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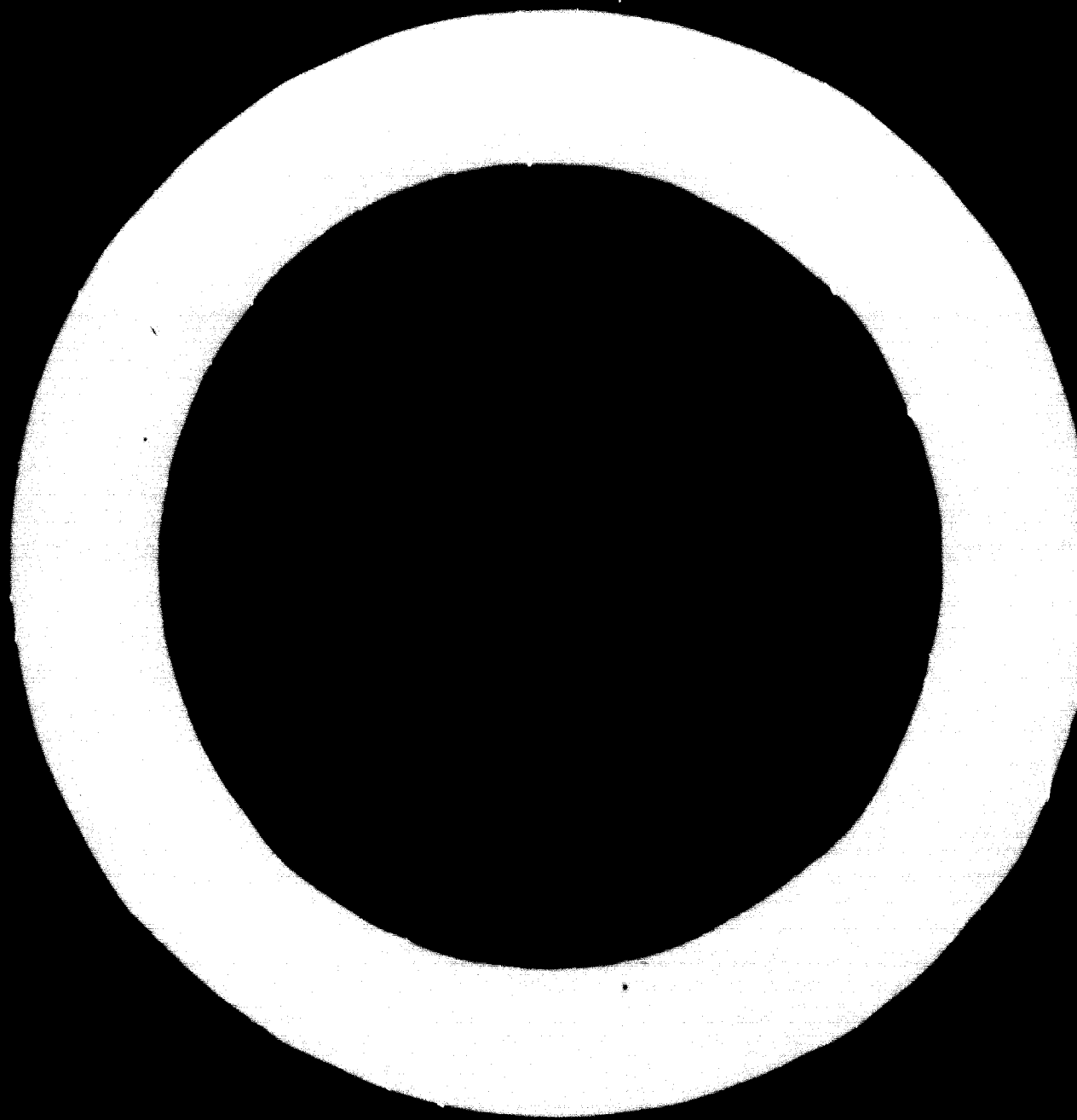
INDUSTRIAL PLANNING IN JORDAN:
AN INTRODUCTORY REVIEW ¹⁷

prepared by
The United Nations Economic and Social Office in Beirut

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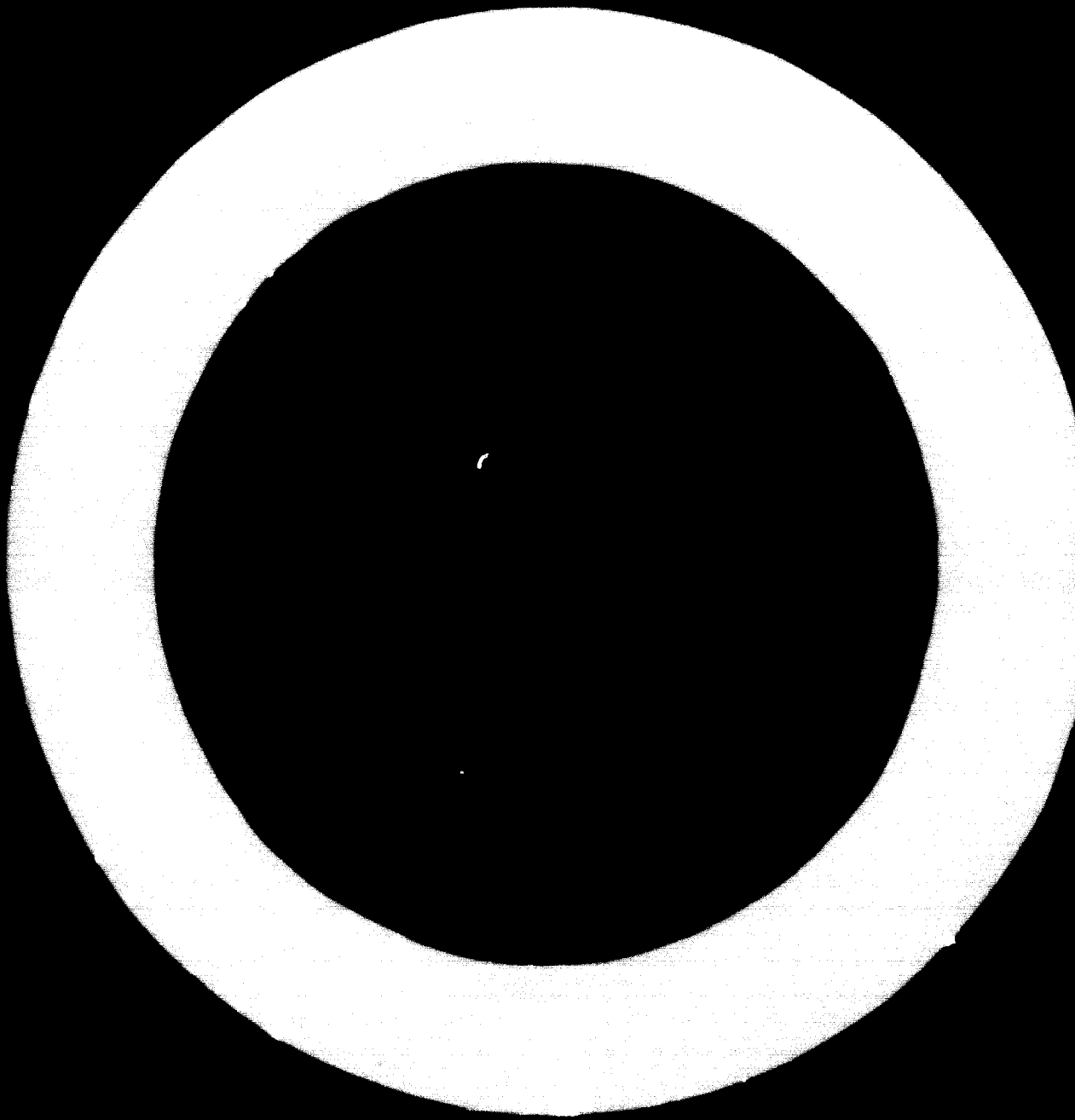
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I. THE JORDAN ECONOMY ON THE EVE OF THE 1967 WAR

A. The industrial sector

1. Jordan is basically an agricultural country; about one-third of the economically active population is engaged in agriculture ^{1/}, which, on the average, contributes about one-fifth of the gross domestic product. However, agriculture is a highly unstable sector because a large proportion of agricultural output is cultivated in dry farming areas subject to frequent droughts. Because of this, Jordan has put in recent years more emphasis on other sectors and on irrigation schemes and on soil and water conservation programmes.

2. The country is also poor in other natural resources, metallic minerals in commercial quantities have not been discovered. Of the non-metallic ores, phosphate is the most important material currently exploited; potash and other salts offer promising prospects. Scarcity of resources in relation to population has caused the country to depend heavily on foreign assistance and trade.

3. In the period 1954-1966, gross domestic product (at 1960 prices) in Jordan grew at an annual rate of about 8 per cent. This high rate of growth reflected a general expansion in all sectors of economic activity, particularly in the service, manufacturing and agricultural sectors. But despite the favourable growth, Jordan's per capita income in 1966 remained low, at about 214 US Dollars. Furthermore, consumption in Jordan has always exceeded output and the difference was met by foreign assistance, mainly in the form of grants for budget support. Foreign assistance has been of general importance to the development of Jordan; without it, the high rates of growth achieved in the past would not have been possible.

4. The data available (see table 1) indicates that gross domestic product increased from an average of JD 47.7 million in 1954 to an average of JD 149.6 million in 1966, or by 217 per cent. This rapid increase was achieved despite the occurrence of a number of droughts during this period.

^{1/} At the end of 1966, the total population of Jordan amounted to 2.1 million and the labour force was estimated at 458,000 persons.

Table 1. Industrial origin of gross domestic product
(JD millions; at current factor cost)

Sector	1954	1958	1963	1966
Agriculture and forestry	14.2	16.9	21.7	27.7
Mining, manufacturing and electricity	4.2	7.9	11.5	19.2
Construction	1.2	2.4	5.3	9.3
Transport	4.4	9.0	12.8	14.4
Trade and banking	9.3	14.7	23.3	31.7
Ownership of dwellings	2.3	3.3	5.4	11.2
Public administration and defence	9.1	15.6	17.0	22.0
Services	3.0	3.9	9.7	14.1
Gross domestic product	77.7	69.1	115.3	149.6

5. In the period 1959-1966, import of goods and services constituted, on the average, about 39 per cent of total available resources. As a result of this heavy dependence on imports and the small size of the country's export trade, Jordan's external economic position remained weak, with a relatively large deficit on current account. This, however, was corrected by the large inflow of foreign grants and, to a lesser extent, foreign loans.

6. The export earnings of Jordan were provided mainly by agricultural products, especially vegetables, phosphates, manufactured products and tourism. The dynamic export elements in Jordan's economy are phosphates, potash and tourism.

7. In the past, economic development in Jordan was financed mainly by the private sector which contributed during the 1954-1966 period, on the average, about 57 per cent of the value of gross domestic capital formation.

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Industrial Sector

3. The development of the industrial sector has been impressive. Income originating in mining/manufacturing increased from JD 6.0 million in 1959 to JD 17.0 million in 1966 (see table 2). This represents an increase of about 181.5 per cent in seven years. The share of industry in net national product (at factor cost) rose from 6.9 per cent in 1959 to 10.7 per cent in 1966. This structural shift, which, as it may seem, indicates that industry has become an important element in the Jordanian economy.

Table 2. The net national product (at factor cost) of Jordan and contribution of manufacturing and mining

Year	N.N.P. at factor cost (million JD)	Value added of manufacturing and mining sector (million JD)	Per cent
1959	87.0	6.0	6.9
1960	91.0	7.0	7.5
1961	114.0	9.0	7.7
1962	115.0	8.0	6.9
1963	121.0	11.0	9.1
1964	141.0	13.0	9.2
1965	151.0	16.0	10.2
1966	158.0	17.0	10.7

Source: Department of Statistics, The National Accounts 1959-1967, Jordan, 1969.

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Table 3 illustrates the progress made in the manufacturing sector between 1959 and 1966. The number of total manufacturing establishments increased from 6,887 in 1959 to 7,242 in 1966^{2/}. The persons employed in these establishments increased from 23,068 to 37,257 during the same period, while the value of production rose from JD 11.6 million to JD 42,343 million, respectively. The increase in the value of production was largely due to the marked expansion in food manufacturing, tobacco, clothing and footwear, leather and leather products, petroleum, non-metallic minerals, and basic metal production. Average labour productivity thus rose from JD 508 in 1959 to JD 1,137 in 1966, representing an increase of 126 per cent.

Table 3. Number of establishments, number of persons employed, salaries paid, value of production and value added of the manufacturing sector in 1959, 1965 and 1966

	Number of establishments	Number of persons employed	Salaries paid	Value of production (000 JD)	Value added
1959 Census	6,887	23,068	1,306	11,583	6,285
1965 Census	6,838	33,132	4,908	34,933	13,732
1966 Census	7,242	37,257	5,583	42,343	17,267

Source: Department of Statistics, Industrial Census, 1959, 1965 and 1966.

10. The industrial survey for 1966 indicates that there were in Jordan 486 manufacturing establishments employing 10 persons or more at an average of 20.5 persons per establishment (see table 4).

^{2/} 1959 Census included handicrafts (specially tailoring shops which numbered 1,700 shops).

Table 4. Industrial establishments employing ten or more persons, 1966

	Number of establishments	Number of workers	Value of production (000 JD)
1. All establishments	7,242	37,257	42,343
2. Establishments employing ten persons or more	486	15,817	32,186

Source: The Amman Chamber of Industry, The Industry of Jordan 1969, third Edition.

11. The value of production of those establishments amounted to JD 32,186 million and the average labour productivity was JD 2,035 per worker. This average may even rise in establishments employing a larger number of workers.

12. Two general remarks may be made with regard to the structure of industry as derived from the findings of the 1966 survey:

(a) the typical industrial unit in Jordan is small; more than 90 per cent of the total number of establishments employ fewer than ten persons, and most of these are engaged in food manufacturing, the clothing industry, shoe-making, furniture manufacture and metal-working; and

(b) the bulk of production originates in a relatively small number of establishments, which by the same token also employ more people and contribute more to value added than would be warranted by their actual numbers. About 7 per cent of the total number of establishments are responsible for more than 40 per cent of the industrial employment and 76 per cent of the total value of production in industry.

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13. Since 1954, a large cement factory, a petroleum refinery, a number of foundries, a tannery, marble factories, and an expanded phosphate mines plant have come into operation. Other industrial enterprises, including milling, oil processing, textiles, bottling and brewing, tobacco products, footwear, metal products, furniture, detergents, food products, batteries, glass, printing and publishing, were established between 1961 and 1967 (see table 5).

Main industrial establishments

14. The following is a brief description of some of the main industrial establishments in Jordan.

The Jordan Phosphate Mines Company

15. Large quantities of phosphate ore are available in various parts of Jordan. Proven reserves are estimated at 130 million tons. Of these, 100 million tons are located at Ruseifa, which lies 15 kilometres north of Amman, and 30 million tons in the El-Hasa area, which is about 100 kilometres to the south of Amman. An additional 140 million tons are presumed to be available but these reserves have not been proven yet. The quality of Jordanian phosphate is considered to be among the best in the world.

16. In 1945, a small company was founded to extract phosphate from the Ruseifa area only. In 1953, the Government evaluated the assets of the company and established the Jordan Phosphate Mines Company with an authorized capital of JD 1.2 million. In 1966, the authorized capital was raised to JD 2 million, with Government participation amounting to 51 per cent. Moreover, recently, this capital was again raised to JD 3 million. For many years this company has extracted phosphate from its mines at Ruseifa and recently has initiated some extraction at El-Hasa.

17. Meanwhile, the Government retained a specialized consulting engineering firm to determine the size and quality, markets, production techniques and transportation facilities relating to phosphate production from the El-Hasa area. The technical design and specifications of this project were issued for international bidding and tenders were awarded in 1964 and 1965. To ensure effective and efficient realization of this project, the Government created an implementation committee to supervise and co-ordinate construction works and also to establish the bases for integrating the Fusaifa and El-Hasa projects under one company. This amalgamation was effected as of 1 January 1966.

18. The Jordan Phosphate Mines Company employs more than 1,345 workers. The company's production of rock phosphate exceeded 1,230,000 tons in 1967 and is expected to surpass the 3 million ton mark by 1970. Almost the entire production of Jordanian phosphate is exported to European and Asian markets, particularly to India, Yugoslavia, Czechoslovakia and Poland.

19. Production and exports of phosphate for the period 1955-1967 were as follows (in 000 tons):

	<u>1955</u>	<u>1960</u>	<u>1965</u>	<u>1967</u>
Production	166	392	852	1,236
Exports	155	301	605	881

The Jordan Cement Factories Ltd.

20. The Jordan Cement Factories Ltd. was established in 1951 with an authorized capital of JD 1 million. Of this, the Government held 49.5 per cent and the remainder was issued for public participation. However, the company's capital was doubled in 1959 and again was increased to JD 2.5 million in 1962. The company's concession extends over fifty years.

21. Cement production commenced in 1954 with a capacity of 110,000 tons per year. However, the rapid growth in cement consumption warranted the expansion of productive capacity by adding one kiln in 1960 and another in 1962. Preliminary studies were completed for the addition of a fourth kiln. Production

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in 1967 amounted to 467,826 tons, of which 358,775 tons were consumed locally and the rest exported to neighbouring Arab countries. At present there are employed by the company.

22. Cement production has developed since 1956 as follows (in 000 tons):

<u>1956</u>	<u>1960</u>	<u>1965</u>	<u>1967</u>
79	165	317	467

The Jordan Petroleum Refinery Ltd.

23. Jordan's consumption of petrol and petroleum products is estimated at 400,000 tons, valued at about JD 7.9 million. The growth rate of local consumption is put at 10 per cent per year.

24. The Jordan Petroleum Refinery was established in 1956 with an authorised capital of JD 4 million, of which the Government held shares worth JD 250,000. In 1968, the authorized capital was raised to JD 8 million. In 1961, the refinery production amounted to 181,126 tons and reached 392,628 tons in 1967, of which 383,000 tons were consumed locally and the remainder exported to Saudi Arabia and Lebanon.

25. The refinery employed 899 workers in 1967 as compared with 590 workers in 1963.

26. Following are the refinery's production figures by type of fuel for the period 1961-1965 (in 000 tons):

	<u>1961</u>	<u>1965</u>	<u>1967</u>
Liquid gas	0.6	7.5	10.1
Benzine	37.2	61.2	71.3
Kerosene	39.6	66.7	69.9
Solar	41.2	134.2	119.4
Fuel oil	50.6	81.6	90.9
Asphalt	11.9	30.0	30.4
Total	181.1	381.2	392.5

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Cigarette companies

27. Cigarette manufacturing in Jordan dates back to the 1930's. At the end of 1966, there were three major companies producing cigarettes: the Jordan Tobacco and Cigarette Company, the National Tobacco and Cigarette Company, and the Jerusalem Cigarette Company Ltd. The total paid-in capital of these companies amounted to JD 786,000. The total value of their annual production was JD 4.5 million in 1966. They employed 1,000 workers.

28. Jordanian cigarettes have become well known in neighbouring Arab countries, especially in Kuwait, Lebanon, Saudi Arabia and Iraq. They have proved capable of competing with foreign cigarettes in quality and price and are considered to be among the best brands in the Middle East. This is due to the method of processing and mixing locally produced tobacco with imported tobacco.

29. The cigarette industry in Jordan obtains between 65 and 75 per cent of its needs from locally produced tobacco, and imports the rest from abroad, mostly from the United States, Turkey and Greece.

Vegetable Oil Company

30. The original idea behind the establishment of the Vegetable Oil Company was to refine and process various vegetable oils, and particularly olive oil, which is produced in the East Bank of Jordan in sizable amounts. Prior to 1967, Jordan's production of olive oil exceeded 20,000 tons in good years.

31. However, the rise in the price of virgin olive oil and the increasing demand for it have rendered the process of refining it economically not viable. As a result, the company decided at the end of 1959 to produce vegetable ghee and concluded an agreement with a Dutch firm whereby the latter would supervise production and marketing operations. Production of vegetable ghee started in 1960. Jordan used to import large quantities of this commodity.

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32. On the eve of the 1967 war, the company conducted the necessary studies to expand its output. It also considered the establishment of a plant to press seed oils such as safflower and sunflower, both of which could be grown locally and in particular in the Ofor area. Meanwhile the company was studying the possibility of installing a plant to produce margarine and another for oil hydrogenation.

33. The plant for refining vegetable oils was constructed in 1956 near the city of Nablus, with a productive capacity of 7,000 tons per year, capable of being expanded. The capital of the company was originally JD 200,000, but was increased to JD 500,000 in 1959.

34. Production of vegetable ghee in recent years (in tons) was as follows:

<u>1962</u>	<u>1965</u>	<u>1966</u>
2,578	5,533	6,400

The Jordan Tanning Company Ltd.

35. The Jordan Tanning Company was founded in 1957 with a capital of JD 250,000, which was then raised to JD 400,000. The Government's share amounts to JD 100,000.

36. The company commenced production in 1961. It employs about 275 workers. The factory is considered one of the biggest and most modern tanneries in the Middle East.

37. Production in 1965-1967 has been as follows:

<u>Product</u>	<u>1965</u>	<u>1967</u>
Sole (tons)	361	240
Box (1,000 sq. ft.)	1,818	1,258
Lining (1,000 sq. ft.)	561	412

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United Industries Corporation

38. This company was established in early 1960 with a capital of JD 325,000. Production commenced in 1961.

39. The United Industries Corporation produces various kinds of wet batteries for cars. Its productive capacity is about 300 batteries every eight hours. Sixty per cent of production is exported to neighbouring Arab countries.

40. The company also produces reclaimed rubber and paper. Reclaimed rubber is used in producing various types of shoes and boots as well as battery containers. The productive capacity for this type of rubber is 3 tons per day. In addition, the company produces neon tubes which are used by commercial establishments for advertising purposes. Productive capacity is 100 metres per day.

Table 5. Industrial Enterprises Established during the Period 1964-1967

Name of enterprise	Date of establishment	Date of starting production	Number of employees	Authorized capital JD	Paid up capital JD	Production capacity 1967	Actual production 1967
Jordan Paper Company	1962	1967	139	650,000	590,751	7,000 tons	1,857 tons
Al-Hussein Steel Company	1966	1967	120	500,000	500,000	60,000 tons	2,100 tons
Jordanian Textile Company	1962	1965	142	450,000	440,551	180,000 yards	1,100,000 yards
Arabian Company for Pharmaceuticals Manufacturing	1962	1966	65	250,000	250,000		
Pills						100 million 55.03, 120	
Capsules						4 million 2,000,000	
Drops and liquids						1-3,000 liters 40,000 (liters)	
Ointments						30,000 165. 12,500 (kg.)	
National Beer Company	1961	1964	15	150,000	128,265	60,000 bottles	12,000 bottles
Grand Amman Mills Company	1966	1966	n.a.	150,000	150,000		2,364 metric tons
Flour (silo)						n.a.	3,200 tons
Flour (domestic)						n.a.	5,690 tons
Vedder (brsn)						n.s.s.	3,732 tons
Other						n.s.s.	256 tons
Modern Eastern Industrial Company	1965	1965	267	120,000	120,000		
Under-wear						7,000 (pieces)	5,500 (pieces)
Outer garments						40,000 (pieces)	31,000 (pieces)
Woolen and silk garments						20,000 (pieces)	15,000 (pieces)
Military clothes						400,000 (meters)	300,000 (meters)
Imperial Company	1965	1965	158	105,000	105,000		
Under-wear						92,250 (pieces)	50,000 (pieces)
Crayton textiles						16,560 meters	
Jordanian Feedstock Company	1965	1965	38	100,000	100,000		
Poultry feed						10,000 tons	7,000 tons
Cows feed						10,000 tons	10,000 tons
Wool Industries Company	1966	1966	36	100,000	72,752		
Blankets						70,000 meters 21,191 (pieces)	
Carpets						n.a.	1,000 sq. meters
Aprons						100,000 meters 12,435 sq. meters	

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Table 3. Industrial Enterprises Established During the Period 1954-1967 (continued)

	Date of estab- lishment	Date of starting production	Number of emp- loyees	Authorized capital JD	Paid up capital JD	Production capacity 1967	Actual production 1967
Industrial Company for Casting	1965	1966	107	100,000	64,000	500 tons	313 tons
Sanitary products							
Dry Batteries Company	1966	1966	n.a.	99,000	85,800	n.a.	1,183,622
R 20 batteries							539,887
R 14 batteries							707,612
R 6 batteries							n.a.
Jordanian Textiles Company	1965	1966	27	50,000	50,000	n.a.	n.a.
Far East Industrial Company	1965	1966	24	20,000	20,000	100,320 (pieces)	100,000 (pieces)
Pans						25,000 (pieces)	25,000 (pieces)
Kettles						n.a.	Production to the
Others							value of JD 3,000
New Oxygen Plant	1964	1966	n.a.	20,000	14,757	150,000	53,000 m ³
Sharawi Gums Plant	1966	1967	n.a.	18,000	18,000	224 tons	67 tons
Mechanical Company for Industry and Commerce	1965	1965	34	18,000	18,000		
Nylon scarfs						n.a.	2,000 scarfs
Robes						n.a.	5,000 robes
Skirts						n.a.	1,000 scarfs
Other						n.a.	Production to the JD 12,000
Jordan's Buttons Company	1962	1964	17	16,000	16,000	252,000 Gross	90,000 Gross
Modern Mechanical Company	1958	1964	18	12,500	12,500		
Stone crushers						25 (pieces)	24 (pieces)
Sand Papering Machine						6 (pieces)	2 (pieces)
Other machines						10 (pieces)	2 (pieces)
Natural Marble Company	1963	1964	20	10,000	10,000	8,462 m ²	7,376 m ²
International Knitting Factories	1965	1965	20	10,000	10,000	n.a.	Value of production is JD. 32,000
Palmyra Wool Knitting Factory	1964	1964	26	10,000	7,000		
Full-overs						36,000 (pieces)	12,000 (pieces)

Table 5. Industrial Enterprises Established during the Period 1964-1967 (continued)

Name of enterprise	Date of establishment	Date of starting production	Number of employees	Authorized capital JD	Paid up capital JD	Production 1967
Al-Fahd Industrial Knitting Company 1961		1967	37	9,000	9,000	
Pull-overs						6,000 (pieces)
Jackets						5,400 (pieces)
Children suits						3,400 (pieces)
Children pull-overs						3,500 (pieces)
Technical Industrial Company 1966		1967	n.a.	8,000	4,000	
Tables						250 (pieces)
Cardboards						260 (pieces)
Others					n.a.	
Rabian Company for the Manufacture of Refrigerators 1966		1967	11	7,500	6,000	
Al-Tawfik Blacksmith and Carpentry 1964		1964	13	6,000	6,000	
Jordan Knitting Company 1964		1964	18	4,418	4,418	
Men pull-overs						9,000 (pieces)
Women jackets						3,000 (pieces)
Children suits						15,800 (pieces)
Knitting and Woolen Clothes Company 1966		1966	12	4,000	4,000	
Pull-overs						4,800 (pieces)
Jackets						6,000 (pieces)
Children suits						7,200 (pieces)
Baby clothes						7,200 (pieces)
Arab Stork Company (straws for beverages) 1964		1964	4	4,000	4,000	
Al-Saadat Knitting Factory 1966		1967	11	1,150	1,150	
Pull-overs						1,680 (pieces)
Jackets						1,920 (pieces)
Suits						1,000 (pieces)
Tweens						1,680 (pieces)

Value of production is J.D. 8,650

B. The Seven-Year (1964-1970) Development Plan

41. The first attempt at comprehensive development planning in Jordan was made in 1962 and took the shape of a five-year programme, 1962-1967. Early in 1963, this programme was revised, and a new seven-year programme, 1964-1970, was introduced. The revised programme introduced basic changes to the priorities of the first five-year programme. The emphasis has been shifted so that the main goals became the reduction of the large deficit in the balance of payments and minimization of the country's dependence on budget support and foreign aid. These were viewed as having priority over acceleration of the rate of employment and of income growth^{1/}.

42. The seven-year programme gave, therefore, high priority to those sectors which would increase exports and/or reduce imports, e.g., agriculture, mining, tourism and manufacturing industries. Investment allocations for these four sectors alone amounted to more than 43 per cent of the total investment allocation in the seven-year programme (see table 5).

^{1/} The aggregative targets set out in the Plan in a descending order of priority were: (a) a major reduction in the country's deficit on the goods and services account and the largest possible reduction in the level of budget support; (b) the fastest possible increase in per capita income consistent with (a); and, (c) a reduction in the level of unemployment.

Table 6. Planned sectoral distribution of investment
(Millions of Jordanian dinars; percentage)

Sector	Private	Public	Total	Percentage of total
Agriculture and water resources	16.3	54.3	70.6	25.6
Mining	22.7	7.6	30.3	11.0
Manufacturing	8.1	-	8.1	2.9
Electricity	2.8	5.7	8.5	3.1
Transportation and Communications	12.3	40.9	53.2	19.2
Tourism	9.7	2.5	12.2	4.4
Trade and services	7.1	-	7.1	2.6
Education, health and social services	3.9	6.7	10.6	3.8
Housing and building	31.7	5.3	37.0	13.4
Public administration	-	9.0	9.0	3.3
Local government	-	14.8	14.8	5.4
Unallocated	14.6	-	14.6	5.3
Total	129.2	146.8	276.0	100.0

Source: Hashemite Kingdom of Jordan, Jordan Development Board, "The seven-year programme for economic development, 1964-1970" (mimeographed), (in Arabic).

43. In quantitative terms, the programme envisaged a fall in the trade deficit from JD 41 million in the base year (1963) to JD 24 million in the final year (1970); a reduction of about 60 per cent in budget support, from JD 14 million to JD 6 million, and an increase in the gross national product from JD 137 million to JD 226 million, i.e. an increase of 7.4 per cent per annum, over the same period. As for employment, the programme assumed that it would increase at an average rate of about 5 per cent per annum over the same period.

44. To achieve these targets, the programme called, among other things, for the following:

(a) limiting the increase in aggregate private consumption to 4 per cent per annum to offset population growth and to allow an annual increase of 1 per cent in per capita living standards; aggregate private consumption is thus programmed to increase from JD 116 million in 1963 to JD 153 million in 1970;

(b) limiting the increase in public consumption so that recurring periodic expenditures of the Government would rise from JD 33 million in 1963 to JD 41 million in 1970 and those of local governments from JD 1.6 million to JD 2.4 million, respectively;

(c) investing the amount of JD 274 million, or 21 per cent of GDP, divided almost equally between the public and private sectors, during the seven-year period. Of this total JD 74 million are to be allocated to agriculture and water development schemes, JD 55 million to mining, manufacturing industry and electricity, JD 20 million to tourism, and the remainder to infrastructural and social projects; and,

(d) raising the level of Jordan's exports of goods and services from about JD 20 million in 1963 to over JD 59 million in 1970.

Manufacturing industry

45. Jordan continues to import a significant proportion of its total consumption of manufactured goods. On the other hand, exports of such goods constitute a limited proportion of local production. As a result, this sector accounts significantly for the adverse trade balance. Insofar as imports of consumer goods are determined by personal income, the increases in the latter as projected in the seven-year plan were bound to cause a deterioration in the payments position of Jordan unless domestic production was sufficiently expanded to replace imports and/or to increase exports. Such an expansion in production was the objective for this sector.

46. Two specific obstacles handicap industrial development in Jordan. These are: (a) shortage of local raw materials and (b) small domestic market. Against these, Jordan is favoured by an easily adaptable and potentially productive labour force, a sound transport system, and, established trade connexions with neighbouring countries. Above all, the fact that industry has reached its present level and that the major limitation on faster development has been lack of finance rather than lack of opportunities or entrepreneurial ability, this sector may contribute effectively to the overall development of Jordan.

47. The basis of the manufacturing industry programme has been a detailed scrutiny of the viability of individual industries with regard to consumption patterns, potential import substitution, output, and capital requirements. These industries were to be developed by the private sector, with the role of the Government confined to the creation of an economic climate in which industry can flourish through encouragement, technical advice and training, and the establishment of an adequate industrial credit system.

48. The quantitative targets for manufacturing industry consisted of increasing local production by 62 per cent and exports by 72 per cent between the years 1963 and 1970. Consumption of manufactured goods was assumed to increase by 41 per cent during the seven-year period.

49. New products envisaged under the programme are the following:

(a) food and feed: animal feed, biscuits, confectioneries, glucose and starch, dairy products, fruit and vegetable juices, table salt, yeast, refined sugar;

(b) beverages and tobaccos: carbonated beverages;

(c) textiles and clothing: woollen clothes, underwear, blankets, rugs, cotton piece-goods;

(d) non-metallic minerals: concrete pipes, ceramics, superphosphates, sheet glass, glass bottles;

(e) petroleum refinery: expansion of existing capacity;

(f) others: cosmetics, pharmaceuticals, screws, shoe polish rails, barbed wire, paper cartons, buttons, detergents, batteries, auto parts, cardboard, paint, building hardware, plywood, ropes, truck and bus assembly, plastic electrical fittings, corrugated cardboard, steel bars, and reinforced cement poles.

50. Total fixed capital requirements of these industries were estimated at JD 8.5 million, of which JD 6.5 million were allocated for the purchase of machinery, JD 0.3 million for land, and JD 1.7 million for buildings.

51. The distribution of planned investment in the manufacturing sector and the projects actually implemented during the seven-year plan period are shown in tables 7 and 8.

Table 7. Total investment in the manufacturing sector^{a/} during the seven-year plan
(Value in thousands of Jordanian dinars, percentage)

Sub-sector	New plants	Existing plants	Total	Per cent
Food manufacturing	970	1,270	2,240	20.1
Beverages and tobacco	291	1,266	1,557	14.0
Textile and clothing	1,436	1,577	3,013	27.1
Petroleum refinery	-	560	560	5.0
Non-metallic minerals	851	459	1,310	11.8
Cement	-	-	-	-
Ceramics	320	339	659	-
Fertilizers	124	-	124	-
Glass sheets	247	-	247	-
Others	160	120	280	-
Other manufacturing ^{b/}	2,053	390	2,443	22.0
Grand total	6,452	5,981	12,443	100.0

Source: Jordan Development Board

^{a/} Potash plant excluded.

^{b/} Includes cosmetics, pharmaceuticals, cardboard, detergent, batteries, automobile spare parts, paint, construction equipments, compressed wood and electric and plastic appliances.

3. The economic effects of the 1967 war

52. In order to assess the magnitude of the 1967 events on the economy of Jordan, it may be useful to quote some basic indicators. The total population of Jordan at the end of 1966 was nearly 2.7 million of whom 950 thousand lived in the West Bank, or 47 per cent of the total population. The occupation of the West Bank and the Gaza Strip brought an exodus from these areas to the East Bank, estimated at 269 thousand persons, mostly low-income and often unskilled individuals. The population of the East Bank increased as a result of the 1967 war by roughly one-fourth.

53. In terms of the effects of the 1967 events on national income, it was estimated that the contribution of the West Bank to gross domestic product amounted to 38 per cent in 1966^{4/}. The contribution of individual sectors in the West Bank to gross domestic product is given in table 8 below.

Table 8. Contribution of the West Bank to Jordan's gross domestic product, 1966

Sector	Share of the West Bank to total contribution		Contribution of sector to GNP	
	Per cent		JD million	Per cent
Agriculture	37	*	34.1	22.6
Industry	19		16.2	10.7
Construction	33		7.9	5.2
Electricity and water	32		1.7	1.1
Transportation	47		12.6	8.3
Wholesale and retail	43	*	31.4	20.8
Banking and insurance	7		2.1	1.4
Real estate	17		10.7	7.2
Public administration	18		21.4	14.2
Services	55		12.8	8.5
GNP (factor cost)	38		150.9	100.0

Sources: N.I. Dajani, The Israeli Aggression, Economic Impact, July 1967, p. 2.

4/ This part of the study on Jordan draws heavily on information and statistical data contained in a paper published by N.I. Dajani in Amman in July 1967, and on information contained in Jordan's reply to a U.N. Questionnaire on Economic Trends, Problems and Policies, 1967-1968.

5/ The decline in GNP in 1967 compared to 1966 was alternatively estimated at 45 per cent.

54. The contribution of the West Bank to GDP was particularly high for services, transportation and wholesale and retail trade. In agriculture, the contribution of some products was even higher than the one shown in the previous table.

55. According to some estimates, the area under fruit, vegetable, cereal and livestock and poultry cultivation that was in the West Bank varied from 35 to 50 per cent of the total area under cultivation for each category of production in the whole country. It was also estimated that the West Bank produced 65 per cent of Jordan's total production of vegetables, 60 per cent of fruits, 80 per cent of olives and 30 per cent of cereals.

56. In the industrial sector, the number of enterprises that existed in 1966 in the West Bank numbered more than 3,500, or about 58 per cent of the total number of industrial establishments in Jordan, employing about 16,000 persons or 45 per cent of total industrial employment^{6/} (see table 2).

57. The occupation of the West Bank and the fluctuations that had taken place in Jordan since 1967 have adversely affected Jordan's foreign exchange earnings

^{6/} This is due to the fact that most of industrial establishments in the West Bank are small consumer industries, whereas in the East Bank most industries are large ones which include such industries as cement, phosphate, petroleum refinery, iron foundries and tannery. Industries in the West Bank are usually small industries such as food processing and canning, distilleries, soap, handicrafts, wearing apparel, confectioneries, shoes and furniture.

from tourism, remittances and exports. The tourist trade, which supported Jordan's balance of payments substantially, has been drastically reduced by the occupation of the holy places. It has been roughly estimated that income from tourism has decreased by 80 to 90 per cent and remittances from Jordanian living abroad have declined by more than one-half^{1/2}. In addition, government taxation and tariffs were expected to decline sharply.

59. More significantly are the consequences of the 1967 war on the implementation of the Seven-Year Plan of Jordan. Several projects have been suspended while other projects are being re-examined in light of the present situation. The initiation of several new projects has been delayed.

59. A tight budget for 1968 was prepared. Recurring civil expenditure was slightly lower than that of 1967. In the past, recurring expenditure increased at a rate of 5-12 per cent annually.

60. Investment allocations for 1968 were reduced to the low level of JD 27.9 million. Almost one-half of this amount is to be financed from external sources. The planned projects are of the labour intensive type which have a short construction period; their hard currency requirements are low. They are to be carried out mainly in the rural areas and villages, thus serving the dual purpose of being of immense value to the people and, at the same time, reducing the high level of unemployment and integrating its undesirable effects. These projects include road construction, irrigation schemes, low cost housing and tourist's projects.

^{1/2} It is significant to note that despite the substantial loss of foreign exchange earnings, the country's gold and foreign exchange reserves remain relatively high, due mainly to the foreign aid provided by the three oil-producing Arab countries of Saudi Arabia, Kuwait and Libya, which, following the Khartoum Arab Summit Conference, promised Jordan financial aid totalling \$12 million yearly, of which \$21.5 million had been paid by the end of 1967. (See the Quarterly Bulletins of the Central Bank of Jordan, volume 3, Numbers 2 and 3, 1967).

Table 9. Number of establishments, number of workers employed and value of production in Jordan^{a/} and the East Bank, 1967

Industry	Number of establishments		Number of workers		Value of Production (100 JD)	
	Jordan	East Bank	Jordan	East Bank	Jordan	East Bank
1. Mining & quarrying	190	79	4,372	2,493	3,517	2,700
a. Phosphates	1	1	1,347	1,345	1,870	1,870
b. Stone crushing	189	78	3,027	1,148	1,127	440
c. Quarrying	-	-	-	-	520	390
2. Food Manufacturing	1,615	718	6,905	2,933	9,463	5,395
a. Grain mills	324	174	1,162	615	3,008	2,300
b. Bakeries	796	372	1,824	1,218	2,001	1,128
c. Confectionery	123	51	781	349	881	449
d. Vegetable oil	1	-	145	-	1,300	-
e. Olive oil	183	32	2,049	270	189	21
f. Canneries	4	2	197	96	228	149
g. Other	184	87	747	385	1,856	1,348
3. Beverages	15	12	345	269	621	560
4. Tobacco	8	3	902	716	3,169	2,907
5. Textiles	108	50	2,267	1,487	2,642	2,119
6. Clothing	804	391	1,889	985	1,254	762
7. Footwear	537	196	1,589	836	1,011	683
8. Wood & cork	39	-	230	-	46	-
9. Furniture & fixtures	1,093	383	3,822	1,506	2,019	971
10. Paper & products	12	8	763	442	475	394
11. Printing & publishing	69	35	751	415	837	407
12. Leather & products	29	12	266	212	474	457
13. Rubber & products	93	65	220	146	69	43
14. Chemical products	49	7	1,125	358	2,072	1,137
15. Petroleum refinery	1	1	917	917	4,805	4,885

a/ Due to difficulties in obtaining information on the West Bank, these estimates are based on the 1966 census figures, adjusted on the basis of the fluctuations which took place in the East Bank as a result of the 1967 war.

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Table 9. Number of establishments, number of workers employed, and value of production in Jordan² and the East Bank, 1967 (cont.)

Industry	Number of establishments		Number of workers		Value of Production (000 JD)	
	Jordan	East Bank	Jordan	East Bank	Jordan	East Bank
16. Non-metallic minerals	231	115	1,949	1,413	2,657	2,154
a. Cement	1	1	604	604	1,530	1,530
b. Tiles	173	91	1,133	693	1,035	552
c. Other	57	23	212	116	92	72
17. Basic metal products	436	242	3,454	2,143	2,522	1,571
18. Non-electrical machinery	4	4	23	18	17	14
19. Electrical machinery	208	132	784	603	415	376
20. Transport equipment	219	145	1,156	852	485	379
21. Miscellaneous	474	113	1,042	235	961	359
Total	6,234	2,711	34,771	18,979	39,611	28,273

Source: Department of Statistics, Industrial Census, 1967, January 1968.

II. GOVERNMENT ROLE IN INDUSTRIALIZATION

61. Industrial activity in Jordan falls mainly within the private sector. The government, however, performs a crucial role which consists in (a) providing the proper environment for industrial development; (b) participating in the equity of industrial projects; and (c) creating an adequate institutional and financial structure to stimulate industrial development. This role is undertaken through a number of Government ministries and agencies currently concerned with industrial development. These are: the Jordan Development Board, the Ministry of National Economy, including the recently-established Jordan Centre for Industrial Development, the Ministry of Finance and the Jordan Industrial Development Bank.

The Jordan Development Board

62. The first institution to be created for the preparation of the annual programmes, for the planning of projects and for the setting of priorities was established in 1952; it was called the "Development Board". Three times since its establishment, the Board was reorganized, the last time in 1965 when it was reorganized in order to increase its effectiveness as a planning and follow-up agency.

63. The Board is an autonomous agency composed of representatives of a number of ministries and the private sector; it consists of three technical directorates (see chart 1). These are (a) Research, Planning and Finance; (b) Projects and Follow-up; and, (c) Finance and Accounts. The Board's staff include specialists in economics, finance, accountancy, engineering, agriculture, geology, etc.

64. The main functions of the Board are:

(a) to prepare comprehensive economic programmes for the development of Jordan's economic resources;

(b) to prepare, in co-operation with the concerned ministries and departments, annual implementation programmes for projects approved in the plan;

(c) to reconsider the comprehensive economic programmes and the annual programmes in the light of current development and practical requirements;

(d) to prepare studies and agreements for projects financed by foreign sources and to make arrangements for the implementation and continued supervision of these projects; and,

(e) to prepare studies pertaining to the negotiation of loans between the Jordan Government and other external authorities for the financing of projects.

65. The Board entrusts the execution of projects to the ministries concerned; it only retains the right to supervise and review the progress of work underway. But, the Board is empowered to take over implementation if projects require a new technical body which does not exist in any of the ministries, or if they fall within the responsibility of more than one ministry.

66. Implementation by the Board follows one of the following methods:

(a) creation of a specialized implementation department within its establishment;

(b) giving the department concerned autonomous powers or attaching it to any of the concerned ministries if the project happens to be of a permanent nature; or,

(c) tender the implementation of projects.

Evaluation of projects

67. Initiation and evaluation of new projects is the main activity of the Board. The Directorate of Planning is responsible for the initiation and preparation of feasibility studies; the responsibility of the Directorate of Projects and Follow-up is confined to follow-up of implementation.

68. The identification and initiation of industrial projects is based on two factors: the existence of raw materials and the availability of markets. Normally, the Board requests the Jordan Centre for Industrial Development, or foreign consultants, to carry out pre-investment surveys for the preliminary evaluation of projects. The results of these surveys determine whether the Board should go into the second stage of preparing a full feasibility study.

Organization of the Board

President of the Development Board

Vice-President of the Development Board

Secretary-General

Administration and
General Services

Central Registry
and
Information

General Services

Research, Planning and Projects and Follow-up
Financing Directorate

Finance and Accounts
Directorate

Several experts each
responsible for a
sector

Projects
and Tech-
nical Studies

Follow-up
Functions
Section

Accounts
Section

Projections and
Control Section

Source: Hashemite Kingdom of Jordan, Development Board, Objectives, Functions and
Organizations, October 1967, p. 21.

69. The Development Board is the only governmental agency which is empowered to approve the carrying out of feasibility studies by the Jordan Centre for Industrial Development or by foreign consultants. Approval has recently been given to the Centre to undertake the preparation of a feasibility study for the metal transforming industries. Other consultants have also been contacted for the preparation of feasibility studies for ceramics, glass, electrical fittings, fruit and vegetable processing and vegetable seeds. West Germany is currently undertaking a feasibility study for a Triple Super-phosphate project in Jordan.

70. In addition to the feasibility studies which have been prepared recently by the Centre, the following is a list of the feasibility studies prepared by the Industrial Research Institute in Lebanon. All of these feasibility studies were completed in the early sixties:

glass industry	(1962)
concrete pipes	(1962)
cardboard	(1961)
ceramic raw materials	(1962)
glass raw materials	(1962)
superphosphates	(1961)
ceramic tiles	(1961)
nitrogenous fertilizers	(1961)
glass containers	(1961)

Ministry of National Economy

Directorate of Industry

71. Within the Ministry of National Economy, the Directorate of Industry is divided into three sections, namely:

- (a) Industrial Licensing;
- (b) Industrial Studies; and,
- (c) Follow-up and Supervision.

1/...

72. The functions of the Directorate of Industry may be summarized as follows:

- (a) supervision of developments in the industrial sector and the licensing of industrial projects;
- (b) preparation of industrial legislation;
- (c) co-operation with other agencies in the planning of industrial estates and in providing these with the necessary facilities;
- (d) preparation for and follow-up of activities related to industrial co-ordination with other Arab countries; and,
- (e) co-operation with other Government agencies in the development of technical training.

73. The activities of the Industrial Studies Section can be divided into three closely inter-related divisions; namely,

- (a) preparation of pre-investment studies for new projects and evaluation of applications for protection;
- (b) participation in the collection of industrial data and preparation of the industrial plan in co-operation with other agencies, especially the Jordan Development Board, the Jordan Centre for Industrial Development and the Directorate of Statistics; and,
- (c) preparation of standard forms for licensed projects, a directory of industrial enterprises in Jordan, and a record of all licensed projects, including relevant details as to size of capital, expansion, etc.

74. The follow-up section undertakes, among other things, to study and analyze the problems and difficulties faced by industrialists and to formulate recommendations in this respect. The section also co-operates with other agencies in developing industrial training programmes.

75. Project evaluation is embodied mainly in the licensing policy of the Directorate of Industry. Entrepreneurs desirous of establishing new industrial

enterprises have to apply to the Directorate for licensing on a form which contains basic information, such as production plans, fixed and operating costs, capital, expected profits, type of product to be produced, size of the domestic market, and other detailed information related to existing products and market prices.

76. Once this information is presented to the Directorate of Industry, the Industrial Studies Section undertakes preliminary pre-investment studies to determine the viability of projects. These studies analyze projects in terms of invested capital, products to be produced, domestic market, domestic production, price per unit of domestic and imported products, taxes imposed on locally produced and imported goods, raw materials used and their sources of supply, production plans, and comparison between the cost of production of domestic and imported products.

77. The Directorate of Industry uses the following criteria in evaluating projects:

- (a) economic feasibility of projects in terms of quality and cost of product in relation to similar products imported in Jordan;
 - (b) extent of import substitution, taking into account the volume domestic consumption and the contribution of projects to Gross National Product;
 - (c) increase in export potentialities;
 - (d) maximum exploitation of domestic raw materials and agricultural products;
 - (e) effects on employment;
 - (f) fair distribution of industries among different regions;
 - (g) levels of protection needed;
 - (h) avoidance of flooding the market with projects producing similar products;
 - (i) effects on bilateral and multi-lateral agreements with other countries;
- and,
- (j) availability of skills and effects on the development of training programmes.

/...

78. This type of analysis may be adequate for a preliminary evaluation of small-scale projects. But, in the case of large scale projects, more intensive studies are carried out by the Jordan Development Board and the Jordan Centre for Industrial Development.

Jordan Centre for Industrial Development

79. The Jordan Centre for Industrial Development was established in 1966 within the Ministry of National Economy with assistance from the United Nations Development Programme/Special Fund.

80. The main functions of the Centre as provided in its plan of operations include the following:

- (a) advising and assisting in the preparation of a programme of industrial development;
- (b) keeping under review the order of priorities and advising the Government on its industrial policies;
- (c) conducting feasibility studies;
- (d) providing management training and advisory services;
- (e) establishing and improving standards and quality control of products, particularly with a view to industrial exports; and,
- (f) developing industrial estates and other means which will aid the development of the industrial sector.

81. These functions are distributed among four specialized sections. These are:

Industrial studies section: In consultation with the Jordan Development Board, this section is responsible for the development of the industrial programme, including the initiation, formulation and evaluation of industrial projects.

Standards section: This section prepares standardization legislation and formulates specifications and standards for various products produced in Jordan.

Export promotion section: This section studies and recommends ways of raising the level of exports.

Management section: The management section offers advisory services to private industries and organizes management training courses. It is sub-divided into four units, each dealing with a specialized area of industrial management. These are: (a) administration; (b) production; (c) accounting; and, (d) marketing and sales.

52. The role of the Centre in project evaluation is reflected in the continuous preparation of pre-feasibility studies whose scope and content are wider than those prepared by the Directorate of Industry. The following is a list of pre-feasibility and market studies completed by the Centre by the end of March 1970:

1. Phosphate fertilizers.
2. Structural clay, pottery and non-metallic products and raw materials requirements.
3. Ceramic industry in Jordan.
4. Wall tiles and sanitary ware in selected Arab countries.
5. Laboratory evaluation of indigenous ceramic raw materials.
6. Measuring of firing temperatures in Jordan Clay Works Company.
7. Conglomerate pipes.
8. Carton and boards printing requirements.
9. National educational printing requirements.
10. Public sector printing requirements.
11. Paper and Cardboard Industry Ltd.
12. Printing industry.
13. Plywood.

53. Once completed, these studies are put under the disposal of the Directorate of Industry and the Jordan Development Board for licensing purposes and for the preparation of an industrial programme. The Centre is not involved in the following stages of implementation.

The Centre's approach to project identification^{8/}

84. The Jordan Centre for Industrial Development observed that the basis of expanding the manufacturing sector or the development of the metal and metal-transforming industries. This type of industry has the important property of acting as a catalyst in industrial development by promoting new enterprises and consolidating the existing ones, thus creating a multiplier effect necessary for expansion. In addition, a large part of the products involved may be produced by medium and small-scale industrial enterprises requiring a relatively small amount of capital, thus making it possible for an individual or a small group of entrepreneurs to initiate an enterprise; quick and generally high returns can be achieved and the technologies involved are easy to learn and to copy.

85. Maximum advantages could be obtained by a careful selection of products based primarily on a policy of import substitution and an analysis of inter-industry relationships. However, the main objective of the import substitution policy should be the establishment of a basis for the gradual development of industry and the use of new, simple manufacturing techniques by relatively labour-intensive procedures rather than the objective of overcoming the balance of payments problem.

86. Selection should be based on the following groups of products:

(a) Containers and tinware

Tin cans, miscellaneous metal covers, tinplates, capsules, caps and simple items produced in long series by stamping with multiple cutting and shaping dies.

These products are manufactured by means of presses, guillotine cutters or shears, and special flanging and sealing machines.

(b) Hot-forged and hot-pressed products

Agricultural tools, hand tools, ploughs, etc.

^{8/} Extracted from a memo prepared by Alexander Feraldis, Acting Project Manager, JCID, Amman.

(c) Wire products

Nails, staples for fencing, miscellaneous wire products, metal screening, mesh.

Produced by special machines and shaping dies;

(d) Small products, primarily stamped

Hardware, locks and padlocks, miscellaneous fastenings, plugs, switches, sockets, etc. Products shaped by pressing, cutting, drilling and bending, manufactured in long series (simple parts which do not require high tolerances);

(e) Small products, primarily machined

Hardware, locks, etc., parts of ovens, stoves and water heaters, screws, nuts, etc. Products manufactured primarily with metal-cutting machine-tools (lathes, milling-machines, planers, shapers), requiring certain working tolerances, and which can be manufactured in short series;

(f) Boiler shop products and metal structures

Boilers for farm use and accessories, metal silos, steel tanks and receptacles, girders, structural shapes, etc.

Products for which plate, tubes and profiles are used as raw materials manufactured by means of bending, cutting, and joined either by welding or riveting;

(g) Sheet-metal products

Small tanks and various receptacles, metal drums, parts of ovens, stoves and water heaters, agricultural pulverizers, kitchenware, etc.

Products manufactured by stamping and bending; and,

(h) Light machinery and machine parts

Pumps, oilpresses, spare parts, castings, etc.

Products manufactured primarily by machining, with strict quality control and great precision.

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87. The Centre plans to examine and advise on the types of small-scale metal and metal-transforming industries which can be established in the country, and in particular it will:

(a) draw up a programme of development of small-scale industries as part of the national industrial development plan, taking into account import substitution, trends of demand, market opportunities, etc.;

(b) undertake surveys of possibilities of development of small-scale industries on a national basis;

(c) carry out detailed feasibility and pre-investment studies on the priority industries, including specifications, estimated cost of plant, machinery, raw materials, etc. as well as profitability estimates both from the entrepreneurial and national points of view;

(d) examine the establishment and operation of industrial estates having in view the common service facilities, such as foundry, forge, electroplating, etc.; and,

(e) examine the possibility of an industrial assistance service, as part of the industrial estate, providing advice and assistance for all technical questions (maintenance, repair of equipment, quality control, cost accounting, marketing and so on).

88. Since the object is to create the necessary background for development through the strengthening of industrial inter-relationships, the effectiveness of such development depends strongly on the establishment of an industrial estate.

Two cases of project development in Jordan

89. This brief note is intended to illustrate the process of planning of industrial projects in Jordan. For the purpose of relating, step by step, the procedure involved, two specific projects were selected from among those that have so far reached an advanced stage of planning. These are: the proposed Triple-Superphosphate plant, Aqaba and the proposed Ceramic Plant, whose location is to be decided upon at a future stage. Both projects have been processed by the Jordan Centre for Industrial Development.

2. Phosphate Fertilizer Plant at Rusafa

90. Phosphate rock has been exported for many years in Jordan, especially in its natural form, more recently, at Rusafa. In 1966, production and export reached approximately one million tons per year. Under the Seven-Year Programme for Economic Development of Jordan, 1964-1970, a target of two million tons per year was set for 1970.

91. The main problems in the development of phosphate have not been those of outlets or of production, but rather the serious limitation of the capacity of the inland transport system, both in Jordan and through the neighbouring countries of Syria and Lebanon.

92. Surprisingly, the 1964-1970 programme gave no priority to the further processing of local phosphate into more valuable products; despite ^{the fact} that such an opportunity had been at times considered by the Government. Thus, at the request of the Government, the Industry Institute of Beirut was commissioned in April 1961, to carry out a feasibility study on the local manufacture of phosphatic fertilizers. The study concluded that a single superphosphate plant with an installed capacity of 4,500 tons per year, located at Rusafa and catering for domestic consumption only, was quite a feasible project even when operating, possibly for the initial few years of the project's life, at the break-even point of 2,452 tons per year, i.e. operating at 55 per cent of full capacity^{2/}.

93. In January 1967, when the agreement was signed between the Government of Jordan and UNDP/Special Fund to establish the Jordan Centre for Industrial Development, a number of investment opportunities, which was under consideration for some time, was reviewed by the JCID and the specific project of manufacturing phosphatic fertilizers was thought to be among the most promising, even under the prevailing difficult circumstances of Jordan.

^{2/} At the time, it was estimated that the rate of return on capital is 11.4 per cent when the plant operates at full capacity.

94. A consultant^{10/} was commissioned in September 1967 and assigned, under the supervision of the JCID, to carry out the pre-investment study involved. The related report was submitted by the consultant on 20 February 1968. The major recommendations could be summarized as follows:

(a) domestic demands for fertilizers in Jordan were not significant enough to fully support a viable scale of fertilizer manufacture. Export to countries located south and east of the Suez Canal should be sought as an indispensable complement to the local market;

(b) the proposed fertilizer plant should not be involved in the manufacturing nitrogenous fertilizers because the Arabian Gulf area was expected to have great surplus of that type of fertilizer in the very near future; without the advantage of cheap resources of oil or gas, Jordan would not be able to compete successfully with the oil-producing countries. The small quantity of refinery off-gas available in Jordan was no help in this respect; and,

(c) Jordan should take full advantage of its being well endowed with phosphate rock. Provided the necessary sulphur is imported, it would be feasible to develop a triple-superphosphate plant located at Aqaba Port and catering primarily for export. The minimum installed capacity should be at least 200,000 tons of TSP per year.

95. The study referred to in paragraph (94) above was, however, only a pre-investment study in the sense that, in order to further ascertain the project feasibility, a number of crucial issues had still to be clarified. Transportation costs of phosphate rock, which represented a significant input, should be investigated further in the light of decisions the Government may take as to the basic infrastructural network, whether road or railways, that had to be completed and strengthened between the phosphate mines and the Port of Aqaba. The import of sulphur as essential material input, should be looked upon more carefully. The

^{10/} Mr. K.K. Aalto, UNIDO.

...section made by the consultant to transport sulphur in liquid form and to ship it from Spain to Arabi, all the way round the Cape of Good Hope, appeared to describe a recent thought, especially in the light of the various sulphur production projects that are expected to be on stream very soon in the Gulf area.

96. The JCID was, in 1969, in the way of following-up the project, and further stages of feasibility study preparations were under consideration with a specialized consulting firm. Also, preliminary contacts were initiated by the JCID with international banking institutions for the financing of the project. In the meantime, however, the Government of Jordan succeeded in concluding with the Government of the Federal Republic of Germany a bilateral agreement whereby a number of Jordanian projects were to be financed by Germany, including the proposed triple-superphosphate plant at Aqaba and the railway spur, that was the missing link in the existing network, from Ma'in to Aqaba.

Ceramics

97. The ceramic industry has been considered a worthwhile project in Jordan for sometime now. The Government of Jordan has commissioned several preliminary studies in this respect, especially the following:

(a) deposits of ceramic raw materials in Jordan, December 10, 1960. Battelle Institute, Frankfurt;

(b) analysis and evaluation of Jordanian ceramic raw materials, January 10, 1961. Industry Institute, Beirut;

(c) feasibility study of a ceramic ware industry, wall tiles, sanitary ware and dinner-ware in Jordan, Industry Institute, Beirut;

(d) in-plant trials with Jordanian ceramic raw materials, July 10, 1962. Industry Institute, Beirut;

(e) a market survey of ceramic products in Jordan, March 14, 1961. Industry Institute, Beirut;

(f) evaluation of ceramic raw materials in selected areas, August 31, 1964. Jordan Office for Geological and Engineering Services, Amman, Jordan; and,

(g) market survey of wall tiles, sanitary ware and dinner ware in Jordan, September 30, 1965. Bureau of Engineering Services, Amman, Jordan.

On 29 September 1966, the Jordan Ceramic Industries Co. was established as a joint venture in which the Government of Jordan, the Jordanian and foreign firms participated. Before offering the rest of the shares to the public subscription, the company envisaged contracting to a consultant firm for further investigations into the feasibility of the industry. An invitation for tender was issued to interested firms on the basis of the following proposed scope of work for the feasibility study:

- (a) the study of markets, both domestic and export;
- (b) a re-appraisal of the project's feasibility in the light of the market studies indicated above;
- (c) if the project's feasibility is confirmed, advice as to plant's location and preparation of plant's specifications and related tender documents;
- (d) assistance in analysing offers and selecting contractors; and,
- (e) supervision of construction work, and assistance in testing and starting up the plant's machineries.

99. In 1967, the feasibility study of the ceramic industry project in question was assigned to the JCID. In March 1968, an international expert in ceramic industries was recruited and appointed to the JCID^{11/}. The expert undertook to review the scope of work for the feasibility study established by Jordan Ceramic Industries Co. referred to above and recommended a number of amendments with a view to elucidating some of the issues involved and, especially, to carry out, with the help of the limited manpower and facilities then available in Amman, some preliminary investigations on raw materials and markets that were deemed to be essential for further stages of the project's study.

^{11/} Mr. Zdzinek Engelthaler was recruited by UNIDO and stationed at the JCID.

The involvement of a technical consultant services was undertaken for a limited stage, as follows:

- (a) on-plant testing of raw materials for the purpose of ascertaining selected process and equipment involved, ascertaining the contemplated qualities and specifications of end products;
- (b) preparing detailed design specifications of plant's machineries and equipments and related books of tender;
- (c) assisting in analysis of offers received for the supply and erection of plant's machineries and in selection of contractor(s);
- (d) inspecting equipment and machinery delivered at plant's site; supervising construction works and erection of equipment; and,
- (e) start-up production, testing performance guarantees and checking quality of end products.

101. A pre-investment study for a ceramic industry in Jordan was completed by the JED in November 1968. The survey of markets for wall tiles and sanitary wares in neighbouring Arab countries was completed in early 1969. The general conclusions of the JED studies involved were as follows:

(a) As regards the proposed manufacture of wall tiles

- (i) the demand for wall tiles in Jordan, amounting to 1,500 tons per year, was too small to support an import-substitution project. Markets in neighbouring Arab countries should be sought in order to raise the plant's production to 5,000 tons per year which will, then, ensure a return of 10 per cent on an investment estimated to be roughly JD 624,000;
- (ii) local raw materials were deemed to be suitable for wall tile body, but glaze and stains would have to be imported; and,
- (iii) the plant should be designed so as to allow at the minimum cost, the addition of a sanitary ware production line, as appropriate, in the future.

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(b) As regards the proposed manufacture of sanitary ware

(i) as in the case of wall tiles, markets of neighbouring Arab countries should be sought to complement the Jordanian domestic demand up to a minimum economic plant capacity of 3,000 tons per year. The return would be, then, about 31 per cent on an investment estimated to be around JD 537,000;

(ii) because no deposits of high-grade body raw materials have been found in Jordan at the time of the JCID Report, the raw materials involved should be imported. If, in the future, such deposits were to be found and the import of high-grade body raw materials discontinued thereafter, the return on investment could be expected to increase up to 44 per cent instead of 31 per cent as indicated in (i) above.

102. The study and planning of the proposed ceramic project is reported at present to be progressing satisfactorily as planned by the JCID.

Investment Promotion Office

103. The Investment Promotion Office was created under the Encouragement of Investment Law of 1967 as an integral part of the Ministry of National Economy. Its functions were defined as follows:

(a) to collect, co-ordinate and publish studies necessary for the encouragement of investment of local, Arab and foreign capital in various development projects and to maintain liaison with potential investors;

(b) to provide statistical, economic, financial and legal information, with a view to acquainting potential investors with all aspects and institutions in the country; and,

(c) to facilitate the procurement of entrance visas and residence permits for non-Jordanian businessmen visiting the country for this purpose.

104. The Office plays a key role in determining the extent of the facilities and exemptions that should be granted to prospective investors. Projects applying for

facilities and exemptions are studied by the Office on the basis of the pre-investment studies undertaken by the Directorate of Industry or the Jordan Development Board; its recommendations and comments are put before the "Encouragement of Investment Committee" for final referral to the Council of Ministers for approval. Implementation of projects is followed up by the Office with a view to checking on the proper use of facilities granted.

105. On the encouragement side, the Investment Promotion Office publishes regular information on investment opportunities in Jordan. Recently, it has publicized information on industrial opportunities believed to possess definite attractions to investors. These industries include: food processing, ceramic products, glass sheets and glass containers, tourism facilities, ancillary industries related to phosphate mining and potash. The Office already has in its possession pre-investment studies for some of these industries while others are being contemplated. Also, the Office advises and encourages potential investors to carry out their own pre-investment investigations prior to embarking on proposed ventures.

106. The following are samples of the information publicized:

1. Food Processing Industry

New investment opportunities due to the opening of new land as a result of the initiation of the East Ghor Canal Project and the existence of a substantial local market.

2. Ceramic Products

(a) local market: In 1964, Jordan imported in excess of 2,800 tons of ceramic products, with a value of more than JD 400,000;

(b) available raw materials. (i) suitable clay for the manufacture of fine ceramic products such as wall tiles and dinner ware; (ii) suitable sand that can be used as flint; and, (iii) suitable granites in abundant quantities in the Aqaba region which may be substituted for feldspar.

3. Sheet glass and glass containers

(a) Market: In 1967, imports of (i) glass bottles, jars, etc. and the like amounted to 1,000 tons; (ii) glass vases amounted to more than 1,000 tons; and, (iii) undrawn and drawn glass amounted to more than 2,000 tons. The value of these total imports of glass and glassware amounted to JD 250,000;

(b) raw material availability: suitable high-quality sand for the production of glass sheet and containers exists in extensive deposits in various areas in Jordan; hence, wide choice of selection of plant site exists; and,

(c) studies by the Battelle Institute of Frankfurt, West Germany and by the Industry Institute, Beirut, emphasized the availability of high quality sand deposits and suggest:

(i) the feasibility of a plant for the manufacturing of approximately 2,000 tons of flat glass per year with a full capacity of approximately 3,000 tons per year. This plant is expected to capture 75 to 85 per cent of the flat glass market; and,

(ii) the feasibility of a plant for the manufacture of 1,500 tons per year of bottles and 1,000 tons per year of tumblers and other glass items. These products can be produced at prices lower by approximately 10 per cent for bottles and 15 per cent for tumblers than corresponding import prices. The project is expected to capture 75 to 80 per cent of the bottle market and 100 per cent of the tumbler market, and may, in addition, have a good potential for export.

4. Industries related to Phosphate Mining

(a) phosphate exports constitute 40 per cent of Jordan's total exports. The use of fertilizers has been increasing considerably due to the high rate of population increase and the urgent need to provide more foodstuff.

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(b) feasibility study to set up a fertilizer plant in Jordan undertaken by a UNIDO Consultant in 1968 emphasized that raw materials for nitrogen fertilizers are non-existent (except wastes from the Petroleum Refinery). Other countries in the Near East are rich in raw materials and new large plants are already operating in the region, while others are being planned. It is expected that the supply of nitrogenous fertilizers will exceed demand in the near future; and,

(c) Jordan has ample supply of phosphate but elemental sulphur or sulphidic ores have to be imported. A plant with a capacity of 200,000 tons of MSP was recommended.

5. Potash

A feasibility study prepared by a private consulting firm and reviewed by international bodies concluded that:

(a) the establishment of a plant with a capacity of one million metric tons of potash per year is feasible;

(b) capital requirements are US \$80 million (including working capital and interest during construction);

(c) for long range appraisal, the price applied would give a rate of return on equity equal to 26 per cent; and,

(d) technically, the project was found to be sound and feasible.

Encouragement of Investment Committee

107. The Encouragement of Investment Committee was also created in 1967 under the new Encouragement of Investment law; it is composed of representatives of a number of ministries, government agencies and the private sector and is concerned with the encouragement of local and foreign investment as well as with the creation of a favourable atmosphere for such investment.

108. Two of the main functions of the Committee are to recommend legislation for the investment of Arab and foreign capital; and to study requests for facilities and exemptions of local and foreign investors. The Committee's recommendations are subject to the approval of the Council of Ministers.

109. Although no feasibility studies are prepared by the Committee itself, the Committee, nevertheless, evaluates projects on the basis of existing studies taking into account national as well as commercial profitabilities.

Ministry of Finance

110. Involvement of the Ministry of Finance in the process of industrial development planning takes two main forms: (a) equity participation in industrial ventures; and, (b) the granting of such facilities as tax exemptions, protection, and concessions to industrial enterprises.

Equity participation

111. One of the most effective instruments for the encouragement of industry in Jordan has been the purchase by the Government of shares in new industrial enterprises. To some extent, this policy has been a stop-gap because of the capital shortage in the country. The extent of Government equity participation in major industries has been considerable. The Government of Jordan is a shareholder in a number of large industrial enterprises (see table 10). As of 31 December 1969, Government investments in such ventures amounted to JD 12.1 million, or to 32.8 per cent of the total paid-up capital.

112. Initially, the principle of Government equity participation was to assist in the establishment of new enterprises with the understanding that the government would dispose of its interests as soon as private investors can be found. The returns on capital invested by the Government have, in some cases, been high enough to inhibit, for budgetary consideration, the sale of Government-owned shares.

Table 10. Government equity participation in 27
 Jordanian Companies as on 31 December
 1969
 (in Jordanian dinars)

Enterprise	Paid-up capital	Government share
1. Jordan Cement Factories Co.	4,500,000	2,227,500
2. Jordan Petroleum Refinery Co.	8,000,000	417,500
3. Jordan Phosphate Mines Co. Ltd.	3,000,000	1,904,413
4. The Jordan Vegetable Oil Industries Co.	500,000	178,806
5. Jordan Fisheries Co.	100,000	16,357
6. The Arab Pharmaceuticals Manufacturing Co.	250,000	55,000
7. The Jordan Paper Industries Co. Ltd.	600,000	387,715
8. Jordan Tanning Co.	400,000	100,000
9. ALIA The Royal Jordanian Airlines Co. Ltd.	3,000,000	3,000,000
10. Jordan Hotels and Tourist Co.	723,400	620,000
11. Arab Potash Co.	4,501,000	500,000
12. Ajloun Electric Co.	1,000,000	178,852
13. The Jordanian Electric Power Co.	2,500,000	33,528
14. Holyland Hotels Co.	600,000	500,030
15. The I.C.A. Co. Ltd.	1,000,000	28,658
16. Hiseh Mineral Waters Co.	85,000	35,000
17. Amman Union Bus Co.	800,000	249,820
18. The Jordan Confectionary and Chocolate Co. Ltd.	150,000	53,120
19. The Jordan Worsted Mills Co. Ltd.	450,000	110,800
20. Tourist Transport Co.	300,000	25,000
21. Industrial Development Co.	250,000	70,975
22. The Jordan Dairy Co.	100,000	22,500
23. The Jordan Bakery Co.	100,000	26,000
24. Aqaba Hotels Co.	300,000	130,000
25. Industrial Development Bank	3,000,000	1,000,000
26. Institute of Marketing Agricultural Products	600,000	200,000
Total	36,884,400	12,074,114

Source: Bulletin of the Amman Chamber of Industry, No. 45 Feb. 1970, p. 19.

113. As a result of income tax concessions, the Government of Jordan granted a number of concessions to encourage industrial development. Some of these concessions grant exclusive and conditional powers and extend over periods varying from 30 to 50 years of franchise. For the duration of the concession, Jordan undertakes, among other things, to prohibit the establishment of competitor firms and to ensure absolute protection to the franchised enterprises.

114. Other types of facilities granted to approved industries include exemption from customs duties and other fees in respect of imported machinery, equipment and construction materials, full exemption from income tax for specified periods and protection from foreign as well as local competition through the imposition of restrictions on the imports of similar manufactures or the virtual absence of identical domestic industries.

The Industrial Development Bank

Industrial credit

115. It had long been recognized that scarcity of capital funds was one of the major obstacles facing industrial growth in Jordan. To alleviate the situation, the Government created the Industrial Development Fund (IDF) in August 1957. Loans paid out by IDF between August 1957 and the end of June 1965 amounted to about JD 1 million.

116. In 1963, it was realized that the IDF could not meet the credit demands of industry. It was felt that it was necessary to establish an expanded institution with adequate resources to take over the functions of the IDF. The Industrial Development Bank was, therefore, created in July, 1965 as a predominantly private institution with an authorized capital of JD 3 million. Of this, the Government was to participate to the extent of JD 1 million, and the remainder was to be issued for public subscription. The bank commenced its operations on 15 October 1965, with a subscribed capital of JD 2.24 million.

117. The Bank's objectives are:

- (a) to encourage, activate, assist, expand and develop industrial projects;
- (b) to increase opportunities of work in the country;
- (c) to assist in developing an organized credit market in the country;
- (d) to encourage small-scale industries through the establishment of co-operative societies and to support these industries by providing them with technical assistance and loans; and,
- (e) to encourage the financing of industrial projects from internal or external public, private or international sources.

118. The bank is divided into four main sections. These are:

- (a) the technical section;
- (b) the investment section;
- (c) the financial section; and,
- (d) the administrative section.

119. Licensed projects which apply to the Bank for loans are required to fill standard forms based on questionnaires prepared by the Directorate of Industry. On the basis of these forms, the various technical sections at the Bank report on the economic, commercial and technical feasibility of projects. In determining the issuance of loans, the Bank tries to balance between its role as a development bank and its role as a semi-commercial bank.

120. The Industrial Development Bank does not initiate new projects. Its role in project evaluation is restricted to the semi-commercial pre-investment studies which are carried out specifically for the purpose of granting loans. Follow-up of projects is undertaken for the specific purpose of ensuring the proper use of loans granted. Appendix tables 6 and 7 illustrate the volume of the Bank's operations between 1966 and 1968.

Chamber of Industry

121. The Chamber of Industry was established in 1960 to represent and assist private industrialists in Jordan.
122. Membership in the Chamber of Industry is compulsory for all licensed industrial establishments. The Chamber maintains close relationships with industrial planning authorities and advises the latter on matters related to industrial development through various means, especially through the Chamber's representation at:
- (a) the Committee for Encouragement of Investment;
 - (b) the Permanent Committee for Foreign Fairs;
 - (c) the Export and Import Committee; and,
 - (d) the Board of Directors of the Industrial Development Bank.
123. No feasibility studies are prepared by the Chamber, since these are carried out by the Jordan Development Board and the Jordan Center for Industrial Development. However, the Chamber helps small industrialists in reviewing the profitability and economic feasibility of their planned projects.
124. The Chamber of Industry assists in the initiation of projects by drawing the attention of potential investors to feasible and profitable projects. Its role in initiating industrial projects is, however, limited to small-scale industries.
125. During 1968 and 1969, twenty-four industrial companies were registered at the Chamber of Industry with a total authorized capital of JD 650,998. The size of these enterprises ranged from JD 500 to JD 200,000; the majority of these projects are of small size type, whose activities are distributed among mining, food processing, beverages, textiles, clothing and footwear, furniture and fixtures, chemical products, and non-electrical machinery.

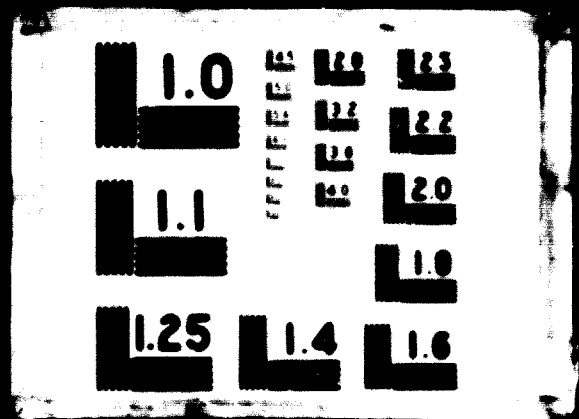


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III. CURRENT AND PROSPECTS

Up to 1966, the development of industry in Jordan has been quite impressive. Income originating in mining and manufacturing increased from JD 6.0 million in 1959 to JD 17.6 million in 1966, or by about 183 per cent in seven years. The share of industry in net national product (at factor cost) rose from 6.9 to 10.7 per cent during the same period. This structural shift, slight as it may seem, indicates that industry has become an important element in the economy of Jordan.

127. The occupation of the West Bank, together with the situation that has arisen from the 1967 war, have seriously affected the economic development efforts of Jordan, including the growth momentum which had just been started in the industrial sector. The number of industrial enterprises that existed in the West Bank in 1966 constituted around 58 per cent of the total number of industrial establishments in Jordan. These establishments employed around 45 per cent of the total industrial employment.

128. Of particular significance are the effects of the 1967 war on the Seven-Year Programme, 1964-1970, of Jordan. The implementation of several projects had to be suspended while others are being re-examined in the light of the present situation. The invitation of several new projects have been delayed.

129. Although industrial activity in Jordan falls mainly within the private sector the Government, nevertheless, performs a crucial role which consists in (a) providing the proper environment for industrial development; (b) equity participation in industrial projects; and, (c) creating an adequate institutional and financial structure to stimulate industrial development.

130. A number of Government Ministries and Agencies is involved in industrial development, in general, and in project planning, in particular. These are: the Jordan Development Board, the Ministry of National Economy,

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including the recently established Jordan Centre for Industrial Development, the Ministry of Finance, and the Jordan Industrial Development Bank.

131. Aside from its main responsibility of preparing the overall economic and social plan, the Jordan Development Board was involved in project identification, evaluation and initiation. Prior to the establishment in 1967 of the Jordan Centre for Industrial Development within the structure of the Ministry of National Economy, the Jordan Development Board commissioned a number of feasibility studies to foreign consultants. These involved such industries as glassware, concrete pipes, cardboard, ceramics, superphosphate and nitrogenous fertilizers.

132. With the establishment of the Jordan Centre for Industrial Development, the major part of the responsibility for the preparation of the sectoral plan for Industry, including project identification and evaluation was transferred to the Ministry of National Economy. Within the Ministry, the Directorate of Industry, in cooperation with the Jordan Centre for Industrial Development, took over responsibilities for industrial planning which used to be part of the overall functions of the Jordan Development Board. The Board, however, retained the power to approve the carrying out of feasibility studies by the Jordan Centre for Industrial Development or by foreign consultants.

133. Up to the beginning of 1970, the Jordan Centre prepared a number of pre-feasibility and market studies for such industries as the phosphatic fertilizers, ceramics, conglomerate pipes, paper and cardboard and plywood. When completed, these studies are usually put under the disposal of the Jordan Development Board and the Directorate of Industry for execution within the adopted programme. The Centre itself is not involved in the implementation stages.

134. Small-size projects are evaluated on the basis of information supplied in the process of licensing by the Directorate of Industry, Ministry of National Economy.

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135. Other Governmental Agencies involved in the industrial planning are the Investment Promotion Office, the Encouragement of Investment Committee, the Ministry of Finance and the Jordan Industrial Development Bank. In the private sector, the Chamber of Industries also plays an important role in industrial development.

136. The Investment Promotion Office, a specialized section of the Ministry of National Economy, plays a key role in determining the facilities and exemptions that are to be granted to prospective investors. Projects applying for such facilities and exemptions are studied by the Investment Promotion Office on the basis of pre-investment studies undertaken by the Directorate of Industry. Implementation of projects is followed-up by the office for the specific purpose of checking on the proper use of facilities granted.

137. The Encouragement of Investment Committee, which is chaired by the Minister of National Economy, evaluates the recommendations of the Investment Promotion Office and recommends to the Council of Ministers the type of action which should be taken in respect of the granting of facilities and exemptions. Neither the Investment Promotion Office nor the Encouragement of Investment Committee are involved in the preparation of pre-investment studies.

138. Involvement of the Ministry of Finance in industrial development takes two main forms: (a) equity participation in industrial ventures; and, (b) granting of concessions to industrial enterprises. The capital resources provided for industrial development in the form of government equity participation in individual projects by the Ministry of Finance are supported by the credit facilities extended to the private sector by the Industrial Development Bank. The Bank's role in project evaluation, however, is restricted to (a) the pre-investment studies prepared by applicants which are usually based on those prepared by the Directorate of Industry, and (b) the semi-commercial pre-investment evaluation that are prepared by the Bank itself. Follow-up of projects are undertaken by the Bank for the specific purpose of ensuring the proper use of loans granted.

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139. From the point of view of industrial planning, the three areas most directly involved in project identification and execution are the Ministry of National Economy, through its Directorate of Industry, the Jordan Centre for Industrial Development and the Jordan Development Board. In the past, the Jordan Development Board was the most active and technically better equipped for industrial planning than other agencies of the Government. More recently, however, emphasis has been shifted to the Jordan Centre for Industrial Development. The Jordan Development Board retains its original function of coordinating the sectoral programmes into an overall programme of Development.

140. The last plan of Jordan was prepared in 1963 at which time the Jordan Centre for Industrial Development had not existed. Since 1967 the Centre has been engaged mainly in identifying and preparing projects for the forthcoming plan. The Centre is a specialized institution which is well equipped for the task involved.

141. However, it would be difficult for the Jordan Centre to function satisfactorily without closely coordinating its activities with those of the Directorate of Industry at the Ministry of National Economy and the Jordan Development Board.

142. A pre-requisite for better coordination of industrial planning activities between the Jordan Centre for Industrial Development, on the one hand, and the Directorate of Industry, Ministry of National Economy and the Jordan Development Board, on the other, require the strengthening of the technical planning units at the latter agencies and the creation of an efficient means of communications between the three areas involved.

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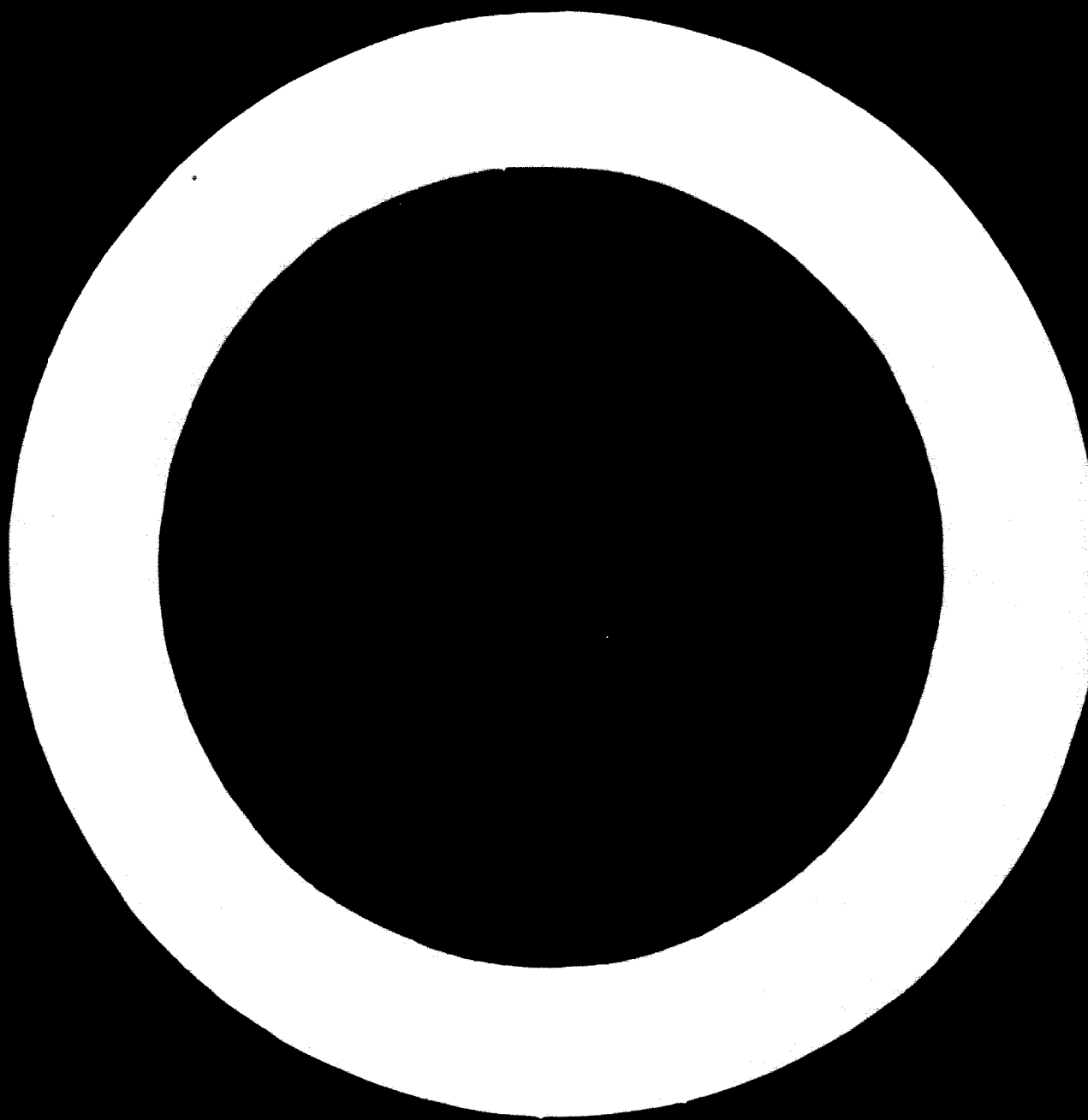


Table 1. Jordan. Number of manufacturing establishments and persons engaged, classified by ISIC major groups and size of establishment, in 1965.

Manufacturing major group (ISIC)	Number of establishments				Persons engaged		Total establishments	Number of persons engaged
	1-4	5-9	10-49	50+	1-9	10+		
Food (20)	1,299	287	147	3	5,391	2,296	1,736	7,687
Beverages (21)	1	2	15	1	16	372	19	388
Tobacco (22)	-	1	1	3	2	684	5	896
Textiles (23)	41	17	36	7	233	1,759	101	11,992
Footwear apparel and made up textiles (24)	1,286	195	33	6	3,692	1,026	778	4,718
Wood and cork (25)	28	10	1	-	168	17	39	185
Furniture and fixtures (26)	891	77	32	5	2,646	1,096	1,005	3,742
Paper and paper products (27)	6	4	3	1	35	826	14	261
Printing, publishing (28)	26	27	15	4	343	820	72	1,163
Leather, fur and products (29)	40	2	2	1	110	203	45	313
Rubber products (30)	57	3	-	-	152	-	60	152
Chemical and chemical products (31)	5	17	23	3	130	913	48	1,043
Petroleum and coal products (32)	-	-	-	1	-	775	1	775
Non-metallic mineral products (33)	1,124	32	34	4	956	1,248	194	2,204
Basic metals (34)	-	-	-	-	-	-	-	-
Metal products (35)	901	104	41	4	3,271	923	1,050	4,194
Machinery, non-electrical (36)	1	1	2	-	9	58	4	67
Electrical machinery apparatus; appliances and supplies (37)	187	16	1	1	472	261	207	733
Transport equipment (38)	159	111	19	1	1,226	404	290	1,630
Miscellaneous (39)	128	16	5	1	771	228	220	929
Total	5,250	924	410	46	19,623	13,509	6,630	33,132

SOURCE: Jordan Department of Statistics, Industrial Survey of 1965 (Arabic), July 1967. As quoted in a paper prepared by Z. Asfour for the United Nations Economic and Social Office in Beirut, No. ES03/ID/M-et.2/1 (ID/WG.17/2 dated 1968).

Table 2.

Jordan (Barbados Bank). Value of fixed assets, average value of fixed assets, average value of employees, and average number of employees, of establishments employing more than 10 persons, 1957.

Industry	Number of establishments	Value of fixed assets, \$ thousands	Average value of fixed assets, \$	Value of gross production, \$ million	Number of employees per establishment	Average value of gross production per establishment
Petroleum refinery	1	5,246	5,246.00	4,885	917	917.00
Phosphates	1	3,715	3,715.00	1,870	1,345	1,345.00
Cement	1	3,301	3,301.00	1,530	604	604.00
Tobacco	3	535	178.33	2,807	716	238.67
Electrical machinery	2	294	147.00	875	293	146.50
Chemical products	7	956	136.57	1,137	358	51.14
Leather and products	3	310	103.33	433	179	59.67
Paper and products	7	517	73.86	391	440	62.86
Grain mills	6	460	76.67	2,162	289	36.13
Beverage	11	604	54.91	556	261	23.73
Textiles	22	1,024	46.68	2,043	1,375	62.50
Canneries	2	92	46.00	149	26	48.00
Other food manufacturing	6	217	36.17	953	126	21.00
Confectionery	11	290	26.36	282	163	16.64
Basic metal products	29	571	19.69	1,016	779	26.86
Footwear	11	207	18.82	330	475	43.18
Printing and publishing	13	192	14.77	340	304	23.28
Transport equipment	11	162	14.73	231	274	24.90
Other (miscellaneous)	17	305	17.94	334	407	23.94
Miscellaneous	1	17	17.00	15	17	17.00
Other (non-metallic)	3	31	10.33	52	67	22.33
Furniture and fixtures	23	275	11.96	475	523	22.96
Olive oil	1	9	9.00	2	31	31.00
Clothing	16	45	2.81	253	237	19.75
Stone crushing	54	128	2.37	301	817	15.13
Non-electrical machinery	1	2	2.00	11	11	11.00
Bakeries	12	23	1.92	319	237	19.75

Industry	1,000 - 49,000 Jordanian dinars		50,000 - 99,000 Jordanian dinars		100,000 - 249,000 Jordanian dinars		250,000 - 499,000 Jordanian dinars		500,000 - 1,345,000 Jordanian dinars	
	Number of establishments	Number of workers	Number of establishments	Number of workers	Number of establishments	Number of workers	Number of establishments	Number of workers	Number of establishments	Number of workers
Mining and quarrying	57	617	-	-	-	-	-	-	1	1,345
a) Phosphates	-	-	-	-	-	-	-	-	1	1,345
b) Stone crushing	34	617	-	-	-	-	-	-	-	-
c) Quarrying	-	-	-	-	-	-	-	-	-	-
Food manufacturing	26	304	6	170	2	89	7	309	-	-
a) Grain mills	-	-	2	26	1	13	2	248	-	-
b) Bacterias	12	149	2	32	-	-	-	-	-	-
c) Confectionery	9	109	2	79	-	-	-	-	-	-
d) Vegetable oil	-	-	-	-	-	-	-	-	-	-
e) Olive oil	3	11	-	-	1	94	-	-	-	-
f) Cannedes	1	22	-	-	-	-	-	-	-	-
g) Other	3	62	1	11	-	-	2	6	-	-
Beverage	6	149	-	-	3	112	-	-	-	490
Tobacco	1	9	-	-	-	-	1	297	1	142
Textiles	14	370	3	106	2	209	2	373	-	-
Clothing	14	269	1	47	-	-	-	-	-	-
Footwear	6	137	2	149	-	-	1	159	-	-
Wood and cork	-	-	-	-	-	-	-	-	-	-
Furniture and fixtures	23	416	2	94	-	-	-	-	-	-
Paper and products	3	207	3	94	1	142	-	-	-	-
Printing and publishing	12	244	1	60	-	-	1	123	-	-
Leather and products	2	94	-	-	-	-	-	-	-	-
Rubber and products	-	-	-	-	2	60	-	-	1	240
Chemical products	4	53	-	-	-	-	-	-	1	917
Petroleum refinery	-	-	-	-	-	-	-	-	1	604
Non-metallic minerals	16	378	-	-	1	94	-	-	1	604
a) Cement	-	-	-	-	-	-	-	-	-	-
b) Tiles	16	311	-	-	1	94	-	-	-	-
c) Other	3	67	-	-	-	-	-	-	-	-
Basic metal products	29	374	3	121	-	-	1	94	-	-
Non-electrical machinery	1	11	-	-	-	-	-	-	-	-
Electrical machinery	-	-	1	71	1	222	-	-	-	-
Transport equipment	9	147	2	107	-	-	-	-	-	-
Miscellaneous	1	17	-	-	-	-	-	-	-	-
Total	228	4,270	24	1,139	12	1,634	13	1,275	6	3,698

Table 4. List of new manufacturing projects^{a/} and estimated capital requirements, feasibility studies prepared and actual capital investment, 1962-1967.

(In thousands of Jordanian dinars)

Industrial sub-sectors and projects (ISIC)	Capital requirements
Food, beverages and tobacco (20-22)	
Chocolate and confectionery ^{b/}	121
Biscuits ^{b/}	100
Carbonated beverages ^{b/}	62
Starch and glucose ^{c/}	50
Dairy products ^{c/}	100
Fruit and vegetable processing ^{e/}	100
Sugar refining ^{c/}	1,400
Textiles (23)	
Woollen textiles ^{e/}	660
Cotton textiles ^{e/}	600
Clothing and footwear (24)	
Apparel items ^{e/}	300
Paper and paper products (27)	
Cardboard ^{b/}	146
Rubber products (30)	
Rubber tires ^{c/}	500
Chemical and petroleum coal products (31-32)	
Detergents ^{a/}	72
Paints ^{d/}	31
Super phosphate ^{e/}	123
Non-metallic mineral products (33)	
Ceramics ^{b/}	320
Concrete pipe ^{d/}	300
Concrete block ^{d/}	156
Glass ^{d/}	141

SOURCE: Jordan Development Board, Five-Year Programme for Economic Development, 1962-1967.

a/ The programme envisaged additional total investment of JD 4,134 million in existing firms.

b/ New industries already determined feasible.

c/ New industries possibly feasible.

d/ New industries probably feasible.

Table 5. List of manufacturing projects and estimated capital requirements, actual investments, feasibility studies, in the seven-year plan, 1964-1970.

(In thousands of Jordanian dinars)

Industrial sub-sector and projects (ISIC)	Capital requirement
Food, beverages and tobacco (20-22)	<u>2,544</u>
Chocolate and confectioneries ^{a/l/h/}	138.5
Biscuits ^{a/l/h/}	100.0
Carbonated beverages ^{a/}	62.0
Starch and glucose ^{a/l/h/}	44.0
Dairy products ^{a/}	100.0
Fruit and vegetable processing ^{a/}	100.0
Sugar refining ^{a/}	1,400.0
Animal food ^{a/l/h/}	30.0
Table salt ^{a/l/h/}	60.0
Yeast ^{a/l/h/}	180.0
Honey ^{a/l/h/}	250.0
Canning food ^{a/l/h/}	80.0
Textiles (23)	<u>1,610</u>
Woolen textiles	660.0
Cotton textiles	600.0
Woolen clothes	250.0
Rugs and blankets	100.0
Clothing and footwear (24)	<u>627</u>
Apparel items ^{a/}	300.0
Ladies underwear ^{a/l/h/}	31.0
Woolen blankets ^{a/h/}	296.5
Wood products (25-26)	
Plywood ^{b/}	300.0
Paper and paper products	<u>646</u>
Cardboard ^{a/}	146.0
Paper and cartons ^{a/l/h/}	500.0
Rubber products (30)	
Rubber tires ^{a/}	500.0
Chemical, petroleum and coal products (31-32)	<u>4,480</u>
Detergent ^{b/}	72.0
Paints ^{b/}	31.0
Superphosphate ^{a/}	123.0
Chemical fertilizers ^{b/}	3,810.0
Cosmetics and pharmaceuticals ^{a/l/h/}	200.0
Cosmetics ^{a/l/h/}	79.0
Insecticides ^{a/l/h/}	66.5
Shoe polish ^{a/l/h/}	12.5

Industrial sub-sector and projects (ISIC)	Capital requirement
Cleaning products ^{a/l/h/}	15.0
Plastic electric fittings ^{a/}	23.7
Powder soap ^{a/l/h/}	107.5
Non-metallic mineral products (33)	<u>917</u>
Ceramics ^{a/}	320.0
Concrete pipe ^{b/}	300.0
Concrete block ^{b/}	156.0
Glass ^{b/}	141.0
Metal products (35-38)	<u>681</u>
Hand tools ^{b/}	24.0
Builder's hardware ^{b/}	27.0
Sheet metal products ^{b/}	93.0
Electrical fittings ^{b/}	27.0
Radios ^{a/}	35.0
Truck and bus assembly ^{a/}	400.0
Metallic screws ^{a/l/h/}	10.0
Nails and barbed wire ^{a/l/h/}	35.0
Dr. batteries ^{a/l/h/}	30.0
Others (39)	16.0
Buttons ^{a/l/h/}	16.0
Investment requirement in existing firms	
Manufacturing firms in which the government holds a stock interest ^{a/s/}	634.0
All other presently existing manufacturing firms	350.0

SOURCE: Jordan Development Board, The Seven-Year Plan for Economic Development, 1964-1970.

- a/ New industries already determined feasible.
- b/ New industries probably feasible.
- c/ New industries possibly feasible.
- d/ Includes (1) petroleum industry (2) leather tannery (3) vegetable oil refining (4) cement company.
- e/ Total estimated through personal interviews with management of large companies. Yearly investment allocated for expected growth.
- f/ Licensed.
- g/ Not licensed.
- h/ Under execution.
- i/ Under study.

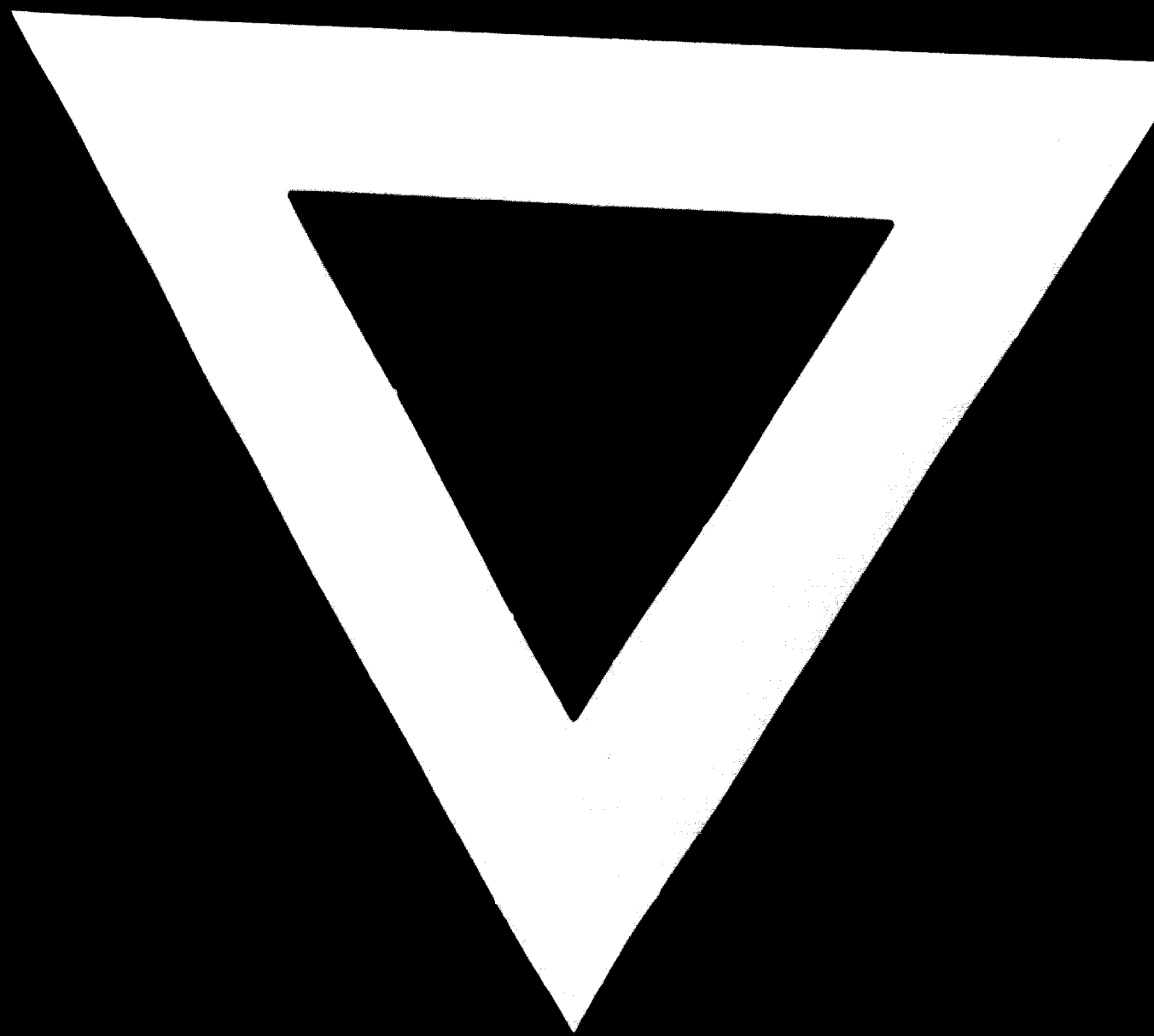
Industry	1966			1967			1968		
	No.	Amount JD	Percent	No.	Amount JD	Percent	No.	Amount JD	Percent
Foodstuffs	-	-	-	1	21,000	20.0	1	21,000	20.0
Tobacco	-	-	-	4	90,000	19.87	1	45,000	20.9
Textiles	2	50,000	8.7	3	22,000	6.00	2	37,000	7.7
Building materials	-	-	-	3	120,000	27.72	2	25,000	5.3
Electrical	3	85,000	14.8	1	22,000	6.00	1	45,000	9.4
Chemicals	3	134,000	23.3	2	45,000	12.27	1	40,000	8.3
Wooden, metal and plastic	3	19,500	3.4	9	42,300	11.53	6	79,000	16.5
Paper and derivations	2	162,500	28.3	1	20,000	5.45	-	-	-
Miscellaneous	4	123,500	21.5	2	9,500	2.58	3	33,000	6.9
Total	17	574,500	100	27	366,800	100	18	479,000	100

Source: Jordan Industrial Development Bank, Annual Reports, 1966, 1967, and 1968, Amman.

Table 7. Average size of loans granted by the Industrial Development Bank of Jordan, 1966-1968

Year	Number of loans	Amount JD	Average JD/Loan
1966	30	933,600	31,220
1967	29	472,800	16,000
1968	20	549,000	27,450

Source: Jordan Industrial Development Bank, Annual Report 1968, p.6



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