132 of 27.9.69 issued by the Minister of State for Planning, in accordance with the provisions of Legislative Decree No. 86 of 2.7.1968, created a Central Preparatory Committee for evaluating the Second Five-Year Plan, and preparing a new long-term plan and the Third Five-Year Plan. This committee is headed by the Minister of State for Planning and composed of the assistant to the Minister of State, the Governor of the Central Bank, members representing the ministries: finance, defence, the director of long-term planning in the State Planning Organization, one member representing the Arab Socialist Baath party, members representing the Executive Bureau of Trade Unions, and Union of Farmers.

The same Decree (No. 132) provided for the establishment of the Industrial Sector Committee and divided it into the following sub-committees:

- a) Committee for industrial union projects;
- b) Committee for industrial projects;
- c) Committee for electricity; and,
- d) Committee for oil.

2. Main functions of the various industrial planning institutions

a. Preparation of the industrial plan

Decree No. 132 referred to above, defines the functions to be exercised by the Committee of Industrial Sector as follows:

- a) evaluating the achievements of the general Five-Year Plan especially in all that concerns target realization, project implementation, revenue estimation, external credit facilities utilization;
- b) undertaking a complete economic and social survey of the industrial sector, and consequentl, investigate the sources of difficulties, explain their causes, and propose the means of overcoming them . . .;
- c) defining the long-term perspectives of the industrial sector; and,
- d) determining the framework and the general targets for the third Five-Year Plan 1974-1975.

In addition to these functions, Decree No. 132 of 27.9.69 divided the projects to be implemented into two categories:

- a) projects started before the Third Five-Year Plan period and whose implementation to be pursued during the period 1974-1975. For these projects, the Committee has to determine investment volume to complete them, the number of workers needed for implementation and operating steps, revenues that can be realized, savings in foreign currencies, increase in production value, etc; and,
- b) new projects to be included in the industrial plan taking into consideration the following:
 - 1) projects necessary to improve the economy of existing projects and implemented projects;
 - 2) projects necessary to the exploitation of natural resources;
 - 3) projects which would provide substitutes for imported goods and raise the possibilities of export;
 - 4) projects which would develop production techniques and modern technology; and,
 - 5) projects meeting various strategical considerations.

The Industrial Committee has to classify proposed projects in two groups: projects of first priority, and projects of second priority, and to coordinate proposed projects to form an integrated programme with unified targets. It has to distribute projects over Mohafazats and to define production and consumption targets, export, import, training and employment in the sector.

The above described steps practically encounters a number of obstacles, such as lack of data, scarcity of technicians and incomplete technical knowledge of projects under discussion. The industrial committee under the second Five-Year Plan was faced with many problems relating to the appropriations required for these projects which had been included in the plan and for which a sufficient technical and economical study was not yet available. The committee has to coordinate the implementation programme of its different units: the most significant obstacles relating to the preparation of industrial plan centre around the extent of responsibility which the various institutions are to assume for project development; and the balance to be kept between cost-consciousness and development orientation.

(i) Links with other aspects of programming

In accordance with guiding instructions and figures related to the plans, the Central Preparatory Committee studies the relationships of industrial plans with other aspects of programming, examines the process of preparing sectoral and locational plans and coordinates the plans of the different organizations. Based on the report of the committee in these matters, the State Planning Organization studies the expenditure and the revenues of development budget for each fiscal year, and fixes the amounts in accordance with the estimate of the general plan. All authorities concerned with industrial plan should formulate a programme for executing these projects during the fiscal year on the basis of their allocation; then these programmes should be sent to both the Ministry of Planning and the Ministry of Finance.

The main difficulty in the development budget under the second Five-Year Plan was to divide the aggregate allocation for each plan item into sub-items that fit the requirements of the respective Ministries concerned. This requires a corresponding sophistication of the government routine, in which accountants are to play an important role.

(ii) Adequacy of criteria and other forms of comprehensive analysis of industrial projects

The main criteria observed during the preparation of the industrial plan and the budgeting for industrial projects are as follows:

- 1) An industrial project is evaluated in the context of the development needs of the economy, and in the light of the strategy of industrial development which formulates the industrial priorities for a given period;
- 2) These priorities embodied in the strategy for industrial development define the industrial sectoral programmes;
- 3) In collaboration with the ministries concerned, the Industrial Sector Committee studies proposed projects from the marketing point of view, with due attention to the expansion of internal market and the creation of supply and demand which add dynamism to industrial development;
- 4) Each industrial project is examined in relation to other projects in the industrial sector and the overall development programme. This part of study is concerned with the internal consistency of the sectoral plan;
- 5) Broad sectoral targets are translated into specific projects. The evaluation of proposed industrial projects leads to the modification of sectoral programmes.

Decree No. 132 of 27.9.1962, and Legislative Decree No. 86 of 2.7.1963, referred to earlier, define in detail the working programme of the Industrial Sector Committee in regard to the classification of industrial projects, and the formulation of priorities for the plan period.

Decree 248 and 219, of 16.12.1967 and 17.10.1965, respectively issued by the Minister of Planning, and the Minister of Finance, created the sectoral committees for the project study and preparation for the 1967 and 1968 annual plan.

The Industrial Sector Committee has encountered a number of cases where the inadequacy of project preparation proves to be the major stumbling block. The following difficulties have most frequently been pointed out:

- 1) Lack of adequate and reliable data concerning commercial and national economic profitability, availability of technical know-how, inter-industrial effects and financial needs, projects in the mining and industry sector and some projects in the public industrial sector suffer very often insufficiencies in this respect.
- 2) Most of the ministries and other industrial development institutions tend to confine their activity to the evaluation and implementation of projects rather than the preparation of projects. (The legislative Decree number 255 of 21.10.1964 creating the Organization for Industrial Project Study and Engineering Design does not provide details in this matter). Another institutional aspect is the composition of "evaluation" sections. This function is carried out by accountants in some projects and only by engineers in other projects;
- 3) Linkage effects are not given proper consideration in the proposed projects submitted to the Committee, although the latter proposed the utilization of material balance and input-output methods to determine these effects. The fertilizer projects, the vegetable drying project, the fine yarn project, oil and power projects need very much an analysis of their linkage effects;
- 4) Assessment of the merits of a project in comparison to other comparable alternatives is not sufficiently undertaken. "Composite criteria" for evaluating similar competing projects are not well developed. This problem arises for example in evaluating and comparing different kinds of fertilizer projects— "competitive projects satisfying the same requirements".
- 5) Poor information related to the production phase of the project. This problem is predominant in the major industrial projects.

(iii) Consistency between the various development objectives

The article (3) of Legislative Decree No. 21 of 1964 stipulates that the Supreme Planning Board shall:

- a) determine the general framework;
- b) discuss and approve the guiding figures for the preparation of long-term, medium-term and annual plans . . . ; and,
- c) take the necessary measures for the coordination of the different parts of the plan, and endeavour to provide balance in the overall plan.

The article (3) of Legislative Decree No. 86 of 2.7.1963 provides that the State Organization for Planning "supervises the process of preparing sectoral and locational plans, and the plans of different ministries and organizations".

Decree No. 132 of 26.9.1963 issued by the Minister of State for Planning defines the procedure and assigns to the Central Preparatory Committee the role of studying and coordinating the work of sectoral committees which are designated to "coordinate proposed projects in an integrated programme based on a comprehensive working method having inter-linked parts and unified targets".

Earlier, Legislative Decree No. 97 of 3.7.1963, created the Supreme Planning Council, supervised "the formulation of the general economic and social development plan; . . . and studied projects and other matters relating to the plan".

The Ministry of Planning in accordance with the provisions of Law No. 1227 of 1950, and Law No. 114 of 1958 amended by Law No. 120 of 1959, undertook the "formulation of comprehensive long-term plans embodying defined major targets . . .; distribution of the programmes and projects whose implementation will take a definite number of years over the different stages of the plan".

The Industrial Sector Committee created by Decree No. 10 of 19.9.1963 issued by the Supreme Planning Council was concerned with: "the formulation of overall long and medium-term plans, and with the collection of data and the preparation of studies". A coordinating committee was created by the same decree and its function consisted of studying and coordinating sectoral reports within the limits defined by the Supreme Planning Council".

As a result of the work of the sectoral committees and the coordinating committee, the general targets of the plan have been defined in such a way as to ensure the strengthening of the country's industrial base and doubling national income within ten years. The main task of the Ministry of Planning regarding the targets of the plan is laid down as follows:

- 1) Formulation of figures of values and sizes, and trends and relationships that should dominate all aspects of society, and that constitute the general framework of the plan;
- 2) Structuring of the plan in terms of specific projects to be included; and,
- 3) Formulation of policies, measures and regulations which ensure mobilisation of resources in order to execute the projects and realize the targets.

On the basis of the framework figures, more detailed and precise instructions were given to the local and sectoral committees. The reports established by the local committees were submitted to the sectoral committees through the Ministry of Planning for their consideration in the formulation of the sectoral plans and the overall plan.

The Committee of Industry, as a sectoral committee, submitted a detailed report on projects in the industrial sector. The report examines various specific investment projects and programmes in terms of:

- a) contribution to national income;
- b) financial needs of the projects in both local and foreign currencies;
- c) economic viability;
- d) foreign exchange savings; and
- e) contribution to employment and maturation period of the project.

Due to inadequacy of some basic data, the harmonization of the development objectives of different industrial branches was not quite accomplished. The same can be said about the consistency between the requirements and the availabilities of each branch of the industrial sector.

In the Committee report, projects and programmes were further classified into the following categories, depending on their contractual status:

- 1) Projects contracted but not implemented;
- 2) Projects contracted and already being implemented;
- 3) Projects under consideration and expected to be contracted; and,
- 4) New projects.

This classification is utilized in connexion with the allocation of the limited available financial resources as estimated by a competent special committee.

As a result of the study conducted by the Industrial Sector Committee regarding complementarity and competition among proposed projects, some projects were deleted and others added. This study has led to the establishment of sectoral programmes including projects which have been evaluated not in isolation, but taking into account their complex relationship with the rest of the economy. In the light of specific project studies and consistencies between their objectives, the framework figures were re-examined for amendment.

b. Sectoral Planning

The steps we have described above lead to the formulation of the plan for the industrial sector. The sectoral planning deals with more complex economic units than "projects", utilizing average technological coefficients and containing only a few alternatives. The main stages of sectoral planning are listed below:

- 1) Defining the general targets in the light of the outcome of analytical studies of the whole Syrian economy;
- 2) Formulation of the general framework figures;
- 3) Examination of the report formulated by the Committee of the Industry Sector on the basis of the discussions with competent ministries and other institutions and the reports of local committees; and,
- 4) Studying of the report by the coordinating committees, and the high authorities of planning. This study should contain mainly the following elements:

- (a) preparation of a sectoral plan supported by a comprehensive survey and analysis of the technical and economic inter-relations and main development trends;
- (b) forecasting the expected development in the sector of industry;
- (c) planning of the requirements-availabilities balance; and,
- (d) determining of the most rational allocation and use of resources. With this concluding phase of sectoral planning, the most important work is the evaluation of projects and the selection of projects to be carried out.

The utilization of the balance methods (comparing the foreseeable consumption to the foreseeable production) secures the consistency in the industrial sector. During the Second Five-Year preparation period, such study was not fully carried out because of inadequacy of data except for the electricity sector where a complete technical and economic study was conducted by a French company (SOFROLEC).

In the fuel sector, this problem was not raised and the main target was to formulate an integrated petroleum industry development programme.

In the Industrial sector, many coefficients establishing the relations between capital and increasing income, and between capital and employment, were not accurate. The combination of these coefficients often led to wrong conclusions.

Until a few years ago, Syria had lacked a suitable department for the preparation of economical balances which are fundamental for the comprehensive planning.

Decree No. 130 of 7.8.1968, issued by the Minister of State for Planning, in accordance with the provisions of Legislative Decree No. 86 of 2.7.1968, created various departments for drawing up economical balances. The function of these departments is to formulate, assemble, and coordinate various balances. The preparation of the Third Five-Year Plan, based on the experience gained from the Second Five-Year Plan, will make use of these balances. This tendency is stipulated in Decree No. 132 of 27.9.69 which has created the central preparatory committee and the various sectoral committees for the evaluation of the Second Five-Year Plan and the preparation of the Third Five-Year Plan (1970-1975).

c. Planning at the project level

This stage is met when the Committee of Industry sector undertakes its study on the project reports submitted by competent institutions: Ministry of Industry, Petroleum Authority, Authority for the Execution of Industrial Projects, etc. Also, the coordinating committee and the high authorities of planning engage in project planning when they investigate and study the possibilities (technical and economic) leading to the increase of production of electricity, fuel, etc.

Obviously more than one possibility can be proposed; or sometimes a combination of different possibilities. There are important choices to be made concerning the location, construction period, etc. of each proposal. All these possibilities are compared to find out the most efficient. In this respect, planning at the project level is an indispensable part of the planning process. This part of planning assures the efficiency of plan while consistency is provided by establishing equilibrium between production and consumption.

This stage relied very much on the preparation and evaluation of projects including the assessment of direct and indirect effects, backward linkage (changes in inputs) and forward linkage (changes in output) of various given projects.

In the context of a comprehensive planning, the measurement and estimation of these effects in relation to the production and consumption plan require a considerable computational work. If the technological coefficients are known, the total output of an individual branch can be computed with the help of the inverse matrix of the coefficients with any given final consumption. Under the Second Five-Year Plan and at the level of project planning, this method was not applied. The problem of comparing the efficiency of the development of each branch of the industry was not yet seriously considered. The majority of projects were contracted and started during the First Five-Year Plan when only their direct effects had been studied.

To meet the country's need to formulate a sectoral plan consistent and efficient, based on soundly established and evaluated projects, Legislative Decree No. 255 of 21.10.69 has created the Organization for Industrial Project Study and Engineering Design which would evaluate industrial projects and undertake their feasibility studies. The work of the central and sectoral committees in charge of preparing the Third Plan, would be more rational and better equipped when adequate data on projects become available from this Organization.

3. Institutional cooperation and division of labour

The preparation of the plan of industry requires a chain of work at various levels. Cooperation and collaboration between various institutions are very much needed. The manner in which the skills of economists, engineers, and accountants are mobilized for evaluating individual projects and integrating them in the form of a branch programme can be vital to the plan preparation. Frequently the most significant obstacle to the industrial plan formulation is related to the degree of responsibility that the different institutions assume for project development, evaluation, implementation and follow-up. The local, sectoral and central "coordinating" committees, formed for the preparation of the Second Five-Year Plan were indeed to satisfy this requirement.

Industrial projects were formulated at the level of executive ministries and organizations concerned with various branches of industry. Very important projects were proposed by the high planning authorities, but the feasibility studies and the evaluation of these projects came later when the projects had been included in the plan and had even been contracted to foreign firms. This results in the lack of technical and economical data whereby the consistency and efficiency of these projects are to be examined at the level of sectoral planning.

a. Committees

Under the Second Five-Year Plan, four committees were involved in the process of industrial planning:

- (a) Local Committee: the function of this committee is to study the human and material resources available in the MOHAFAZAT and recommend viable economic and social projects;
- (b) Sectoral Committee: the reports of the local committee are submitted through the Ministry of Planning to this committee and the latter studies them in connexion with the formulation of sectoral plan. This committee is empowered to form sub-committees to study matters that cannot be handled by the main committee, such as development programmes for oil, mining and manufacturing branches. The Ministry of Finance is represented in this committee by more than one member;
- (c) Committee for Revenue Estimation: it should undertake the estimation of the revenues of the public sector which could be mobilized for financing the investment plan. On the base of this study, the high planning authority makes allocations for the various economic sectors; and,
- (d) Coordinating Committee: it is responsible for studying the reports of sectoral committees, supervising the process of preparing sectoral and locational plans and the plans of the different ministries and organizations, and formulating the investment policy taking into consideration the structural characteristics of the national economy.

The structure of these committees and, especially the sectoral committee, meets the need for combined skills of economists, engineers and accountants.

The sectoral committee has had to deal with many problems concerning "projects not adequately prepared". The committee had to first seek the technical and economic data necessary for the evaluation of these projects and the assessment of their effects on the whole economy.

Due to the situation of the revenue, the members representing the Finance Ministry tend to give priority to the projects enjoying credit facilities and to the implementation methods ensuring credit facilities, regardless of other economic factors.

The main obstacle facing the sectoral committee is the incomplete presentation of projects and the scarcity of supporting technical and economic reference data. This used to be attributable to the inefficiency of the planning units established in each ministry and public department, which are supposed to collect technical data and statistics and study the progress achieved by development projects.

Now, the reorganization of the Ministry of Planning and the creation of the State Planning Organization (by Legislative Decree No. 56 of 2.7.1968) define the new steps in the planning process: The state planning organization is a technical organ of the Supreme Planning Board (created by Legislative Decree No. 81 of 6.6.1968). Decree No. 132 of 27.4.1969 has established new committees similar to those created by the 1963 decree. The new committees are:

- 1) Central Preparatory Committee headed by the Minister of State for Planning;
- 2) Sectoral Committees; and,
- 3) Mohafazat committees.

Their main functions and responsibilities were already described in the section dealing with the "technical work of the institutions in the planning process" in this paper.

b. Role of Ministry of Planning/State Planning Organization

The Ministry of Planning plays an increasing role in the country's development planning. It serves as link between higher political authorities such as the Supreme Planning Board and the Council of Ministers on the one hand, and executive ministries such as public departments on the other. It was created by Law No. 194 of 1958, reorganized by Law No. 120 of May 1959, and finally transformed into a "State Planning Organization" by Legislative Decree No. 56 of 2.7.1968. The last reorganization meets the country's need for an authority vested with broad responsibilities and coping with the development requirements and socialist measures for the country.

The sequence of planning steps envisaged within the purview of the State Planning Organization ranges from project formulation to plan preparation. As regard to the industrial sector plan, the new organization exercises these functions as stipulated in the article (3) of its legislative decree, namely:

- (1) study and analyse economic and social conditions, and identify the possibilities of growth in the sector of industry;
- (2) prepare the framework both global and sectoral;
- (3) prepare the guiding instructions and figures related to the industrial plan;
- (4) supervise the process of preparing sectoral and locational plans;
-
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- ;
- (9) evaluate and determine the projects to be implemented in each stage of the development plan and suggest their allocation among the different economic sectors.

The sectoral committees serve as a link between this Organization and other ministries and executive institutions. The creation of the consolidated budget including the appropriations of the investment plan and the participation of the Finance Ministry in estimating the revenues form the important phase of institutional collaboration. The Finance Ministry makes efforts to warrant equilibrium between revenues and investment plans.

As industrial sectoral programmes are formulated on the basis of industrial priorities, the evaluation of industrial project is an essential part of the planning process. If industrial planning is to achieve its goal, a suitable organization must exist to deal with industrial project evaluation. As mentioned earlier, the General Organization for Industrial Project Study and Engineering Design has recently been created. Now, with the assistance of this Organization, the Industrial Sector Committee can assess the technical characteristics of various projects and evaluate their direct and indirect effects.

The Central Preparatory Committee possesses all the data necessary to undertake the study of the consistency and efficiency of sectoral plans.

Before ending this chapter, mention may be made of some of the measures taken by the Ministry of Planning during the formulation of the Second Five-Year Plan:

- (1) The Coordinating Committee did not include an iron ore exploitation project in the northern part of the country in the industrial plan. The reason was insufficient technical information concerning the metallurgical process; hence lack of adequate evaluation of the project, and lack of sufficient financial resources;
- (2) The above-mentioned committee did not include a paper factory project in the industrial plan. The reasons were: the narrowness of local market; lack of feasibility study; lack of coordination with the agricultural sector; establishment of this industry at the level of the Arab countries; and, lack of sufficient financial resources;
- (3) No place would be given in the plan to new projects which are not evaluated during the plan formulation period;
- (4) **Projects of public sector and projects of private sector would be separated completely.**

c. Role of the private sector in industrial planning

The First Five-Year Plan for economic and social development, 1950-1965, was formulated with the participation of both private and public sectors.

Under the Second Five-Year Plan, the local committees in the Mohafazats had at least ten members from the private sector. It was stipulated that 1/3 of the members of each committee should represent the private sector.

In the sectoral committee, the private sector is represented by one or more members. The distribution of investments between the public and the private sectors is shown in the following table:

<u>Sector</u>	<u>Investments (1000 S.L.)</u>	<u>Percentage</u>
Public	3,454,437	69.7
Private	1,500,563	30.3
Total	<u>4,955,000</u>	<u>100.0</u>

The private sector has been given a special importance in the sectors of agriculture, tourism, housing, contracting and service. Thus the private sector plays a very restricted role in the industrial sector. The industrial committees created by Decree No. 132 of 27.9.1969 no longer include a member representing the private sector.

B. Plan implementation

The Second Five-Year Plan has been taken as a basis for the economic and social policy in Syria during the years 1966-1970. To start implementation, Article 3 (Legislative Decree No. 36 of 1966) stipulated that: it is permissible after the consent of the Ministers of Planning and of Finance to contract for development projects within their aggregate costs estimated in the Second Five-Year Plan on the condition that the amounts payable during the concerned year do not exceed the amounts allotted for these projects in the plan. Article 5 of the same Legislative Decree prohibits contracting for projects that are not included in this plan except when special provision is made by law for inclusion of new projects. Implementation faced a number of obstacles including the following:

- (1) Shortage of funds: the measures taken to secure equilibrium of the Second Five-Year Plan by the Ministry of Planning in cooperation with other institutions were inefficient. These measures concern the development of economic variables during the second plan such as: saving and finance; public consumption; private consumption and, imports and exports. As a result, expenditure was limited to certain proportions of investment allocations;
- (2) Scarcity of technicians and weak management;

- (3) Delay in civil engineering work and construction. The delay occurs because of procedural requirements; the consent of two ministries is necessary to contract for industrial project. This approval is not obtained in time; the project is delayed and the delivery schedule of equipment becomes prolonged;
- (4) Overrun in cost: this overrun occurs because of the under-estimation of some cost and it is in relation with the lack of feasibility study. The delay in completing industrial projects raises pre-operative expenses above the level initially estimated; thus, in the case of rolling-mill factory the foundation cost increased;
- (5) New projects added to the plan at a later stage: this measure is considered as an exception and it requires a law in accordance with the provision of article 6 of Law Decree No. 36. But, in spite of this article, some projects were added and their implementation, without ensuring new revenues, led to modifications in the distribution of expenditures related to other industrial projects.

The implementation of the Second Five-Year Plan suffered much from the procedures which were prone to delays in the establishment of detailed programmes, their time schedule and various estimates.

The delay in issuing these programmes influenced the process of elaboration of the development budget.

1. Annual plan and annual budget

The tables for investment allocations did not include annual allotments for projects. Contracts for the mining and oil project exceeded the allocated investment. The coordinating committee concerned with development budget delayed the study and the approbation of the sectoral committee for industry. Main and detailed contracts were established and issued by law. The economic committee created with the Council of Ministers issued laws on matters relating to industrial plan implementation. The functions and powers of the Supreme Planning Council were exercised by the economic committee. As a result, implementation of some industrial projects was limited to a small proportion of allocated investments, while others exceeded the allocations formulated in the plan.

The development budget was geared to the equilibrium between expenditures and revenues. It endeavoured to define and limit expenditures in accordance with the table of revenues and table of expenditures.

The development budget issued for each fiscal year stipulates that the authorities which execute development projects should formulate a programme for implementing these projects during the fiscal year on the basis of their allocations. These programmes should be sent, within a month from the date of the issue of the budget to both the Ministries of Planning and of Finance. The executing ministries and organizations are to sub-divide the aggregate allocations into sub-items for this purpose. This subdivision is to be made known to the Ministries of Planning and Finance. Spending should be within the amounts fixed for the sub-items and this is on the responsibility of the accountant.

As to the progress programme, the planning authorities faced many difficulties. The progress programmes were formulated for financial purposes regardless of the physical requirement of projects and were generally very ambitious. They did not take into consideration the real capacity of the body to be engaged in project implementation. The expenditures requested according to these programmes exceeded the possibilities of execution available at the ministries and other responsible organizations.

Just the opposite happened with projects whose execution was assigned to foreign firms. The appropriations required in the progress programmes often exceeded the available foreign currencies.

Subdividing the programme items into sub-items played a binding role for both the authority of planning and the executing administration.

In addition, there were other problems which were not related so much to the characteristics of projects as to the approval of the Finance Ministry, especially in the case when the establishment of the development budget had been delayed. Such problems relate to the limitation of monthly expenditure within 1/12 of the amount spent during the preceding year. Practically this limitation means to restrain the progress of development projects and causes delays in completing them.

As some integrated projects have to be carried out in the same period, for example, the development of an oil field and the pipeline, it was difficult to distribute the appropriations for the investment programme evenly over the five years. In fact, many industrial projects had started or contracted during the First Five-Year Plan period.

Nevertheless, the annual budgets have played an important role. It revised some projects and modified the construction period in the light of the data newly obtained.

III. INDUSTRIAL PROJECT EVALUATION AND FOLLOW-UP

A. Industrial project evaluation

During the preparation of the Second Five-Year Plan, special attention was paid to investment criteria. The problem had a number of difficult aspects. The main obstacles encountered with respect to the organizational set-up and the methodological system are summarized below.

1. Obstacles in project evaluation

Until recently, Syria suffered from the lack of an organization vested with the responsibility of project formulation, feasibility studies, and project evaluation. The newly-created "General Organization for Industrial Project Study and Engineering Design" is expected to permit the achievement of the following objectives:

- (a) Develop the technique of project feasibility study and evaluation and gradually raise the number of national engineers and economists to be involved in this field;
- (b) Minimize the reliance on foreigners for these critical stages of industrial planning;
- (c) Reduce the handicaps resulting from fragmentary and incomplete industrial data;
- (d) Provide the sectoral and central committees involved in the planning process with studies necessary to undertake project selection and sectoral programming;
- (e) Shorten the period required to formulate annual budgets. Delay is mostly due to the lack of project studies. In many cases, the Sectoral Committee for Industry found itself being involved in undertaking feasibility studies and establishing data related to technical, economic and other aspects of industrial project evaluation, while the implementation authority should be assigned to achieve such studies;
- (f) Take necessary measures to train and develop manpower to cope with the tremendous requirements for industrial project evaluation.

It would be desirable to establish an evaluation procedure based on the functional distribution of responsibilities over different technico-economic aspects of project studies, such as market study, location analysis, process analysis, cost and financial planning. Such procedure would be suitable for the conditions prevailing in a developing country like Syria.

The Minister of State for Planning has lately issued a decree (No. 132) which introduces the institutional steps necessary for the evaluation of the Second Five-Year Plan and the preparation of the Third Five-Year Plan. These were already mentioned earlier in relation to the role of the Central Preparatory Committee, and the Sectoral Committee for Industry.

As regards the methodological system, one should note that the formulation of correct criteria for industrial project evaluation depends on the basic development objectives and principles envisaged. It is difficult to formulate general criteria applicable in any sector at any time. Thus, the general criteria rely very much on the industrial development strategy and the economic situation and possibilities of the industry at a given period of time. The development strategy defines the long term development targets and the means required to achieve them. By "economic situation and possibilities" we mean the institutional framework of industrial activity and availability of resources, existing amount of capital, labour and natural resource endowment. Criteria are relative by nature and to be linked to the above-mentioned factors which are changing over time. In recent years, methods based on "mathematical programming" have been used to choose the optimum variant within a given set of constraints, namely the official plans and development programmes. Under the Second Five-Year Plan, a number of criteria have been proposed for project evaluation. The main criteria were stated as follows: contribution to national income; financial needs in both foreign and local currencies; economic viability; contribution to employment and maturation period of investment. The development strategy elaborated by the Supreme Planning Council were as follows:

- (a) Increasing net domestic product by an average rate of 7.2 per cent per annum; and
- (b) Improving the industrial sector to cope with the natural and agricultural potentialities of the country in order to secure industries which would provide substitutes for imported goods, and raise export possibilities.

Particularly for the industrial sector, these main objectives have been elaborated into the following strategies:

- (1) Re-organization of industry by substituting socialist production relationships for capitalist relationships;
- (2) Support of the industrial structure by establishing a centre for industrial research and industrial experiments;
- (3) Giving importance to geological survey;
- (4) Creation of mining industries;
- (5) Creation of a petroleum industry with a vertically integrated programme with regard to survey, prospection, exploitation, transport and refining;
- (6) Creation of a metallurgical industry;
- (7) Development of major industrial projects;
- (8) Support of the industrial projects of the public sector;
and
- (9) Support of the electrical industry with regard to generation, transmission and distribution.

National income was expected to rise by 41.5 per cent, private consumption 36.9 per cent and public consumption by 27.6 per cent during the years of the Second Plan. In consequence of this strategy, the basic criterion of a project was to maximize production and employment that the new projects could give rise to. With the Second Five-Year Plan, the country was approaching a new stage of development backed up by the exploitation of mineral resources (oil, phosphates, etc.), the creation of nitrogen and phosphate fertilizer industries, and the maturation of the projects for the development of electricity. The most important question at this stage should be the following:

"What should be the criteria for project evaluation in a country where natural resources are abundant and skilled labour limited?"

The ambitious targets of the Second Five-Year Plan led to a dispersion of investment resources and to generating a number of unfinished projects.

Under the Second Five-Year Plan, the methodological system was not well defined. This situation was characterized by the following limiting factors:

- (a) Many projects had started during the First Five-Year Plan and were yet to be completed in the Second Plan period because of the important volume of investment already engaged in their implementation;

- (b) As a consequence of the technical and economic assistance agreements concluded with foreign countries, many projects were formulated and technically studied abroad. The limited participation of Syrian specialists delayed the elaboration and discussions of methods related to project evaluation. It was nevertheless possible to initiate evaluation methods for some major industrial projects financed by foreign loans. These attempts, supported by foreign technical bureaux, such as Institut français de pétrole and the Russian Mehanobor Institute, led to modifications of production techniques and basic changes in the technical shape of the projects;
- (c) Industrial planning and project evaluation derived from it are a new concept in Syria;
- (d) The problem of external credit facilities proves to be a dominant factor at the level of investment programme elaboration. The instructions given to the Sectoral Committee for Industry comply with this requirement;
- (e) Scarcity of national skills in relatively new fields.

These limiting factors retarded the development of a fully-fledged methodological system to be supported by various balances, input-output tables and other programming techniques.

During the Second Five-Year Plan period, many attempts were made to permit the use of commodity balances and input-output tables for over-all planning purposes. These instruments were introduced by UN experts and others from socialist countries. A great deal of experience has been gained in this field and the Planning Institute played an important role in setting up a basis for these new working techniques.

The planning authority - particularly the Ministry of Planning and the State Planning Organization - being conscious of their role in promoting and developing planning techniques and project evaluation methods, took various measures to permit the best use of resources; the efficiency of projects was related to their complex relationships to the rest of the economy. Industrial project evaluation requires accurate and adequate data and solicits the advice and guidance of regional and international organizations.

2. Main criteria for industrial project evaluation

Under the Seven-Year Economic Development Programme (1955-1961) and the First Five-Year Plan, industrial planning meant a series of unrelated development projects. The criteria were not clearly formulated and the Government had to refrain from spending on new projects included in the

extraordinary budget because of the circumstances prevailing in the country.

The projects included in the public sector had been inadequately studied either technically or economically and hence the expected contributions could not be well assessed. In the manufacturing sector, except for investment figures, no adequate sectoral targets were given. This is due, in part at least, to the fact that the administrative machinery for execution and supervision of projects was not well staffed and still in the process of being organized.

In the Second Five-Year Plan, although industrial sectoral targets and criteria for project evaluation were set up and defined, the methodology of application and the computational technique were not well established or sufficiently prescribed to ensure consistent practice.

However, a kind of balance method that compares investment needs with resources was generally utilized. Within the limited scope of this paper, we shall focus our attention on the practical methods and formulas which have been in use for project evaluation. The main point consists of connecting the project evaluation procedure to investment planning. Project evaluation is considered as a part of investment planning.

(a) Contribution to national growth

The main function of the planning authority at the level of the sectoral committee or the central preparatory committee was to ensure the consistency of the industrial plan by allocating production factors to comply with a presumed rate of national income growth, irrespective of the efficiency criteria. This assumed that efficiency was determined by the rate of growth. Therefore, efficiency calculation did not draw upon planning works at various levels and ^{was} considered as having been completed as soon as the approbation of the industrial plan was obtained.

The main elements of project evaluation are included in the "project description form" which should be accurately completed by the Ministry or the authority concerned with its implementation. Because of the fragmentary and incomplete data and the lack of technicians, the

reliability of information included in the form was often questionable. In many cases, Ministries and authorities used the calculations to prove that the establishment of this or that project is efficient and should be included in the plan. The planning system adds to the inducement for investment; figures of investment estimation tend to be exaggerated and a special absorption effect is developed in the Ministries and authorities applying for central funds.

The "project description form" includes the following information:

- (1) motivation for location;
- (2) motivation for production increase;
- (3) necessity of the project;
- (4) technical description of the project, choice of technological variants;
- (5) chronology of installation of units;
- (6) information about required buildings and other civil engineering works (time of completion, expected costs, etc.);
- (7) estimation of optimum capacity;
- (8) expected time of realization;
- (9) costs of the project (construction, machinery) in foreign and local currencies;
- (10) requirements of post-investment operations: (workers, skilled and unskilled, technicians, economists, engineers), (energy consumption and supply sources), (material: quantity, value, supply sources);
- (11) cost of operating and processing;
- (12) estimation of the added value (no indication about price system); and
- (13) measuring some co-efficients such as investment costs per unit of product and per unit of domestic value of production; total value of yearly output per unit of total investment; investment for fixed assets, and investment for circulating capital relative to production cost, material cost, amortization, wages and salaries; structure of total output; structure of personnel.

These co-efficients do not measure the effect of the project on the welfare of the society as a whole. The methodology of "national economic profitability", or "social benefit-cost analysis" is not easy to apply. It requires a clear statement of national objectives and an evaluation of the relative importance attached by the society to different objectives under different circumstances and at different points in time.

Remedial measures have been taken by the Ministry of Planning to elaborate efficiency computation after the Second Five-Year Plan was promulgated. Tentative assessment of national economic profitability was conducted for some major industrial projects in the programming and follow-up department of the Ministry of Planning. The attempt was of a preliminary nature. A more thorough formulation of the technical framework for such analysis is still awaited.

A seminar on economic planning in Syria took place in Damascus during 1 - 5 October 1966 and a paper regarding project evaluation was read, which dealt with different methods to measure various co-efficients necessary to evaluate the commercial and national economic profitability of projects. These methods have been applied to some industrial projects. On the following pages, some of the formulas proposed for project evaluation will be indicated.

Social marginal productivity:

$$SMP = \frac{X+E-M_i}{K} - \frac{L+M_d+O}{K} + \frac{r}{K} B$$

where:

- X: increase in the yearly production value (market price excluding custom duties, taxes and subsidy);
- E: added value produced by external economies;
- M_i: imported materials;
- L: labour;
- M_d: domestic raw materials;
- O: overhead expenses;
- r: increase in national income resulting from improvement of the balance of payment by 1 unit; and
- B: variable which measures the investment effect on balance of payments.

The above formula can be re-written as follows:

$$SMP = \frac{V}{K} - \frac{C}{K} + \frac{r}{K} B$$

where:

- $\frac{V}{K}$: social value added per unit of investment (capital productivity);
- $\frac{C}{K}$: operating costs (excluding M_i) per unit of investment
- $\frac{r}{K} B$: increase related to payment balance per unit of investment.

It is possible to re-write the formula as:

$$SMP = \left(\frac{V}{K}\right) \left(\frac{V-C}{V}\right) + r \frac{B}{K}$$

Thus, the SMP consists of two terms; the first is the product of capital productivity by the ratio of net benefit to social value added, and the second expresses the balance of payments effects. The above-mentioned criterion enjoys the following advantages:

- (a) evaluation according to this criterion is integrated and consistent;
- (b) it relies on capital productivity; and
- (c) it expresses benefits in general social appraisal taking into account external economy effects, using current prices, and excluding taxes and subsidies;

Despite all these advantages, the application of this criterion requires basic data that have to be collected over a long period of time. Unless reliable data are used, the results might mislead the decision-making authorities in fixing priority in industrial projects.

In line with the above-mentioned approach, we may also use the following indicator of profitability on national level proposed by L. CSAPO and M. MANDEL, Institute of Economics, Budapest:

$$G_n = \frac{T}{T+Ad+Ai+L+D/E+P+Bk}$$

- G_n: indicator of profitability on national level;
- T: value of production expressed in domestic currency;
- M: wages;
- Ad: domestic material in domestic currency;
- Ai: imported material in domestic currency;
- D: efficiency co-efficient (0.20);
- B: fixed capital
- L: amortization; and
- B_k: related investment expenditures.

Related investment expenditures are regulated by norm in the following manner:

$$B_k = 2.5 (A_d + L)$$

This formula may give us a guidance to single out those investment projects and project variants that contribute most to the objective of

the industrial strategy. But they cannot take us all the way and we cannot take them as a sufficient ground for straightforward choice of industrial projects. A proper selection of projects requires, in one way or another, the work of evaluating social benefit and cost.

(b) Benefit-cost analysis

The benefit-cost analysis is applied to find out the ways in which commercial and national profitability are measured in practice. The basic principle of benefit-cost analysis is to evaluate the inputs and outputs associated with a given project. Social benefit-cost analysis differs from private profitability analysis in the coverage of inputs and outputs.

Benefit-cost ratios:

This measure of commercial profitability was applied to some industrial projects. It is evaluated at the discount rate (i) as

$$B_c = \frac{\sum_{t=0}^T \frac{R_t}{(1+i)^t}}{\sum_{t=0}^T \frac{C_t}{(1+i)^t}}$$

Where R_t denotes the total receipts associated with the project in year t , C_t denotes the total expenditures in the same year and T means the lifetime of the project. This method is applied to rank alternative projects, although it combines the drawback of the present value measure (dependence on an externally provided discount rate), with the failure to convey information about the size of a project.

The application of this method to measure the profitability of the public industrial projects encountered obstacles resulting from the lack of reliable data for the estimation of R_t and C_t .

National economic profitability:

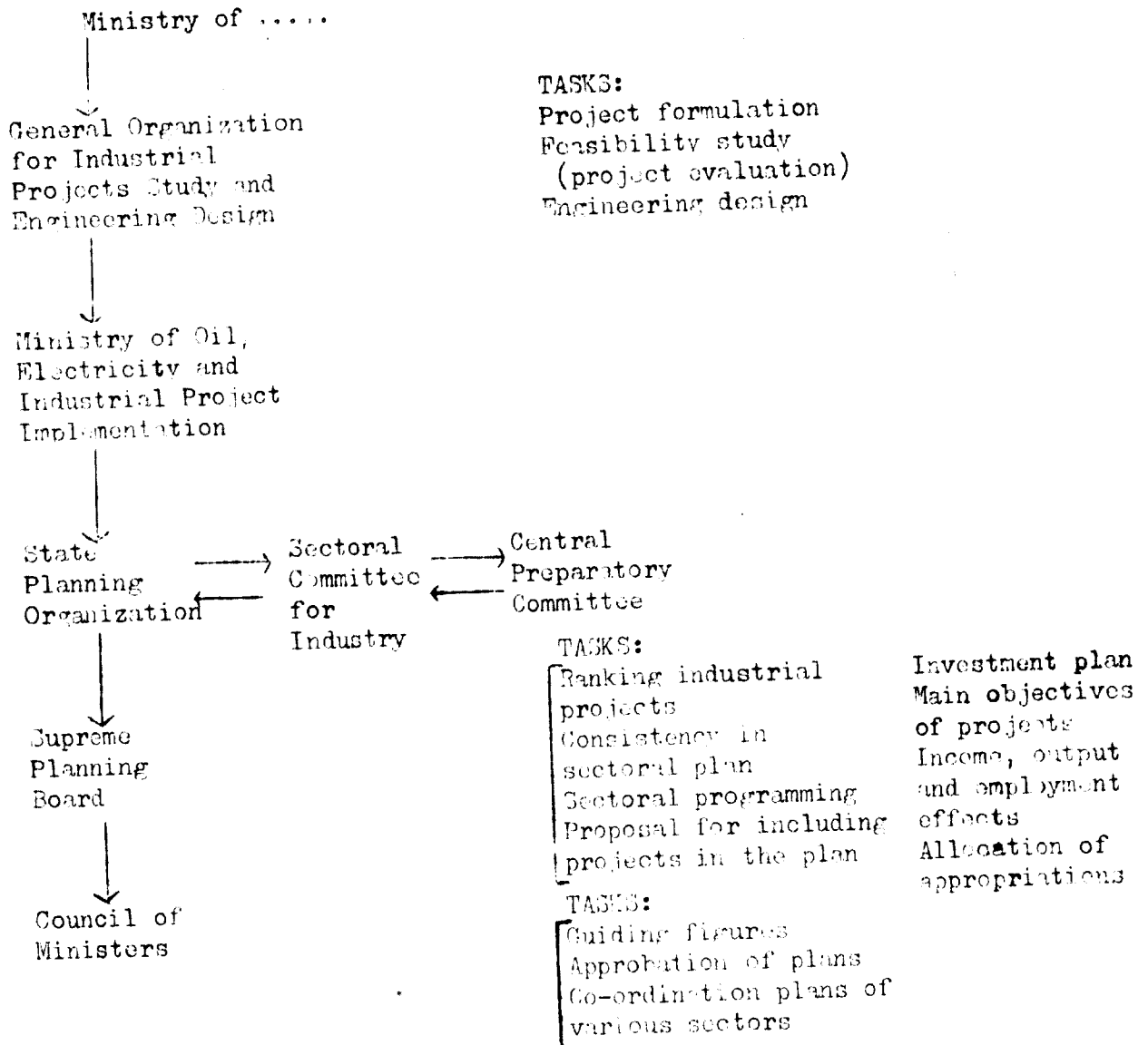
Here we must interpret the inputs and outputs of a project in terms of all the costs and benefits associated with the project. The following corrections are taken into consideration:

- (1) external effects;
- (2) market imperfection; and
- (3) other corrections like merit wants.

The application of this method faces the following problems: lack of assessed values of social benefits relative to regional development; factor endowments; reserve manpower; and unutilized raw materials. Nevertheless, it was possible in many cases to measure rather accurately such co-efficients as investment effectiveness, input-output values in foreign exchange, and added value. The investment effectiveness of projects varies from 30 per cent to 70 per cent. The computation of this co-efficient has led to some modification in the projects in the industrial sector and some industrial projects have been added to improve the economy of the projects already included in the plan.

(c) Analytical functions at various stages of project preparation

The following scheme summarizes the various tasks of analysis which appear at different stages of the preparation of projects. According to this scheme, we distinguish two periods: the period before the re-organization of the Ministry of Planning and the period after the re-organization. Assumptions concerning the period after the creation of the State Planning Organization are taken from the stipulation of the legislative decree, which created the Organization, as well as Legislative Decrees Nos. 81 (6 June 1963), 87 (2 July 1963) and 130 (7 August 1963) issued by the Minister of State for Planning.



For some projects under execution, the following values were obtained by a preliminary analysis

	<u>Nitrogen fertilizer</u>	<u>Phosphate ores</u>	<u>Cement plant</u>
Investment	72	53	7
$\frac{V}{K}$	0.65	0.94	0.92

The process of industrial project evaluation should follow the following steps:

- (1) Definition of the economic condition;
- (2) Basic assumption related to the methodology;
- (3) Evaluation of price and technology;
- (4) Analysis of domestic resources;
- (5) Investment programme;
- (6) "Mathematical programming" - maximization and minimization of some functions;
- (7) Technological variants;
- (8) Construction capacity; and
- (9) Expected time for technical planning and implementation.

Within the limited space allowed to this paper, it is not possible to give further details of the various indicators for project evaluation.

In the following, an example of industrial project evaluation will be given. Due to the lack of appropriate data, this example refers to relatively simple methods of analysis.

3. Evaluation of major investment projects for financing purposes:
An example

The Syrian consumption (nutrient N) has increased rapidly and its growth rate was accelerated in the early 'sixties.

Syria has abundant raw materials to be used for the production of nitrogenous fertilizers: natural gas (DJIBSA), Naphta (Homs refinery), and gas associated with petroleum in the Syrian oil fields.

The evaluation study comprises three main sections divided into several items.

The first section deals with the evolution and recent expansion of the petrochemical industry and describes the local circumstances which encourage its development. In this section, the consumption and production of petrochemical products is evaluated. The relationships of technological variations with unit production cost are estimated. This section also indicates the potential of the country for petrochemical production, taking into account the local market, raw materials, manpower and secondary products.

The second section gives a forecasting of consumption of nutrient N. The demand for fertilizer is based on the extrapolation of the time

trend in past years (consumption is considered as a function of time).

Another method of forecasting uses the correlation between the fertilization and the transformation of arid or uncultivated into irrigated land. A greater part of this second section is devoted to the following:

- (a) study of the factors affecting fertilizer consumption;
- (b) fertilizer production, trade and consumption; and
- (c) possibilities of increasing nitrogenous fertilizer production in Syria (alternatives)

The third section consists of a technical and economic study of the nitrogenous fertilizer project. Taking into consideration factors affecting fertilizer consumption, this study deals with technological and locational variants with regard to raw material supply, assortment of products and export possibilities. The choice between variants is based on the discount cash flow and present value method, i.e.:

$$PV(i) = \sum_t^T \frac{R_t - C_t}{(1+i)^t}$$

where

- B_t : total receipts associated with the project in year t ;
- C_t : total expenditures in each year t ;
- T : project life in years; and
- i : discount rate

The fourth section elaborates recommendations, conclusions and proposals.

The following table compares for the different designs of project the net cash in-flows (money receipts minus money expenditures) for every year within the project life, discounted at a rate of 7 per cent per annum:

<u>Years</u>	<u>Homs project</u>	<u>Djibissa project</u>	
	<u>Urea production</u> <u>Naphta (refinery)</u>	<u>Natural gas</u>	<u>Urea + Diammonium</u> <u>Phosphate</u>
1971	- 26,180	- 23,340	- 32,800
1972	- 21,820	- 23,400	- 27,640
1974	- 13,850	- 14,120	- 17,880
1976	- 6,450	- 4,890	- 8,340
1977	- 2,890	- 500	- 4,000
1978	+ 310	+ 3,550	- 50
1979	+ 3,510	+ 7,300	+ 3,550
1981	+ 8,410	+ 14,030	+ 10,300
1983	+ 13,190	+ 20,110	+ 16,760
1985	+ 17,390	+ 25,540	+ 22,310
1986	+ 19,260	+ 27,980	+ 24,780
<u>Net benefit</u> <u>- capital ratio</u>	73.5 per cent	98 per cent	75 per cent

This evaluation should be supplemented by the study on direct and indirect effects. Direct effects refer to the production of naphta, labour, and other resources required for building the plant, capital required, and value added. To trace the indirect effects, a good number of steps is needed. The balance method can be used and a considerable computational work is required to achieve a high order of consistency between sectors. This would involve, if the technological co-efficients are known, the input-output method. It is not easy to record all of the inputs and outputs associated with this project which should be considered in terms of costs and benefits. There is also a difficult problem associated with the determination of the prices to measure benefits and costs over time. Before ending this part of the paper, it may be pointed out that the failure of the market system, and the great impact of the project on the structure of the economy as a whole tend to justify a wider role to be played by the public sector; one should be made fully aware of the limitations of the commercial profitability concept in evaluating a project of this kind.

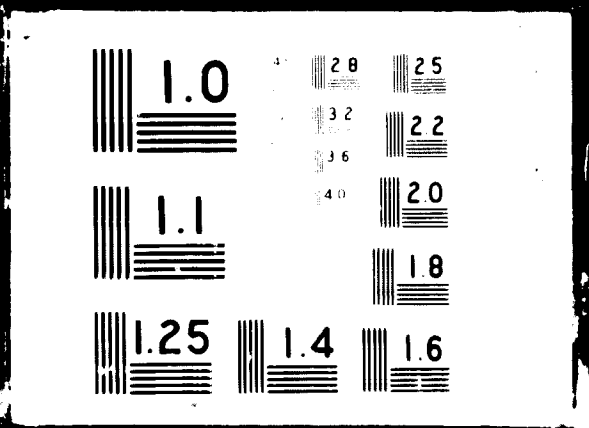


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B. Follow-up and implementation.

In accordance with the provisions of Legislative Decree No. 205 of 11 December 1961, and Decree No. 60 issued by the Ministry of Planning on 24 March 1964, the Ministry of Planning was equipped with a number of directorates, such as statistics and census, economic and social planning, etc.

The Programmes and Follow-up Directorate was vested with the responsibility for follow-up activities in the main sectors of economy, namely: industry, irrigation and agriculture, and services.

Legislative Decree No. 97 of July 1963 provided for the establishment in each Ministry or Public Department of a Planning Unit to be attached directly to the Minister and to be headed by the Secretary General of the Ministry or by the Director General of the public department. The functions of the Planning Unit consist of collecting data and preparing studies and analytical reports on the progress achieved with development projects in accordance with the forms and models laid down by the above-mentioned directorates. With the creation of the State Planning Organization, the function of follow-up has been delegated to the sectoral directorates (industry, irrigation and agriculture, communication, and services)

The Annual Planning Directorate is responsible for assembling sectoral follow-up reports and elaborating them in a definitive form. Decrees No. 50 and No. 36 both define the Directorate's functions as follows:

- (1) "evaluate and determine the projects to be implemented in each stage of the development plan and ...";
- (2) "determine the annual programmes for development projects in the light of the general framework of the plan in collaboration with the ministries and institutions concerned"; and
- (3) "follow-up on plan implementation at office and field levels, appraise the progress of work, investigate the source of difficulties, explain their causes and propose the means of overcoming them, verify the compatibility of implementation with project objectives and suggest the necessary adjustments ...".

Follow-up commences immediately after the promulgation of the legislative decree which defines the expenditures of the development budget.

The progress programme related to industrial project implementation during each fiscal year should be sent, within a month from the date of the issue of the budget, to both the Ministries of Planning and of Finance. The Planning Ministry is concerned only with the construction phase of projects.

The Ministry or institution concerned with industrial project implementation is required to submit progress reports every quarter according to a reporting form established by the authority. The form consists of statements of the amounts spent on various items of allocation, such as civil engineering, equipment studies, wages and salaries, general expenses, etc. It includes information about major contracts placed for site development, building construction or supply of plant machinery and equipment. It includes physical description of works achieved and progress undertaken. Finally, it should be accompanied with a study investigating the source of difficulties and explaining their causes.

The legislations in force define precisely the steps necessary for implementation and follow-up. Progress reports are studied by the follow-up department of the Planning Ministry. The technical staff, capable of interpreting technical implications of the report, checks prices and performance with the terms of major contracts placed for the project. The technical staff then passes the report and their comments to the economic or accounting staff, who check the figures and take note of the compatibility of the proposed expenditures with project objectives.

Progress reports will be studied to obtain confirmation of the following points:

- (1) Appraisal of work progress;
- (2) Source of difficulties and means of overcoming them; and
- (3) The compatibility of implementation with formulated objectives.

The follow-up department should study if there has been a delay in starting up; the delay will result in an increase in pre-production

expenses. Such increase amounted in some industrial projects to 25 per cent of the original capital estimate. The follow-up department checks if projects have not deviated from their basic objectives in their implementation phase. The progress of each element of the plant will be studied to verify if allocations have been correctly spent.

Discrepancies are reported to the high planning authorities and measures are taken to establish the compatibility of the project with objectives and scheduled expenditures.

Nevertheless, follow-up might meet many obstacles which can be summarized as follows:

- (a) delay in the issue of development budgets;
- (b) insufficiency of allocation;
- (c) long routine required for processing the expenditures;
- (d) limited participation of the planning units in the implementation and follow-up activity;
- (e) scarcity of technicians;
- (f) lack of data;
- (g) weak relation of partnership and understanding between the follow-up staff and the management of development projects;
- (h) inability of the follow-up staff to support or propose remedial action to overcome obstacles limiting project development; etc

In spite of these difficulties, the follow-up activities have proved useful for checking the accuracy and efficiency of the evaluations methods used in pre-investment appraisal, and thus for re-assessing the industrial plan.

Implementation reports, submitted to the planning authority enable the latter to propose modifications concerning various elements of the project, such as: machinery required; timing of realization; and conditions concerning the operational phase.

But the data presented in the quarterly report is often not sufficient to enable the concerned planning directorate to make decisions on the kind of action needed for improvement of the implementation status.

Re-assessment of industrial plan must take into consideration the progress programmes and the implementation reports for the industrial sector as a whole. From the discussions of the sectoral committee with institutions concerned with industrial plan implementation, and the study of the general implementation report, important modifications have been introduced in the industrial plan:

- (1) increasing the capacity of some integrated petroleum projects to establish equilibrium among related projects;
- (2) accelerating the development of the phosphate mining industry and delaying the expansion of other extractive industry (salt mines); and
- (3) introducing new projects in the industrial plan aiming at the improving the economy of existing projects, creating a chain of industrial activities, and efficient resources utilization. The integrated steel processing project constitutes one good example. This project will ensure linkage between the different units of this project and the units of the steel rolling mill project.

In re-assessing an industrial plan, the following are to be examined:

- (1) Causes of discrepancy between expectations and performance;
- (2) Causes of delays in project implementation;
- (3) Conditions of normal operations; and
- (4) Accuracy of project evaluation criteria.

Needless to say that systematic follow-up is necessary for the authorities to take measures to rectify errors in time and to guard projects from losses and cost over-run.

IV. A CONCLUDING REMARK

Planning is a relatively new concept in Syria, introduced only ten years ago. Under the Second Five-Year Plan, a great deal of experience has been gained in regard to (a) the institutional framework, and (b) techniques and informational systems required for industrial planning.

In the preceding sections, details concerning these two aspects were given and the limitations of the existing facilities and certain factors leading to improvements were noted. In summary, the country's planning authorities have continued to make efforts along the following lines:

- (1) setting up the base of industrial planning;
- (2) developing the institutional framework; and
- (3) improving the techniques of industrial planning.

The introduction of further improved and more advanced techniques would require that, among others, the following conditions should be satisfied:

- (1) computing facilities geared to planning and follow-up routines;
- (2) trained personnel; and
- (3) collection and organization of required data.

The various difficulties encountered have added to the country's experience which points to the ways and means of improving industrial planning techniques





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