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INDUSTRIAL DEVELOPMENT; A CASE  
STUDY OF KUWAIT: PROBLEMS,  
PLANS, PROSPECT AND STRATEGY

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B.Sc - M.Sc

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September 1982

In Memory of My Father

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DECLARATION

I declare that the following research entitled, "INDUSTRIAL DEVELOPMENT; A CASE STUDY OF KUWAIT: PROBLEMS, PLANS, PROSPECT AND STRATEGY" is the product of my own work and has not been accepted for a higher degree at any other university.

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## SUMMARY

One of the most urgent tasks facing Kuwait is the conversion of oil receipts into Productive Physical assets and the achievement of accelerated economic growth, linked to a need to diversify the economy by encouraging other economic sectors, such as manufacturing industries, to increase their share in the economy. The development of industry should help absorb some of the surplus capital derived from oil revenues, and create a wider economic base and help in diversifying the economy.

There are many reasons for the diversification process in Kuwait, which is heavily dependent on the oil sector as a main source of revenue and foreign exchange, as we will see later, but the main one is the fact that oil deposits will be exhausted in the future. This thesis is composed of three parts. Part one serves as a background to the study. It outlines some of the physical aspects of the country such as its relief, surface rock types and the major climatic conditions. It also presents some of the problems facing economic growth in Kuwait and some theoretical approaches, which can be used as tools in solving development problems in the country. Part two seeks to investigate and examine some factors influencing industrial development in Kuwait and tries to assess the role of each one of them. These factors are: Infrastructure, Finance, Market, Natural Resources, Administrative competence, Labour Force and finally Industrial Pollution. Part three, based on the above investigation, seeks to draw out a comprehensive strategy for industrial

development in Kuwait and to advocate some policies and measures for the application of the proposed strategy. The final section presents an overview of the findings of the survey and outlines some conclusions and recommendations relevant to industrial development in Kuwait.

## ملخص البحث

أدى ارتفاع أسعار البترول عام ١٩٧٤ الى زيادة سيطرة قطاع النفط على الاقتصاد الكويتي و الذي كان ولا يزال يعتمد بالدرجة الأولى على تصدير النفط كمصدر رئيسي للدخل القومي . و هذه الزيادة في أسعار البترول أدت الى صعوبة في استيعاب رأس المال الناتج من أرباح النفط و لهذا السبب فان معظم رأس المال يستثمر في خارج البلاد و ذلك لعدم استطاعة الاقتصاد المحلي استيعاب هذا القدر الكبير من رأس المال . و لفيق مجالات الاستثمار في القطاعات الاقتصادية الأخرى مثل قطاع الزراعة و قطاع الصناعة و الذي يمكن أن يستوعب بعض من رأس المال المنتج . و تنمية قطاع مثل قطاع الصناعة سوف يؤدي كذلك الى خلق قاعدة اقتصادية عريضة بجانب أنه مصدر هام جدا للتنوع الاقتصادي القومي و الذي كما سبق و ذكرنا أنه يعتمد اعتمادا يكاد يكون مطلقا على قطاع النفط . ان زيادة أسعار البترول سوف تخدم أيضا في الاسراع في البحث عن مصادر أخرى للطاقة بديلة للنفط .

اخذين هذه الاعتبارات في عين التقدير و الحقيقة المؤكدة من أن احتياطي النفط محدود و يخضع لقانون نفاذ الطاقة ، فان من أهم واجبات الحكومة الكويتية هو الاسراع في عملية تنويع مصادر الدخل القومي و تحويل رأس المال الناتج الى مدخرات مادية تساعد في عملية التنمية الاقتصادية الشاملة و في نفس الوقت تساعد على تنويع مصادر الدخل القومي و ذلك عن طريق تشجيع القطاعات الاقتصادية الأخرى لكي تساهم مساهمة فعالة في الاقتصاد

القومي .

ان هدف هذا البحث هو دراسة القطاع الصناعي دراسة وافية و التعرف على أهم المشاكل التي تعيق طريقه في الوقت الحاضر ، ايماناً من المؤلف بأن تنمية القطاع الصناعي بدولة الكويت هو من أهم الوسائل لتحقيق عملية التنويع الاقتصادي في البلاد و هي خطوة على طريق التنمية الشاملة .

يتكون هذا البحث من ثلاث أقسام رئيسية . القسم الأول يخدم كمقدمة للبحث ، و يتناول الفصل الأول بعض الخلفيات الجغرافية و الجيولوجية و المناخية و التي تؤثر بشكل مباشر أو غير مباشر على النشاط الصناعي و التجاري في البلاد . أما الفصل الثاني فيشمل دراسة وافية عن تركيب الاقتصاد الكويتي و تحليلاً لبعض المشاكل الرئيسية التي تعترض طريقه في الوقت الحاضر مع توضيح لأهم الوسائل التي يمكن أن تستعمل للتغلب على بعض هذه المشاكل . و الفصل الثالث عبارة عن مراجعة و تحليل لبعض النظريات الاقتصادية و التي يمكن تطبيقها و استخدامها كأداة لحل بعض المشاكل الإقليمية .

أما الجزء الثاني من البحث ، فهو يحتوي على سبعة فصول كل فصل منها يحاول شرح و تحليل لأحد العوامل التي تؤثر على التنمية الصناعية مع التركيز على كيفية حل هذه المشاكل . و هذه العوامل هي : العوامل المادية - المواد الخام - السوق - رأس المال - الإدارة - الأيدي العاملة و أخيراً أثر التلوث الصناعي على البلاد من الناحيتين الصحية و الاقتصادية .

أما الجزء الثالث من البحث ، فيحتوي على فصلين رئيسيين . الأول عبارة عن تصور لاستراتيجية للتطور الصناعي

في الكويت و المقاييس و السياسات التي يجب اتباعها من أجل تطبيق الاستراتيجية المقترحة . أما الفصل الثاني فهو عبارة عن استنتاجات و تلخيص لبعض النقاط الهامة التي جاءت بالبحث و بعض التوصيات و المقترحات الواجب استعمالها من أجل الوصول الى تنمية صناعية سليمة .

# **PART ONE**

## CHAPTER ONE

Introduction

Kuwait has since 1950 witnessed rapid economic development with which many countries would find it hard to compete. In 1949, before the export of the first cargo of Kuwait oil, the income per capita did not exceed \$42. Today it reaches about \$19,818 per annum. The population of Kuwait has greatly increased at the same time, from 150,000 in 1949 to about 1,355,827 in 1980. Such an enormous increase in population is unusual, even for underdeveloped countries. It has come about largely because of immigrants who came to Kuwait for three main reasons: 1. The start of massive exploitation of oil in the country. 2. The huge increase in national income. 3. The development of many job-creating projects, particularly in the construction sector which demanded more labour.

In 1978 Kuwait produced about 7 per cent of the total O.P.E.C. production and 11 per cent of the O.A.P.E.C. In 1979 its reserves of oil and natural gas reached 19.8 per cent and 8.2 per cent respectively of the total reserves of the O.P.E.C. In the field of refining Kuwait has ranked second after Saudi Arabia.

From a local point of view oil occupies a remarkable position in the economy. In 1979/80, it provided about 75 per cent of G.N.P. and over 85 per cent of exports and 93 per cent of the Government revenue. Estimates regarding duration of oil reserves in Kuwait range from 100 to 150 years

based on the present rate of production (ALSEYASSAH, 1982). Whether we take an optimistic or pessimistic point of view, there is no doubt that the oil will be exhausted one day. It is evident that, if Kuwait continues its present style of development, the entire infrastructure of the state will collapse without the oil, due to the fact that the contribution of the non-oil sector is very limited at the present time. Therefore it is necessary to take two important steps; first, to supervise the rate of production of the oil and natural gas carefully in order to co-ordinate between local and international needs; second, to find other resources instead of/or complementary to the oil income in Kuwait. This can happen by trying to encourage other sectors to contribute more in the future. This will lead to diversification of the economy, which in its turn will help to lessen the dependence upon oil as the main source of capital. Besides its explicit effect of diversifying the economy of Kuwait, industrialisation yields substantial direct and indirect benefits to the economy. These benefits can be summarised as follows:

1. Creating new job opportunities at all levels which will absorb hidden unemployment from some government sectors. The absorption of this labour force in itself will raise the efficiency of work in the government sector, which is suffering from such hidden unemployment.
2. Industrial development helps to cultivate the skills of the Kuwaiti labour force and create a specialised labour force appropriate to the requirements of

developing the Kuwaiti economy. It also leads to gaining experience and skill through practice in the engineering, administrative, marketing and financial fields.

3. Industrial development helps to preserve the high level of individual income and seeks to increase income and secure a suitable minimum standard of living for the individual.
4. Industrial development will help in cultivating technology in all fields, whether industrial or services.
5. The progress in industrial development helps to change the lifestyle and social behaviour now prevailing to that of an industrial society: such as discipline, self-reliance, self-awareness and respect for time.
6. Industrial development helps in expanding various service sectors, particularly those which have direct links with the industrial process.

The choice which the Kuwaiti economy is facing at the present time is very clear: either an ever-increasing dependency on the oil sector, or an increase in the diversification of other sectors of production such as industry, commerce, services and agriculture. The author would prefer whatever could help in consolidating the economic structure and contribute to its stability. I shall therefore study the industrial sector in detail because it is considered

one of the most important sectors in the economy which could help in diversifying the national income and its stabilisation in the future.

This thesis does not set up hypotheses to test, but examines an overall problem of economic development, common to most of the small, rich countries, how to convert their economy. Several specific problems and potential solutions may be identified within this overall one. Three objectives for the dissertation were identified:

1. To investigate and analyse some factors influencing industrial development in Kuwait, and try to assess the role of each factor. The factors chosen, after consideration of the literature and from personal observation in the country over many years, are the following: Infrastructure, Finance, Market, Raw-materials, Administrative competence and Labour Force. The research aimed at clarifying the effect of each of these factors on industrial development in Kuwait to discover whether each factor in itself represents a constructive force or an obstacle to industrial development and Where any factor represents an obstacle, what are the available alternative solutions to overcome the problem.
2. To formulate basic elements for an industrialisation strategy in Kuwait.
3. To propose policies and measures for the application of the proposed strategy in order to ensure the progress of industrial development.

In order to achieve the objectives of this study, four types of source of information were used:

1. A self-administered questionnaire, distributed among different sectors of industries in Kuwait, regarding the forementioned factors and their effect on industrial development.
2. Data from governmental agencies, such as the Ministry of Planning, Ministry of Commerce and Industry, Ministry of Public Works, Ministry of Electricity and Water, Ministry of Education, Department of Ports and Customs, Central Bank of Kuwait, Industrial Bank of Kuwait, Kuwait University, Petro-chemical Industries Company, Kuwait Oil Company, Shuaiba Industrial Board, Credit and Saving Bank, Kuwait Municipality, Kuwait Chamber of Commerce and Industry, Kuwait Foundation for the Advancement of Science (KFAS) and Kuwait Institute for Scientific Research.
3. Published and unpublished materials, such as reports, books, theses, newspapers etc.
4. Personal communication and interviews with people in government ministries, the joint and private sector.

The techniques used in this study, included detailed statistical tabulation, descriptive, quantitative and cartographic analyses of the phenomena of industrial development in Kuwait. Another technique used is questionnaire survey.

Due to the scarcity of analytical studies on the subject, a set of questionnaire surveys was carried out, to find out the opinion of industrialists and other people concerned with industrial development in Kuwait, on the problems and obstacles which hamper the industrial development process from their point of view through their daily confrontation with these problems. The objective of the questionnaire survey was to collect data which would allow a detailed analysis of industrial development in Kuwait, with particular attention to some known problems. These problems had been previously identified by the author as of some possible importance from reading and general knowledge. The questionnaire was structured in such a way as to provide information in regard to whether each of these factors does present a problem to industrialisation in Kuwait, if so what the reasons are for that, and a set of possible reasons were provided.

Some difficulties were encountered in obtaining statements from firms and other parties concerned with industrial development. The total sample was 420, and after explicit effort only 318 completed questionnaires were received (75.7 per cent of the total).

As mentioned, the total complete sample was 318, distributed between Kuwaitis, 57.5 per cent, and non-Kuwaitis, 42.4 per cent, see Table 1.1.1.

Table 1.1.1 Distribution of the Sample according to nationality

Nationality	Number	Percentage
Kuwaitis	183	57.55
Non-Kuwaitis	135	42.45
TOTAL	318	100.00

For their qualification (see Table 1.1.2), postgraduates represent 24.53 per cent, University graduates 59.43 per cent and intermediates 16.04 per cent. After consulting some industrialists a few modifications were made to the questionnaire, especially regarding some reasons, where they suggested adding and eliminating some of the reasons given.

TABLE 1.1.2:

Distribution of the sample according to qualification

Qualification	Number	Percentage
Post-graduate (masters, Ph.D.)	78	24.53
University Graduates	189	59.43
Intermediate	51	16.04
TOTAL	318	100.00

For the purpose of the survey sixty-five industrial establishments were selected from the Industrial Production Census of 1980. It is noteworthy that the Kuwait Industrial Census has an appendix which lists all these units individually so that a sample could be selected directly from it. These industrial establishments were classified into six categories according to the size of employment in each of the following categories: chemical, construction materials, food and beverage, metal products and engineering, wood and wood products and finally paper industries, see Appendix I.

A detailed questionnaire was in the meantime prepared to cover most aspects relating to the problems facing industrial development in Kuwait. Stratification was achieved in the following way; the number of questionnaires distributed per firm was according to firm size; for small firms with less than 10 employees only one copy was given, for medium-sized firms with 10-30 employees two copies were given. For large firms with more than 30 employees, three copies were given to different management levels, such as production manager, marketing manager, finance manager and employment manager. These questionnaires with an introductory letter (see Appendix I) were handed personally to each firm and appointments with managers were made to collect the samples. Spatial stratification was not attempted, because there are only two industrial areas in Kuwait, Shuwaikh and Shuaiba, and the questionnaires were distributed to firms which were located within both these areas.

The largest number of respondents belong to the Kuwaiti private firms, the emphasis on the private firms being because these firms, unlike government, are facing many problems at the present time, as will be seen later. As shown in Table 1.1.3, these firms constitute 58.5 per cent of the total units. The second largest group is the joint firms with 23.1 per cent of the total units and only 18.4 per cent is for the government firms.

TABLE 1.1.3

## Distribution of Responding Firms

Type of ownership	Number of Responding Firms	Percentage
Totally private firms	38	58.5
Joint firms	15	23.1
Government firms	12	18.4
TOTAL	65	100.0

In all, sixty-five firms filled in the questionnaires sent to them. Since each of the non-responding firms belong to a different industrial heading within each major sector, the effect of non-response on the overall structure of the sample is negligible, since the response of each category is more than 50 per cent of the total units, see Table 1.1.4. Chemical firms make up the largest single group in terms of the number of employers; 29 per cent of the total number of

respondents belong to this group. The second largest group are the construction firms with 22 per cent of the total respondents, and the third largest group are food and beverage firms with 19 per cent of the total respondents; while metal products and engineering, wood and wood products and paper group are represented by 12, 11 and 7 per cent of the total respondents.

TABLE 1.1.4

## Industrial Firms: Total employment and sample

Industrial Activity	Employment	Number of Respondents	
Chemical firms	7,141	110	(93)*
Construction firms	5,872	92	(71)
Food and beverage firms	4,499	78	(59)
Metal products and engineering	1,779	51	(37)
Wood and wood products	1,415	48	(34)
Paper firms	215	41	(24)
TOTAL	20,921	420	(318)

\*Figures in parenthesis indicate number of responding firms.

When all the questionnaires were completed and collected the results were coded, tabulated and aggregated, see Appendix I.

## CHAPTER TWO

THE GEOGRAPHICAL BACKGROUND TO INDUSTRIAL ACTIVITY  
IN KUWAIT

This chapter studies the natural environment of Kuwait, the section of the globe where Kuwait is situated. It will describe its relief, the surface rock types and structure, the underground aquifers and oil resources and the major climactic characteristics. The study of natural environment will be restricted to those aspects important for trade and industry.

1.2.1 Topography of Kuwait

From a first glance at the contour map (Fig 1.2.1), Kuwait's surface is seen to be devoid of hilly or mountainous topography. It consists mainly of plains rising gradually from sea level in the Gulf coast and Kuwait Bay, to 300 meters above sea level in the south-western angle of the country. But this rise is so smooth that it is hardly perceived. The general surface slope in Kuwait does not exceed one meter per kilometer.

The plain surface of Kuwait is characterised by slight undulations rising in different areas, which means that moving from one place to another is not hampered, and road building for land transportation can be easily performed with considerable cost savings.

A unique factor which constrains movement is the scarcity of water resources due to Kuwait's location in the desert. Hence, the extension of roads across Kuwait

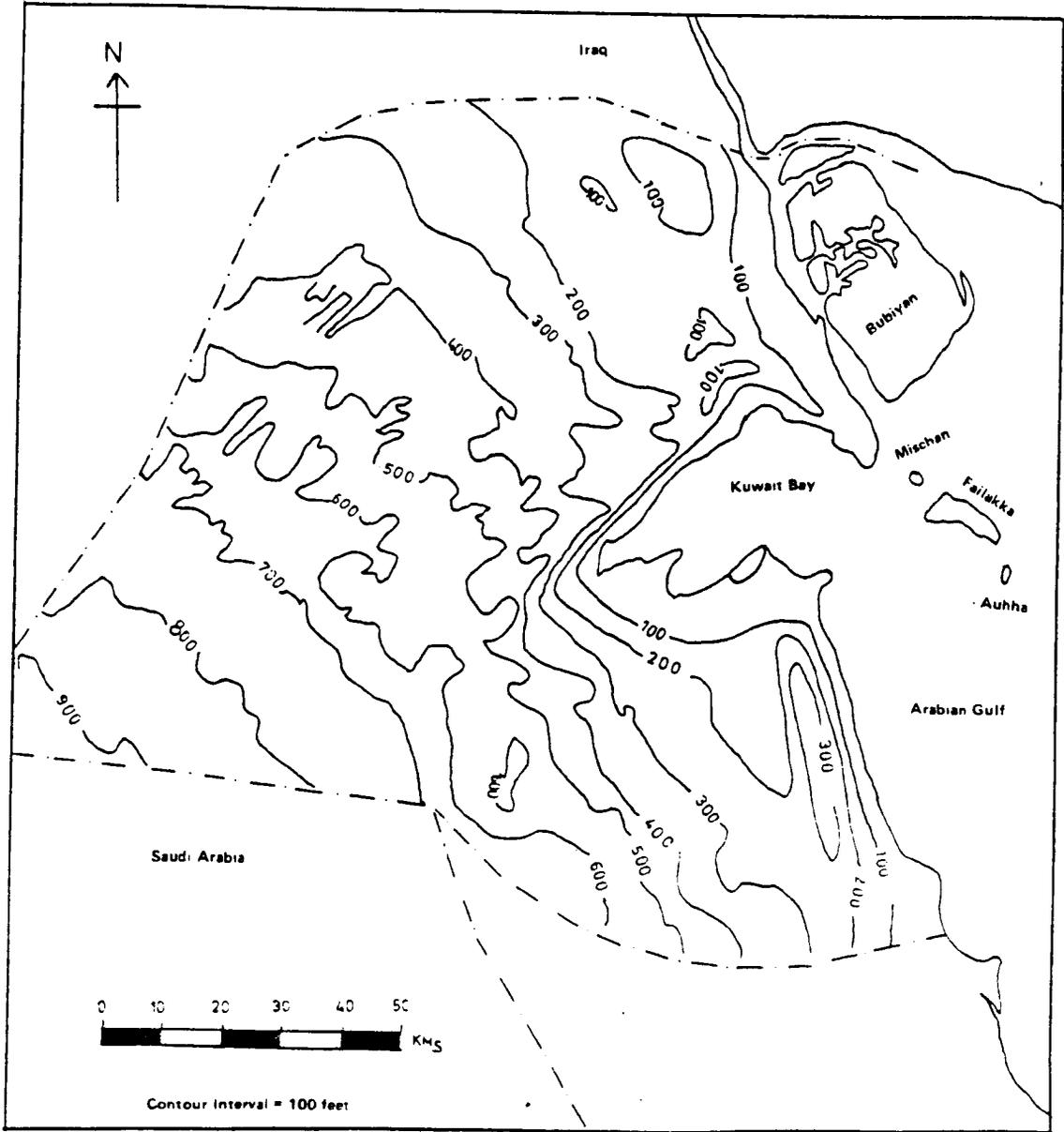


FIG. 1.2.1 Contour Map of Kuwait

is deeply influenced by the availability of water resources (Fig 1.2.2).

All the roads stretch along the available water sources, (Fig 1.2.2) which determined so accurately their design to make Kuwait an important marine terminal for the Arabian Peninsula trade, or, in another sense, a station on the highway linking the Eastern Arab peninsula and its core with Iraq and the Fertile Crescent area. Many new roads and highways were built recently due to the increase of industrial production in Kuwait. The surplus is exported particularly to Iraq and other countries of the Gulf and Arab peninsula. Building these roads was concomitant with scientific and technological advance which made it possible to overcome many difficulties encountered in such deserts. The new roads and highways will be considered separately. The most outstanding aspects of Kuwaiti relief are the following (See Fig 1.2.3):

1. Alzor Mountains
2. Al Ahmadi Dome
3. The arid valleys
4. The playas
5. The islands
6. The coasts

1. Alzor Mountains

They represent one of the most prominent phenomena in Kuwait topography. They form the vertical rocky edge of the northern plateau of Kuwait. They stretch from the escarpment, taking a north-eastern

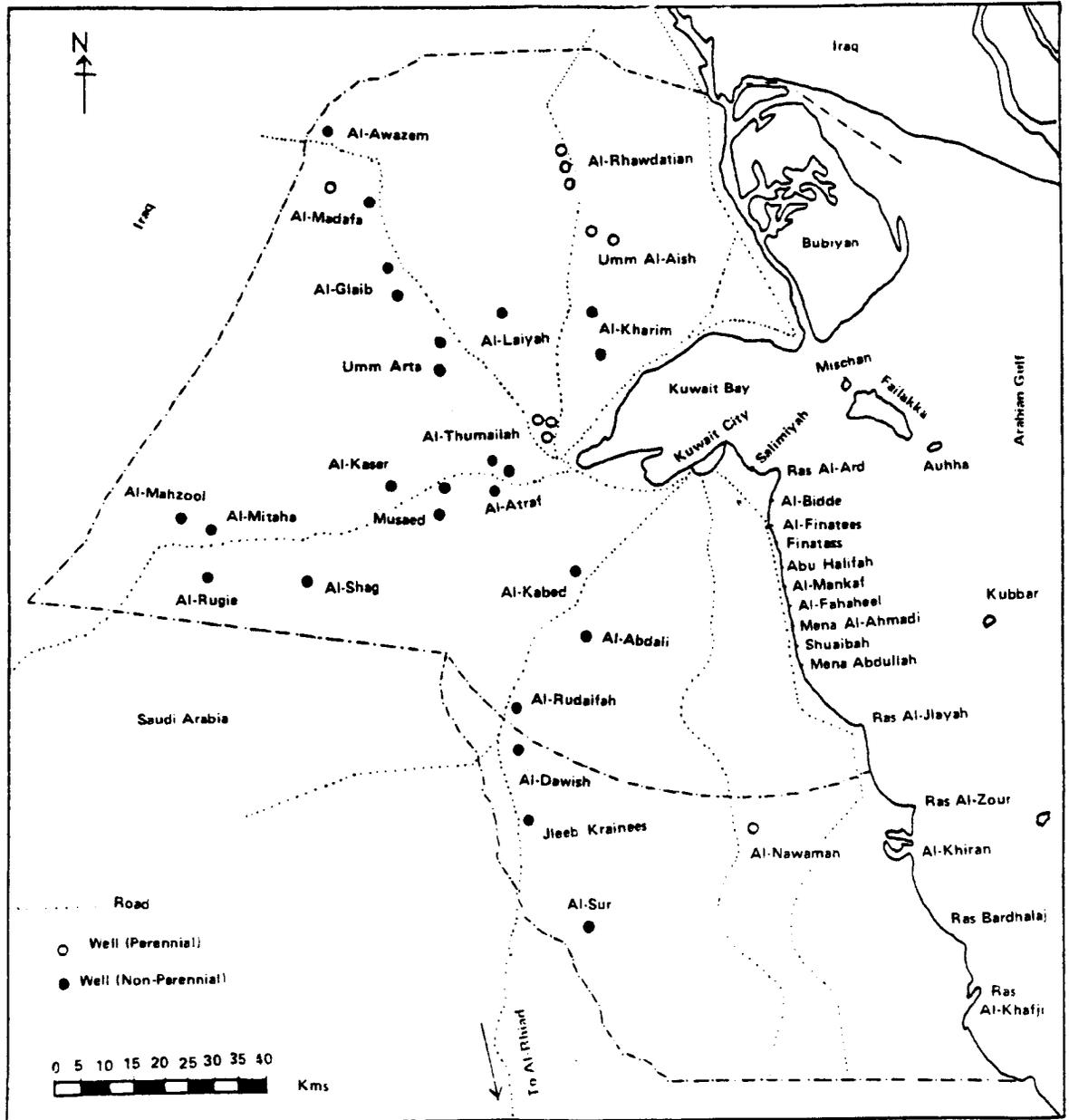


FIG. 1.2.2 Distribution of Wells and Roads in Old Kuwait



direction for about 60 Kms. up to the Gulf. This escarpment overlooks the northern coast of Kuwait Bay and attains a maximum height of 45 meters above sea-level. It stretches in general in a straight line to the sea, then deviates eastwards and south-eastwards to the entrance of Kuwait Bay where it plunges under water to reappear in Failaka Island. The edge is intersected by many dry valleys which slope from the plateau down to the coastal plain extending between the base and Kuwait Bay waters. These valleys were eroded by rainfall on the edge, and some were utilised as transport routes linking the contiguous plateau to the low coastal land. The most important are: Mutlea Valley, followed by the main commercial road between Kuwait and Basra, and another valley followed by the land road between Al Subiya and the plateau crest. Geophysicists differ on the formation of this rocky scarp. Some believe that the edge extends along a tectonic line in the underlying ancient structures while others deny any presence of fractures in the area and attribute its formation merely to differential erosion.

## 2. Al Ahmadi Dome

This is one of the most important relief phenomena in Kuwait. It is a longitudinal dome, extending in a north to south direction, parallel to the Arab Gulf coast for about 30 Kms. Its altitude attains 135 meters above sea-level. The dome slopes

gradually either eastwards to the coastal plain of the Arab Gulf, or westwards to Burgan plain (Burgan Basin). Both plains border upon the dome from east and west. It can be considered as a watershed between the shallow valleys sloping eastwards to Al Addan plain and those valleys sloping westwards to the Burgan Basin. The dome, however, is not an obstacle to communication between the interior of Kuwait and marine terminals situated on the eastern coast, such as Al Ahmadi, Al Shuaiba and Mina Abdullah terminals. It has a special importance as regards Kuwait industry and commerce (particularly oil refining and exports) since the gradual slope eastwards (to the Gulf coast) was an excellent factor helping the gravity flow of oil in the pipelines laid from the storage tanks in the Al Ahmadi area, 130 meters high, to Al Ahmadi terminal at sea-level.

This represents an economic advantage unavailable in any other oil terminal in the Gulf area. The formation of this dome is due to tectonic movements of the earth's crust in the Tertiary era, as a result of slight lateral pressures. It was formed simultaneously with the Zagros Heights situated on the opposite side of the Arab Gulf. The latter resulted from highly powerful lateral pressures on the flanks which raised the strata to considerable heights and formed a number of parallel chains of mountains. The pressures which formed Al Ahmadi dome were not as strong, so the strata convolutions

were slight and hence of low altitude.

### 3. Arid Valleys

Wadi Al Batin is the main valley in Kuwait, characterised by its length and shallowness.

The western political borders between Kuwait and Iraq stretch along this valley, as well as a highway linking the Arab peninsula core with both Kuwait and Iraq. WADI AL MISANNAT is another valley intersected with the southern frontiers of Kuwait, close to Minagish, but it is not as outstanding. Another highway linking the eastern Arab peninsula and Kuwait is built along this valley. Both probably represent old tectonic lines, formed along the fractures in the Kuwait subsurface generally extending from north-east to south-west. Furthermore, a large number of small, shallow valleys are found in Kuwait territory in different areas. All were formed by gullying erosion. Most of these valleys follow the general slope of Kuwait from south-west to north-west in the direction of the Iraqi borders, while some descend into trough depressions spread throughout Kuwait. The most important are the Raudhatain Basin, where some valleys slope towards its central point, and the Burgan Basin.

### 4. Playas

Small trough depressions are widespread in Kuwait particularly in the northern, western and central areas. They are geographically called "Playas",

and locally known as "Khobrat". These depressions consist of small basins in which the bottoms are covered with clay and alluvial deposits mixed with sands and salts. These deposits are due to surface waters running off into these depressions from the slight rainfall in Kuwait. In winter, the depressions are full of water, but most of the year, they are dry after evaporation or infiltration of water into the soil. Underground water can be easily obtained in the depressions by drilling shallow wells. These basins are very important in determining the trade routes within Kuwait territory. Being a major water source amidst the arid desert environment, they are used accordingly as stations along the trade roadways linking the eastern and mid-Arab peninsula with Iraq and Kuwait.

Availability of water in these depressions was an important factor in government action to set up medium-scale plants to process lime, gravel and pebble. In addition, roads are available in the area to allow export of industrial products to other countries. Al Sulaibya quarry (a stone-cutting plant) is the most important of such depressions. Industries of this sort may become more important because gravel and pebble are abundant in the Kuwait desert, and in general, because Kuwait and other Gulf countries are witnessing large-scale plans of building and construction.

## 5. The Islands

There are a group of islands in the Arab Gulf under the jurisdiction of the State of Kuwait. They are very close to the Kuwait mainland coast. The most important are Bubyán and Warba Islands in the north and Failaka Islands at the entrance to Kuwait Bay.

Bubyán and Warba Islands are formed mainly of deltaic deposits brought down by the rivers Tigris, Euphrates and Shat Al Arab, consisting mainly of sand, clay and alluvial deposits together with large amounts of lime. The government is planning to set up some small facilities to utilise these lime deposits in the fabrication of lime bricks. Both islands are characterised by their flat surface; little higher than sea-level.

The southern parts of Failaka Island are considered an extension of the rocky edge of the Alzor Mountains, while northern parts are similar to Bubyán and Warba Islands. Failaka Island has played an important role in Kuwait's trade. Historically, it was used as an intermediate commercial station along the marine route in the Gulf linking East and West.

## 6. The Coast

Kuwait's coast extends 245 kilometers from Om Alqasr Port situated on Abdullah and Al Zubair Bays in the north to a point situated midway between Ras Al Qolea and Ras Alzor in the south.

The coast is characterised by its low coastal plain and shallow water depth, as well as the indentation that forms Kuwait Bay. It has a dual economic importance for Kuwait. It is considered as a gateway to the external world; furthermore, it rendered Kuwait the great marine outlet of the vast desert extending inland to the Arab peninsula core. From this coast, Kuwait exports its crude oil and other industrial products, and imports the basic and ancillary goods required for local consumption.

Because of the calm seas prevailing in the coastal areas in general, and Kuwait Bay in particular, towns were easily established and commerce flourished considerably. The natural protection in Kuwait Bay encouraged the building of many marine harbours to receive cargo ships and tankers of different types and sizes.

### 1.2.2 Geology and Mineral Resources

Kuwait's rock formations provide a variety of raw materials for the economy, and in particular for industry, as is shown by a brief resume of the main mineral resources (see Fig 1.2.3).

#### 1. Gravel and Pebbles

These formations were eroded from outside the country and deposited in Kuwait. They cover 30% of the total surface of Kuwait, largely in the north-western areas. They are used in the

construction industry as a raw material for reinforced concrete, as well as in tiles, mosaics and road paving. Taking into consideration the vast recent plans of urbanisation in Kuwait and the Arab Gulf countries, pebbles and gravel are likely to be used on a large scale. Considerable savings are made due to their availability in Kuwait, in addition to their growing exports as raw materials, finished or semi-finished products.

## 2. Sands

These are more recent formations as compared with the gravel and pebble formations, covering vast areas in Kuwait. They are widespread mineral resource in the country since they are borne and deposited by winds wherever the natural conditions are favourable. Marine currents and tides help their deposition along the coastal areas. They are utilised in construction works and the fabrication of tiles, bricks and other basic materials for road paving. The government is conducting studies to decide the sands' utility as regards their content of basic components for the glass industry. If these studies prove positive, a flourishing glass industry to fabricate all kinds of glass is expected.

## 3. Lime and Building Stone

Different calcareous deposits are abundant in Kuwait either in the formations deposited during

the Tertiary Era, or of the Quaternary and Cenozoic Eras. They are largely used in construction and building works in addition to the fabrication of lime, cement, bricks and road paving. These constitute a successful industry which more than covers local requirements, and the surplus is exported to Saudi Arabia and other Gulf countries. Due to the availability of these important deposits Kuwait does not need to import such materials to fulfil its large-scale urbanisation plans.

#### 4. Muds

Mud formations are found in many areas, particularly in the coastal and playa areas. They are important especially in the cement and brick industry.

#### 5. Oil-bearing Rocks

The solid rock formations are also an important economic factor playing a positive role in the industrial activity in Kuwait. In fact, they are the mainstay of all industrial activities in the country. Due to special characteristics of their formation, they form natural reservoirs wherein oil resources - the main axis of the Kuwait economy - are stored. Oil-bearing strata are found throughout the Kuwait subsurface at suitable depths, which facilitates large-scale exploitation. As a result of the slope of Kuwait's surface towards the sea, oil is borne by natural gravity from oil-fields

to the storage tanks and marine terminals on the coast for exportation. The oil-bearing strata presently being exploited may be specified; all belong to the Cretaceous epoch of the Secondary (Mesozoic) era.

- a. Al Ahmadi formation, where oil is produced from Burgan, Magwa, Ahmadi, Raudhatain and Sabriya fields.
- b. Burgan formation, where oil is produced from Burgan, Minagish, Ahmadi and Raudhatain fields.
- c. Mishrif formation, where oil is produced from Minagish field.
- d. Mauddud formation, where oil is produced from Burgan, Magwa, Ahmadi, Raudhatain and Sabriya fields.
- e. Minagish formation, where oil is produced from Um Gudair and Minagish fields.
- f. Al Zubair formation, where oil is produced from Raudhatain and Sabriya fields.
- g. Ratawi formation, where oil is produced from Raudhatain and Sabriya fields.

### 1.2.3 Water Resources

Beside their important role as oil reservoirs, the rock formations have another equal economic importance, as aquifers of underground water. Underground water is a basic element for economic and human life in such a desert country as Kuwait where surface water is so scarce that fresh water

was at a time one of the basic goods imported from abroad. Kuwait in that period (1932-1958) relied upon importing potable water from Shat Al Arab, Iraq. Underground water in the superficial deposits is unimportant because, quantitatively, the stored water is too little, and, qualitatively, it undergoes some alterations. Such formations are found in the sandy formations of the dunes spread along the Kuwait coast and also in the sand and clay formations covering the widespread shallow valleys and playas.

Deep formations can however keep large quantities of underground water. They are efficiently exploited in Kuwait due to modern scientific techniques. An example is the Dammam formation, underlying all of Kuwait. The same formation also feeds potable water to the other Gulf countries as in the northern Al-Ihsad around the towns of Al Qatif, Al Dammam, Al Bahrain. In Kuwait, underground water is of prime economic importance. It allows the establishment of such varied industries as lime bricks, cement, gravel and pebble cutting and processing. Therefore, many plants are scattered throughout the Kuwait desert, but mainly located in the vicinity of this underground water as in the Al Solaibikhat, Al Sulaibya and Al Raudhatain areas. Economically, the availability of these aquifers eliminated the need for importing water from abroad, and paved the way to their exploitation for agricultural purposes, which in turn will add further industrial products to be consumed locally or exported to the other countries.

#### 1.2.4 Climatic Conditions

The climatic conditions may be mentioned to complete the general perspective of Kuwait's environment as a basis of industrial and commercial activities in the country (see Table 1.2.1). Generally, the desert hot weather prevails in Kuwait due to its situation in the northern tropic latitudes. In summer, days are longer with relatively high temperatures and winds, while in winter the day is short and cold with high relative humidity and low rainfall. There is a large diurnal variation in temperature with cool nights and hot days. In summer, daytime temperature attains extremes of more than  $45^{\circ}\text{C}$ , while in winter it goes down to  $0^{\circ}\text{C}$  or less. Thus, the daily and yearly range of temperature variation is considerable. The temperature also varies from one month to another, in January the maximum mean temperature is  $23.8^{\circ}\text{C}$  while the minimum mean temperature is  $3.5^{\circ}\text{C}$ , and the absolute high temperature in January is  $29.2^{\circ}\text{C}$  while the absolute low temperature attains  $0^{\circ}\text{C}$ . The range of variation is therefore  $29.2^{\circ}\text{C}$ . The annual temperature variation range is more considerable and reaches  $50.5^{\circ}\text{C}$ .

One of the most outstanding characteristics of the Kuwait climate is the dust (TOZ) phenomenon, which increases in the late spring and early summer months. Whenever rainfall is short, there is abundant airborne dust. Sand grains from neighbouring deserts are raised by winds which in their deceleration, discharge the coarse grains while fine dust remains suspended in the atmosphere. The (TOZ) phenomenon is irritating, noxious and sometimes hampers

work performance. The relative humidity rises in the late summer and early autumn and winter due to the continuous high temperature which seriously affects general health in Kuwait.

Total rainfall is highly variable from one year to another, from one month to another and from one area to another. In Shuwaikh for example, the annual rate exceeds the general rate recorded in the country by 13.5 millimeters and the annual rate recorded in Ras Al Khafji on the Saudi borders by 63 millimeters. Rains in general increase in the northern and eastern areas possibly due to the continental north-westerly winds moving south-eastwards. They decrease gradually upon crossing Kuwait to southern areas.

In summer, due to the upsurge in temperature, Kuwait is dominated by the great continental low pressure zone which involves most of the Asian continent. The north-westerly hot winds are prevalent. They are accelerated by the central atmospheric high above the eastern Mediterranean basin. In winter, the country is dominated by the Siberian high, and the winds are either south-easterly or southerly as a result of their clockwise revolution around this high. These winds are unstable, changing their direction to northerly or north-westerly due to the atmospheric depressions centred above the east Mediterranean Sea.

The impact of Kuwait's climate on industry and associated activities is obvious: High temperature and relative humidity impede human activity and worker productivity is decreased. Machinery and equipment are

damaged by dust and sand-storms which increase the production cost of goods. In 1976, the production of urea and sulphate of ammonia declined by 20.3%. There were several reasons for this, but one of the most important was bad weather conditions accompanied by sand-storms in April 1976.

Table (1.2.1) Selected Climatological Data for Kuwait

Month	Temperature (°C)						Precipitation (mm)					Mean number of days	
	Means			Extremes			Mean	Maximum monthly	Year	Greatest daily	Year	Thunder Storms	Sand Storms
	Daily Maximum	Daily Minimum	Monthly	Record highest	Year	Record lowest							
length of record years	15	15	15	15	15	15	16	16	16	16	12	12	12
January	18.5	7.9	12.7	29.8	1966	-4.0	24.2	73.2	1972	25.7	1959	1.0	1.4
February	20.7	9.3	15.2	35.8	1969	-1.1	10.6	27.6	1966	20.3	1961	0.8	1.7
March	26.1	13.5	19.8	41.2	1969	3.3	10.0	50.5	1961	28.5	1961	1.4	2.8
April	31.2	18.3	24.4	44.2	1970	9.7	18.2	67.0	1972	39.0	1961	3.7	3.2
May	38.2	23.7	31.1	49.0	1958	15.0	4.3	19.0	1967	18.7	1967	2.3	3.9
June	43.4	27.1	35.7	49.8	1966	20.4	T	0.5	1958	0.5	1958	0.0	4.8
July	44.8	28.8	37.4	49.2	1966 1967	23.3	0.0	0.0	-	0.0	-	0.0	4.5
August	44.7	28.1	36.8	49.0	1963 1966	20.6	0.0	0.0	-	0.0	-	0.0	1.8
September	41.4	24.2	33.3	46.7	1966 1965	16.8	T	T	1965	T	1969	0.0	0.7
October	35.5	19.5	27.5	43.2	1969	11.3	1.2	12.9	1969	12.9	1961	0.4	0.9
November	26.5	13.9	20.1	36.0	1964	0.7	16.9	107.6	1967	33.5	1961	1.6	0.2
December	20.0	8.5	14.0	30.5	1958	-1.5	14.7	52.9	1958	25.4	1958	1.1	1.2

T = Trace (an amount too small to measure). Source: Ministry of Planning (1980). Central statistical Office - Annual Statistical Abstract

## CHAPTER THREE

## THE STRUCTURE OF KUWAIT'S ECONOMY

1.3.1 A Background to Development

The economy of Kuwait before the discovery of oil relied upon two main activities, pearl-diving and seafaring, linked to a boat-building industry. These were the most important economic activities from the 1680s when Kuwait was first established to the 1950s.

Pearl-diving industry: pearl-diving was among the most important economic activities which contributed to Kuwait's prosperity. Some of the finest pearls are found in the Persian Gulf and Kuwait was one of the main centres of the industry. Every summer, when the Gulf waters had become warm enough for diving, the pearling fleet, numbering some 700 boats, in which were crews of 10,000 to 20,000 men, set off for the pearling grounds to the south of Kuwait. The whole operation of the pearl diving was highly risky. In one season the boats might have a good catch in a year when the price of pearls in the world market was high. In another season they might have a poor catch in a bad year when the price was low.

By 1920 the number of boats taking part in the pearl diving was small compared with the pre-war years, and the pearl industry declined further due to the economic depression of the 1930s decade and to the strong competition of cultured pearls in Japan. As a result the number of boats putting to sea did not exceed 200, despite the availability of more boats ready to take part in the operation. By 1953 the

pearl-diving industry in Kuwait and throughout the Gulf region was almost completely finished.

Seafaring and boat building: sea trading and boat building were among the important economic activities that brought prosperity to the country. The scarcity of land resources coupled with the favourable geographical location of Kuwait stimulated seafaring and gave rise to the port town of Kuwait which became one of the first-class ports of the Gulf. Kuwait boats took part in the transportation of Indian merchandise through the Gulf and other Arab countries. Kuwait boats carried cargoes of Basra dates far down the Gulf, East African coast, and that of India, bringing back teak from India, mangrove poles from Zanzibar and many other useful items of eastern trade (Shamlan, S.M. 1965, pp.249-253).

The well-sheltered harbour of Kuwait and its proximity to the towns of Iraq and the Arab peninsula made it the main supplier to these towns. Its position as a link between India and the Far East on the one hand, and the Mediterranean ports and Europe on the other hand, made Kuwait one of the best transit areas for trade.

It was a strategic geographical position which attracted the attention of some European travellers. The Danish traveller coaster Niebuhr visited the country in about 1765 and described it as containing some 10,000 inhabitants, and possessing 800 vessels, and living by trade, fishing and pearling (Hamilton, C.W., 1962, p.175). The English author and traveller, William Palgrave, praised the skill of the Kuwaiti mariners, who were foremost among the seafarers of the Gulf:

"The import duties are low, the climate healthy, the inhabitants friendly, and these circumstances are joined to a tolerable roadstead and a better anchorage than most of the neighbourhood. There are hundreds of small craft which else would enter the port of Aboo-Shah (Bushire) or Basra. In its mercantile and political aspects, this town forms a sea outlet, the only one for Dejebel Shomer (Jabal Shammer) and in this respect like Trieste for Austria" (Palgrove, W. 1865, p.285).

Besides seafaring, Kuwait was famed for its boat building over this whole historical period and quite the best boats in the Gulf were built there (Dickson, H.R. (1965), p.473). The reason for this was that in the dry climate of Kuwait, the wood of which boats were built seasoned much better than other localities in the Gulf. The boat-building industry in Kuwait grew out of the seafaring and pearling industries. About 300 carpenters gained a livelihood from this industry in the pre-oil period (K.O.C., 1963, p.18). Different kinds, types and sizes of boats were built in the country to meet various requirements. Boats built for trading were bigger, deeper and with special characteristics distinguishing them from the relatively small pearling boats. The techniques used to build these boats were very simple manual ones, using chisels and hammers.

Seafaring and boat-building, although of significant importance to the Kuwait economy at that time, began to collapse after the First World War. Steamers, which took over sea transport, were in a competitive position and later dominated the world.

The discovery of oil to which the population of Kuwait turned, gave the boat-building industry the last fatal blow. The oil industry opened new fields of activity to Kuwait's population who were relieved of their previous arduous occupations, such as pearling, seafaring and boat-building. More important still, it brought Kuwait into a completely new era, the era of crude oil and natural gas.

The history of oil in Kuwait dates back to 1910, when the Anglo-Persian Oil Company (APOC) was encouraged to conduct surveys in Kuwait, especially since they had already discovered oil in other Gulf areas, and at the same time the Shell Oil Company was trying to get permission from Britain to get a concession in Kuwait. In 1912 a group of experts from the British Government visited the Hill of Burgan and indicated in their report that this location would be one of the biggest oil-fields in the world. Between 1914-1917 several geological surveys were undertaken by APOC in Bahra area and Burgan Hill (see Fig 1.1.1). The company decided to start drilling in these areas in the beginning of 1923. Another oil company was also interested in Kuwait Oil (the Gulf Oil Company). Negotiations were made between these two companies and Shaikh Ahmad Al Jaber Al-Sabah, and by 1934 these two companies had decided on co-operation and in the

same year the Kuwait Oil Company (K.O.C.) was founded with a capital of f60.000. On 23 December 1935 Shaikh Ahmad Al-Jaber Al-Sabah representing the Kuwait Government signed the first oil concession with the Kuwait Oil Company (K.O.C.). The duration of the K.O.C. concession in Kuwait was 92 years. The Government started to receive oil revenues in 1946. The money received by the Government, which included royalties and taxes, has come in at an increasing rate from 1946 up to 1980-81, with the exception of 1949. The decrease in payments in this year was due to the devaluation of the Indian rupee, which followed the devaluation of the pound sterling (Ministry of Finance, annual report, 1981).

Oil became the leading sector in 1950 and it also replaced many of the country's traditional activities, mentioned before, pearling, seafaring and boat-building. The discovery of oil in Kuwait led to many changes in both social and economic development, as will be seen later. The Government realised the need to diversify sources of income and develop new productive activities, a self-evident need for a country as dependent on a single exhaustible resource. The introduction of oil into the economy produced many problems of imbalance which are created by the dominance of the oil sector, especially after the increase of oil prices in 1973. The share of the oil sector has greatly fluctuated with recent changes in output and prices. The oil sector accounted for 56.5 per cent of G.D.P. in 1961, it increased to 62.1 per cent in 1977, and 69.4 per cent in 1979/80. Non-oil sectors are still modest in their contribution to G.D.P. In 1961 they

accounted for 43.5 per cent of G.D.P., 37.9 per cent in 1977, and 30.6 per cent in 1979/80. All the non-oil sub-sector contributions increased with the exception of the services sub-sector whose contribution to G.D.P. decreased from 17.9 per cent in 1961 to 14.1 per cent in 1979/80. The manufacturing sub-sector had a reasonable rate of growth between 1961 and 1979/80. This sub-sector's contribution to G.D.P. was only 3.1 per cent in 1961 compared with 4.9 per cent in 1975 and 5.7 per cent in 1979/80 (see Chapter Two).

The Government made an early decision to diversify the economy. The first step began in 1954 with the establishing of water desalination plant at Shuwaikh Industrial Area. This encouraged the development of small scale industrial operations such as manufacturing of building materials, bottling of oxygen, aluminium casting, salt, hydrochloric acid, caustic soda, etc; all these industries started in small workshops. Industries in the sense of modern factory production were virtually non-existent before 1950, but after that industries began to develop. The earlier ones were connected with four main economic activities detailed below, and were oriented to serve mainly the local consumer goods market.

(A) The construction industries, including the manufacture of brick-making, manufacture of asphalt and stone-crushing, manufacturing of concrete products, metal cisterns, fabrication of metal windows, water tanks, manufacture of asbestos, cement pipes, tile making and marble and polishing, the making of wooden windows and door frames, etc. The stimulus for the growth of this group of industries

was provided by the heavy construction demand sparked off by the building boom which characterised the economy in the 1950s and reached its climax around 1960. The construction industries, particularly sand-lime bricks were primarily justified by the availability of some local raw materials and expanding demand for the products, coupled with the high cost of transporting these bulky and rather cheap goods from abroad. With respect to the raw materials, the prospects of manufacturing building materials such as bricks from local raw materials were first investigated in 1952, where a large amount of sand rock and colitic of relatively high calcium carbonate was discovered in Ras Usharieg which is only 20 Kilometers away from the location of the sand-bricks industry. The availability of Kuwaiti lime was a main reason for establishing the lime industry in Kuwait. For the cement industry, the raw materials required were found locally, especially in the west of the country.

- (B) Light and consumer goods industries, which cover a wide range of activities such as food processing, furniture and printing and publishing. The food industry was created to supply the Kuwaiti local demand. Baking is one of the most important food industries in Kuwait. Soft drinks is another important industry. All these industries were set up in the early 1960s. All these firms have modern machinery and make under licence many of the internationally known soft drinks.

In July 1965, the Kuwait Flour Mills, which is a joint venture, started production with a capacity of 150 tons of flour a day. The government has given a monopoly of wheat import to this company.

In 1967 two food industries have been established, the Cattle and Poultry Feeds industry, with a capital of KD 36,000, and the American Food Processing with a capital of one million Kuwaiti dinars.

At the end of 1960, a new manufacturing industry was created in Kuwait, dependent upon local resources, mainly fisheries. Small-scale fishing industries were established with a capital of KD 1.5 million. Three larger firms operate, Gulf Fisheries, International Fisheries and Kuwait National Fisheries Company. All these companies are privately owned and none has a government participation in its capital. The fish processing industry is diversified and involves the following activities: drying, freezing, smoking, canning, salting and the production of fish meal. The government has helped these fish processing industries with finance and infrastructure and allocated a new area inside the Shuaiba Industrial Area, near the port, where processing plant could be installed.

(C) Chemicals: This group of industries includes paints, drilling clay, oxygen and nitric oxide gases, table salt and chlorine, and hydrochloric acid. The chlorine plant established by the government in 1959 is run by the Ministry of Electricity and Water. It is an integrated

unit designed to produce chlorine, soda, table salt and hydrochloric acid. The chlorine is used for water purification, as well as in petrochemicals, the vegetable oil industry, rubber industry, plastics, oil refining, and soap manufacture. It is uneconomical to export the chlorine even after conversion to hydrochloric acid. Sodium, either as caustic soda or soda ash is too widely produced to make export an attractive proposition (Ministry of Commerce and Industry, 1965, p.118).

- (D) Petrochemical Industries: In the early 1960s, Kuwait officials had the common sense to introduce a petrochemical complex to the country to utilise one of their important wasting assets, namely natural gas. The enterprise was originally to be run by the Kuwaiti petrochemical company capitalised at KD 16 million, with 40 per cent Italian participation, but this arrangement was cancelled and the company has been reconstituted as the Kuwaiti Petrochemical Industries Company, with the equity held 80 per cent by the government, 12 per cent private, 5 per cent for Kuwaiti National Petroleum Company and 3 per cent by Kuwaiti National Industries. The Kuwaiti Chemical Fertiliser Company was established in March 1964, and started production in 1966, firstly producing sulphuric acid in May 1966, then liquid ammonia and ammonia sulphate in July 1966. An area unit started production in April, 1967.

To justify the establishment of a petrochemical complex in a small nation like Kuwait without an agricultural sector,

which could absorb some of its products, it is important to note some main characteristic features which made it worthwhile for the country's economic development plans.

(1) This kind of industry is heavily capital-intensive, which requires a huge capital investment, and as will be seen later, the capital is available in the country as a result of the huge increase in oil prices in 1973. (2) The availability of the raw materials which this kind of industry requires. The most important of these materials are oil and natural gas which are available in Kuwait in great quantities (see Part two). Kuwait natural gas is considered to be cheap and it is rich in easily separable hydro-carbons. All these features and others helped to establish a petro-chemical complex in Kuwait.

Although the domestic market is small and other factors of production or natural resources are limited, the number of industrial establishments increased from 995 in 1965 to 1,540 in 1975, and the number of employees in those industrial establishments increased from 10,155 in 1965 to 16,733 in 1975. The value added by the industrial sector in 1965 was KD 1.1 million; it increased to KD 19.5 million in 1971, and reached KD 30.4 million in 1975. The highest value added within the industrial sector was Food and Beverages industries with KD 3.7 million in 1965, Furniture industries with KD 5.3 million in 1971, and also Furniture industries in 1975 with KD 6.7 million. The gross value of total industrial production in 1965 was KD 24.5 million, it increased to KD 49.6 million in 1971 and KD 84.1 million in 1975. Highest production value

from the industrial sector was for Food and Beverages with KD 8.8 million in 1965, KD 15.5 million in 1971 and KD 24.2 million in 1975. Total industrial employment was 6,601 in 1957, it increased in 1970 to reach 22,091 and in 1975 it reached 23,656. This means that only 4.1 per cent of the total labour force were engaged in the industrial sector in 1957, 6.1 per cent in 1970 and 4.2 per cent in 1975. As we will see later these are crude oil and natural gas production and petroleum refineries.

Most industry in Kuwait other than oil and natural gas is based on simple processing and largely depends on imports of primary capital, intermediate goods and materials. All kinds of metals are imported and then cut and welded to specific designs. The main ingredients for the Food and Beverage industry are imported and mixed locally. The same applies to the Furniture industry where everything is imported including labour. The paint industry is wholly imported and mixed locally. All private industries are located in Shuaikh Industrial Area, and Government industries, mainly petrochemical industries, are located in Shuaiba Industrial Area (see Fig 2.7.2) Land use zoning does not permit industrial establishments in the rest of the city.

The huge economic development created by the discovery of oil led to very varied rates of growth for the different economic sectors, especially for the public sector which had more attention than others. The public sector plays a vital role in the Kuwaiti economy and this sector controlled directly or indirectly all activities in the country. Expenditure on

the public sector increased from KD 27 million in 1963 to KD 44 million in 1967. By 1970 the total expenditure on this sector increased to KD 60 million. In 1980 public sector expenditure reached a record of one billion KD (Al-Quabas, 1980, p.8). The Government receipts and to a lesser extent its expenditure, reflect directly the change in the oil sector. The income from oil has increased sharply in 1974/5, it increased from KD 122.85 million in 1957 to 2,271.4 million in 1974/5, this huge increase was due to the increase in oil price in 1974. The Government expenditure has shown a generally upward trend. In 1957, the Government expenditure was KD 88.82 million. It increased to KD 2,125.2 million in 1978. The private sector is still weak and relies heavily on investment pumped into its activities by the government. Although there are a large number of private industries, totalling 19,357, the private sector fails so far to play an important role in Kuwaiti economy. One of the major reasons for this failure is the non-existence of a proper financial sector with the ability to supervise and guide the private sector in Kuwait (see Part two Chapter two). The concentration of the private sector is in three main activities, industry, trade and financial activities, with 87 per cent of the total establishments in these three activities.

As will be seen later, the Government is trying to encourage both public and private sectors, but the problem is that the Government is concentrating on the public sector with more than 80 per cent of finance allocated for this sector. In the mid-1960s, the Government adapted a five-year

industrial plan which extended from 1967 to 1971. Investment in industry over this plan period was about 80 million KD. To give industrial development further encouragement, the Government set up a second Five-year Plan (1972-1976). Investments allocated for the private and public industrial sector in this stage were 140 million KD (18 million KD for private industry). In the third five-year plan (1976-1981), industrial investment was estimated at about 1042 million KD (114 million KD for the private sector), (Planning Ministry 1980, p.197).

Encouraging the industrial sector is not the only way of diversifying the economy. The Government is trying to develop other sectors such as finance and real estate which have had impressive growth in the last few years. The stimulation of trade, especially re-exporting, is being considered seriously by the Government. Other sectors such as services, agriculture, insurance and shipping are also receiving more attention from the Government.

There are many steps that the Government has taken (see Part Two), in their attempt to find a way of balancing the economy which is suffering from imbalanced growth created by the dominance of one sector (oil) on the economy, a sector which has been developed most forcefully while other sectors remained behind. This subject will be the focus of the next chapter.

## THE STRUCTURE OF KUWAIT'S ECONOMY

This chapter will deal with some of the problems facing the Kuwait economy at the present time, such as factoral and sectoral imbalance, and to examine the role of each oil and non-oil sector and their contribution to the economy in order to find out the degree of the economy dependency on the oil sector and the need to diversify the economy of the country.

Among the urgent problems facing Kuwait at the present time is how to diversify its economy. The importance of this matter comes originally from the hidden dangers of depending almost exclusively on the oil sector. Some of these dangers can emerge in the short term, such as the possibility of a replacement for oil as a primary energy source. There have been many attempts to do so and the latest is the French idea of using alcohol and sugar and the Japanese idea of using tangerine liquid as a fuel. The danger can come even from other producing countries, all of which are trying to produce more oil, which is leading to a reduction in the oil prices. This is what happened in early 1982 when the market was flooded by oil and led to a decrease in demand and then a decrease in the oil price. This in turn led O.P.E.C. and O.A.P.E.C. in March 1982 to reduce their production, and so to a decrease in the income of these countries. That is why Kuwait, for example, was forced to use its financial reserves to substitute for the lost revenue. Other dangers may emerge in the long term, because the oil reserves will

be exhausted in the future.

Undoubtedly, these fears, amongst other elements and considerations, have encouraged the authorities in Kuwait to think about the economy, and consider seriously the idea of diversification of the economic wealth: Through finding new sectors such as agriculture and trying to encourage others such as industry: through a comprehensive programme of economic development concentrating particularly on industrialisation.

As one expert put it:

"The affluence brought about by the oil sector during the last ten years, and the dependence of the national economy on this sector in particular, have made the officials in Kuwait pay great attention to the encouragement of the development of the industrial sector, in order to achieve diversified source of national income, thus getting the economy to include different sectors so as to bring about a stronger economic basis against internal or external crises".  
Fowler, 1967, p.5.

In order to remedy this problem effectively it is necessary to carry out a minute and complete study of this economy and find out what kind of problems this economy is facing. In its present state, the economy of Kuwait is suffering from two main problems: factoral imbalance and

sectoral imbalance.

### 1.3.1 Factoral Imbalance;

The first and vital problem from which Kuwait's economy is suffering is represented in the disequilibrium of its elements. Naturally the economy is built on three elements which are: land, labour and capital. The interaction of this trio gives the economy of any country its vitality. For an economy to be balanced, these three elements should all be present in sufficient quantity. Relative imbalance can be compensated for an increase in capital. For example capital could compensate for a shortage in labour; Kuwait is a good example of this. However, generally no one of these elements should be missing or be at such a low level that it cannot be compensated for by any of the other two elements especially if the country is having a shortage in capital as most of the non-oil producing countries.

In the case of Kuwait, these elements of the economy may be regarded as grossly unequal. The fact is that the only existing element, which totally outweighs the others, is capital. The existence of this is due to the country's revenues from oil, especially after the huge increase in price in 1973. It is necessary in this respect to understand the importance of capital as a basic economic element, through a general study of the opinions of certain economists. Most of them believe that capital has an important role, and a central place in the theory of economic development. It is true that providing a minimum capital is a necessary matter

as well as being one of the pillars of the economy on which economic development is built in any country in the world, but the availability of capital does not necessarily mean that production can be initiated and sustained. There are many other things of importance including economic and social characteristics of the population. These determine the efficiency of the apparatus and institutions which will undertake the use and management of the available financial capital. In some poor countries capital was available, particularly in the oil producing countries, but this capital could not perform the required role in the field of investments because, as mentioned before, of the shortage of financial investment institutions, or at least their failure to play their role in directing the capital into suitable channels.

Undoubtedly the result was as if it did not exist, because it was dispersed either through saving it in banks or by losing its value through inflation, or by finding its way out of the country and being invested abroad. This is a dangerous phenomenon in many developing countries, and in Kuwait in particular. This is what happened in Kuwait in October 1979 when the Central Bank declared that it had no liquid currency. This was without doubt the result of the escape of many millions of Kuwaiti Dinars to be invested abroad. Consequently, the Central Bank of Kuwait limited the rate of withdrawals, thus forcibly putting restrictions on capital. These restrictions cannot compel the capital to remain in the country where it cannot be invested, due to the limited investment opportunities in the country.

At some point, this capital will find an exit from the country, because Kuwait cannot contain its savings, which amount to 48 per cent of the total national income.

Concerning the matter of capital taking the place of other elements factors of production or at least compensating for their shortage or inefficiency, there are many contradictory economic theories. There are three different points of view in this regard. The first holds that capital, if available, can replace the other elements of production easily for an unlimited period. The second point of view believes that capital can replace the other elements of production for only a limited period of time after which it will fail. A third, more extreme point of view, says that capital can never take the place of other production elements. Those who are of this opinion insist that there must be some sort of balance between the various elements of production. The supporters of the first opinion interest the author more than the other two because their opinion centres on the main problem from which Kuwait is suffering, with capital being available and the other production elements almost non-existent. If this opinion was proved correct, then Kuwait need suffer no economic problems due to capital being available in excess of the need of the country. It could simply continue to replace the other elements. It is accepted that the replacement process could happen at any time and in any country, but the question will be to what extent can capital play its role in this replacement and for how long? The replacement of capital could keep going for a limited period of time, after which the

deficient production elements would have started to come back to their natural state. In this case, the cost would be high but possible to bear, so long as it is for a limited period only, but what one fears is that the situation may continue for a long period of time, and at the same time the other elements may remain wanting and a burden on the capital. At this point a quick and effective solution must be found for this problem. Certainly, the continuation of this unnatural state will affect the country's economy greatly, because the degree of economic growth depends on the extent of availability of the other elements, and their reaction together. There are many methods by which Kuwait could tackle this problem. The most important and effective would be the raising of the technical and managerial standard of the local labour force. This measure should be the start in solving the problem of balancing the factors of production, because rational and successful economic development does not start by importing machinery and equipment, and the construction of factories as has been happening in many developing countries which believe that, by doing so, they have become industrialised countries. The correct start in building the economy is by utilising what is available in the way of finance, in developing the potential of its citizens through teaching and training, and building the social and economic centres and institutions. This is what happened in the European industrial nations at their first stages. These industrial nations had a chance of success, after suitable political and social development.

Therefore Kuwait should concentrate on technical and professional education and training as we will see later. The greater importance should be given to quality, not quantity. If the government undertakes these tasks, and it does have a chance to succeed, Kuwait would overcome the problem of labour shortages, which is one of the important factors of production and which is absent from the economic scene in Kuwait. At the same time it should be noted that to reach self-sufficiency in labour will take a considerable time. Kuwait would also depend during this period of preparation on the response of the people particularly the youth to those measures and then the effectiveness of the government management in their application.

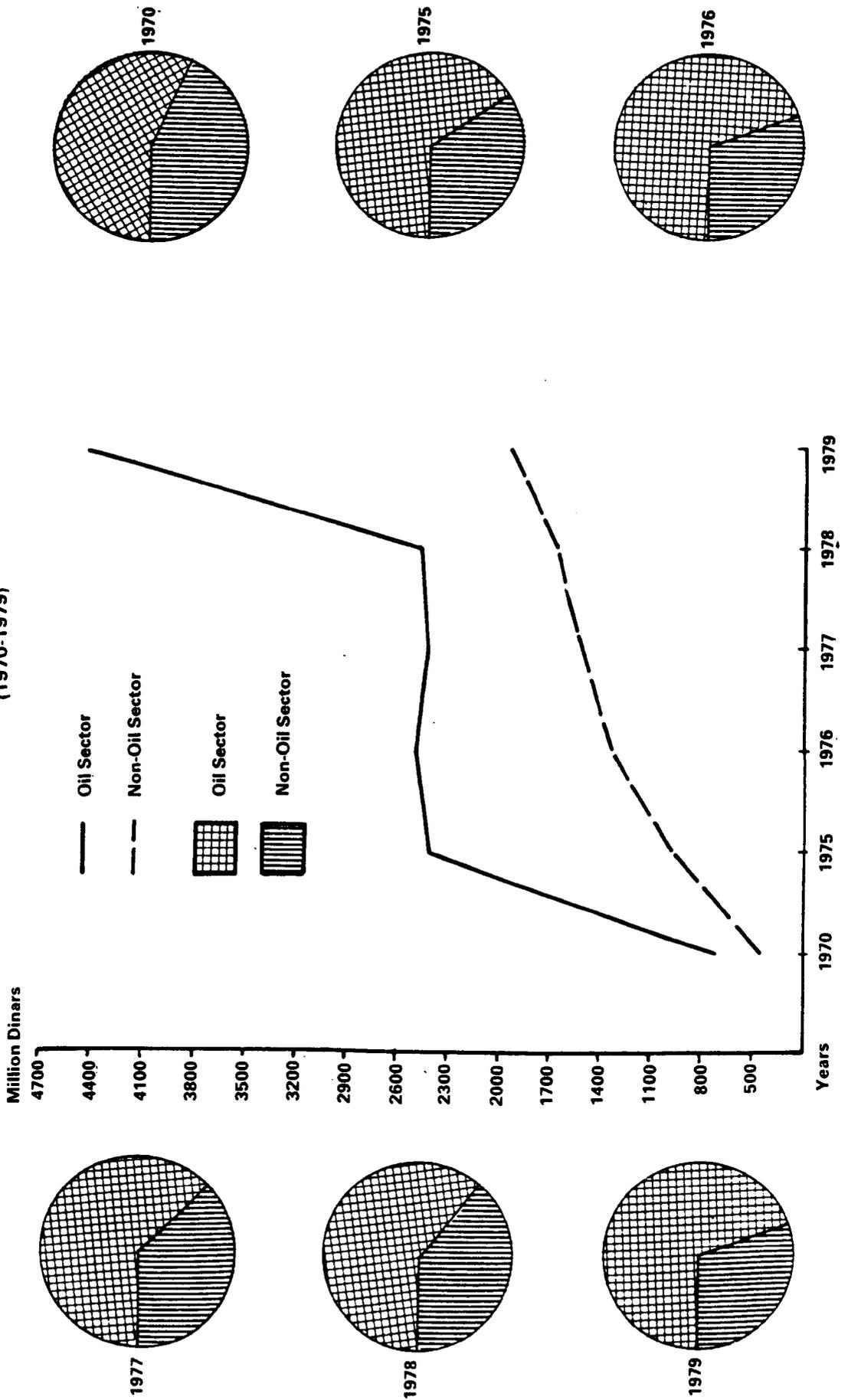
Concerning the third economic element of land, which is very limited in terms of area, the narrow market it provides and the limited natural resources; one way Kuwait could find its way out of this problem is through making economic agreements with various other countries and economic institutions. This will be discussed in detail in Part 2.

Thus, Kuwait would have planned to find at least some kind of balance between various factors of production. Undoubtedly the stage of reaching some kind of balance is a long-term aim, and at present capital does partially replace the other factors of production. There is no problem in this so long as the replacement continues for a limited period only, during which capital would be able to create and push forward the other deficient factors.

1.3.2 Sectoral Imbalance:

Concerning the second problem which the Kuwait economy is facing, sectoral imbalance, this is clearly seen when we come to study the distribution of the oil and non-oil sector in the Gross Domestic product. If one makes a comparison between the contribution of crude oil and natural gas, and that of other economic sectors, we will find that the non-oil sectors are still modest in their contribution, although it has been increasing since 1970, (see Fig 1.3.1). In 1970, their contribution to the gross domestic product was 0.50 per cent for agriculture and fishing, 3.70 per cent for the manufacturing industry, 3.70 per cent for electricity, gas and water, 4.0 per cent for construction, 8.60 per cent for the wholesale and retail trade, 3.50 per cent for transportation, communication and storage, and 19.30 per cent for the service sub-sectors including general management, banks, insurance and other financial works. In 1970, the total contribution of the non-oil sector was 43.30 per cent of the GDP, while the contribution of the oil sector was 56.70 per cent. But in 1979, the distribution of both the oil and non-oil sectors changed. In this year, the contribution of the non-oil sector decreased to 30.62 per cent of the GDP, while the oil sectors contribution increased to 69.38 per cent. The non-oil sub-sector contributions to the GDP also changed (see Fig 1.3.2). All the non-oil sub-sector contributions increased with the exception of the services sub-sector, where its contribution decreased to 14.01 per cent. From this brief review it is clear that the contribution of

FIG. 1.3.1 Contribution of Oil and Non-Oil Sector in Gross Domestic Product Shares (1970-1979)



the oil sector, in general is increasing (56.70 per cent in 1970, 62.04 per cent in 1977, and 69.38 per cent in 1979). We noticed that there is a sharp increase in the contribution of the oil sector in 1975 and that is due to the huge increase in the oil price in 1973. On the other hand the contribution of the non-oil sector in general is decreasing (43.30 per cent in 1970, 37.96 per cent in 1977, and 30.62 per cent in 1979). The manufacturing sub-sector indicates a reasonable growth between 1970 and 1979. Whereas this sub-sector's contribution was only 3.70 per cent in 1970, in 1979 it had increased to 5.73 per cent. We have to keep in mind that in terms of absolute value, the contribution of the non-oil sector has been increasing since 1970. In 1970 the contribution of this sector was 433.9 million Dinars; in 1979 it increased to 1,956,8 million Dinars (see Fig 1.3.1). The government recognised that the low contribution of the non-oil sector will lead to many problems and it will create more imbalance in the economy in the future, so it started to activate the other sectors such as manufacturing as a first stage. In 1955 the government constructed the sand lime brick factory and in 1962, the cement factory. The main objective in constructing these two factories was to meet the local market demands for these materials, particularly after the exploitation of oil, since Kuwait has witnessed a huge construction boom as a result of the vast oil revenues. In 1968, the government constructed the flour and biscuit factory, the aim of which was to meet the needs of the local population, but after a few years this factory was exporting to all the Arabian Gulf countries.



The government continued its encouragement to industries by establishing the Al-Ettiman Bank, whose main object was to encourage industrial development in Kuwait by giving industrial loans to individuals who wished to build private factories. This bank's contribution was very limited indeed. The loans which it had given to individuals were very low, only 5 per cent, compared to the other loans allotted to other purposes, particularly building and construction. As soon as the government felt that this bank was not fulfilling the role it had undertaken, it was replaced in 1974 by the Industrial Bank. The work of this bank will be examined in detail in a later chapter. The government did not stop here in encouraging industries and the industrial sector. In 1964, the government established the Shuaiba Industrial Authority, financed by the government, whose responsibility was to construct a port and an industrial area, supplied with all the service requirements in order to attract various industries. This industrial area in Shuaiba is provided (as we will see in Part 2) with a special electric power station, and a water distillation plant, as well as several services necessary for a variety of industries. In 1965, the government issued the industrial law, the purpose of which was to ensure the building of new industries on a national economic basis and act towards facilitating useful positive co-operation in various fields of industry in the country. This law accordingly gave the government authority to assist industries by exempting them from import and export duties on capital goods and raw materials required, as well as ensuring customs protection, and affording aids in the form of various types of energy.

The government had undertaken all these matters in order to assist in activating the industrial sector, and to create another economic sector to stand alongside the oil, in order to establish some sort of balance between the economic sectors in Kuwait. Besides encouraging the industrial sector to reduce the scale of dependence on the oil sector, the government must also undertake the creation and encouragement of other sectors, such as agriculture by giving individuals lands at a very low price as well as affording other services which this sector needs such as the supply of water and electricity and the construction of fences to protect the land from sand storms. At the same time, the government should start to enlarge the livestock by providing free veterinary services to individuals who owned goats, cows and other animals. The government also started to encourage the fisheries sector in order to benefit from the marine wealth available in the Gulf waters.

The encouragement of these sectors will help first to achieve some sort of balance between the economic sectors, and second, it will help provide the industrial sector with the basic raw materials which can be produced in Kuwait and which can supply the local market with dairy produce such as milk, butter to invade the local market; and although they are not enough for the consumption level of the local market, this can be considered as a first stage towards self-sufficiency.

## CHAPTER FOUR

THEORETICAL ASPECTS OF THE DEVELOPMENT PROCESS

The previous chapter presented an argument that Kuwait's economy is suffering from imbalance. Before turning in Part Two to a detailed analysis of the economy, it is necessary to review some of the theoretical aspects of the development process and to relate them to the Kuwait case in order to assess their validity as possible models for future development in Kuwait and in particular to overcome problems of regional development and structural imbalance.

1.4.1 Balanced Development

The theory of balanced development has been advanced by many scholars, of whom Nurkse (NURKSE, 1953), who was influenced by P. Rosenstein-Rodan, is the most significant. The starting point for Nurkse can be summarised in what he refers to as the scarcity of demand for capital in developing countries because of the poor incentive for investment as a result of the limited size of the market arising from weak purchasing power. In turn this arises from the low standard of living of the individual. However, this is not the case in Kuwait, where the limited size of the market is due to the small size of the country and low population total rather than to low purchasing power. From an economic standpoint, investment over a wide front in the manufacture of consumer goods tends to be successful, but the limited size of the market to some extent dampens the incentive for large-scale investment in any one industry. This is not surprising, as there are many

examples of how the creation of numerous industries simultaneously broadens the size of the market because in each case each industry, by distributing income, creates a market for other industries. This is the concept of external economies. It is possible to say that if we have a group of projects, then each one of this group creates external economies through broadening the entire size of the market. Nurkse says in this respect that:

"Each of a wide range of projects, by contributing to an enlargement of the total size of the market, can be said to create economies external to individual firms. Indeed, it may be that the most important external economies leading to the phenomenon of increasing returns in the course of economic progress are those that take the form of increase in the size of the market"  
(NURKSE, 1953, p.14)

This is the essence of the theory of balanced development, and in discussing it the following points must be taken into account:

1. The economic aim is to find a policy which is able to create a balance between agriculture and industry in the economic development programmes. It emphasises that linkages between the agricultural and industrial sectors give the clearest example of how such a balance must be provided in the economic development process. Therefore, unless these two

- sectors progress side by side, the failure of one would inevitably lead to a retardation in the growth of the other.
2. There are two sides to the strategy of the balanced theory. The first one is the demand side, which implies that a wide range of simultaneous consumer goods industries can to some extent eliminate the obstacle of the limited market, because every one of these industries would, with what it distributes in income, create demand for the products of the other industries. The other side is the supply side, which must avoid bottlenecks in the national economy which would create imbalances. The effective functioning of the supply side can be achieved by balanced development of the various sectors of the national economy both vertically and horizontally.
  3. The theory demands that there must be a balanced development of a group of consumer goods industries over a wide front in a horizontal sense. However it did not require a vertical balance between investment in the consumer goods sector and investment in the social capital sector, such as transport, communications and electrical power. This is a major criticism of the balanced growth theory. Its main concern is to establish a large number of industries without providing the infrastructure which these industries require. A further criticism of the theory is the poverty of developing countries in terms of the necessary resources for carrying out the simultaneous growth of a large number of industries

on a large scale. If it is considered what the creation of a group of industries requires in terms of labour, raw materials and capital, it is evident that the application of the theory requires abundant resources which are not generally available to developing countries.

Hirschman (1958) censures this theory because it would result in the importing of a modern integrated industrial economy on the back of a traditional depressed sector. Thus the national economy would split into two independent sectors, a modern advanced industrial sector and a depressed backward sector, not bound together except by the weakest of ties. In fact, this is exactly what is happening in Kuwait where there is a dual industrial development. On the one hand there are modern industries, using advanced technology, which are owned by the government. On the other hand are the traditional industries, using traditional technology, which are owned by the private sector. It seems, therefore, that application of the balanced growth theory is really only a promotor of the phenomenon of the dual economy, or duality of the national economy inherited by the developing nations from foreign investment, which has produced several problems. In turn, Singer (SINGER, 1964) pointed out that the principle of balanced growth assumes that a country is starting from scratch, whereas the fact is that development is occurring in national economies whose structures reflect past investment decisions and specific past experience of development.

#### 1.4.2 Imbalanced Development

In the fifties and sixties, a large number of economists advocated the theory of imbalanced development, the most prominent of whom was Hirschman (HIRSCHMAN, 1958). He argued that economic growth took the form of certain sectors of the national economy expanding and the growth of these pioneer sectors stimulating other sectors of the economy to develop. Hirschman considered that imbalanced development as a growth strategy for developing countries depended on these countries having real power to make investment decisions. Hirschman considers that if it is desired to create sustained economic growth then the task of policy should be to sustain pressure by disturbance of balance and in an ideal case, create successive steps to lead the national economy away from balance; that is, each of the successive steps would contain previous disturbance of balance built into it. This in turn would result in new disturbance of balance, which would stimulate the national economy to respond once again. Thus the product of expanding a given industry A, leading to external economies, should be grasped by industry B leading to external economies to that industry also, which in turn would stimulate industry A further and also benefit industry C. From this, every step in each industry should create external economies, generated through previous expansion, to create at the same time new external economies which other industries could utilise. The occurrence of these external economies is due basically to what economists term 'production integration'. If developing countries wish to adopt this strategy for economic development then it is necessary to define those sectors and types of industries which are capable of overtaking others and thus

inciting investment in these other sectors and industries. In other words, the strategy of imbalanced growth cannot be employed without investigating where the disturbance effect of imbalance would be most effective and most active in inducing investment in other sectors of the national economy. The importance of this point is reinforced when one considers the scarcity of investment resources in many developing countries.

#### 1.4.3 Growth Pole Theory

The growth pole theory was formulated and developed by Francois Perroux. In contrast to balanced and steady growth theories, Perroux maintained that the analysis of sustained growth in total production should be focussed on the process by which various activities appear to grow in importance since growth rates appear to vary widely from one sector to another. The theory also emphasised the idea of entrepreneurial innovation in the growth process, which through time form poles or successions of dynamic sectors which can lead to the stimulation of many activities. The two essential features of a growth pole sector or industry are its dynamism (rapid growth plus innovation) and linkages to other industries. Perroux also enunciated the concept of dominance (Hansen, 1972). Perroux conceived dominance as an irreversible influence exercised by one economic unit on another because of its dimension, the nature of its activity or because of its negotiating strength. Perroux, like Hirschman, emphasised the important role of propulsive industries in growth pole theory, but that some basic questions must be answered:

1. What are the characteristics of a leading industry?
2. What are the sectoral and spatial interrelations between the leading industry and the industrial complex?

The answers to these questions are very important, especially for developing countries like Kuwait, when they are starting to build new industries. The selection of leading industries and the type of linkages with other industries to be established alongside need to be planned. Several countries have employed a growth pole strategy for regional economic development but there are many criticisms which arise. A major criticism is that the theory did not express ideas on the type of location where regional growth poles should be established. There is thus a need to develop concepts of industrial location before employing the theory as an economic development policy tool. Many economists, such as Weber, von Thünen, Lösch and Smith, have examined how economic activities are organised over geographical space and the constraints imposed by space. However, in the past industrial activity was mainly studied from a purely economic viewpoint, considering such factors as procurement costs and distribution costs and industrial location theories were built on this basis in isolation from other social, political and environmental factors. We now need theories that take into account not only economic factors influencing the location decision but also non-economic costs, and can thus be used as long-term economic development tools. Kuwait is a good example of this, where the government took location decisions which considered only economic costs in

isolation and resulted in widespread pollution problems around the new industrial activity. This resulted from the government not considering a complete set of criteria but only the criteria determining least cost, such as access to raw material, water and markets. The government now has to expend huge sums of money in order to overcome the problems created by establishing these industries in the wrong location. Thus the misuse of industrial location theories at a regional level can cause severe problems in the longer term future and it is important to have a full understanding of regional location theory and to adapt it so as to be applicable to the country or region concerned.

#### 1.4.4 Circular Causation

Myrdal, in his theory of circular causation (Myrdal, 1957), argued that a simple model of circular causation with cumulative effects is more related to social and economic processes than is balanced growth theory. He argued that the expansion of a growth sector will lead to the development of both internal and external economies and they in turn will strengthen its growth and also the expansion of other areas. To explain this Myrdal used the concepts of 'spread effects' and 'backwash'. The spread effects involved an increased outflow of a hinterland's raw materials and agricultural products and a need to use more modern technology. There is a relationship between spread effects and the level of development in the country - the higher the level of economic development in a country or region, the stronger the spread effects will be. The concept of backwash involves movements

of capital, population and trade. Capital tends to flow to the growth centres because there is an increased demand. This in turn generates more income and a demand for more capital to flow to the growth centres. Along with this goes a growth in trade between the growth centre and other areas. As far as labour migration is concerned, Myrdal stressed its selective nature with its emphasis on the better educated, better trained, more motivated elements in society, mainly young but not exclusively so. In this way, part of the backwash effect is a flow of improved human resources to the town concerned. The educated young will migrate from the hinterlands to the growth centres because of the availability of employment and high incomes. Myrdal's ideas can be applied to some developing countries, especially those that are large and with diversified regions. But for small countries, such as Kuwait, it is more difficult to apply his theory. However, if the Arab countries were grouped together as a unit without restriction of movement it is obvious that the labour force would move from one area to another, and especially to areas with good job opportunities and high income. Such areas would be Kuwait, Saudi Arabia, the United Arab Emirates, Qatar and Libya, and these would be considered as growth centres in the Arab World. This implies the need for a successful economic common market and without such economic integration between Arab countries regional problems will not be solved either in larger or the smaller Arab states.

#### 1.4.5 Industrial Complex Development

A further approach to solving regional problems in the

developing world is the development of industrial complexes. Writers such as Isard (Isard, 1975) consider this a useful development tool which, although originally applied to existing industrial areas, can be adapted for use in newly industrialising areas as well. Isard defines the industrial complex as:

"a set of activities occurring at a given location and belonging to a group (sub-system) of activities which, because of technical, production, marketing and other linkages, generates significant economies to each activity when spatially juxtaposed"  
(Isard, 1975 p.438).

The major advantage of the industrial complex approach is that industrial establishments are linked to one another by using a common labour pool, resources, infrastructure and technology. In turn, the establishment of an industrial complex will attract further industries in the same location. It appears that this approach can be useful for some developing countries, especially those, like Kuwait, concerned with industrialisation as a means of achieving economic diversification. A good example of this strategy is Puerto Rico, where a selected number of interrelated petro-chemical processes were established which resulted in a major new profitable group of industries despite the fact that Puerto Rico was an area of poverty, with limited natural resources, capital and trained labour, and moreover has a small internal market. In spite of Puerto Rico's similarity

with other developing countries, few have succeeded in applying the industrial complex approach. Kuwait is a case in point, where the petro-chemical industrial complex has not succeeded to the same degree as in Puerto Rico, despite the availability of both natural resources (oil and natural gas) and capital. The reasons underlying this were a misunderstanding of the theoretical basis in relation to the economic structure of the country. Before transforming the theory into practice, several considerations such as the actual location of the industrial complex, the type of linkages envisaged and the level of technology have to be taken into account.

#### 1.4.6 Development from below

A final concept examined in this brief review of development theories is the development from below (Stohr, 1981, p.43). Development from below has two requirements:

1. Creation of dynamic development impulses within a less developed area. That can happen by creation of endogenous factors of change for increased equity.
2. Control of the backwash effects of development 'from above'. This can happen by changing the interaction between different regions and countries.

The main aim of development following this school of thought is the development of human skills and natural resources of the regions or countries. This is a theory which seems to have particular applicability to the poorest

countries, with strong traditional communities, dense populations, and lack of capital. These countries have to emphasise the human resource as a major one. Also a large part of any regional surplus should be invested within the region for the purpose of diversification of the regional economy. A problem arises with small countries such as Kuwait, where the investment opportunities are very limited. In this case where the capital surplus is greater than the need of the region it may force the government and private investor to find market for their capital outside the country, (see Part Two Chapter Two). This school of thought lays emphasis on a territorially integrated basis. This integration is very necessary for less-developed areas because it will provide free access to the market where they can distribute their products and also it will give access to the technology they need from other regions. As STOHR puts it:

"Most less-developed countries are under-developed mainly because of their reduced capability for formal large-scale interaction to provide goods and production factor for large-scale (international) interchange systems" (STOHR, 1981, p.44).

It is clear from the discussion that there are some positive points in both balance, imbalance doctrines and other theories, from which the developing countries can benefit. The amount of benefit will depend on many factors. For example it will depend on the country itself, the kind of economy it has, the problems it faces, the availability of capital,

labour and other economic factors, because every country even within the developing countries is different from the others. It is not right to assume that all the developing countries are similar.

As for Kuwait, it is difficult to find an analytical form which fits the country, because Kuwait, as we will see later, has some characteristics and features of both the developing and developed. Kuwait should stress the strategy of diversification of the economy, which means equilibrium between the oil and non-oil sectors, and give top priority to industrial development among its efforts to diversify the economy and to reduce oil as a source of national income. Kuwait also should concentrate on the resources which are available in the country and try to make the utmost use of these local resources.

Singer sums up the strategy of development which can be applied to a great extent in Kuwait by saying:

"It may well be better development strategy to concentrate available resources on types of investment which help to make the economic system more elastic, more capable of expanding under the stimulus of expanded markets and expanding demand. This would draw our attention to investments designed to strengthen the economic and social foundation or infrastructure: health and education, transport and communication, energy and power, skill and knowledge of resources".

The diversification programmes were the recommendation of an industrial feasibility survey of Kuwait carried out by the Industrial and Process Engineering Consultants of London, organised by the Ministry of Finance and Industry in 1963. The final report submitted by a group of industrial experts (Industrial and Process Engineering Consultants, London) recommended that one of the best ways to diversify the economy can be achieved by developing the industrial sector and among the potential industrialisation projects put forward was the manufacture of petro-chemicals with special emphasis on fertilisers, tires, plastics, glass, cement, aluminium (Ministry of Finance and Industry, Industrial Survey, (1973), Vol.2).

Part Two will concentrate on the industrial sector and how it can be developed, and consider it as one way to diversify the economy of Kuwait which can serve to lessen the dependence upon oil as the production factor.

## CHAPTER ONE

The Role of Basic Infrastructure2.1.1 Introduction

One element in the success of an industrialisation process is the creation and use of a basic infrastructure, such as land and sea routes, ports, roads and means of transport, sources of power and water.

Holland argues that:

"The other main arm of indirect or liberal capitalist regional policies is the provision of infrastructure and the local concentration of development programmes in growth centres or poles. The role of infrastructure can be clarified by the distinction between social overhead capital (S.O.C.) and economic overhead capital (E.O.C.). The evidence demonstrates that private company management is only concerned with limited category of general social overhead capital. This is essentially good housing, education, recreation and health facilities for itself and its "imported" skilled personnel. Economic overhead capital includes sufficient site area for expansion, the provision of power and water supply, telecommunications and transport access" Holland 1976a, p.46.

The failure of the state, especially rich states like Kuwait, to undertake the responsibility of creating the basic infrastructure and leaving it on the shoulders of the enterprises may result in the cost of production becoming so high

that these enterprises would be unable to compete in the local or international market.

As Mountjoy puts it:

"Not suprisingly, costs of production are likely to be high during this initial period and these industries are in a competitively weak position. All these difficulties should lessen as development proceeds and provided there is a reasonable chance that the industry will duly pay its way, there is a good case for protection or some form of government help. The main justification, however, is that the very existence of these young industries is giving a substantial return to the developing state beyond the mere value of their production". Mountjoy 1982, p.160.

In this section the view of entrepreneurs will be examined in the respect of the problem of infrastructure in Kuwait. More than half of the survey replied that infrastructure in Kuwait represents an obstacle in the way of raising industrialisation movement (see Appendix I Table 1.1). The majority of replies did consider it as a problem but only a few respondents stated that it represents an acute obstacle. Regarding roads and means of transport only 14.15 per cent of the total respondents reply that this element represents an acute obstacle for industrialisation in the country. In respect of electric power 55.97 per cent of all respondents stated that it does represent a problem to industrial

development. The situation is the same for fuel and other energy supplies, where the majority of the respondents stated that it does represent a problem to industrialisation in Kuwait. About 22.01 per cent of those who replied stated that the provision of industrial area does represent an acute obstacle to the industrial development in the country. (see Appendix I Table 1.2, 1.3 and 1.4).

In this section the economic overhead (E.O.C.) will be examined and it will include roads and means of transport, water supply, electric energy, fuel and energy supplies (other than electricity) and finally the provision of industrial area.

### 2.1.2 Roads and Means of Transport

The principal elements necessary for industrial development (raw material, labour, market, etc) are often scattered in various places and utilising these elements is not possible unless they can be gathered together. Thus the importance of the transport element in relation to industrial development can be seen. Even for Kuwait where the economic and geographical distances are not enormous, it is essential to have a good road and sea network, because in the future there will be a need to export industrial commodities abroad as well as to be used for other purposes. The road network of the state of Kuwait is the arteries that connect and link between its regions and borders. There is no doubt that transport facilities play a major role in the rise and development of economic and social life, and the evolution of means of transport in their various forms and numerous uses is considered

Table (2.1.1) Vehicles in use - 1973-1979

Years	Private Car	Taxi	Private lorry	Public lorry	Private Bus	Public Bus	Total
In use at the end of year							
1973	145,545	8,050	27,592	13,776	1,644	1,170	197,777
1974	166,194	8,000	30,751	15,955	1,737	1,151	223,788
1975	195,839	7,869	39,454	25,234	2,722	1,114	272,232
1976	228,442	7,867	47,500	31,767	3,714	1,366	320,656
1977	269,304	8,061	58,953	36,294	4,532	1,957	379,101
1978	311,965	9,073	71,691	39,594	5,173	2,057	439,553
1979	353,702	9,578	81,237	44,594	5,612	2,242	496,584

one of the most important factors which reflect economic and social progress with regard to developing existing industries and creating new industries and new economic activities.

A: Means of Road Transport:

Road vehicles should be regarded as one of the elements which affect industrial development, particularly since road transport vehicles are the only means of transport inside Kuwait, because the railways are in the country and air transport is mostly used for passengers transportation and not goods. There was a big increase in the total number of vehicles between 1973 and 1979 (see Table 2.1.1). During this period there was an increase of 151 per cent. The number of private vehicles increased from 145,545 in 1973 to 353,702 in 1979, an increase of 143 per cent. Other cars such as private lorries grew from 27,592 in 1973 to 81,237 in 1979, an increase of 194 per cent over this period. What is remarkable in this respect is the considerable increase in the number of light transport vehicles (private lorries), particularly during the last seven years. It is necessary to make clear that this remarkable increase in light transport vehicles is not in line with the demand of the regional services, but is due to the desire of some individual residents, especially the non-Kuwaiti, to own lorries for their own private use as well as for investment purposes. The number of private and public buses also increased from 1,644 and 1,170 respectively in 1973 to 5,612 and 2,242 in 1979.

Public buses are owned by a Kuwaiti company (Kuwait Transport Company) which is owned by the government (51 per cent of the ownership) and the public (49 per cent). This company monopolises the market, and the competition between this company and the private buses is absent due to the fact that public buses charge much less than private buses. Secondly they are much safer than the private buses.

#### B. Transportation Network:

The road network in Kuwait consists of four major types (see Fig 2.1.1):

1. motorways
2. expressways
3. primary roads.
4. secondary roads.

For an assessment of the road network, it is essential to define the capacity of the roads, that is the maximum number of vehicles using them and the constant flow per hour at any one particular point. However, in the case where flow is intermittent, the capacity of a road cannot be assessed by the above method except in special cases, but is assessed by the nature and form of circulation and how it is controlled at the intersections, and whether there are bottlenecks created which would affect the capacity of the road.

Going by this, it may be possible to assess the road network in Kuwait as follows:

1. The Main Trunk Routes (Approaches):

From the engineering, planning and geographical location of the main roads network in Kuwait,

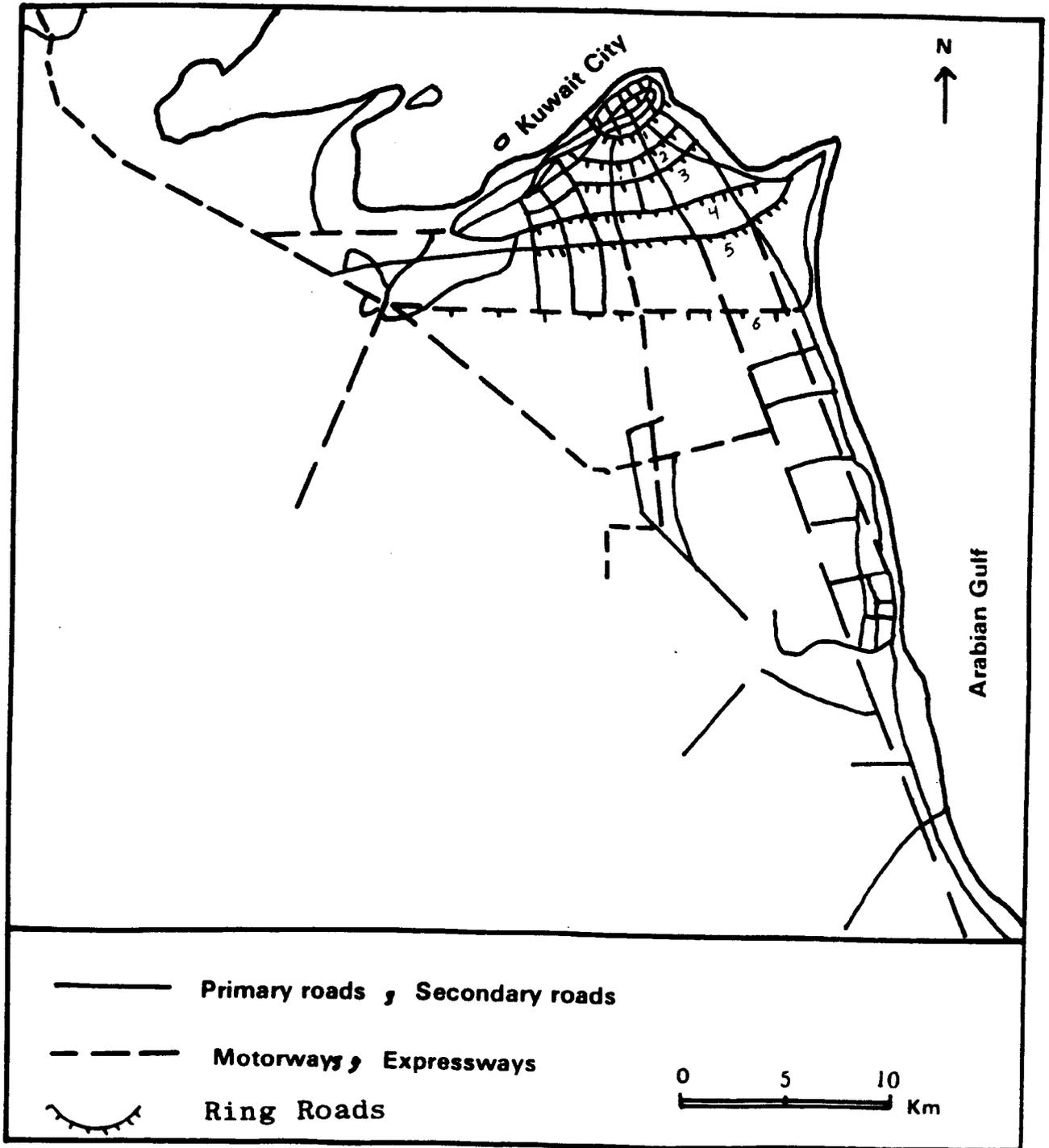


FIG. 2.1.1 Transportation Network in Kuwait

## 2. The principal suburban routes

The city centre is the destination where trips end, where the places of work, commercial activities and markets are centred, and where parking for waiting and loading is badly required. Therefore, it has become necessary to evaluate the efficiency of traffic in the city, because the pressure of traffic at present on the city roads is intense and congestion is caused during peak period in daily working hours, and also in the evenings, particularly in the commercial markets. The municipality of Kuwait is carrying out surveys to solve this problem, some of which have been completed and some of which are still being conducted.

For the future, the short-term plan (1985) includes the following road projects, (Halcron Fox and Associates, 1978, 22):

- A. The fifth ring-road motorway
- B. Fahahad expressway
- C. The Nuraiseds Road to Saudi Arabia
- D. The Maghrab-Assafer motorway
- E. The ring expressway around the city centre
- F. Al-Ghazal motorway.

The importance of road transport to the Kuwaiti economy, is noted from the statistical data of the last ten years, which indicate that 32 per cent of foreign trade and

72 per cent of passengers are transported by road. It also plays an important role in local transport for both cargo and passengers. Despite the fact that there was a good increase in paved roads in Kuwait during the last thirty years (see Fig 2.1.2), the government should concern itself more with establishing a new network and try to make the old network more efficient, which will help to connect its different areas, and give more access to the industrial commodities in the future, to be moved from one place to another.

### 3. Marine Transport

This plays a principal role in promoting industry and foreign trade, since oil is exported and most goods are imported through the ports. In addition 95 per cent of industrial products in Kuwait are exported through the ports, particularly Shuwaikh and Shuaiba ports. Statistical figures for the last ten years show the importance of their role, where more than 76 per cent of imports and exports were moved by means of marine transport.

In Kuwait, there are now five principal ports, excluding minor coastal ports in various areas. The five ports are: Ahmedi port, Mina Abdullah port, Mina Saud port, Shuwaikh port and Shuaiba port (see Fig 2.1.3).

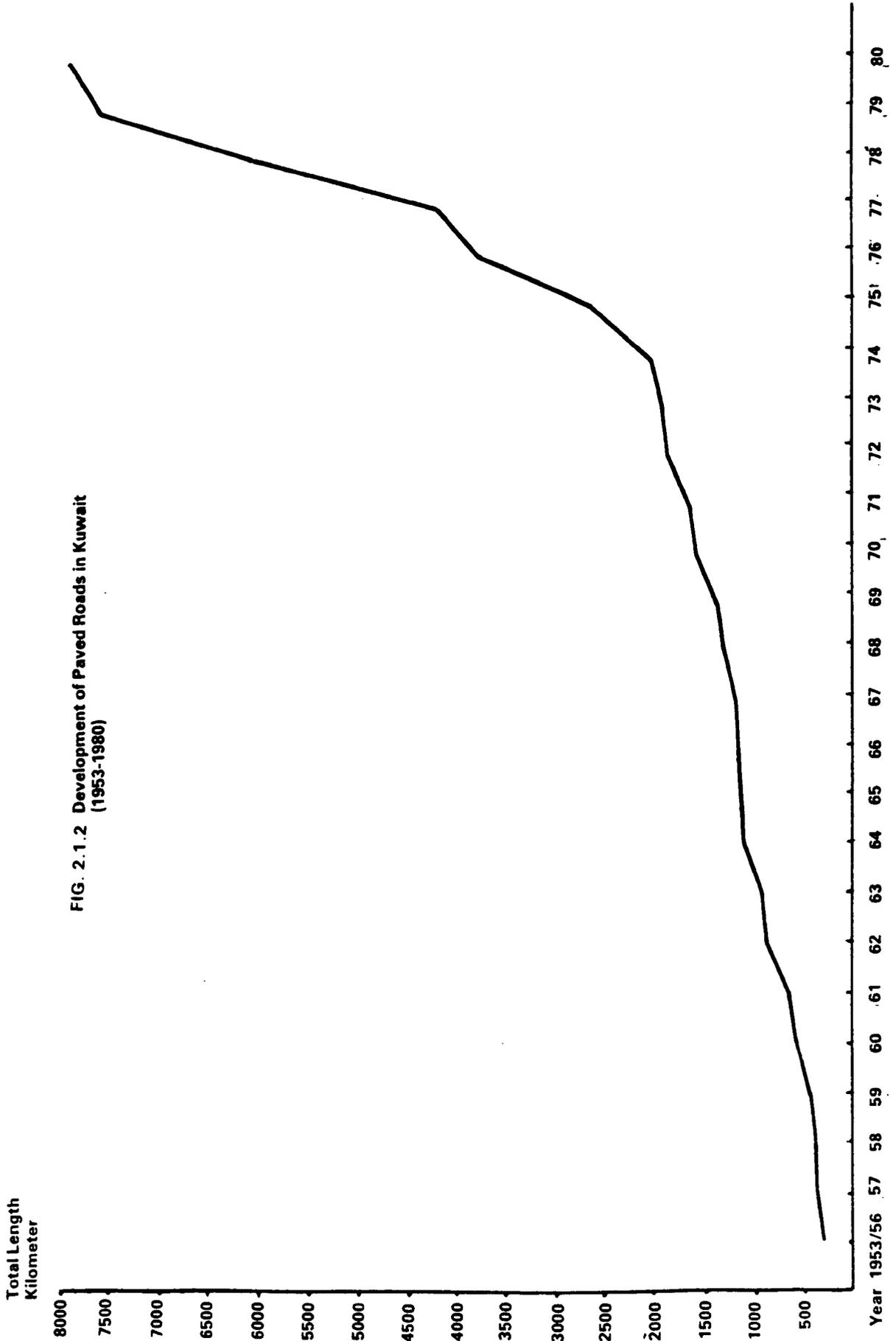


FIG. 2.1.2 Development of Paved Roads in Kuwait (1953-1980)

Total Length  
Kilometer

Year 1953/56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

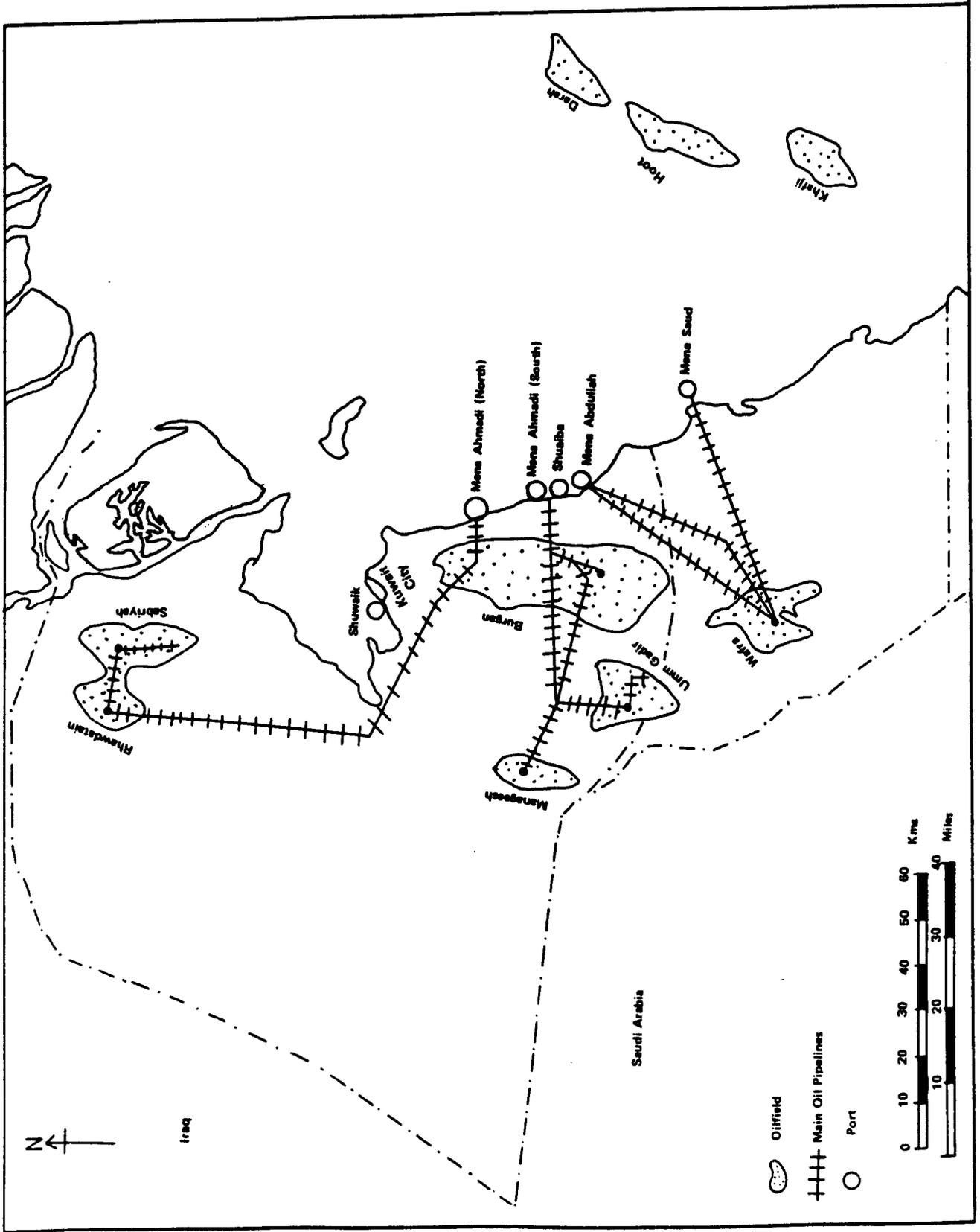


FIG. 2.1.3 Distribution of Oilfield and Main Oil Pipelines

From Ahmedi, Mina Abdullah and Mina Saud ports, crude oil is exported: while Shuwaikh and Shuaiba ports receive different ships, and receive consumer goods and export fabricated and semi-fabricated materials including petro-chemicals.

In addition to the foreign agencies operating in marine transport, there are two national companies involved in this sector:

A. Kuwait Oil Tankers Company: This company has been established since 1957 with the purpose of purchasing and leasing all grades of vessels, especially oil tankers, in addition to handling all kinds of service, marine agencies, marine insurance, goods shipments, goods clearance and dock works. This company made a contract in 1980 with two big Japanese companies to buy four oil tankers, at a total cost of 100 million dollars and each of these tankers has a capacity of 80,000 tons. The company received two of these tankers in 1981 and the other two will be delivered at the end of 1982. Also in late 1982 the company will receive another two tankers from Japan which will cost 156 million dollars with a capacity of 290,000 tons each. This means that by late 1982 the number of oil tankers owned by this company will increase to twenty tankers with a total

capacity of 3.7 million tons. This company also has eight refined product tankers and four gas tankers.

- B. Kuwait Marine Company: The government established this company in 1965, contributing 60 per cent of its capital. The company owns at present 22 ships, with a gross tonnage of 332 thousand tons, in addition to leasing other ships (in 1975, it leased about 10 ships).

Since its establishment, the company has participated in transporting 5 per cent annually of the total of Kuwaiti imports by sea by four marine lines covering most parts of the world, from the far east to Northern Europe, to the U.S.A., the Red Sea countries, and the Indian sub-continent.

Actually there were many innovations introduced in 1980-1982 pertaining to marine transport:

1. The present capacity for the commercial pier of Shuaiba was increased to meet the expected increase in export and import movements by constructing a new pier, north of the present one, that includes six berths in order to increase discharge capacity to 3 million tons per year, and make improvements to the artificial island and south pier of Al Ahmadi jetty (see plate 2.1.1, 2.1.2).

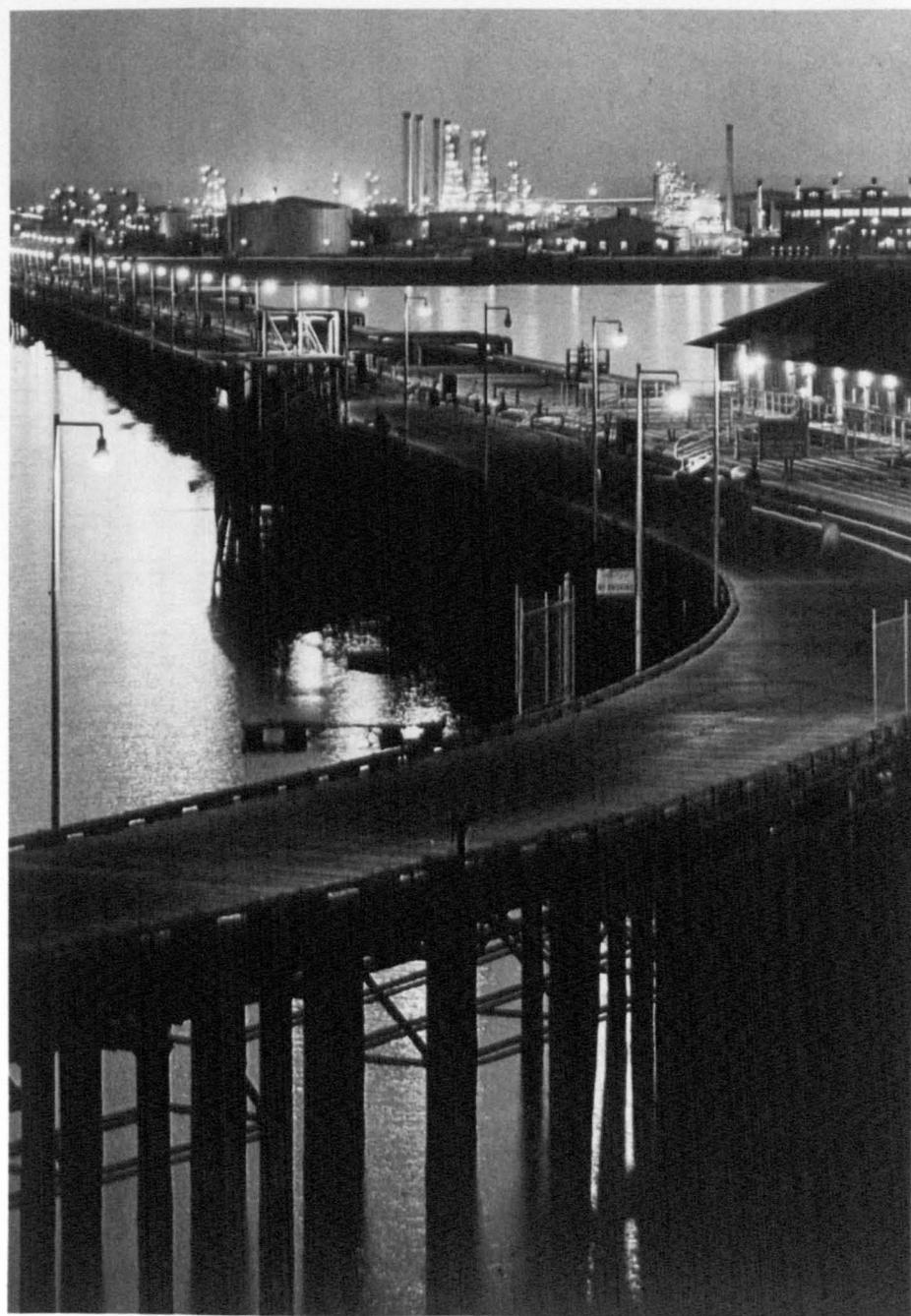


Plate 2.1.1 The South Pier of the Al-Ahmadi Jetty

Source: Ministry of Information, Kuwait

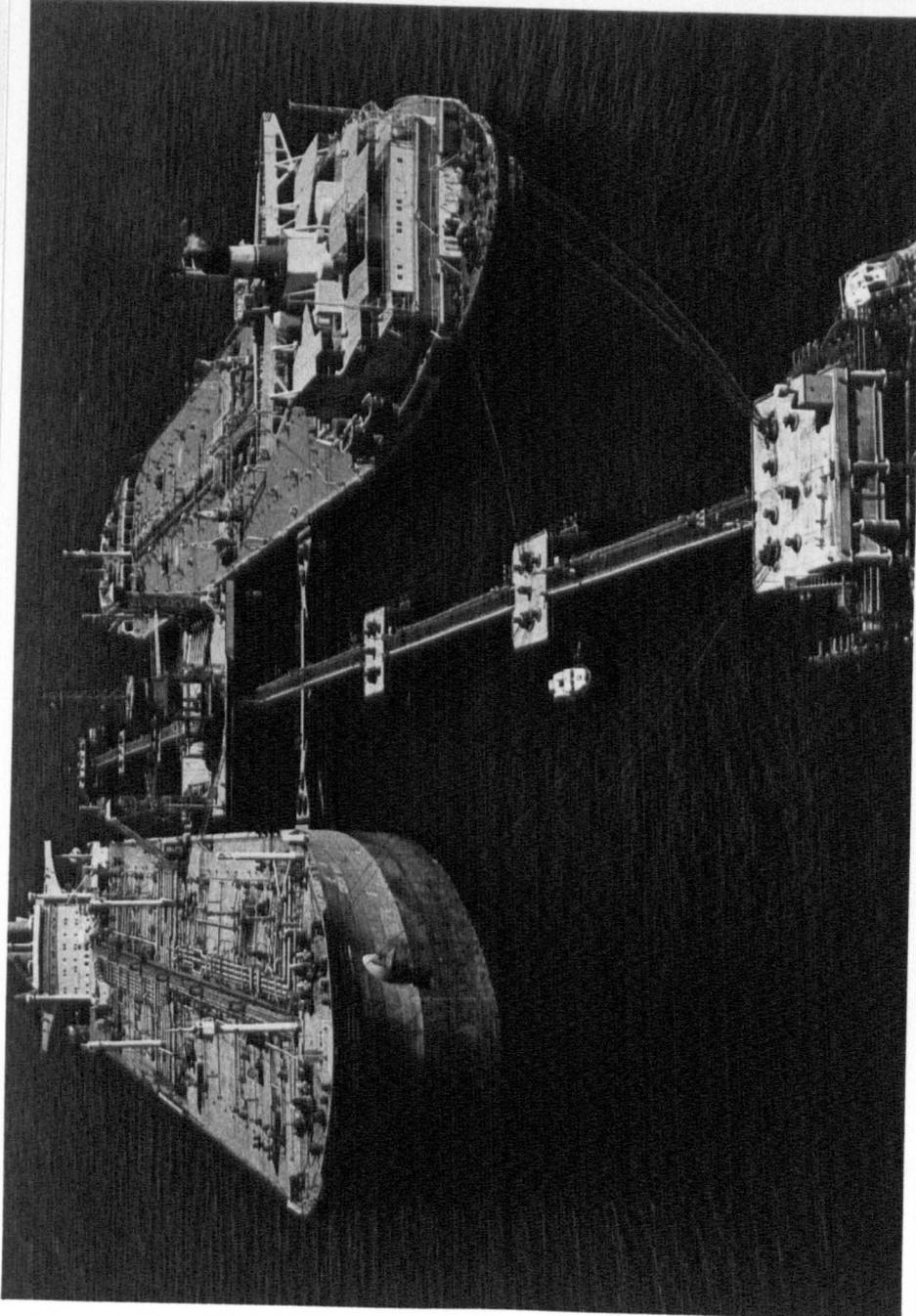


Plate 2.1.1.2 Artificial Island with two Super-Tankers Berthed

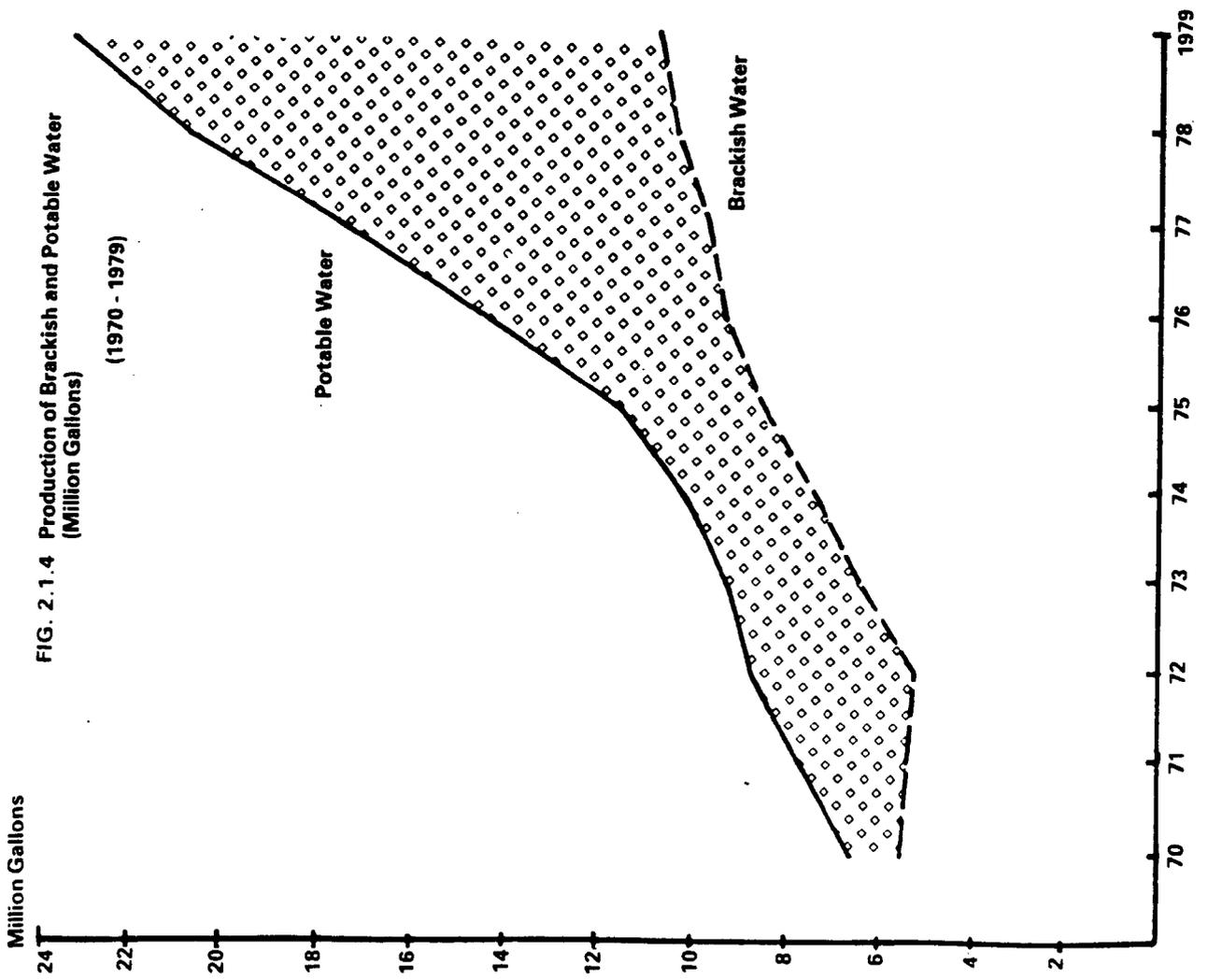
Source: Ministry of Information, Kuwait

2. The number of berths at Shuaikh was increased to 18 berths, each 10m depth, and the capacity of annual discharge increased from 1,782 million tons to 2,554 million tons in 1980.
3. Purchase of 25 ships for the Kuwait Marine Company.
4. Four tankers each of 71650m<sup>3</sup> gross tonnage have been purchased for the transportation of liquid gas.
5. Increase in the total capacity of the Kuwaiti Oil Tanker Company fleet of 1,543 million in 1980, to 3.7 million tons by 1982.

### 2.1.3 Water supply

Natural water resources in Kuwait are extremely limited. Artesian water resources satisfy only a small portion of Kuwait's need for potable water, and the rest is provided through distillation of sea water. Brackish water which is used for other purposes except drinking is provided from wells in Kuwait. Shuaiba Industrial Area does also provide sea water which is used for cooling.

Fig 2.1.4 indicates the rates of production of brackish and potable water in the period 1970-1979. From this it can be seen that the growing demand for water has been met by the expansion in the water distillation capacity. The total production of the brackish water increased: in 1970 the production was 5.755 million gallons or 15.767



thousand gallons daily. In 1979 the production was 10,823 million gallons or 29.652 thousand gallons daily, an increase of 53 per cent. The production of potable water also increased, in 1970 the production was 6.635 million gallons or 18.178 thousand gallons daily, in 1979, the production reached 23.084 million gallons, or 63.244 thousand gallons daily, an increase of 29 per cent.

However, due to the fact that all demands for water are seasonal, a shortage may sometimes occur, but generally it can be said that there is a surplus in production capacity. It is also expected that there will be a greater total demand for water after the construction of the water pipes network in Kuwait city has been completed. There will be two separate networks, one for potable water and one for brackish water instead of the present system for transporting water by tankers to some areas in Kuwait.

The industrial and commercial consumption represents only a small portion of the total consumption of water with the major portion going to domestic use. The average consumption of fresh water is estimated at 49 gallons per head per day. Overall brackish water consumption averages approximately 23 gallons.

#### Sea Water for Cooling:

The total requirements of sea water for cooling after the execution of the proposed plan is estimated to be about 2176 million cubic meters a year during the year 1979. Subsequently the cooling water required amounts to 100 per cent of the nominal capacity for cooling water available at present in

the year 1979. This requires the general authority for Shuaiba area to carry out the execution of the third stage of the cooling water project to meet the needs of the plan, and increase the pumping units to provide surplus in the production capacity to meet any possible emergencies.

#### 2.1.4 Electric Energy

One advantage which all companies in Kuwait enjoy is the low price of production of electric power. This is due to the abundance of natural gas which is used in the production of electricity, in addition to the fact that the price paid by the consumer is even less than the cost price. This is in accordance with the government policy of providing electric power to the consumer (domestic, commercial or industrial) at a very low price. To encourage the industrial development in Kuwait, the government decided to lower the price of electric power for industrial purposes in order to provide a part of the required protection for the new industries to compete with outside competition.

The prices fixed for electric power at present are as follows:

	* Fils per Kilowatt/hour
Industrial use except Shuaiba Industrial Area	2
Commercial use/offices	2
Domestic use	2
Shuaiba Industrial Area	1

supplied by: The Ministry of Electricity and Water (1979).

The total energy generated in 1970 was 2,213 million KW/H, and it increased to 8,616 million KW/H. The domestic consumption also increased from 2,055 million KW/H to 7.537 million KW/H in 1979 (see Fig 2.1.5).

The consumption of the industrial sector for example reached about 158 million kilowatt/hours in 1970, which represents only 7.69 per cent of the power allotted for the total consumption in that year. In 1979 the consumption of the industrial sector increased and reached 1,079 million kilowatt/hours, an increase of 583 per cent since 1970. There is another power station due to be finished in 1983 in Shuaiba Industrial Area, and this new station will cover all the needs of the industrial plan until the end of the current century.

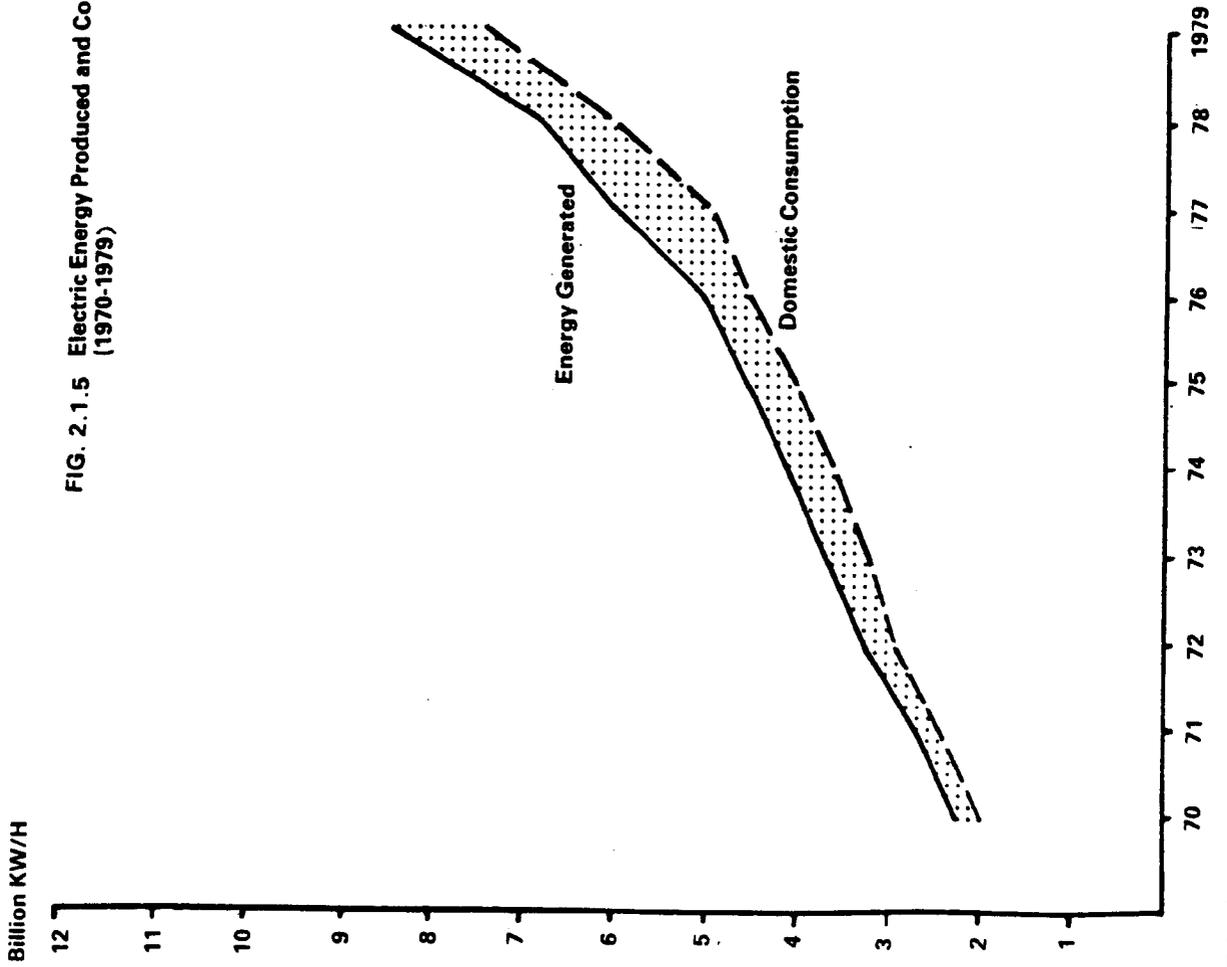
#### 2.1.5 Fuel and Energy supplies (other than electricity)

The National Petroleum Company provides oil and its by-products to the consumer in Kuwait, supplies the government, commercial and industrial projects and individuals with their needs of various oil products.

There are, and are expected to be, no problems arising from increase in demand for fuel with the development of the Kuwait economy. Natural gas is available in both the Shuaiba and the Shuwaikh Industrial Area through a pipe network. The surplus gas after satisfying the main needs is distributed for producing electricity, water distillation and then governmental and commercial use.

In Shuaiba Industrial Area consumers of natural gas, whether for heating or operations, pay \$0.25 per cubic metre of gas.

FIG. 2.1.5 Electric Energy Produced and Consumed (1970-1979)



In future, the situation will be different with regard to the use of gas as a result of the increased industrial use of gas. The prices of natural gas will then be substantially increased during the coming years. The question is how much will the price of natural gas increase in the future, and whether this increase will be applied to all gas consumers or new ones only. That is to say, concerning the industrial projects, whether this increase in prices be applied only to new projects, or all projects using natural gas.

Without doubt the answer to this question will determine to what extent natural gas can be considered in the future an element of encouragement to the industrial development.

Looking at production and utilisation of natural gas (see Fig 2.1.6 and Fig 2.1.7) in 1969, the total production was 513.690 million cubic feet, of which 332.702 million cubic feet was flared and only 180.988 million cubic feet was total utilisation of natural gas of which 24.8 per cent was used by government facilities including government industries, 27.3 per cent was used for injection in oil wells, and 47.9 per cent consumed by the oil companies including some of the petro-chemical industries. This means that 64.8 per cent of the natural gas production was flared in 1969. In 1979 the situation was dramatically changed; the total production of natural gas was 460.376 million cubic feet, 126.005 million cubic feet was flared, and 334.371 million cubic feet was the total utilisation of natural gas. This means that only 37.7 per cent of the natural gas production was flared in 1979 (see plate 2.1.3). Flared natural gas is decreasing from year to year which is a good sign, from the point of view of conservation.

FIG. 2.1.6 Production and Utilization of Natural Gas  
(1969-1979)

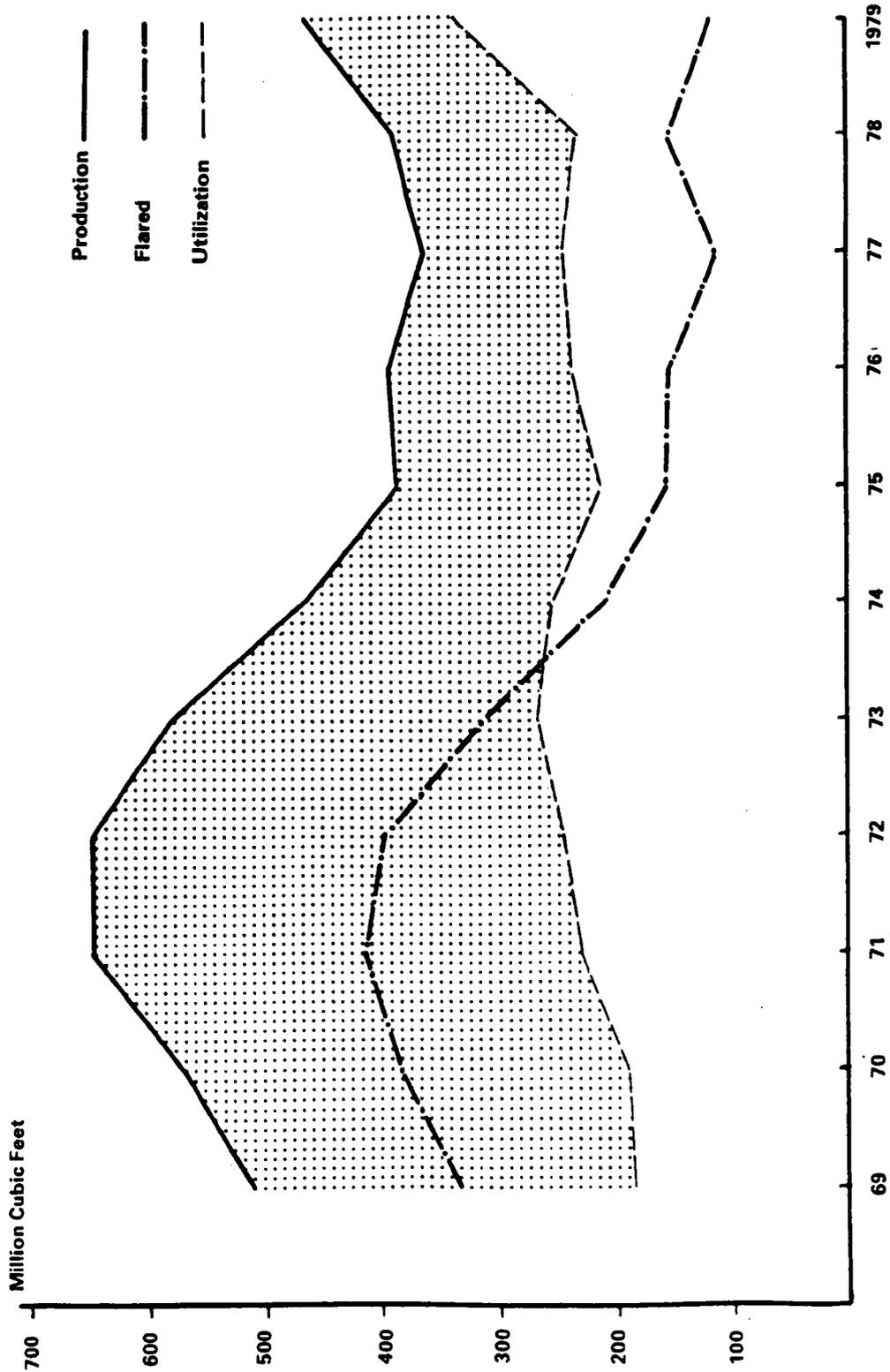
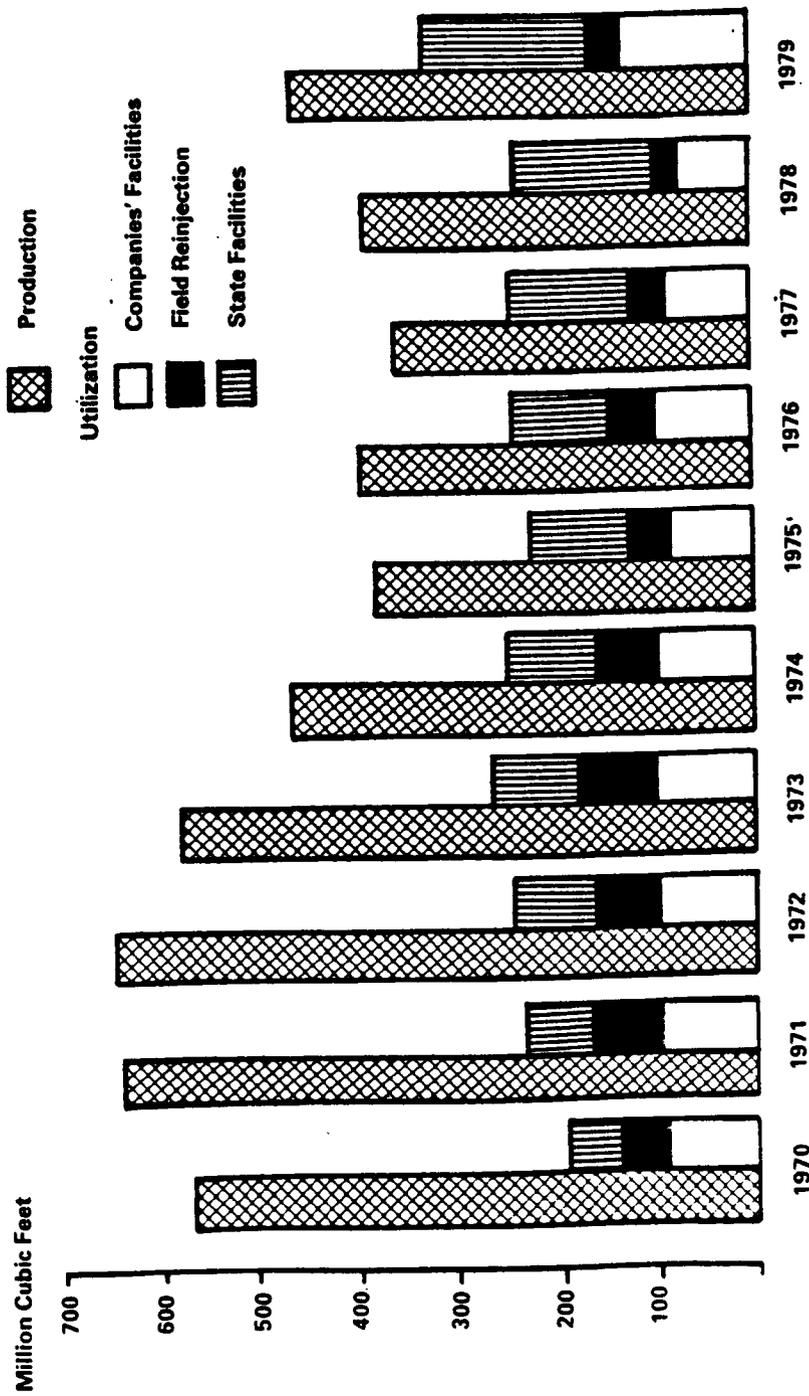


FIG. 2.1.7 Utilization of Natural Gas (1970-1979)



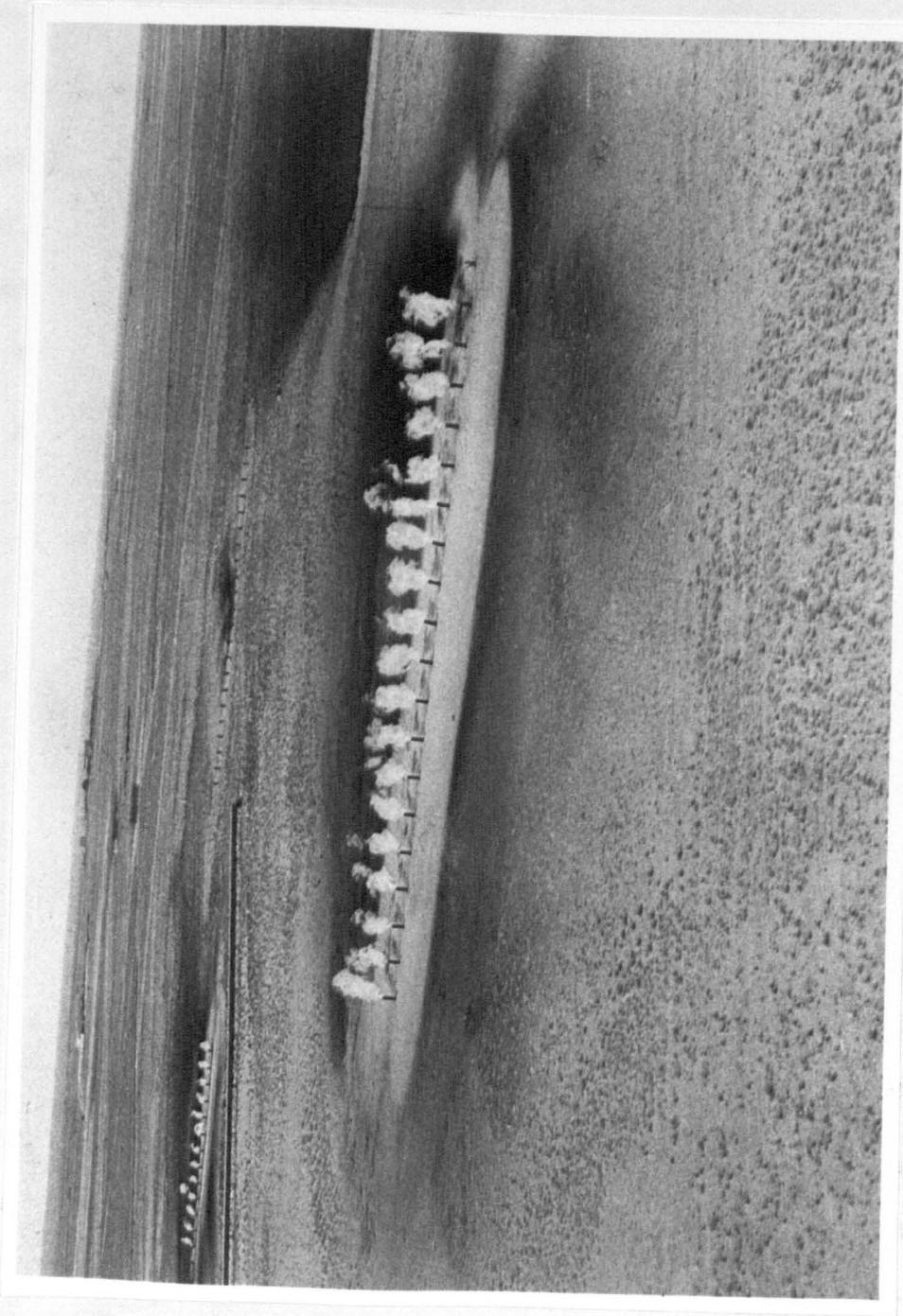


Plate 2.1.1.3 Flamed Natural Gas

### 2.1.6 The Industrial Areas

The direction of planning in Kuwait is that the industrial activities should be concentrated in industrial areas selected by the state and provided with the necessary sources and services. The most important of these two areas are Shuwaikh and Shuaiba Industrial areas.

The Shuwaikh, Fahaheel and Ahmadi Industrial areas have not been planned due to having been set up before the industrial law No.6 (1965) was issued. Therefore, the industrial plots in these areas have been used for purposes other than those for which they were allotted.

#### A. Shuwaikh Industrial Area:

Shuwaikh Industrial Area has an administration authority as does the Shuaiba Industrial Area. Furthermore the square area which is in fact used for industrial purposes does not exceed 25 per cent of the total area of 1,000 hectares, comprising Shuwaikh, the power station and the water distillation plant (see plate 2.1.7). Some of the most important industrial activities situated in this area are steel, aluminium, carpentry workshops for the production of windows, doors and furniture, tile and mosaic factories, soft drinks factories, dairy products factory, fruit juice and ice cream factories and newspapers and magazines printing press.

The factories located in this area enjoy some facilities which they need such as being favourably close to Shuwaikh port (see Fig 2.1.8), which is provided with modern equipment capable of handling about a

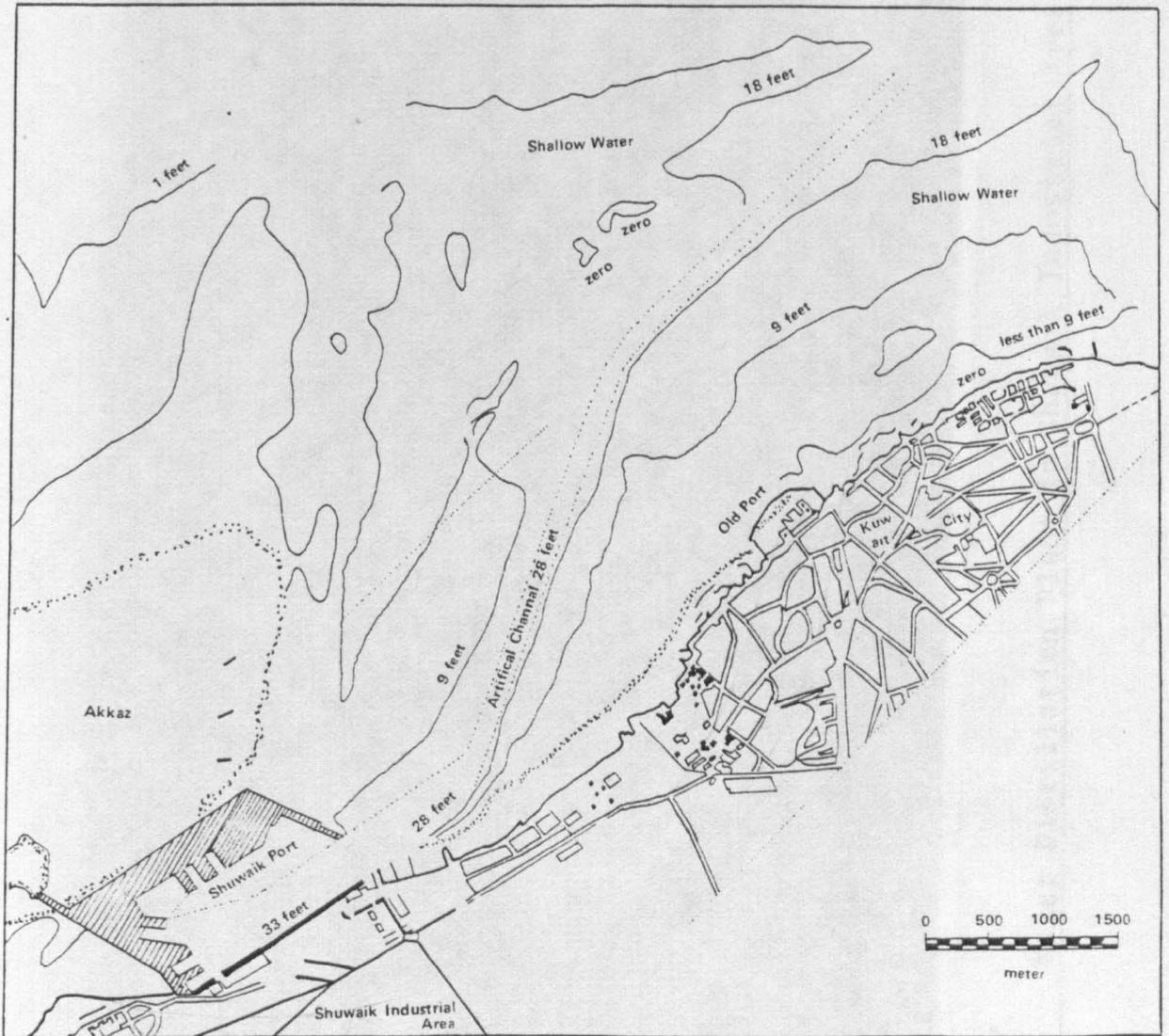


FIG. 2.1.8 Kuwait and Shuwaik Port

Source: Ministry of Public Works

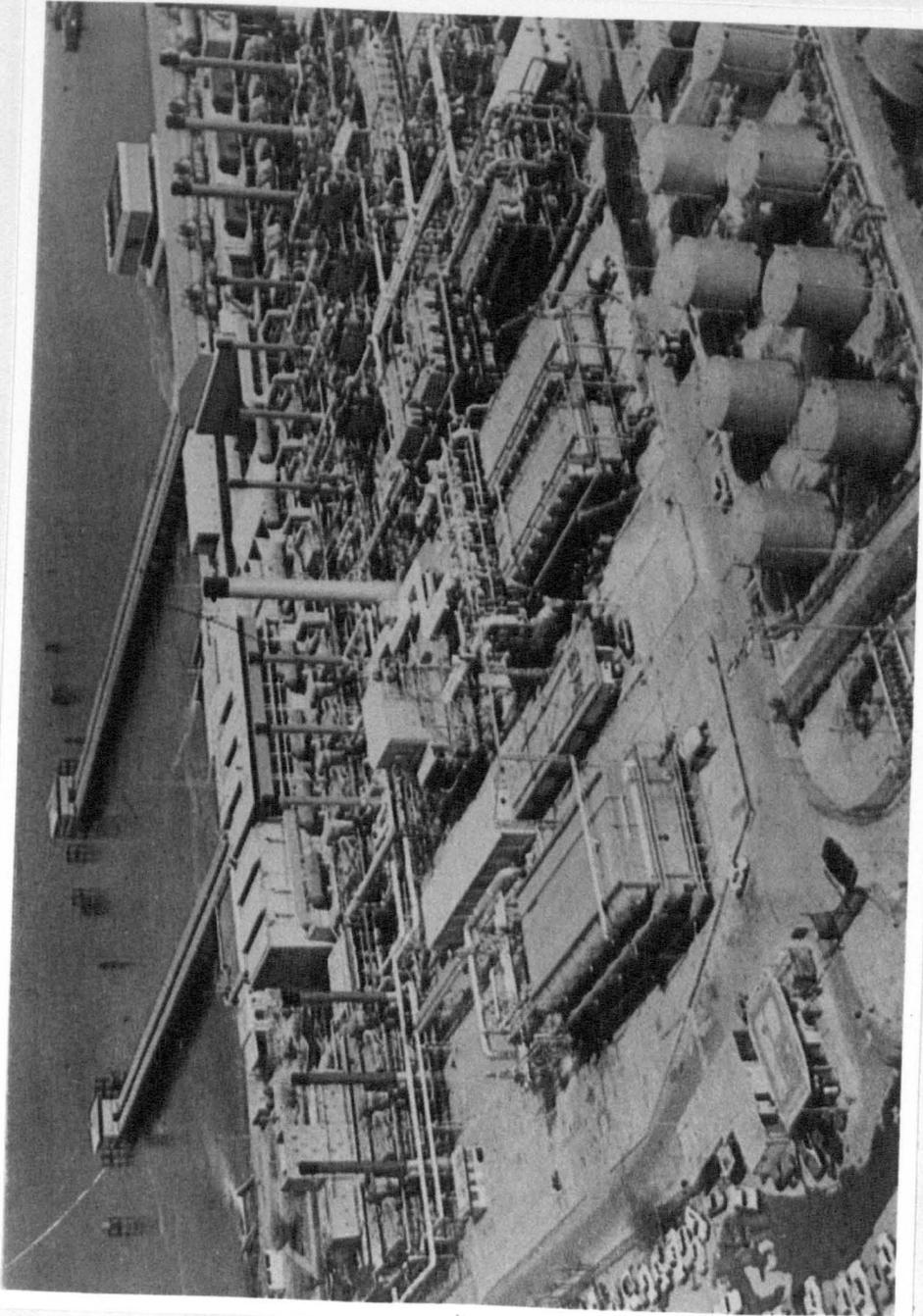


Plate 2.1.4 Water Distillation Plant in Shuwaik Industrial Area

million tons per year, of imports and exports. Also some factories benefit from the gas pipes network in obtaining natural gas. This is provided with a full services system such as storage space.

The land rent in Shuwaikh area is in actual fact considered as nominal, the rent fee for one square metre being only 500 fils per year for the rented industrial areas and the rental period is 25 years with option for renewal.

This area is not suitable for the construction of converting industries due to its location near a populated area. This area is already causing many problems especially the pollution hazard, (see Chapter 7).

#### B. Shuaiba Industrial Area

As I have previously indicated, serious attempts are being made by the government to stimulate the industrial sector in the country. Among these attempts and measures is that the government has built the basic infrastructure of Shuaiba Industrial Area. This Area is located between Shuaiba city in the North and Mina Abdulla in the South. There are many factories operating in this industrial area, the main ones being petro-chemical industries such as produce, chemical fertilisers and urea, the factories processing the clay material used in drilling oil wells, factories for the manufacturing, maintenance and engineering of refineries, cement factories, the factory producing nitrogen and oxygen,

factories for fishing and packing fish, prawns and animal wealth, gas liquefying factories, greasing oils factory, a factory for manufacturing jute bags, a ship-building and repair yard, and an aluminium factory which is nearing completion.

When we come to analyse the reasons which made the government select this location for the Shuaiba Industrial Area, we find that there are many justifications:

1. The location is close to the collecting centres of oil and natural gas - which, as we know, are the principal raw materials which this area as well as all other industries, need without exception. Oil and natural gas could be transported to Shuaiba Industrial Area easily, due to the fact that the distance between this area and the Burgan field, which is considered the biggest oil field not only in Kuwait but in the whole world, is only four miles (see Fig 2.1.3).
2. Shuaiba Industrial Area enjoys a location close to the Gulf waters, and this part of the Gulf is distinguished by its deep water compared with adjacent areas, and a big modern harbour (see Fig 2.1.9).
3. The Area contains open spaces which could be utilised for future expansion. Any future industry intended to be established would be able to find space for itself. The total

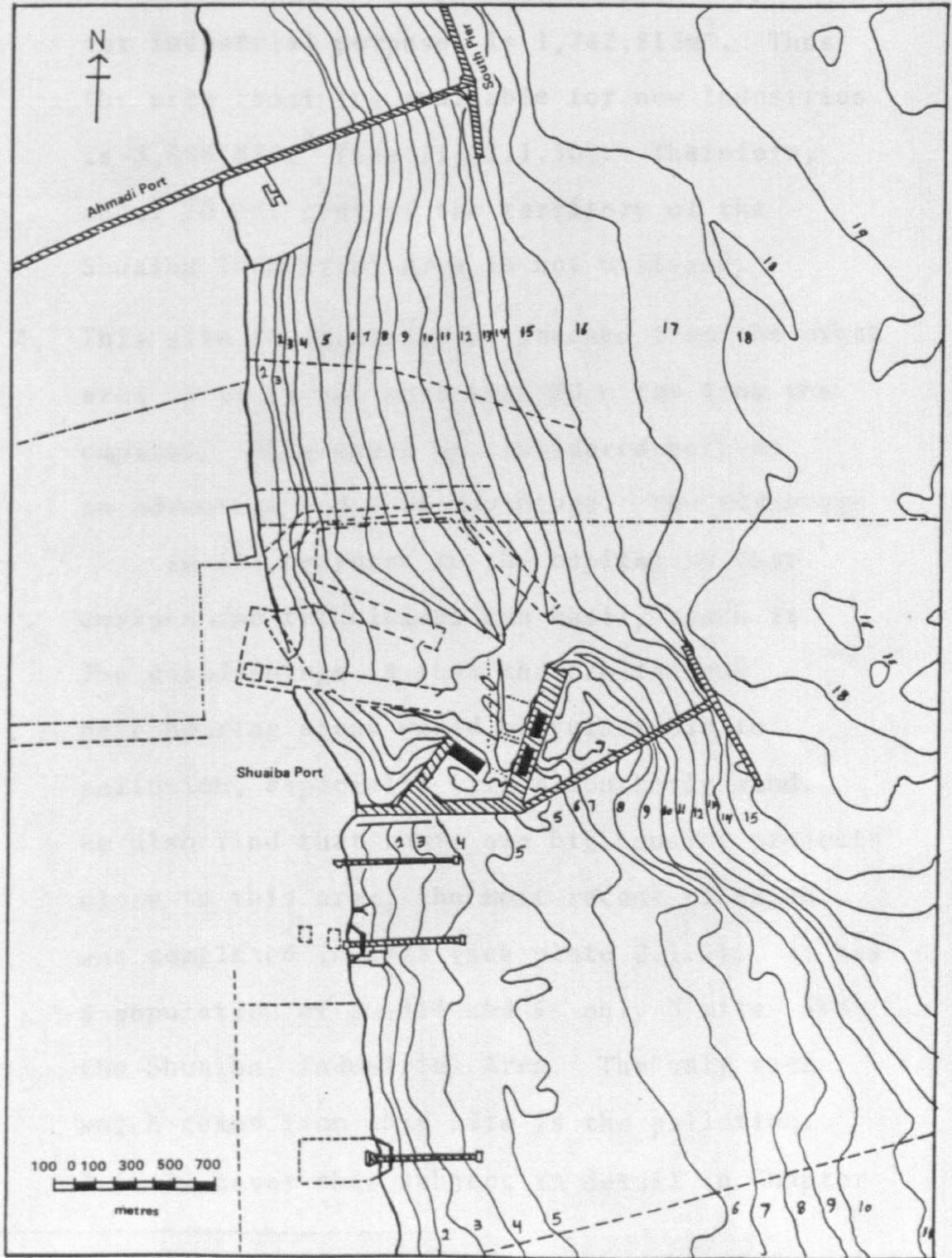


FIG. 2.1.9

Shuaiba and Ahmadi Port

Source: Ministry of Public Works

territory in Shuaiba Industrial Area amounts to 5,631,351m<sup>2</sup>. The part of it presently used for industrial purposes is 1,742,813m<sup>2</sup>. Thus the area remaining available for new industries is 3,888,538m<sup>2</sup> (see Fig 2.1.10). Therefore, about 70 per cent of the territory of the Shuaiba Industrial Area is not utilised.

4. This site could easily be reached from the urban area as it is not more than 20 miles from the capital. This could be considered both as an advantage and a disadvantage. The advantage is its nearness to the capital so that workmen and technicians can easily reach it. The disadvantage is that the capital and neighbouring areas would be vulnerable to pollution, especially with a southerly wind. We also find that there are big housing projects close to this area, the most recent of which was completed in 1978 (see plate 2.1.5). It has a population of 20,414 and is only 3 miles from the Shuaiba Industrial Area. The only risk which comes from this site is the pollution. I shall cover this subject in detail in Chapter 7.

The government in planning for the Shuaiba Industrial Area, concentrated on the petro-chemical industries which could absorb most investment and, at the same time, could contribute extensively to the total value of all the manufacturing industries, (Industrial law, No.6, 1965). The government, by establishing the Shuaiba Industrial Area, has aimed at stimulating the industrial

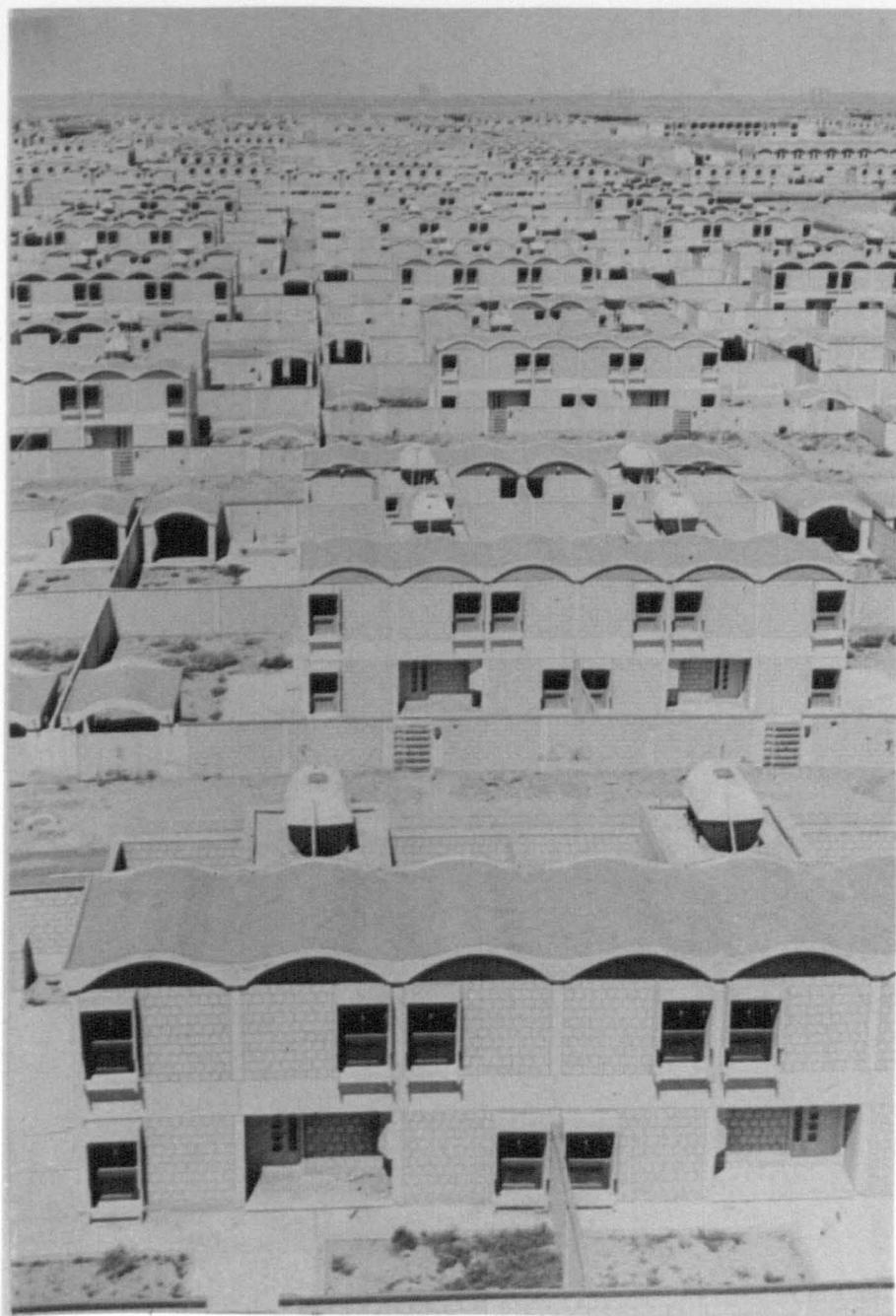


Plate 2.1.5 A Group of Working-class Houses built on a large scale, less than 8 kilometres from the Petrochemical Complex in Shuaiba Industrial Area.

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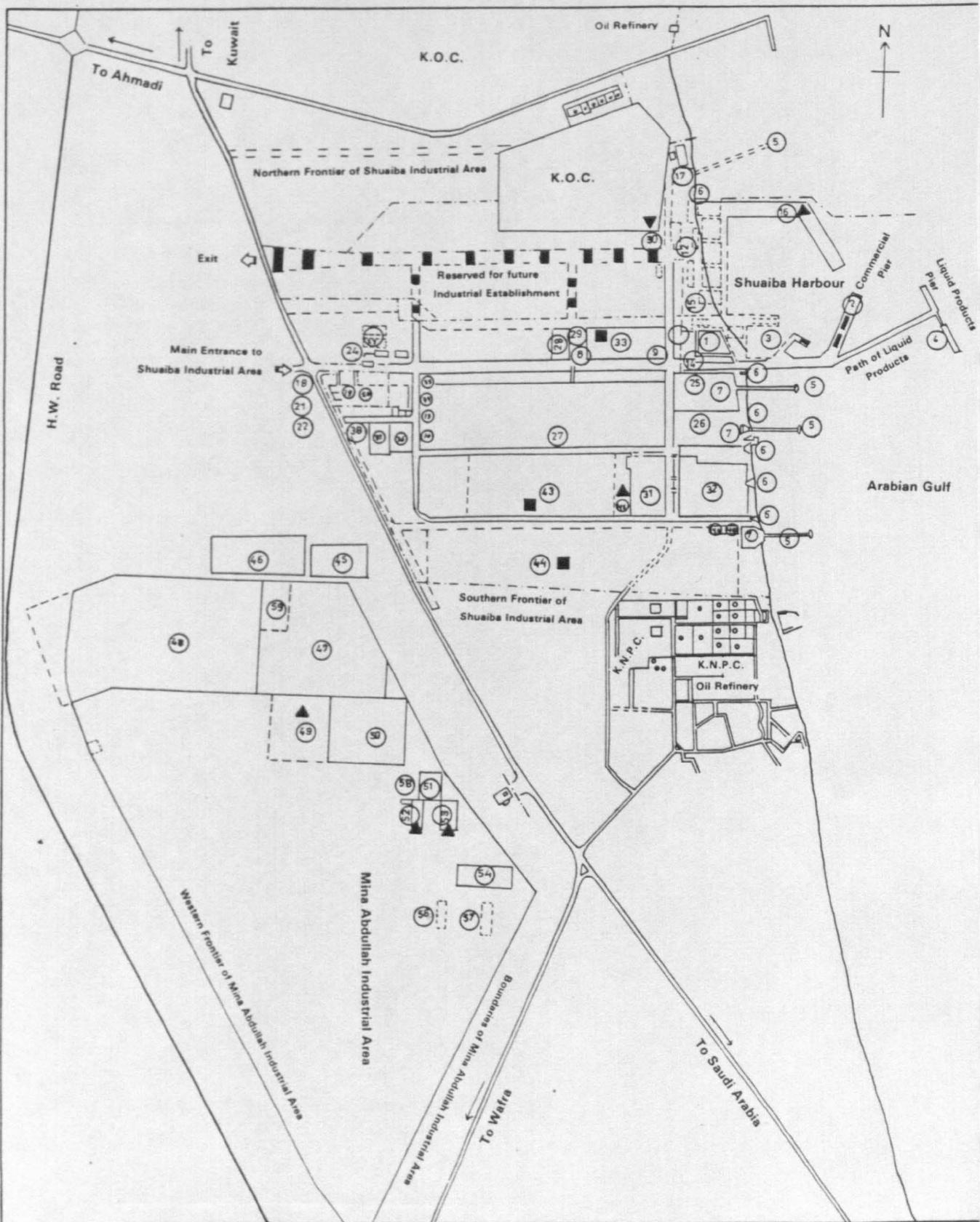
sector through introducing inter-connected important industries in the one location. This is suggested by the fact that the petro-chemical industries, sulphur, oil refining, oil-drilling clay, the electric power and water supply, all depend on one another in the field of production and raw materials they need. In this arrangement, technicians and engineers could be made conveniently available, and workmen could move flexibly between the various factories.

The government concentrated on the petro-chemical complex because this kind of industry tends to influence and attract other industrial activities; Estall R.C. and Buchanan, R.O. (1966, p.146-49), referred to such industries as "location leaders".

In view of this fact, such inter-connected industries require very similar degrees of skill. Concerning movements raw materials and products among these inter-connected industries in Shuaiba Industrial Area, we find that electric power and water, which these industries need in all factories, depend in turn on natural gas in the form of raw material for manufacturing, or as fuel for the production of energy, and moreover sulphur and by-products which come out of the oil refinery in Shuaiba are needed for production of chemical fertilisers (see plate 2.1.6, 7 and 8).

The majority of these products utilised in various industries could be transported through pipes into the one factory.

The Shuaiba Industrial Area appears to be a self-sufficient industrial area where all institutions and services required by any advanced industry are available. Shuaiba Port, comprising a commercial quay of about 1m ton loading and unloading annual capacity, is situated to serve this area. The length of the quay is 650m and the width 100m, so that it can accommodate eight ships (see Fig 2.1.10). It has also a quay for liquid products built to assist the transportation of the products of the oil refinery and liquid ammonia. The Industrial Area is provided with a good road network for the final transportation of products to the port, or the transportation of raw materials which the various industries in this area require. Regarding the demands by the Industrial Area for raw materials, mainly natural gas and petroleum, these come from Burgan field through two pipes, one of which is 50 inches in diameter, and the other 42 inches in diameter, to supply the needs of the two Shuaiba power stations - the Southern and the Northern, which the Industrial Area uses. The Ministry of Electricity has two stations there - the first is called Shuaiba Southern power and water distillation station, and comprises four steam units with 134 megawatt capacity each. The second station, near the first one, is called Shuaiba Northern power and water distillation station, with a capacity of 400 megawatts. Another two additional stations were built in 1974 in order to assist the two older stations and supply the area with its increasing



■ Future Industries

▲ Under Construction

- 43 Proposed Site of Aromatic Project Plant
- 44 Proposed Site of Defins Project Plant
- 45 Location of Employment Housing (K.N.P.C.)
- 46 Temporary Location for the Employment
- 47 Lime Products Plant
- 48 Lime Products Plant Sand Quarry
- 49 Asbestos Plant
- 50 Kuwait Prefabricated Building Company
- 51 Sanitary-ware Company
- 52 Kuwait Precast System Company
- 53 Real Estate Construction and Fabrication Company
- 54 Kirby Building Systems Company
- 55 Lime Products Plant Expansion
- 56 The Gulf Paper Manufa Company
- 57 Kuwait Insulating Materials
- 58 Kuwait Precast System Plant Expansion

- 29 Training Centre (K.N.P.C.)
- 30 Ship Fuel Unit
- 31 Fertilizer Division Plant A
- 32 Fertilizer Division Plant B
- 33 Kuwait Cement Company
- 34 Shuaiba Paper Products Company
- 35 Packaging and Plastic Industries Company
- 36 Dresser Industries
- 37 Engineering Maintenance for Refineries
- 38 Kuwait Sulphur Company
- 39 United Fisheries of Kuwait Company
- 40 Kuwait Industrial Gases Corporation
- 41 Refrigeration and Oxygen Company
- 42 Kuwait Melamins Industries Company

- 1 Shuaiba Administrative Buildings
- 2 Commercial Pier
- 3 Barge Harbour
- 4 Liquid Products Pier
- 5 Cooling Water Intakes
- 6 Cooling Water Outtakes
- 7 Cooling Water Intakes and Pumping Stations
- 8-14 Service Facilities
- 15 Pollution Control Centre
- 16 Shuaiba Harbour Expansion Project
- 17-23 Service Facilities
- 24 Area Occupied by Ministry of Electricity and Water
- 25 Shuaiba North Power and Water Production Station
- 26 Shuaiba South Power and Water Production Station
- 27 Shuaiba Refinery (K.N.P.C.)
- 28 Lube Oil Blending (K.N.P.C.)

FIG. 2.1.10 General Site of Shuaiba Industrial Area

Source: Shuaiba Industrial Area Authority

demand for electric power.

The cooling water used in cooling machinery and equipment is sea water brought through cooling pipes. In addition, the government is selling industrial plots, after approval of such industries is given. Many conditions must be fulfilled before these plots are granted such as: The amount of services these industries require, the relation of this industry to industries already existing in the area, the extent of these industries' contribution to the drive for industrialisation in the country. The government sells these plots of land at very low prices (about 750 fils per m<sup>2</sup>).

It is very important in this part of the research to look at the conditions and rules of Industrial plots allocation, because most of these lands especially in the Shuaiba area have been misused by the public, and in the absence of government control,

most of the people who got this land for a very cheap price used it for their private commercial purpose and not for industrial purposes. Most of these people are using these lands for a coffee shop or a restaurant or as storage for their personal belongings. Some of them have built on this land and rented it to other people who want to use it for industrial benefit, and are demanding high deposits and high monthly rents, sometimes reaching up to KD 2000.

This will affect the whole industrial process because the new user of these lands who pays high deposits and high rents will increase the price of his products in order to keep in business. This in its turn will decrease its competitiveness in the internal or external market, because other producers who are paying low rents will be able to sell their products at a lower price and try to push him out of the market.

So for the protection of industrial products the government (authority of the Shuaiba Industrial Area) has to look again at the rules of selling these lands and to take guarantee from the users to use these lands for industrial purposes.

Article No.6 of the Amiri decree concerning the establishment of "Al Shuaiba Industrial Area Authority" and specifying its duties, states that the aim is to prepare a typical area provided with all necessary facilities, services and industrial facilities to introduce various industries into the area, and initiate all favourable conditions to aid their development and expansion, with a view to creating an industrial base in Kuwait which can play an outstanding role in the national economy, to increase and diversify the national income. To this end, Shuaiba Authority, since 1964, has done its best to provide and develop the necessary industrial services to all industries present in the area.

The Shuaiba Industrial Area has a limited amount of land allocated mainly to heavy industries relying on natural gas, oil and their products, and power energy. The Authority therefore must specify some priorities for the allocation of industrial plots on the following basis:

1. Size of services required by these industries and extent of utilising the existing services or the prospective ones to be supplied for optimum use of the industrial services.
2. Study of the relationships of the proposed industries with the existing industries to apply integration principles.
3. Study of the relationship of the proposed industries with the approved targets of the economic and social development plans (Five year plan 1976/77 - 1980/81), which can be summarised as follows:
  - a. Conservation of the main natural resources of Kuwait and optimum use of these resources.
  - b. Consolidation and integration of oil and natural gas resources within the national economy.
  - c. Diversification of the national income resources.
  - d. Development of human resources, and creation of administrative and technical capabilities.

Priorities for the industries to be established in the Shuaiba area, are in general classified as follows:

1. Export Industries

- a. Oil refining and processing, e.g. Lube Oils production and gas liquefaction industry.
- b. Petro-chemical industries, the most important of which is the Nitrogen Fertilisers industry.
- c. Export industries relying on the low-cost energy and natural gas availability.
- d. Industries which mainly fulfil the local market requirements with a production surplus to be exported.

2. Industries included in the general economic plan of the state, characterised by the following:

- a. New industries supplementary to existing industries in the Shuaiba area, e.g. industry of mineral oil and grease.
- b. Industries deemed basic and crucial to the country's economic development, not necessarily relying on oil derivatives, e.g. cement and asbestos industries.
- c. Industries serving other industries existing in the area, such as the industrial gases needed for processing operations.
- d. Industries utilising the products of other existing industries, such as asphalt and derivatives.

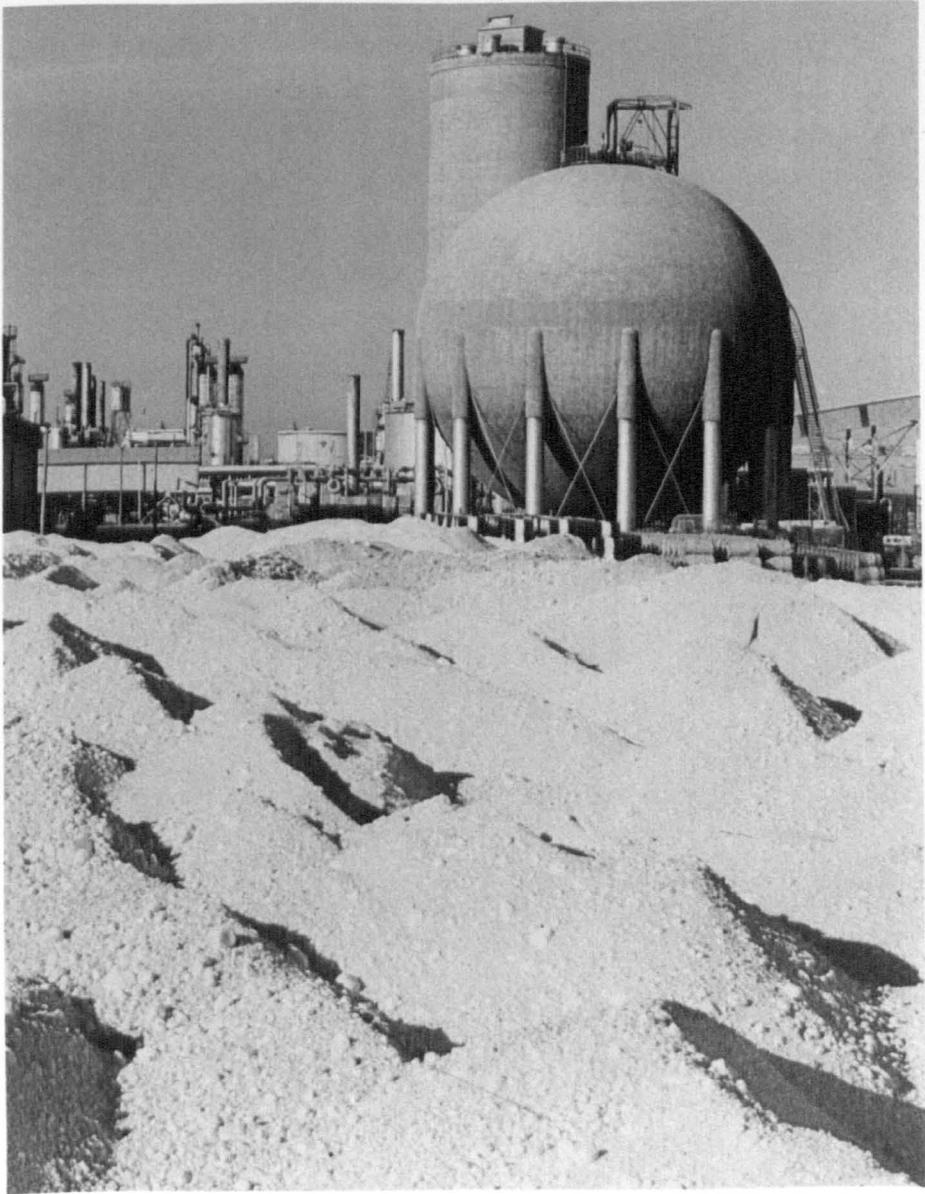


Plate 2.1.6 Industrial Processing and Production of Sulphur

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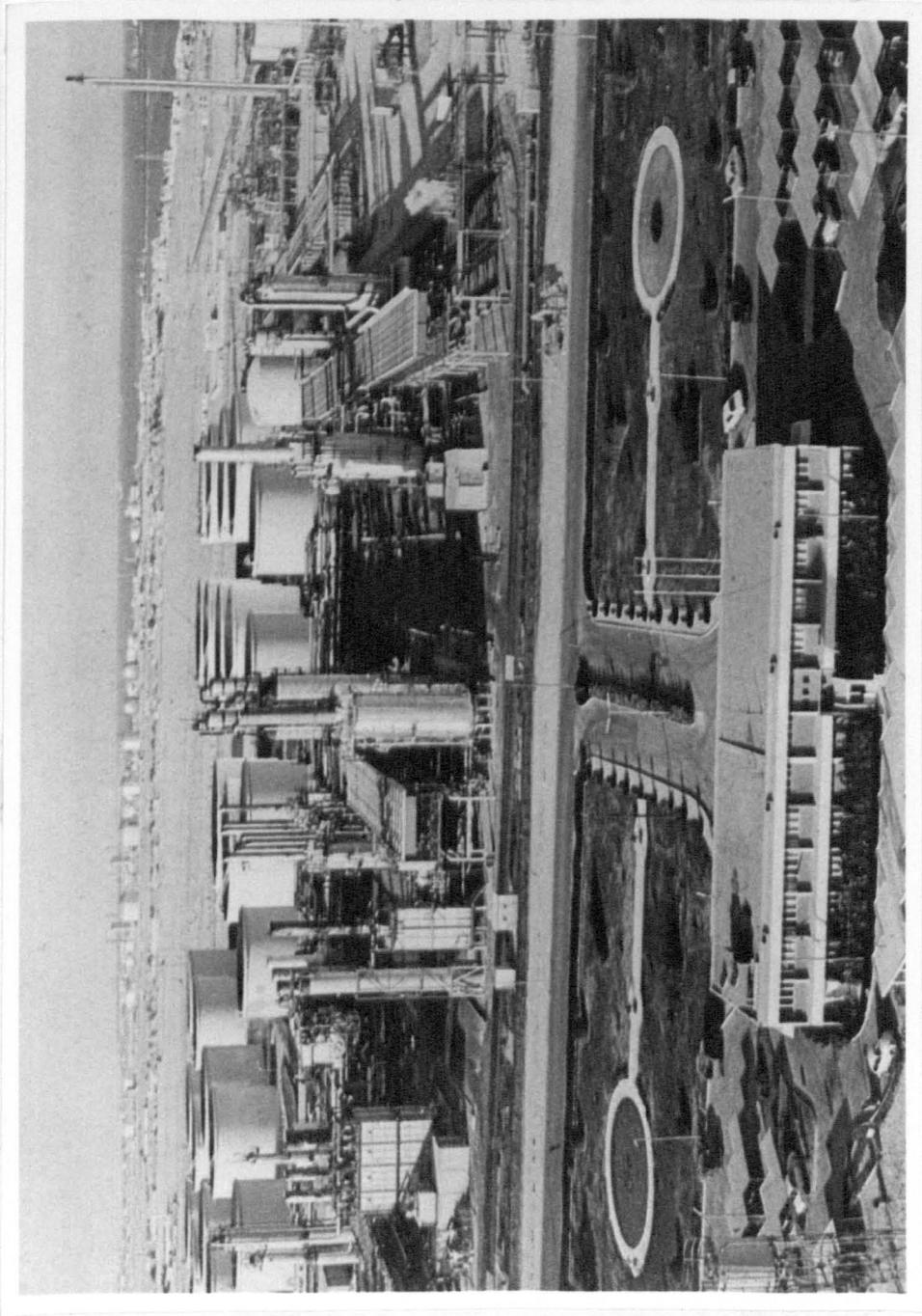


Plate 2.1.7 Oil Refinery in Shuaiba Industrial Area



Plate 2.1.8 Fertilizer Unit in Shuaiba Industrial Area

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## CHAPTER TWO

The Role of Industrial Finance2.2.1 Introduction

Kuwait has capital, but it has not accumulated it in the traditional way. There are therefore not the usual mechanisms for channeling capital into industry. Although there is an abundance of capital in the country, some industries find difficulty in providing it. That is why more than half of the survey replies stated that finance represents an obstacle to industrial development in Kuwait; 81.62 per cent of the respondents replied that the high interest and short terms of loans granted by Commercial Banks is the main reason for this problem (see Appendix I Table 2.5 and 2.6).

Kuwait is considered one of the countries which has an excess of capital. It is widely believed that capital in Kuwait is abundant and so it must be easy to obtain and invest in some project. This belief is correct in a general sense, but when it is used in the context of industrial investment, it is misleading. Capital cost in Kuwait is high if compared with other industrial countries. There are two main reasons:

1. The original cost of any kind of machine to the Kuwaiti investor can be as much as 52 per cent more expensive than that in other industrial countries (Central Bank of Kuwait 1978). This high cost of machinery is due to the high cost of insurance and shipping.
2. Capital depreciation in the industrial sector in Kuwait is about 25 per cent of total fixed assets per annum (Central Bank of Kuwait 1978). This is

'about double the average rate.

As a result of these two disadvantages, total capital costs in Kuwait become higher than in many industrial countries.

The financial sector in Kuwait is composed of the Central Bank, the Five Commercial Banks, the Credit and Savings Bank, the International Bank of Kuwait, some investment institutions, the insurance companies and private money.

General financing of public sector projects as well as the mixed sector is effected through the contribution of the state and the loans granted by the Ministry of Finance for these projects at a nominal interest and on a long term basis. The public sector projects as well as those of the mixed sector have no difficulties in obtaining the necessary finance.

The private sector does face some difficulties in obtaining the necessary finance for its projects for many reasons, such as dependence of private sector projects on obtaining loans from commercial banks at a high interest rate and for a one-year term only. That is why the majority, 81 per cent of the questionnaire replies, stated that high interest rate and short term of loans which commercial banks usually offer, is one of the main problems which hold up the industrial development in Kuwait (see Appendix I Table 2.6). But the establishment of the Industrial Bank of Kuwait and the contribution of the state will help in providing finance for this sector.

In this part I will study and analyse the most important financing sectors in Kuwait which will affect directly and indirectly the industrial development in the state. Those

- sectors are:
1. Government Financing
  2. The Industrial Bank of Kuwait
  3. Commercial Banks

### 2.2.2 The Direct Government Role in Financing Industries

Government participation in the financial capital provision to the industrial sector is considered one of the most common direct forms of investment in industries in Kuwait. During the last few years, the government's share in total investment in industries in Kuwait amounted to 37%. Government participation in creating the specialised institutions is also considered one of the most common features of the aid which governments afford to industries.

Government financing or government financial aids to the industrial projects take one or more of the following forms:

- a - participation in one way or another.
- b - low cost loans which are subject to law No.49 (1966).
- c - other loans extended by the Ministry of Finance.
- d - loans from government institutions.
- e - grant financial aid directly.

In addition to the government, represented by the Ministry of Finance, there are the investment banks owned wholly or partially by the government, as well as the Credit Bank and the Industrial Bank. There are also some financial institutions which have a governmental aspect or an international aspect such as the Central Bank, the Arab Fund for Economic and Social Development and the Kuwait Fund for Arab Economic Development. There are also many distinctive

financial privileges and some other incentives available for industrial investors, mainly:

1. The import of industrial machines, spare parts, raw materials, and the semi-manufactured commodities required for the new industrial projects are excluded from import duties (even though import duties are still only 4%).
2. When a new local industry is established, the industrial law allows a protection tariff for as long as ten years, usually exceeding 15% applied in singular cases, after which restrictions are imposed.
3. Products imported for local manufacturing are exempted from taxation.
4. Plots allotted for industries, including services and necessary facilities situated in the industrial areas in Shuwaikh and Shuaiba, are rented at a low price i.e. 50 fils a square metre in Shuaiba Industrial Area. (1 Fils = \$0.003)
5. The cost of drinking water or sea water used for cooling electricity and gas in Shuaiba is low, as in Kuwait in general.
6. The Ministry of Commerce and Industry contributes to the feasibility studies which consultants make. If the proposed projects are executed the investor pays all costs, but if they are not executed, the government bears 50% of it.
7. The priority or preference for government purchases is given to the locally manufactured products on

the condition that they are equal or near in quality to imported products of the same kind and the difference in price does not exceed 10% (i.e. the local price should not be more than 10% higher.)

8. The government also prepares and takes part in the programmes of necessary technical training in order to provide the technical workforce required.

### 2.2.3 The Industrial Bank of Kuwait

1. Objectives of the Bank: The Industrial Bank of Kuwait was established in late 1974, at the initiative of the Kuwait government, as a joint undertaking between the Ministry of Finance, the Central Bank, the Commercial Banks, insurance companies and some large industrial establishments. The primary goal of the Industrial Bank of Kuwait is to promote industrial development in Kuwait by pursuing the following objectives:
  - a. To participate in developing a long-term strategy for industrial growth in Kuwait, identifying those sectors and activities which would best fit local conditions and constraints.
  - b. To provide equity and medium and long term credits for new projects as well as for the expansion of existing ones.
  - c. To initiate industrial projects and investments in promising sectors.

- d. To support the development of domestic money and capital markets in co-operation with other major financial institutions. The development of these markets will facilitate the channeling of private savings into industry.
  - e. To finance projects outside Kuwait with emphasis on the Gulf region, especially where Kuwaiti participation is involved.
  - f. To bring needed technology to Kuwait and identify foreign patterns with the necessary expertise.
2. Ownership and Capitalisation: By the end of 1978, the share capital of the Bank stood at K.D. 10 million fully paid up. The Government of Kuwait, represented by the Ministry of Finance, together with the Central Bank of Kuwait held 49 per cent of the share capital, while 51% was held by private institutions. Table (2.2.1) is a list of the Industrial Bank of Kuwait's shareholders showing the amount of their ownership. In 1979, the Board of Directors, aiming at bolstering the Bank's role, recommended doubling its share capital to K.D. 20 million. The increase will be carried out in two phases. The first one raising the share capital to K.D. 11.15 million by inviting new shareholders. The second phase, bringing share capital to K.D. 20 million, will be offered to all shareholders and will be completed in 1980-81. To complement the

TABLE (2.2.1)

IBK's shareholders and the amount of their  
ownership 1980.

SECTOR	Amount of ownership K.D.	%
1. The Government of Kuwait	3.500.000	35.00
2. The Central Bank of Kuwait	1.400.000	14.00
3. The National Bank of Kuwait KSC	1.000.000	10.00
4. The Commercial Bank of Kuwait KSC	500.000	5.00
5. The Gulf Bank KSC	500.000	5.00
6. Al-Ahli Bank of Kuwait KSC	500.000	5.00
7. Bank of Kuwait and Middle East KSC	500.000	5.00
8. Kuwait Flour Mills Co. KSC	500.000	5.00
9. Kuwait Metal Pipe Industries Co. KSC	500.000	5.00
10. Kuwait National Industries Co. KSC	500.000	5.00
11. Kuwait Real Estate Bank KSC	300.000	3.00
12. Kuwait Re-Insurance Co. KSC	75.000	0.75
13. Kuwait Insurance Co. KSC	75.000	0.75
14. Gulf Insurance Co. KSC	75.000	0.75
15. Ahlia Insurance Co. KSC	75.000	0.75
TOTAL	10.000.000	100.00

Source: IKB (1980). Annual Reports. Industrial Bank of  
Kuwait, Kuwait.

Bank's resources with funds compatible in amounts and terms with its objectives, a law was enacted in 1975 providing for a government term loan of K.D. 100 million to the Bank at not more than 3 per cent per annum. By the end of 1979 the loan was fully committed. To replenish the Bank's resources for local industrial lending, the Government has agreed to provide the Bank with a new K.D. 100 million loan.

3. Financing by the Bank: It will now be useful to look at the contribution of this Bank to industrial development in the country. Project financing in 1979 remained at a high level of activity, though it continues to be influenced by several factors such as the limited number of new industrial licences issued, the relative saturation of the building materials sector, and events in neighbouring countries. For the first time, loans were made by the Bank to the printing industry. Project promotion activities were expanded during 1979, with a new section formed within the projects department to concentrate on identifying and evaluating ideas which appear to hold promising prospects, such as mineral water bottling, tinsplate printing, and the manufacture of glass bottles.

In 1979, the Bank approved 28 projects with total commitments amounting to K.D. 19.605 million, of which K.D. 18.890 million were in the form of

loans, and K.D. 715.000 in equity. In the same year, total commitments included those made to industrial projects outside of Kuwait. Table (2.2.2) shows the loan during 1979 classified by industrial sub-sector. From this table, it is clear that the construction materials sub-sector continued to lead both in number of projects (56), and in commitments K.D. (90.102). However, the total amount committed was about 53 per cent if we compare it with 1978. Commitments to the metal products and engineering sub-sector almost doubled from 1978, due to the financing of a large cable manufacturing project. Similarly commitments to the paper and paper products sub-sector show a substantial increase due to the financing of the waste paper project. The total commitments since the Bank started in 1974 till 1979 were about K.D. 107.952 million, made to 140 projects with a total cost of K.D. 225,513 million. The construction materials sub-sector accounted for 40.0 per cent of these projects and 41.3 per cent of total commitments, while the chemical sub-sector accounted for 19.3 per cent of these projects and only 8.0 per cent of total commitments.

4. Net Interest: Law No.41 for the year 1975 authorises the Government to extend to the Industrial Bank of Kuwait a loan "in an amount not exceeding one hundred million Kuwaiti Dinars

TABLE (2.2.2)

IBK's Cumulative Loan and Equity Commitments (1974-1980) classified by Industrial Sub-Sector

(Million Dinar)

Industrial Sub-Sector	No. of Projects	%	Total cost of Projects	IBK Financing	%
1. Construction Materials	59	40.0	90.102	44.638	41.3
2. Metal products and engineering	20	14.3	54.424	20.065	24.1
3. Food and Beverage	10	7.1	20.972	10.000	9.3
4. Furniture	5	3.6	6.412	3.690	3.4
5. Marine and Oil Field Services	6	4.3	13.637	6.875	6.4
6. Chemical Products	27	19.3	18.286	8.595	8.0
7. Paper and Paper Products	11	7.9	15.829	6.514	6.0
8. Printing	2	1.4	4.270	1.350	1.3
9. Miscellaneous	3	2.1	1.581	225	0.2
TOTAL	140	100.0	225.512	107.952	100.0

Source: Central Bank of Kuwait, Economic Review, 1981.

for a term not exceeding fifteen years and at an interest rate not exceeding three per cent per annum". The conditions of each payment under the loan to be determined by the Minister of Finance. As at December 31, 1979, the principal amount of the loan had been fully drawn down at an interest rate of 2½ per cent per annum. The Bank in return lends the industrial investors at a 4 per cent annual interest rate.

5. General Policy of Industrial Project Financing:

The bank engages in financing industrial projects whenever convinced of their feasibility and profitability mostly through providing loans. This process is governed by a "loan contract". In some cases, financing is provided through a loan, in addition to the bank jointly sharing the capital of the company (Project owner). This kind of financing is governed by a "loan and investment contract". The latter usually consists of projects to be developed by the Bank or when sharing is deemed to be in the project's interest.

2.2.4 Commercial Banks

The Commercial Banks are considered to be one of the most important and widespread of the financial institutions. The contribution of commercial banks to industrial development was in fact confined mainly to supplying the existing industries with finance in the form of short-term trust facilities. At a time in which we have faith in the

importance of the commercial banks' contribution to industrial development through supplying working capital, these banks, by sticking to their strictly conservative lending policy, do not keep pace with what the dynamic situation demands.

However, the financing system in Kuwait in general, particularly to the private sector, is inappropriate to the requirements of the advanced industrial sector. Due to an agreement amongst the banks, the competition is very weak amongst the five commercial banks in Kuwait, and the local loans extended by these banks are markedly for short terms and are mainly extended to commerce construction and services with only 6% of the banks' loans going to the industrial sector in 1972, to 24.7 per cent in 1979 (see Fig 2.2.1). The commercial banks also now give loans only on the basis of the income and the possessions of the borrowers, and not on the assessment of the purposes of these loans. If the borrower does not have income and possessions enough to cover the loan, he must in such a case have the guarantee of some one else. The consequence is a banking system which follows such patterns that the industrial loans are not based on the financial situation of the company and its prospects and objectives. This means that the banking system still depends on the personal system, and small industrial projects cannot get any loans unless they meet the condition of 51% Kuwaiti participation in ownership and the Kuwaiti owner signs, countersigns, or guarantees the loan.

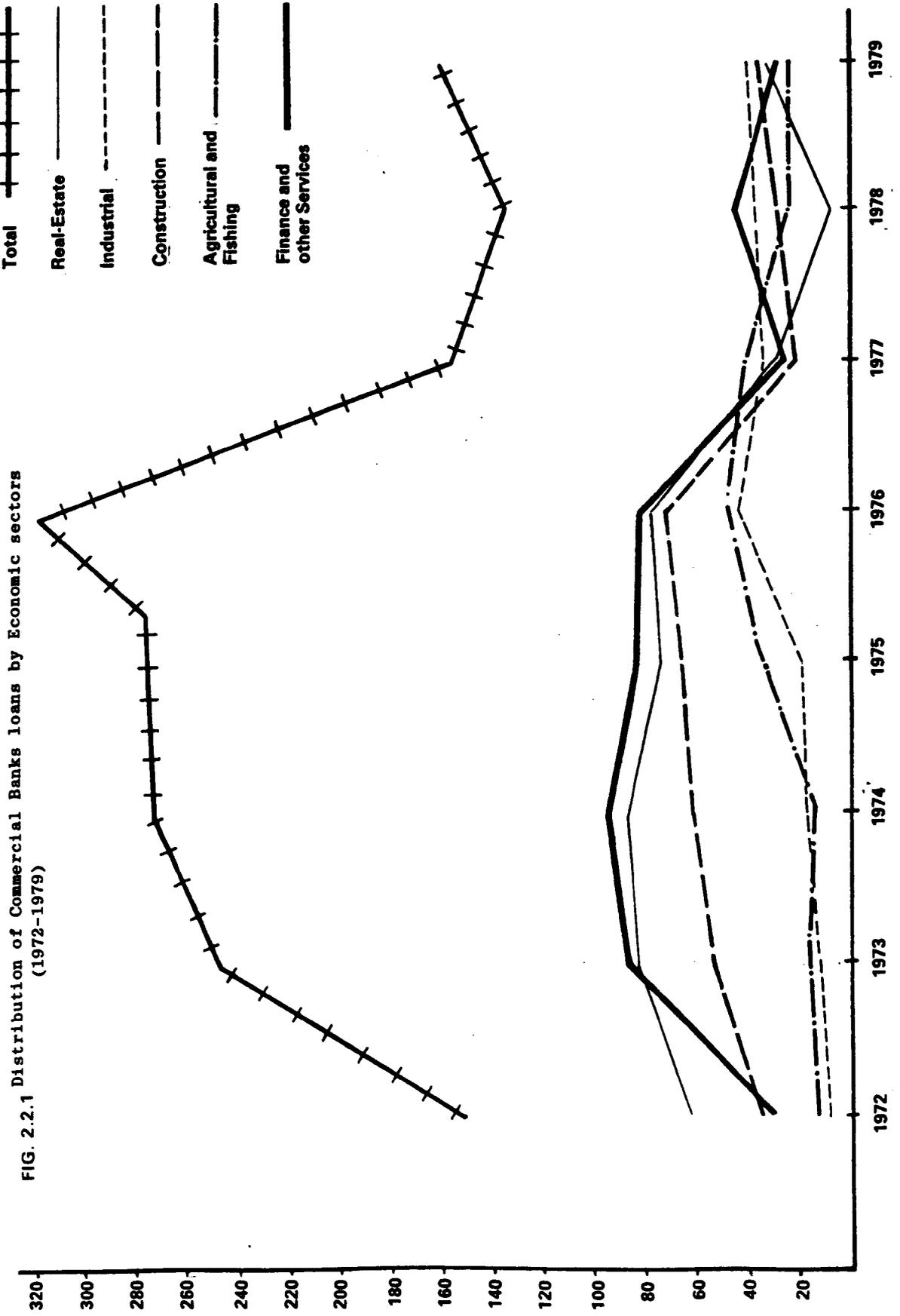


FIG. 2.2.1 Distribution of Commercial Banks loans by Economic sectors (1972-1979)

2.2.5 Specialised Banks: Kuwait now has three specialised banks, Kuwait Real Estate Bank, the Credit and Savings Bank, and as I mentioned before, the Industrial Bank of Kuwait. These banks play a vital and complementary role to commercial banks by financing and developing the domestic economy, especially the private and joint sector. Local operations of the specialised banks are mainly concentrated on the provision of long and medium term loans for the developing of Industries (Industrial Bank) and real estate (Real Estate Bank, Credit and Saving Bank) sector: while most of the operations of commercial banks in Kuwait are concentrated on the provision of short-term credit facilities. These specialised banks continued to expand their operation in 1980, with their consolidated balance sheet increasing from K.D. 962 million in 1979 to K.D. 1165 million in 1980 (Central Bank of Kuwait, 1980). Due to the limited absorptive capacity of the local economy, specialised banks (especially Real Estate Bank, Credit and Savings Bank) like commercial banks invest a portion of their financial resources outside the country in a form of foreign assets. But the rate of the expansion in the specialised banks in the local operation was faster than in the foreign operation, where 23 per cent were for the local operation (real estate and industrial projects) against 13 per cent for the foreign operation (foreign assets) in 1980 (Central Bank of Kuwait, 1980).

Looking at the lending activities by these specialised banks, it can be noticed that the Credit and Saving Bank provided K.D. 36.4 million of which K.D. 35.3 million were given for real estate investment, and only K.D. 1.1 million given for industrial investment (Central Bank of Kuwait,

1980). On the other hand the Real Estate Bank financed 185 real estate projects in 1980, compared to 274 projects in 1979. Although there is a decline in the number of projects financed by this bank, the amount of loans given by the bank maintained its level in 1979 and 1980 with K.D. 30 million. The decline in the number of projects was a result of a decelerated growth in real estate investment in general, the rise in the cost of real estate and the slight drop in rents. This bank financed many industrial projects especially in the private sector in early 1970, but its contribution for the industrial project declined because of the establishment of the Industrial Bank. Many industrial investors prefer the Industrial Bank because of long-term loan facilities and low interest rates (see Industrial Bank of Kuwait).

2.2.6 Investment Companies The number of investment companies operating in Kuwait was 18 companies in 1980. Fifteen of these companies were established in a form of closed shareholding and under the supervision of the Central Bank. The other three are in the form of public shareholding companies. Like other companies and banks in Kuwait these investment companies invest about half of their financial resources outside the country because of the limited absorption capacity of the local market. Local investment for these companies is mostly located in land and real estate projects, where the investment in this sector increased from K.D. 53 million in 1979 to K.D. 70 million in 1980 (Central Bank of Kuwait, 1980). There is no real investment for the industrial projects in these companies because of the slow growth of

the industrial sector where the profit in this sector is very low especially if compared with the profit they will get from investment outside the country.

2.2.7 Shares Market The local share issue base in 1980 reached K.D. 595 million shares. This was distributed between 41 local shareholding companies: 36 per cent for Industrial Companies, 10 per cent for Realty Companies, 11 per cent for transport companies, 35 per cent for the financial companies and 8 per cent for services companies. The total volume of share trading in 1979 was 169,220 (22,619 were Industrial Companies or 13.6 per cent). In 1980 the total volume of share trading decreased to 143,709; only 14,833 were Industrial Companies or 10.4 per cent (see Table 2.2.3).

It can be noticed that there is a significant decrease in the total volume of share trading in general and the share holding of industrial companies in particular. This decrease can be attributed to many factors, among them the world recession in 1980.

In order to get a maximum benefit for the industrial investment in Kuwait, there have to be other financial sources besides the Industrial Bank of Kuwait. One way to do this is to encourage the commercial banks to participate more in financing industrial projects, and try to convince them to reduce the interest rate on industrial loans to a reasonable rate, and to give loans for a long and medium term instead of a short term. These banks also have to release on the kind of guarantee they usually require

especially for the small projects which cannot get any loans unless they meet the condition of 51 per cent Kuwaiti participation in ownership. Concerning other specialised banks and investment companies, as already mentioned, the local operation of these banks and companies is mainly concentrated on the provision of loans for developing the real estate sector and few loans, if any, are given to the industrial sector. These companies usually claim that due to the limited absorption capacity of the local economy, they have to invest a large portion of their financial resources outside the country in the form of foreign assets, at a time when many private (small or medium) industrial projects are having financial problems and looking for financial aid. The only reason that these banks and companies are transferring their financial resources outside the country is that the revenue in the foreign market is higher than that in the local market. No-one can blame them for seeking high profitability but once the industrial sector expands, these banks and companies will regain confidence in the local market in general and the industrial sector in particular and they will contribute and finance many of the industrial projects, and will transfer some of their foreign assets to the local economy. As for the government, it has to think more seriously not only for the near future but also for the period after the oil resources are exhausted, and try to find other financial resources to support not only the industrial sector but also the economy as a whole. One of the alternatives to oil revenues is foreign investment. "The period between 1979 and 1980 alone registered a massive increase of almost 60 per cent in investment income. In fact by 1980 the investment income

of K.D. 1,620 million was almost sufficient to cover the total import of K.D. 1,764 million. In 1981 this income will be well into the K.D. 2 billion range - an indication that the next four years Kuwait will be independent of oil income in respect of meeting its import bill and total government expenditure" (Annual report published by the Commercial Bank of Kuwait, 1980). In addition to the financial aids granted to the developing countries with a reasonable rate of interest, and the joint project with them - many investments were made in a number of industrial countries including Great Britain where they have an investment office in London, and the last project so far was the projected scheme to develop 2 million square feet of mixed office, industrial, residential and leisure facilities on the Hay's Wharf Site between the River Thames and Tooley Street. The investment in these countries is mostly in the field of real estate and manufacturing activities as well as in capital stocks in international money markets. This type of activity must form a major part of the base producing the national income for the country in the future. It should necessarily be figured as one of the substitute financial sources for the national income which the diversification processes can follow. One should not look upon the investment of capital abroad as a temporary project, but as a permanent one which will finance and support industrial development in the future.

TABLE (2.2.3):

Kuwaiti shareholding companies  
volume of traded shares  
(thousand shares)

Companies	1974	1975	1976	1977	1978	1979	1980
Industrial	10325	73760	63775	16030	27207	22619	14853
Banks	2686	6708	7806	2431	59973	81388	47686
Investment	8332	26190	50658	15436	42175	24379	24537
Insurance	65	368	695	179	684	3452	1048
Transport	9182	26509	23635	18749	6382	8427	23607
Services	358	734	613	72	7732	6071	9264
Realty	6320	37904	29115	7104	20618	22884	22734
Total	37268	172173	176297	60001	164771	169220	143709

Source: Central Bank of Kuwait, Economic Report 1981

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## CHAPTER THREE

### The Role of the Market

#### 2.3.1 Introduction

Industrial development in any country is linked to some extent to the size of the market, because size of the market locally and internationally affects the size of industrial enterprise. Mountjoy argues that:

"To succeed industry must sell its wares, either at home or abroad.

A feature common to all the under-developed lands is the smallness of the home market. This is the chief obstacle to economic development!"

Mountjoy, 1982 pp.107-108.

When an industry has been established, a market of limited size would limit the size of this industry, consequently making the net unit cost of production greater than that for countries which enjoy a large market, because usually, the main production system can then be applied with all its economies of scale. One has to take into consideration that if the market size for an industry is smaller than that of a single production unit at a scale which achieves maximum economies of scale, then there is a competitive disadvantage compared to industry producing for larger markets.

The limited market in Kuwait is considered one of the main problems facing industrial development. The majority of the questionnaire, (93 per cent) who replied, claimed that market represents one of the main obstacles for industrial

development in Kuwait (see Appendix I Table 3.7). Regarding the reasons, the majority, 90 per cent, stated that the small size of the local market is the main reason behind this problem (see Appendix I Table 3.8).

Market does limit the size of industrial projects, particularly those which rely on the production of local consumer goods, such as food and beverages to meet the demands of the local market. In view of the fact that raw materials and ores necessary for such industries are not available, most of these industries depend on importing what they need from developed countries which are, at the same time, competitors to the type of commodities intended to be produced.

Most of the Gulf countries are confronted with the same problem. However these countries, as we will see later, could, through co-operation and co-ordination, form a larger consumer market capable of relative large-scale production. It is natural that in Kuwait, due to its limited area, the economy will be facing a risk because the small size of the country does not encourage the establishment of large industries. At the same time, it has to depend heavily, almost completely, on external markets, whether for selling its produce or meeting its demand for commodities.

Such being the case, Kuwait would not be able to protect itself against the irregularities of the international markets, until larger scale industrialisation can be achieved without depending to a great extent on external markets. Moreover in view of the difficulties in predicting the future of the external market, Kuwait will be taking a risk if it invested

its capital in equipment for the establishment of factories specialising in mass production, hoping that it would expand or find steady markets.

### 2.3.2 Regional Economic Co-operation

Economic regionalism is appearing today as one of the major goals of economic policy in various countries, reflecting the belief that economic development can be achieved more efficiently through a regional approach rather than within the national capacity.

Countries of limited area and sparse population, Kuwait included, are trying to overcome the problem of the narrow local market by resorting to widening the scope of the market through setting up co-operation or integration among themselves and the neighbouring countries. Many examples of this type of co-operation can be cited, of which the most prominent are the economic and customs federations which appeared in Europe. The emergence of these economic federations in Europe is put down to its numerous political units in the first place, the small area of its countries, and the small population. The largest of these federations is the European Common Community. The European Economic Community (E.E.C.), is one of the largest economic federations not only on a European scale, but also on an international level. Although this federation is facing many problems, especially at present, it has generally played a major role in linking the economies of the West European countries.

The idea of economic integration and co-operation can take many forms such as:

1. Customs Federation: The idea of this federation is based on allowing free movement of commodities among member countries. Members should rationalise their charges in dealing with non-member countries. There are many theories which are not in agreement with the customs federation. For example both Makower, H. and Morton, G.A. (1953, pp.33-49) state that in theory, a customs federation could increase or decrease the world's production of commodities. In their explanation they say:

Suppose all members approve one unified customs tariff in dealing with imports from all sources. This way the fixed costs would be dominant with regard to all manufacturing activities, and quantities of various goods would have fixed demand. On this basis, the tariff would either be unable to protect the local industries so that the commodity would enter the country in question which would in this way become dependent on the external market in fulfilling its requirements; or this tariff would protect the local industries of a certain country completely and stop the import of this particular item.

2. Free Trade Area:

The customs tariffs would be eliminated as well as quota restrictions among member countries, but each one reserves its customs tariff against countries outside the free trade area. This is contradictory

to the idea of the customs federation. The best example of this is the European Free Trade Area (E.F.T.A.), which comprises Switzerland, Norway, Sweden, Austria and Finland.

3. Complete Economic Integration:

The theory stipulates the unification of currency, financial and economic systems in member countries. This requires the finding of an authority higher than the national authority, in order to supervise the integration, whose decisions would be applicable to all member countries. Complete economic integration is considered to be the peak of the economic unification stages.

4. Common Market:

The main features of this kind of economic integration are common external tariffs and zero tariffs on internal trade between member countries, and the elimination of restrictions imposed on labour movement, capital and trade. Therefore, every workman in the member countries has the same right to move about and work in any member country as any of its nationals, and at the same time trade and capital are permitted to move between the member countries.

2.3.3 The Arab Common Market:

The theory of economic integration and co-operation was started in 1945 and met some success in the Arab countries.

In 1945, the sub-committee of the Arab League started to study economic integration between the Arab countries. Since that time there have been many attempts made to realise a kind of economic integration among the Arab states, but all have failed. Many factors led to the failure of these attempts, some economic but most of them were political.

In 1967, the Arab Council for Economic Unity made an effort towards a sort of economic integration among Arab countries, and in the same year this council was able to set out the principles and basis of the proposed Arab Common Market, similar to the European Common Market.

In fact, economic integration among Arab countries is considered the Arabs' common object, but it is suffering from the age-old problem that Arabs can put plans and projects to paper only, but have great difficulty in achieving their execution. However, economic integration and co-operation among Arab countries is an abiding necessity. The Arab world is full of resources but the distribution of these fortunes is uneven. For example, the existence of petroleum and the possibility of its exploitation on a large scale in Kuwait is hampered by the lack of labour whether technical or otherwise, at a time when a high percentage of the Egyptian population is suffering from unemployment. If some kind of co-operation could be found, this and many other economic problems, from which the Arab world is suffering, could be solved.

To one surveying and studying the Arab countries, it seems that economic integration among Arab countries is a very simple and easy matter. We know that there are factors in the Arab countries which make the formation of a sort of

economic integration and co-operation among them easy. The great deficiency from which the Arab world is suffering in the way of various means of transport, added to the absence of economic and commercial connections among them, makes a great difference between economic distance and geographical distance.

The question must be asked what kind of economic integration or co-operation would suit Kuwait and in particular the Arab countries in general. The Free Trade Area concept or structure does not suit the area because it does not compel all members to introduce one unified external customs tariff. Imported goods could infiltrate from countries having low tariffs such as Kuwait, whose tariff does not exceed 5%, to countries having much higher tariffs such as Iraq, Egypt and Syria.

The common market would be the best type of economic integration (although it has in the present condition some disadvantages for Kuwait) because this allows a free flow of Arab goods, capital and labour throughout the area. The last of these attempts was in 1964, when the Arab Economic Council approved the formation of an Arab Common Market.

At the beginning, only five countries agreed to join this market - Kuwait, Egypt, Iraq, Jordan and Syria. The main clauses in the agreement were:

1. Freedom of labour to move from one country to another without any restriction.
2. Freedom of movement of capital among these countries without hindrance.

3. Freedom of transportation and transit, and the use of means of transport, airports and ports for trading purposes.
4. Reduction of tariffs by 10% annually for industrial products.
5. Reduction of tariffs at the rate of 20% annually for agricultural products and natural wealth.
6. Freedom of exchange for industrial products provided that their local element of cost shall not be less than 40% of the total production cost. If their cost exceeds that, it would be considered as foreign produce and would not enjoy the advantages of local products.

When the agreement of the Common Arab Market was submitted to the Kuwait National Assembly, it objected to its approval. In fact many reasons led to the refusal of Kuwait to approve the agreement of the Arab Common Market (Ministry of Commerce and Industry, 1967 p.10). The main reasons were:

1. The assembly industries which could be established in Kuwait would not meet the 40% of the total production cost, which would make it difficult to be considered as locally and nationally produced and consequently it would not be exempted from any restrictions or charges.
2. New industries being established in Kuwait would not find a current market in the Arab countries if these countries have similar ones.

3. Industries already existing in Kuwait, would be affected through importing industrial products from the Arab countries, considering that the production cost in these countries is less than it is in Kuwait.

Therefore, in order to realise the benefits hoped for from the Arab common market which would be profitable and useful to Kuwait's industries, we should do the following:

1. Make the average local element of total cost 20% instead of 40%. This would be reasonable because in this case it would be possible for the small countries like Kuwait to establish some industries, provided this average would be increased to 40% in the coming years.
2. Establish joint industries such as petro-chemical, rubber, plastic and other oil products, in order to create a successful economic and industrial integration among these countries, especially the petro-chemical industries.
3. Set out a co-ordinated industrial programme for these countries, which should make clear the types of industries which should be established in one country and not in the other. For instance, the existence of oil in Kuwait means that the petro-chemical industries could be successful given the presence of capital and a skilled or non-skilled work force supplied by member countries who have surplus manpower. Thus the pairing of industries among member countries could be avoided and at the

same time, the disposal of products would be guaranteed in the member countries' markets without any competition.

4. Determine the types of small industries in every member country, find the suitable climate for its development, and lay down regulations for its protection.

In view of the re-exporting trade in Kuwait, the Arab Economic Unity Council approved in 1967 for Kuwait the re-exportation of agricultural, animal and industrial products and natural wealth imported from abroad, but the council made it conditional for Kuwait to supply the country of origin with an inventory of the products which have been re-exported, provided the prices of these re-exported products are not less than its prices in the producing country. This is in my opinion a positive action in favour of Kuwait, because the re-exporting trade is very important due to the advantageous geographical location which the state of Kuwait has. The re-exporting trade forms an important corner stone in the business of external trade in Kuwait.

I have already stated that this action is positive and is an advantage but this advantage is restricted and conditional because the Arab Economic Council has confined the commodities which Kuwait would be able to re-export to a very limited area. Furthermore the Council has made it conditional that the origin of the re-exported commodities must be from the market member countries, knowing that most or all of the commodities which Kuwait re-exports are from foreign countries.

Re-exports comprise the larger portion of the value of total non-oil exports, where in 1975 its contribution was 52 per cent, and in 1979 it increased to about 81 per cent of the total non-oil export. The re-exports continued to increase considerably during 1975-1979, averaging 23 per cent. This resulted in tripling their value from K.D. 89 million in 1975 to K.D. 248 million in 1979. In 1980 the value of re-exports reached 78 per cent of the total value of non-oil export (see Fig 2.3.1) (Central Bank of Kuwait, 1980).

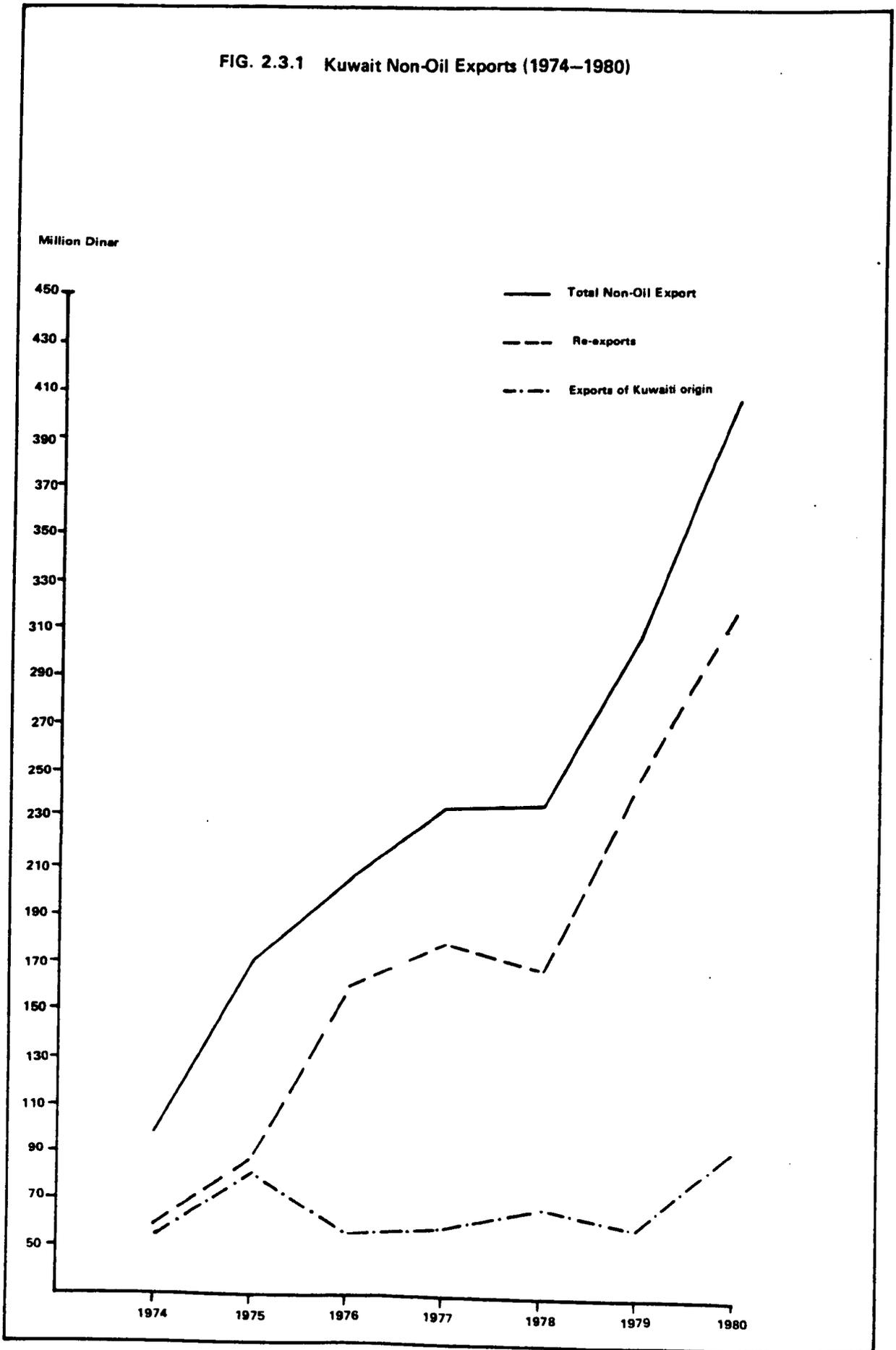
This increase in the value of re-exports in Kuwait is due to many reasons, mainly:

1. The development in many services such as banking, transport and communication in the country.
2. The active transit across Kuwait land, and the coverage by Kuwaiti agencies of numerous world products, such as spare parts, transport machinery and equipment.
3. Absence of any exchange control by the Government.
4. Kuwait is considered an open market, and has a free trade system.

Thus the benefit to Kuwait from the Arab Common Market is very limited. Among the other basic reasons which make me believe that Kuwait should boycott the Arab Common Market is the nature of trade relationship among countries participating in this market. I shall take a brief look at the values of Kuwait imports and its (non-oil) exports to the members of the Arab Common Market<sup>1</sup> in 1974. The value of its imports

<sup>1</sup>Arab Common Market (A.C.M.): Egypt, Jordan, Syria and Iraq.

FIG. 2.3.1 Kuwait Non-Oil Exports (1974-1980)



exceeds the value of its exports; the same can be said for the export and import from the Council for the Arab Economic Unity (C.A.E.U.)<sup>1</sup> and all the Arab countries. Thus the trade balance of Kuwait with the Arab countries is not in its favour.

In 1974, Kuwait exports to the Arab Common Market were only 0.4 per cent, and 2.0 per cent for the Council for Arab Economic Unity and 2.3 per cent for the total export in that year for all the Arab countries. Kuwait imports were 2.0 per cent for the Arab Common Market, 2.8 per cent for the Council for Arab Economic Unity and 7.0 per cent of the total import in that year for all the Arab countries (Wilson, R. 1978, Table 1, p.4).

If Kuwait joins the Arab Common Market, its imports from these countries will rise greatly while its exports to these countries will be greatly reduced due to the restrictions imposed on re-exported commodities.

The scope of Arab economic co-operation still is very limited. There are many obstacles facing the integration between the Arab countries. The factors which account for limited effective Arab economic co-operation are to a large extent of non-economic nature. The Arab countries would have their share of political and social differences and they would have different political ideologies, besides the different stages of development every country is passing through.

<sup>1</sup>Council to Arab Economic Unity (C.A.E.U.): Kuwait, Sudan, Libya, North-Yemen and Somalia.

#### 2.3.4 The Common Market for the Arabian Gulf Countries.

Initially, it may seem that the attempt to create a regional economic bloc among the Gulf countries is in contradiction to the existence of Arab Economic Unity, and the Arab Common Market.

However, a close examination would reveal that such a subsidiary bloc gives a strong momentum for reinforcing the Arab countries in their action towards comprehensive Arab economic integration. The establishment of comprehensive Arab unity - permitting two or more contracting countries to conclude economic agreements, which is aimed at realising a unity longer than that of the Arab Economic Unity agreement. It is mandatory for the Gulf countries to consider co-operation and integration among themselves an urgent necessity, both strategically and in terms of security, because this kind of unity will allow these countries to establish large scale industries.

Despite the fact that the Gulf countries' future hope of economic integration amongst themselves is considered to be a legal aspiration, its success is dependent on the economic and political conditions necessary for its establishment. Most of the economic potentialities are available in the Gulf region.

In the Gulf area, industry is so far poor, except the oil sector, although potential exists for a large-scale industry if the idea of a Gulf Common Market materialises (Al-Ahram Al-Iqtisadi, 15.5.1975).

Some problems will arise from the political factor where there are different nations in the area. But that should not stop integration in the region, because there are some economic blocs in the world (E.E.C.) where there are differences in the political regimes of those members.

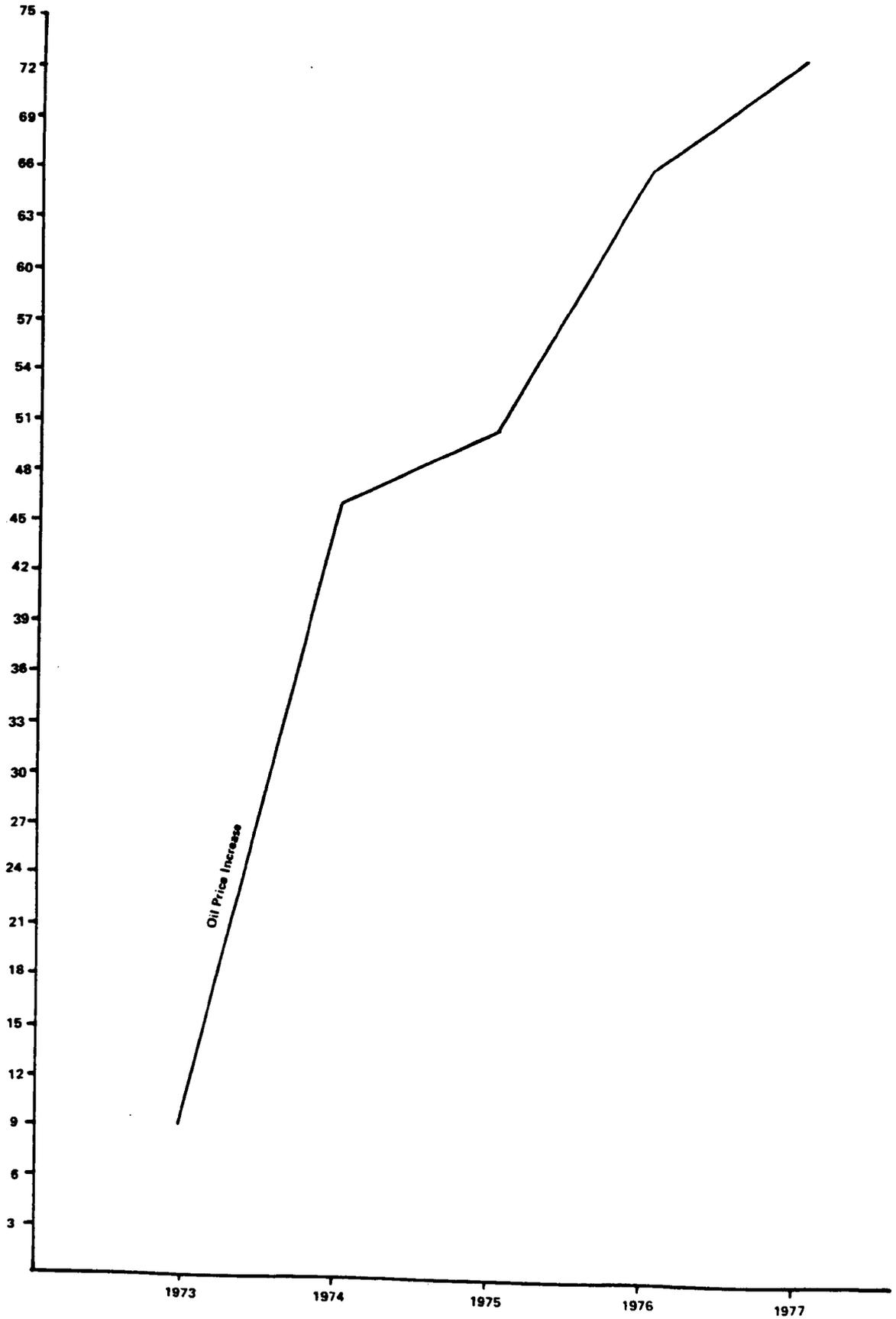
Looking at the economic potentialities, one finds that first and foremost, comes oil, as the Gulf region is considered one of the most important oil resource areas in the world and has the largest deposits. The Gulf countries have petroleum economies in which oil forms the source of the movement of the economy and a major source of national income. The Gulf region's production of crude oil amounted to 15.4 million barrels daily in 1978, thus forming 25.7 per cent of the total world production. The resources available in the Arabian Gulf countries were estimated at the beginning of 1979 at about 295.6 billion barrels, which is nearly 42.5 per cent of the world's reserves. Their revenue excluding Bahrain and Oman, reached 72.5 billion dollars in 1977 (computed from the annual statistical abstract 1980). Furthermore, many important raw materials are available in the region; some of these countries have already been uncovered while others are as yet to be discovered. Prospecting indicates the existence of huge reserves of sulphur and phosphate ore. Huge reserves of iron and copper ores are in Saudi Arabia. The huge reserves of iron-ore available in the region will help in developing a steel industry, aided by the availability of natural gas. Also there is a huge amount of flint sand in Saudi Arabia which can be used in glass manufacturing.

As we know capital is considered to be one of the most important factors in production, as it forms the foundation for the rise of any development process. Arabian Gulf states are counted among the richest areas in the world, with regard to the availability of financial resources. As a result of the increase in the price of oil in 1974, the Arabian Gulf states revenues increased. In 1973 their revenue was only 9 billion dollars, but it increased to 72.5 billion dollars in 1977 (see Fig. 2.3.3). Because of the small population and small size of their market, the investment possibilities in each country are very weak. This led to the emergence of a capital surplus, which in turn lead to be invested in a form of foreign investment in Europe and the United States, by buying existing projects and participating in building up new projects in those countries. At the same time some other Arab states were in the utmost need of these funds for their economic development, but due to the weak abilities of these states were unable to provide the financial resources necessary, and found themselves compelled to resort to foreign financing at high interest rates. Therefore, the sound solution for the case of Arab surpluses lies in the unity of the Gulf and Arab states; economically this will enable them to contain those surpluses in the fields of industrial and agricultural investments.

One economic resource which is completely neglected in the Gulf region is agriculture and livestock; despite this fact, the agricultural sector should be considered, with its various branches, to be the main source of meeting the ever-increasing need of the Gulf population, as it was for a long time, especially before the discovery of oil in the region.

FIG.2.3.3 Oil Profits in the Gulf Countries (1973-1977)

Billion Dollars



It also can provide some industries with what they need in primary raw materials, in addition to being a source of foreign currency through exporting surplus production.

Although the area which the Arabian Gulf countries occupy, from the north of Iraq south to the Arabian sea, amounts to 2.6 million square kilometers, the area of land currently suited for agriculture occupies only 4.0 per cent of their total area. The remaining area is not suitable for agriculture, being arid desert land lacking the water necessary for irrigation.

Livestock is centred in only two states, Saudi Arabia and Iraq; in other states it is almost non-existent. This clearly shows the necessity for these countries to multiply their efforts to develop and exploit all the potentialities so far non-exploited, such as land reclamation and the execution of such projects as would ensure the provision of water required for irrigation, namely the building of dams and reservoirs to govern and control river and rain water. At the same time they have to plan for the development of livestock, through taking more interest in artificial pastures, protecting them from the various diseases and employing technical means for feeding livestock.

It is now time for these countries to collectively pull their efforts to uncover some of the raw materials existing in the region and co-ordinate their export policies, having met the needs of their industries from the ores, in order to ensure the optimum use of the ores and their preservation. This is what the final communique, used by

the first conference of the ministers of commerce and industry for the Arab Gulf states:

"Therefore the characteristics of our present era in creating international economic blocs and international companies and the fast activities and development in the field of development and science, expose the Arab countries in general, and the Gulf countries in particular, to many of the ambitions and risks in view of the sensitive geographic location they enjoy and huge natural resource they have, particularly the oil. The small size of the market in every Gulf state apart, as well as the shortage of human skills, restricts the possibility of establishing the modern unit of production which is becoming distinguished with the large size and the abundance of productivity, which restricts the power of every Gulf state alone to escape from the ring of backwardness and take off towards the scopes of progress at the rate and speed required, at the same time preventing each country from being able to contain the surplus of financial resources in constructing the basic productivity pillar, which ensures for it the continuity of development and growth

and the raising of the standard of living all the time in future"

(Document of first conference for the ministry of commerce and industry, Baghdad, 5.10.1977).

Conclusions:

1. The advanced countries have resorted to the establishment of vast economic blocs amongst themselves as a means of solving their current problems.
2. The developing nations have followed the footsteps of the advanced nations in establishing such blocs, aimed at expediting economic development.
3. In the light of the results reached by these experiences and allowing for the peculiarity of their situation, there is no alternative but to choose an arrangement which agrees and co-ordinates with this peculiarity.
4. The call for the establishment of a Gulf Common Market is a case imposed by political, security and economic necessities, related to the protection of Gulf Arabhood and the confrontation of external threats to which these states are vulnerable.
5. Despite the existence of economic, political and social potentialities as well as geographical and historical ones, for the establishment of the Arab Common Market, these do not provide the requirements for success, away from its national

frame, as a core for overall Arabic economical integration.

6. The essence of the common market for the Arabian Gulf countries must spring from the method of co-ordination between the economic plans and must adopt the principle of division of labour of specialisation in the field of agricultural and industrial productivity and must pursue a scheme of common projects as well as find a solution to the trade exchange problem, by co-ordinating plans and concluding the bilateral and multi-party agreements for the market countries.

## CHAPTER FOUR

The Role of the Natural Resources2.4.1 Introduction

Physical resources are limited in Kuwait, and some important ones do not exist in the country, notably iron ore, copper, zinc, tin, manganese, lead, forests and wood. The petroleum sector is dominating and will be dominant for a long time. Field survey results show that the majority (82 per cent) of respondents agreed that the lack of raw materials represent an obstacle to industrial development in Kuwait (See Appendix I, Table 4.9). Moreover, 91 percent of all respondents replied that the reason for that is the non-existence of natural resources (other than oil and natural gas), see Appendix I, Table 4.10.

This chapter will trace the development of crude oil and natural gas, and analyse some of the facts behind the decrease or increase in their production. It will also examine some other natural resources available in Kuwait, which can be utilized in various kinds of industries.

2.4.2 Oil

Oil and natural gas are considered to be the most important natural resources available in Kuwait. These resources are presently subject only to a very moderate degree of processing through petroleum refining and petrochemicals, but they represent physical assets which can be used to establish numerous industries for the production of petrochemicals, and using these, intermediate and final consumer products.

All the oil-fields of Kuwait are associated gas-producing oil-fields and Kuwaiti oil is heavy crude oil,

with a low gas ratio. There are many other characteristics of Kuwaiti oil, the most important ones being high output per cubic metre of sediments, great thickness and extent of effective sediments. Kuwait oil sands are more than 1,000 feet thick. Also the porosity and permeability of Kuwait sand are the highest in the Middle East. The depth of Kuwait oil wells in general is relatively shallow, about 7,000 feet, whereas in most countries the average is 22,000 feet. Most of Kuwait's oil fields, especially the Burgan oil field, with the largest deposit of crude oil, are located near Ahmidi Port (see Figure 2.1.3) and from there the oil flows by gravity to the oil tankers in the ports (Elmallakh, 1968, pp. 30-31).

In terms of crude oil production in 1979, Kuwait occupied the fourth position in OPEC and third in the Middle East (after Saudi Arabia and Iraq). She advanced from seventh to sixth position among all the states in the world. Due to the tangible increase achieved in the production of crude oil in the same year, the proportion of Kuwait production to Middle East Production reached 11.6 per cent, compared with 10.1 per cent in 1978. At present Kuwait ranks second after Saudi Arabia as regards proven oil reserves. In 1979, proven reserves of crude oil in Kuwait reached 64,000 million barrels which means that Kuwait owns about 19.8 per cent of the O.P.E.C. reserves. (Computed from the Annual Statistical Abstract, Ministry of Planning, 1980).

(A) Oil Production:

The rates of Kuwait production from 1976 - 1979 are subject to fluctuation. In 1976 production rose by 3.2 per cent then decreased by 8.5 per cent in 1977, then in 1979 rose by 14.7 per cent. The major reason for the decrease in

oil production in 1977 was the reserve surplus of oil on the world market and the economic slump in the industrial states. The increase in production rates in 1976, 1978 and 1979 was basically due to the escalation of world demand for oil in 1976 in addition to prudent stockpiling by the companies in the springs of 1976 and 1979 in anticipation of price increases during those years.

Among the factors that contributed to increased production in 1979 was the application of the Government storage programme in a number of the consumer states such as Japan, U.S.A. and the decrease in oil supply due to events in Iran in October, 1979. The continuation of the discounts applicable from April, 1978, on the prices of Kuwait oil contributed particularly in increasing Kuwait production of crude oil, with a simultaneous decrease in the production of some of the principal oil zones such as the Middle East (8.2 per cent) and Africa (3.1 per cent). (Oil and Gas Journal, December 31, 1979).

Kuwait production of crude oil in 1979 is characterized by significant events. The rate of production reached its peak of an average 2.5 million barrels per day, an increase of 17.3 per cent on the previous year. This rate is considered the highest recorded rate of Kuwait crude oil production. In 1979, production reached its peak in January (2.6 M.B. per day), an increase of 51 per cent on the same month of the previous year. The total production of crude oil in 1979 was 911 million barrels, 760 million barrels were exported as crude oil, while 198 million barrels were exported as refined products (see Figure 2.4.1). This increase in oil

production was due to many developments in the international oil market, the most significant of which are:

- A. The position in the world oil market has been affected by an embargo on Iranian exports of crude oil during this period.
- B. The Soviet Union reduced crude oil exports and refined products to Western Europe by 25 - 50 per cent in the first quarter of 1979 due to increased demand in the local Soviet market and the Warsaw Pact countries, and in accordance with the policy of the Soviet Union as regards maintaining power and diminishing the role of oil in generating power.
- C. The consumer countries continued their policy of increasing their oil stock. The U.S.A. continued to increase its strategic stock in the first quarter and imported, in this period until May 1979, 23 M.B., while the aggregate stock of seven consumer countries of oil had been increased by the end of May, 1979, by 3 per cent on 1978, and the stock of O.E.C.D. countries had been increased in the second quarter of 1979 up to 25 M. tons, i.e. more than double the quantity for the same period of the previous year.
- D. Mexico's declaration in 1979 to limit her oil production to a level consistent with her capacity to assimilate its revenues.
- E. The decision of the British government to reduce its production in the North Sea by more than 10 per cent during the winter season and the last quarter of 1979.

(B) Oil Exports:

It has been Kuwait's policy to develop the export market in line with the internal production of crude oil, the limit being set by the Government.

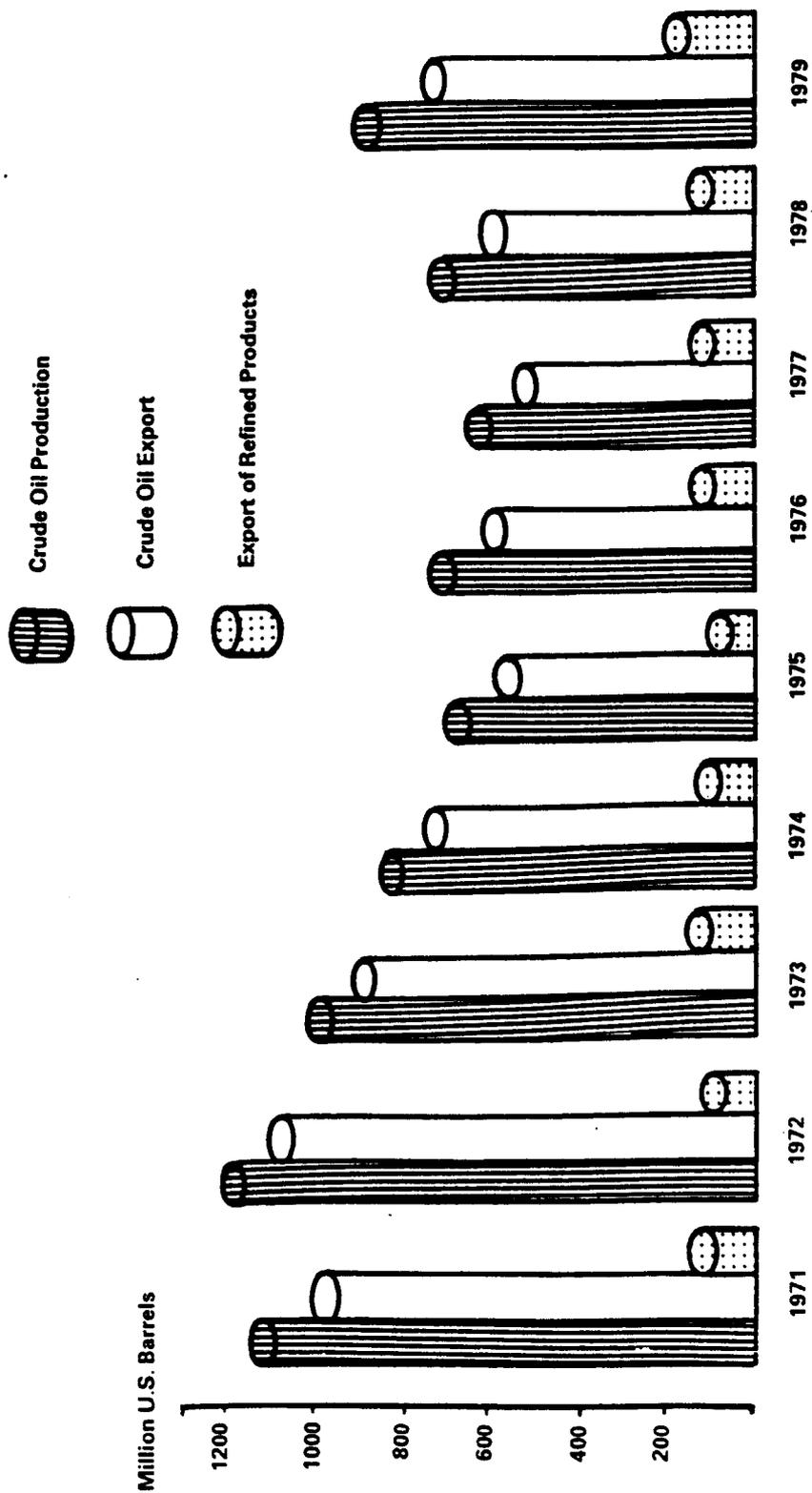
Since 1971, exports of crude oil have been variable, but generally decreasing because of the reduction in crude oil production since 1971. For example, the export of crude oil in 1978 decreased to 642.8 million barrels compared with exports in 1971 (1.013.0 million barrels), 1972 (1.070.6 million barrels), 1973 (966.0 million barrels) and 1974 (804.8 million barrels). In 1979 it increased slightly to reach 760.3 million barrels (see Figure 2.4.1).

Concerning the export of refined products, in 1971 the total was 153.2 million barrels and in 1979 reached 198.4 million barrels, an increase of 29.5 per cent. Export of the refined products is increasing year by year, in 1971 the percentage of exports of refined products was only 1.5 per cent of the total oil exports, whereas in 1979 this percentage increased to reach 26.1 per cent of total oil exports (see figure 2.4.1). This is in fact a good sign and is a direct result of a policy implemented to industrialise ore, where crude oil exports decrease and the refined products exports increase.

Looking at the geographical distribution of crude and refined oil exports, it is noted that the countries of South East Asia rank first among those countries importing crude oil and refined products from Kuwait. The share of these countries amounts to 35.4 per cent of the total crude oil and 52.2 per cent of the total refined products and chemical fertilizer in 1972 and then increase to 52.1 per cent of the total crude oil and to 41.8 per cent for the refined products in 1979. Japan ranks first among the South East Asia countries, its share reaching 26.9 per cent of the total export of crude oil in 1979. Taiwan, Singapore and South Korea, rank in second place, with their share amounting to 17 per cent in 1979. The

second group are the West European countries; the crude oil share of this group constituted 57.0 per cent in 1972 and decreased to 39.1 per cent in 1979; for refined products it was 10.0 per cent in 1972, and increased to 18.0 per cent in 1979. The share of the Arab countries and Middle East slightly increased from 1.3 per cent of the total export of crude oil in 1972 to 2.2 per cent in 1979, for the refined products the imports by Arab countries increased sharply from 3.9 per cent in 1972 to 21.7 per cent in 1979. The share of Latin American countries fluctuated from 2.1 per cent in 1972 to 2.8 per cent in 1979 for crude oil, and 2.3 per cent in 1972 to 0.5 per cent in 1979 for the refined products, (computed from Annual Statistical Abstract, 1980).

FIG. 2.4.1 Oil Production and Exports 1973-1979



### 2.4.3 Natural Gas :

Natural gas represents one of the basic elements in Kuwait's economy. It is also considered to be the second most important natural resource in the country. The abundant and relatively cheap Kuwaiti natural gas is rich in hydrocarbon such as methane, ethane and propane. Kuwait gas is also rich in non-hydrocarbon elements such as carbon dioxide, nitrogen, sulphur and hydrogen sulphide (see Table 2.4.1).

Table (2.4.1):

A typical gas composition in Kuwait and the other Gulf states.

Component	%
Nitrogen	0.30
Carbon Dioxide	7.38
Hydrogen sulphide	6.69
Methane	50.96
Ethane	18.48
Propane	10.32
N-Butane	2.94
I-Butyl	0.89
N-Pertance	0.82
I-Pentane	0.62
C6-Hydrocarbon	0.43
C7-Hydrocarbon	0.17
C8-Hydrocarbon	0.02

Source: Al-Sabah, Y.S.: The Oil Economy of Kuwait,  
Table 51, P.124.

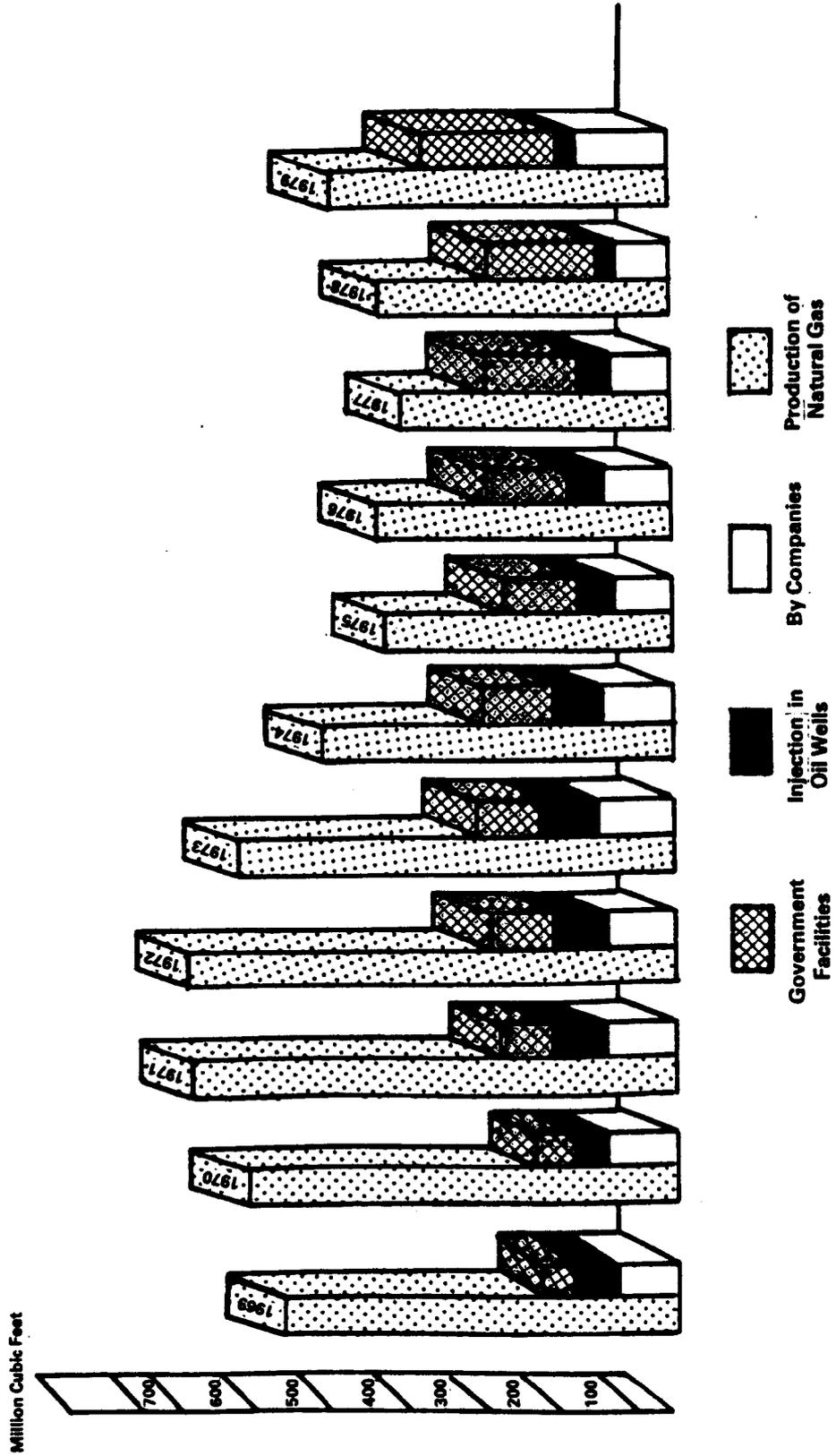
Annual production rates of natural gas vary according to the changes in crude oil production. Therefore, there was a decline in natural gas production of an average 16 per cent during 1972 - 1975, and 8.4 per cent in 1977. In 1979 its production increased to 17.3 per cent from the previous year (See Fig. 2.4.2) indicating an increasing rate in the production of crude oil for the same year.

The utilized gas increased in 1979 by 38 per cent, and the proportion of gas utilized to total production, which had been steadily increasing from 33 per cent in 1970 to 67.6 per cent in 1977, reached record figures of 73 per cent in 1979 (Annual Statistics Abstract, 1980). This was partly because of an increase of 50 per cent in gas utilized and partly because of firms utilizing 61 per cent of the gas and Public Utilities by 24 per cent.

The new liquified gas factory (K.O.C.), which began operation at the beginning of 1979, has added 3.3 M tons (60 per cent Broline and 40 per cent Biotin) to the grand total of Kuwait's annual production of liquid gas, taking into consideration that this factory is presently operating at only one third of its full capacity (4.4 M tons yearly).

The relevant authorities in Kuwait have completed their programmes concerning the awarding of contracts for selling Kuwait products of this new project on long-term bases ranging from five to ten years. The total quantity contracted by the beginning of 1980 reached 1.9 M tons annually. The Far East market (particularly Japan) will assimilate about 90 per cent of this, with 220 tons going to Western Europe.

FIG. 2.4.2 Allocation of Output Natural Gas to Different Users  
(1969-1979)



#### 2.44 Non-Oil Minerals ;

Available reports from geological surveys (Kuwait Institute for Scientific Research, Department of Geochemical), indicate that mineral-bearing ores exist in Kuwait. The tests carried out on sand samples, in some areas, indicated that they contain a high percentage of iron oxides which make it suitable for the production of opaque and transparent glass. There is also limestone and limesand to help the cement industry or facilitate the production of sandlime bricks.

The project of using sea mud in the building materials industry in Kuwait is one of the activities of the field research division of the Kuwait Scientific Research Institute seeking practical applications (personal communication with the Director of the project). In the past, economic use of mud was not considered.

At present, the vast development of the construction and building materials industry necessitates greater supplies of building materials. Consideration was paid to sea mud as a suitable resource for the production of industrial marble, and the clinker used in producing cement. The country at present needs about 3 or 4 million metres of marble per annum. The conventional source of gravel is the location extending from the Azour Zone to the Iraqi frontiers, but the quantities began to decrease leading to the importation of 1 million tons of gravel per annum from the United Arab Emirates.

There is a great need to seek alternative local materials which can be used in the building industry. In Europe, America, and some other countries, there are nowadays factories which bake the mud to produce industrial marble. The material from such a process is produced either in high density as natural stone or light density.

Both these types of materials are imported into Kuwait. High density materials can be used for concrete construction works, while light density materials can be used in lightweight concrete blocks which contribute to lessen the load on the foundations, in addition to their quality as thermal insulators. Initial investigations carried out in Kuwait confirm that sediments of mud in the Gulf are the best sources for such raw materials. The research carried out by the Institute demonstrates that sea mud can be transferred to industrial marble of high density by high thermal processing. Results also indicate that, by modifying the mineral rate of its contents and by baking, marble of light density can be produced. Other tests indicate that it is possible to produce tile and bricks. Although we still require much deeper research, it is obvious that sea mud in Kuwait is an important natural resource.

There is another project to study the geochemical compounds of the mud in Kuwait. This study aims at investigating the compounds of sand and mud and estimating the amounts and kinds to be used in different kinds of industries.

Staff on this project are now carrying out field studies into the sediments as well as mud sediments of land and sea, inclusive of the geological space that includes such sediments, to estimate the quantities that can be utilized in industry. Mud sediments can be estimated after having picked up various samples from the chosen sites, and then analysing to discover the compound elements of each sample by using X-rays in the institute, which gives the concentration of every compound such as silicon, iron, aluminium, etc.

Such samples are studied in their crude form by X-ray diffraction apparatus to discover the quantities of silica, calcium carbonate, oxide potassium, aluminium, and silicon contained in different compounds. The staff project then investigates the thermal characteristics of the mud and sand by microscopy spectrum. On completion of field and laboratory studies, the staff concerned will submit detailed reports to the relevant authorities that show, inter alia, the types and quantities of mud, sand and marble materials suitable for use in various industries such as optical glass, tubes, ceramic materials and bricks, etc. In fact, there are encouraging indications as to the results of this project, which commenced in July, 1979, and is expected to be concluded by the end of 1982.

The Kuwait coastline has areas where the currents are warm and slight, suitable for artificial pearl production - using tanks and seeding of oysters. It is advised that care should be taken in making pearl seeding a national industry.

The distillation of sea water is meant to satisfy the needs of the inhabitants for potable water and the generation of electric power. A large amount of these waters used in the distillation operation is returned to the Gulf water after it becomes highly concentrated due to the salts dissolved in it. This could be used in the production of many chemical substances used in industries such as sodium, magnesium, boron and iodine.

#### 2.4.5 Agriculture and Fisheries:

The development of the agricultural sector will alleviate the State's reliance on foodstuff importation, as well as contribute to increase local products, diversify the income sources, and create new opportunities in the field of economic investments. Above all, it would make it possible to produce foodstuffs to cover the local market requirements. This step is considered only a beginning with the eventual aim of exporting these products. Agricultural products are used for the manufacture of foodstuff in agro-industry and the development of the agricultural sector will help to create many foodstuff industries. An investigation of the present state of agriculture is essential so that policies and plans can be made to assist the establishment of a flourishing foodstuffs industry. Most cultivable areas, at the present time, are located in Al-Jahra, Al-Sulaibiya, Al-Rhawdetain, Al-Sabriyah and Al-Wafra. These agricultural areas are using a traditional irrigation system which depends on the pumping of water from wells which are located in these areas (See Figure 2.4.3), and some of these areas used to get water by water tankers.

The economic importance of agriculture in Kuwait has so far been very limited. As mentioned before, the contribution of this sector to domestic output was only 0.8 per cent in 1980. From table 2.4.3 it is obvious that, in 1979 the total area was 17,818 donums\* or 7.72 per cent of the total area. 13 thousand donums for vegetables, 23 thousand donums for fruit and wood trees and 1,340 thousand donums for pastures. The unused cultivable

\*1 donum = 2.5 square kilometres.

land is 16 thousand donums or 0.90 per cent of the total area. The non-cultivable land is 16,282 thousand donums or 91.39 per cent of the total area. The difficulty in providing necessary water for irrigation is the reason behind this high percentage of non-cultivated land.

As a result of limited agricultural land, the State, since 1950, began to rely heavily on imports to meet its need of foodstuff. Kuwait imports all her requirements of dry fodder, vegetables, meats, fruits and processed fish. She imports 54 per cent of fresh vegetables, 36 per cent of poultry, 82 per cent of eggs, 59 per cent of dairy products, 70 per cent green fodder, 98 per cent fresh fruits, 95 per cent of meat. Development of agricultural products will alleviate the country's reliance on imports of food, which would otherwise increase in line with the population increase and the rise in standards of living. Simultaneously, developing agricultural products will boost industry, especially foodstuffs, because agricultural crops are considered the principal raw materials for such an industry. Mountjoy argues that:

"Hence the successful launching of programmes of industrialization depend upon improvements in agriculture, and the degree to which the improvements can be attained can either provide a curb or act as an incentive to the success of the new ventures. From this it follows that systematic improvement (and, therefore, investment) in agriculture must be a foremost

task of the under-developed lands. The aim should be mutual self-support between these two sectors of the economy whereby agriculture's surplus population may be siphoned off into industry".

Mountjoy, 1982, P.80.

However, there are many problems to be overcome in agricultural development. Without going into detail, the most significant problems are:

a) Limited amount of agricultural land, b) Scarcity of fresh water for irrigation, c) Difficult climatic conditions (desert climate), d) Lack of agricultural finance, e) Lack of agricultural experience and well trained labour.

The Government has envisaged policies for the purpose of developing the agricultural and livestock sector, as well as promoting its productivity, as a principal basis for developing such industries. The policies are as follows:-

1. Study the soil and water resource: These studies and research deal with estimating the need of agricultural crops for water, distinguishing the characteristics of the available salty water, its effects on the crops, developing irrigation systems, investigating the effects of irrigation by processed drainage water on the crops, soil and human health, and finding the best method to rid the soil of salinity.

2. Agriculture without soil on the hydroponic principle:

The aim of this kind of agriculture is to exploit the water to its utmost advantage, and to dispense with soil, as well as to overcome the severe climatic conditions. Sixteen plastic barracks were set up in the Agricultural Test Station to test this method of agriculture and to study its economic benefits.

3. Vegetable Centre Project: This project was set up in co-operation with the Department of Enterprises Development of International Nourishment and Agriculture Organization, in the Agriculture Test Station. It aims at carrying on the experiments to attain fresh water for the best usages.
4. Research on animal products: This Research Centre aims at acclimatizing imported animals to the local environment to attain the best possible breeding, studying the suitability of the water for such animals, and carrying out studies on the local and imported fodder. In addition, there are a number of agricultural projects in various areas: Project of model agriculture in Salibiah area, project of agricultural irrigation by processed drainage water, project of utilizing waste products in fertilizing the agricultural lands, project of poultry slaughter, Veterinary Plant unit.
5. Study of Fishery Resources: The efforts in this field aim at making a survey of the aquatic resources in the Arabian Gulf, and carrying out experiments of proliferation and breeding, developing marine tools, studying the effects of pollution on marine life, and adopting the necessary precautions.

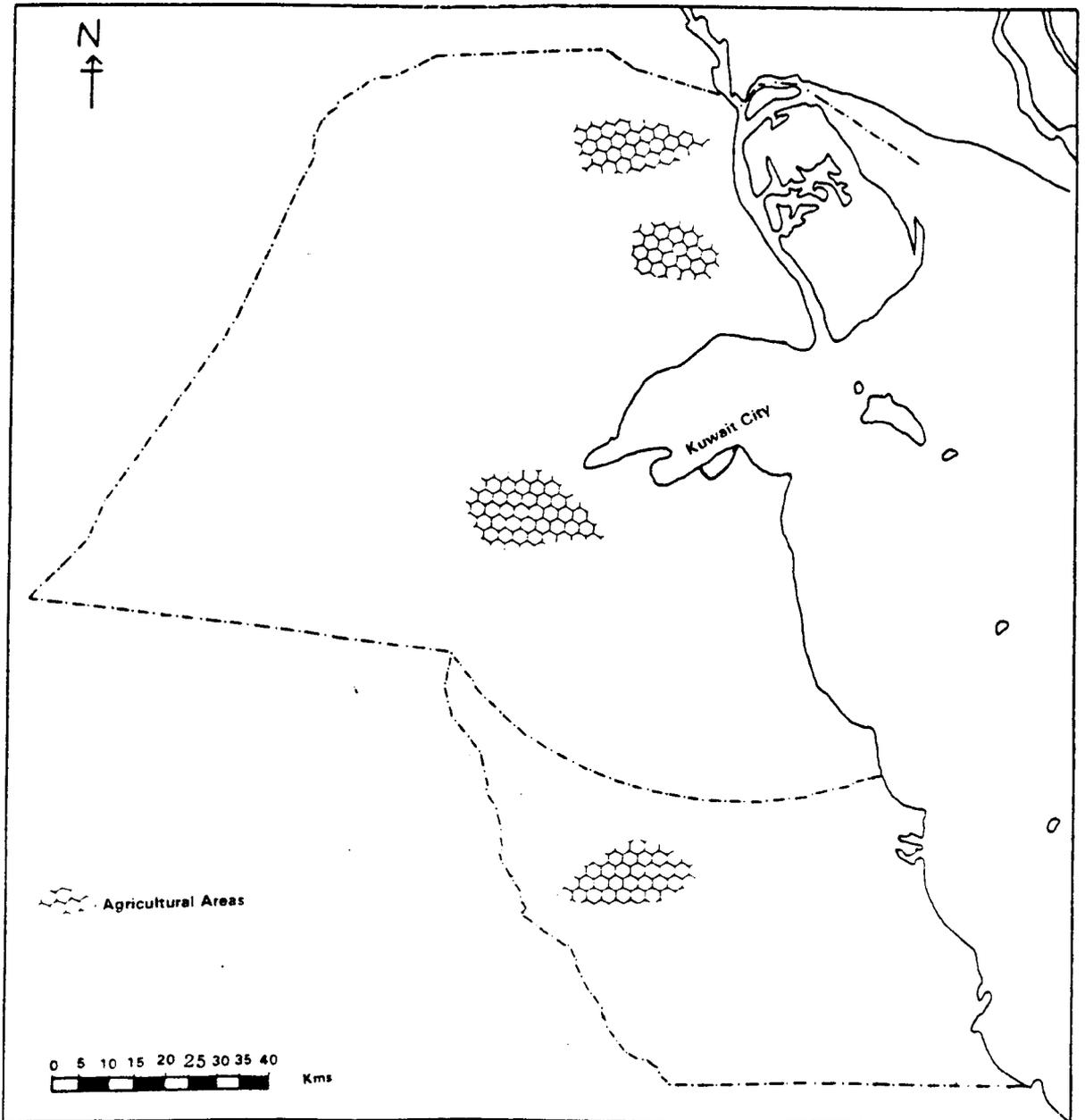


FIG. 2.4.3 Distribution of Agricultural land in Kuwait

Table 2.4.2 Utilization of Land in Kuwait

	1974	1975	1976	1977	1978	1979
In Thousand Donums						
TOTAL AREA	17,818	17,818	17,818	17,818	17,818	17,818
Utilized Land						
Vegetables & Crops	9	10	11	13	11	13
Fruit & Wood Trees	23	23	23	23	23	23
Pastures	1,340	1,340	1,340	1,340	1,340	1,340
Unused cultivable land	166	166	165	163	162	161
Total	1,538	1,539	1,539	1,539	1,536	1,537
Non-cultivable land	16,280	16,279	16,279	16,279	16,280	16,281

Source: Planning Board (1979). The Third five year plan for economic and social development, 1976/77 - 1980/81. Kuwait

## The Role of Administrative Competence

### 2.5.1 Introduction

The success of economic development, especially industrial development, is related to the competence of managers and upper administration in general.

As Johnson argues that:

"Industrialization requires far more than the investment of capital in the establishment of industrial facilities in the infrastructure (roads, railways, docks, the generation and transmission of electric power, etc.) required to power them and link them to markets. Among its obvious requirements are the development of skilled, disciplined, and acquisitively motivated labour force and the creation of a professional managerial class able to combine disciplined teamwork with imaginative entrepreneurship".

(Johnson, H. 1967, P.46).

The leadership and efficiency of administration which economic development requires may not be provided if natural potentialities are allowed to develop at their own rate, but it may be nurtured and developed through organized training and through raising of the standards of leadership.

As manager is described the person who is capable of getting results from others working under him through his direction and supervision. Consequently, managing is directing people to obtain required results. In this research 'Managers' will include the following categories:-

(1) The upper management in companies which includes chairman and members of the board of directors and the basic staff managers.

(2) The collective administration leadership and heads of sections in the ministries, the authorities and government departments.

(3) Those who are in middle management on a number of levels, including those who are likely to rise to the level of upper management in the near future.

Administrative competence involves administration ability, risk-taking skills, and ability to appreciate new products and technologies and to make use of them. It also includes adaption or innovation and the building of an appropriate organization capable of translating the innovation into an operational, efficient, economic unit.

One of the main problems facing industrial development in Kuwait, is the lack of administrative competence. That is what the survey indicated, where about 85 per cent of the units replied that administrative efficiency does represent a problem to industrialization in Kuwait (see Appendix I, Table 5.11). Regarding the dimension of the problem, about 53 per cent stated that the defect is in efficiency against only 12 per cent who referred to the number of persons available. About 62 per cent of the total replies confirm that the lack of administrative efficiency is in both Kuwaiti and non Kuwaiti. Regarding the reasons for this situation, the majority, 76 per cent, stated that the absence of training sections for administrative abilities in Kuwait is responsible for this problem. Next came the absence

of a plan on company level to prepare and train the required administrators (61.8 per cent) (See Appendix I, Table 5.12).

For someone to become a manager is not entirely dependent upon his standard of education. Industry in particular depends, at all levels, on persons who have combined a reasonable standard of education with specialised skills. The qualities necessary for anyone who wishes to become a manager in industrial fields can be determined as follows:-

- To be able to get results from the work of others.
- To be able to encourage and inspire a group of persons to work.
- To be able to assimilate the ideas of others and communicate his own ideas clearly.
- To be able to blend as a member of a group.
- To be able to exercise the rights of authority.
- To be able to create an atmosphere of confidence inside the organisation.
- To be able to build on and improve his own skills and skills of those working under him.

In Kuwait, the shortage in administrative skills, especially in the combined sector, is the main common factor among companies. This is because of many reasons some of which are:-

a) Kuwait's knowledge of advanced administrative systems is still new.

b) The overall shortage of persons available with sufficient training and managerial skills necessary to take over authoritative administration jobs.

c) The insufficient number of institutions and specialised agencies for preparing training programs and developing the administrative abilities which suit the infrastructure of companies in Kuwait.

d) The high cost of training and developing operations in the short run.

#### 2.5.2 Developing Administrative Skills in Kuwait:

The responsibility of the higher authority in the government and private sector in developing administrative skills incorporates selecting people and putting them to work as well as making efforts to extend their abilities, understanding and experiences, and keeping them up-to-date with continuing modernisation in the processes of production, and use of new resources.

Many aspects of this responsibility would not come under the direct responsibility of the higher authority but should be assigned to specialists not necessarily at the same level of authority. Although the higher authority must admit the participation of specialists in promoting administrative skills, this would not in any way undermine its responsibility or its original authority to take decisions.

In exercising its responsibility for revolutionising the administration in general and promoting administrative skills in particular, the higher authority should provide guidelines which can be listed as follows:-

- 1 - Clarification of objectives at top level.
- 2 - Detailed classification of administrative positions.

- 3 - Understanding the training requirements for managers and assistant managers.
- 4 - Provide a section specialised in training.
- 5 - Provide the necessary budget.

In a report concerning the development of administrative skills in Kuwait, one of the United Nations advisers (Ancianx, P., 1974) mentioned that the first step towards increasing the number of Kuwaitis having administrative skills must be to grant naturalisation to some of the Arab immigrants who have spent a long time in Kuwait and who successfully occupy responsible positions in the industrial sector.

But, in the long run, Kuwaiti youth should be the main source for any vacant administrative position.

That means to say that any young Kuwaiti, whether male or female, who is interested in taking up a post of administrative responsibility must be given the opportunity to do so. Consequently, it may be possible to form a core of young Kuwaiti administrative staff able to spearhead cultural progress for the state. It is the present author's view that Kuwaiti companies, projects and institutions are the best places for training and creating Kuwaiti administrative skills.

The combined sector's projects may, (with the government sector) be able to play a major role in this respect. These sectors can become breeding grounds for these skills and from there on it may be possible to supply other sectors with their administrative requirements.

The Kuwait Oil Company can be considered the best example of this. In 1975 the percentage of Kuwaitis employed reached 44.4 per cent, with an additional 9.2 per cent claiming to be Kuwaitis. The example also proves that it is possible to attract Kuwaitis and keep them working in industrial projects.

Administrative initiative for the promotion of administrative skills should start at government department level. This must be through meetings, symposiums and training programs and should be the responsibility of the general management section and industrial management sections of the Arabic Institute for Planning.

At the same time the same sections should evolve a plan for training programs for other administrative levels (executive and supervisory) thus avoiding any gap amongst the various administrative levels.

The same adviser (Ancianx, 1974), in the report previously referred to, sees the use of consultancy services as being limited to those cases and problems previously studied by the plant managers themselves, and deemed to require the advice of an expert to solve them. In such cases, the consultancy service should have a time limit and finely detailed aims otherwise a company may find itself involved in a spiral of more and more consultancy services. Commercial consulting firms actually evaluate their employees by their ability to bring in new contracts.

### 2.5.3 The Problems facing Industrial Administration in Kuwait

Industrial administration in Kuwait is encountering problems of various kinds, major ones being:-

(1) The vagueness of objectives, plans and policies, and the absence of industrial guidance on a macro-level. It is necessary to include in the development plan a clear strategy for industrial guidance. Such a strategy forms the foundation for planning the programmes of the various sectors and the specified projects. Usually such a comprehensive strategy is not available, but rather industrial plans are formed from linking non-compatible projects, with the result that there is no connection between investments.

This would more often lead to the failure of planned projects, due to the absence of the basic development which could have possibly formed a comprehensive plan right from the beginning. National planning and the scope and size of industrial guidance are strongly reflected in the planning on project level.

The development of an industrial plan on a national level should also be completed, after first confirming the economic and social policies and strategies, particularly those policies which concern industrial guidance and the industrial project. By this I mean, for example, the policies of nationalisation, housing, communications, education, training and the provision of a basic environment: all of these affect the industrial project and its administration in one way or another. The plan should also

specify the nature and size of the industries as well as the requirements of the plan itself for investments, workforce, consultation staff, services and so forth.

Until now, the establishment of a significant group of Kuwaiti specialists to work on the development of strategies, policies, plans and programmes on national level or the level of the industrial project, has not come about.

(2) The second main problem is the major shortage of Kuwaitis working in industries. At a time when the government work-force is annually becoming more congested, the existing industries are suffering from a great shortage of Kuwaiti labour, in spite of the fact that one of the objectives of both the previous and the present five year plan is the development of human skills.

Despite the fact that the industrial law of the year 1965 defined the percentage of Kuwaiti employees at 25 per cent of the total of those working in the project, the numbers of Kuwaitis working in industries is considerably less than that. A case in point is that in the year 1975 the number of Kuwaitis in Shuaiba refinery was 86 out of a total of 737, that is 11 per cent and in the fertilizer and ammonia plants their number was 55 out of a total of 1064, that is 5.2 per cent; the total number of Kuwaitis working in Shuaiba Industrial Area was 420 out of a total of 2678, that is 15.7 per cent. The figures and rates of the numbers of Kuwaitis in the main industrial projects cause great anxiety and a detailed scientific analysis of the reasons

and obstacles which stand in the way of developing the Kuwaiti technical and scientific labour force in the industrial and production establishments is required.

There are three factors which contribute to this problem:

- a) The substitute work in the government sector and the differences between the dominant labour law in this sector and the industrial sector, which applies the texts of the labour law in the private sector, from the point of view of stability, incentives, the size of labour force, the productivity required and so on.
- b) The non-provision of advice in guiding the labour force (graduates of universities, trade schools, training centres etc.), towards the needs of the industries and that of the government.
- c) The general situation of industrial and trade training and the failure so far to connect the plans and programmes of training with the requirements of existing and future industries. This problem, with others, puts large obstacles in the way of industrial administration on project level, as it directly reflects on the existing system, and on the possibility of stabilizing and developing the national labour force.

(3) The industrial administration also faces difficulties in planning for expansion of existing or new projects, due to the many central parties supervising industrial development, with whom agreement or consultation should be made, in order to approve the industrial project itself or its expansion. This is accentuated by the fact that

some of these parties work slowly, thus producing undesirable results on the economies of the project, the stages of its execution and the arrangement of the workforce for it.

Furthermore, in most cases the industrial management is unable to find answers to many questions such as:

The potential range of government contribution or its assistance . The price of energy during the next five or ten years . The possibility of training and the participation of the state and the industrial project in it . There are also important strategic questions in relation to the management of the industrial project and its development.

Since it is not possible to study the project of industrial management on project level apart from the general framework of industrial tendency on national level, and since managerial industrial efficiency within the project is affected greatly by the prevalent circumstances, one has to establish policies and incentives for both macro and micro level.

#### 2.5.4 The Policies and Incentives on Macro Level

(Kuwaiti level):

(1) The social and economic policies should be confirmed, particularly regarding the effect which each has on industrial guidance (housing, public services, training, communication, etc.).

(2) The priorities of industrialization should be determined, taking into consideration all drawbacks, the main one being that the space of land suitable for the purpose of industrialization is limited.

- (3) The importance of determining the parties responsible for industrial development operations and the necessity of developing a central authority for the industrial purposes should be revised.
- (4) The extent of the State's disposition to contribute to the industrial tendency and the system of direct or indirect aids which should be adopted, should be determined.
- (5) Decisions should be taken on policies for the best exploitation of natural resources, such as oil and natural gas.
- (6) Surveys should be made to determine what is and what could be made available from labour-force resources, and to determine the raw materials and the area required for industrial operation.
- (7) Approval should be given to short, medium and long term plans for the industrial tendency and any necessary revision made, in accordance with the subjective programmes.
- (8) Recognition should be given to the necessity for forceful government action in order to afford technical consultation and to take decisions with the greatest efficiency.
- (9) The basic structure should be widened and supported in order to provide a suitable environment for the establishment of industries.
- (10) Trusts and loan facilities, etc., should be granted to the proprietors of industrial projects.
- (11) Stability and good conditions for the labour force, both for nationals and expatriates, should be provided.

(12) The problems of housing, communications and others, which existing industries are facing, should be confronted.

(13) Support should be given to union action in industries, so that it takes a positive role and pre-planned industrial objectives should be observed.

(14) Sufficient financial incentives for working in the industrial sector as opposed to working in the government sector, should be provided. I refer here to the importance of improving the retirement system, increasing the financial and other incentives and generally improving the conditions for work.

(15) Plans, methods and training programmes should be developed and the standard of technical and engineering education raised.

(16) A special interest should be taken in a long-term plan for the development of manpower as a main objective in systemizing the economic projects.

(17) An effective system for supervision and completion of work in both existing and future industrial establishments should be developed.

2.5.5 Policies and incentives on a micro level (project level):

(1) Long term plans, which are based on the general industrial plan, should be developed, depending on the possibilities presently available of natural resources and human resources and those which could be made available in the future. Staff, expert in planning and developing industrial projects, as well as in programming the projects and supervising their execution and completion, should also

be developed.

(2) Tactics and methods necessary to attract Kuwaiti graduates should be adopted. I refer here in particular to Kuwaiti University graduates, both present and future and I wish to stress that managerial specialization could be achieved through training at work, as well as through educational study.

(3) Attention should be given to the development of managerial training systems, particularly for technicians and engineers, as this is very important.

(4) Attention should be given to the programmed objective, technical and professional training inside the project, direct co-ordination with other industrial projects and to the continuation of training.

(5) A system for measuring productivity and performance should be developed and recognition given to the importance of associating revenue with effort in order to encourage useful talents and provide sufficient incentives as previously mentioned.

(6) Systems for participation in decision making, in coordination with the workforce, should be developed. This would benefit every level.

(7) It is necessary to determine the objectives, particularly those concerned with production, and to develop the labour force as well as the system of measuring these two elements and raising their standards.

(8) The development of plans and programmes of execution is important, as is using new administrative methods, creating sections for administrative research and revising the development of systems, specializations and responsibilities.

(9) University education, as well as technical and professional education should be linked with work and training on the industrial project level. This objective and that of providing necessary incentives, must constantly be pursued.

## CHAPTER SIX

The Role of the Industrial Labour Force2.6.1 Introduction

Labour provision is a key factor in Kuwait as in other Gulf states. However, this is not simply a matter of quantity of labour. On the one hand, a high technology and capital-intensive industry is being promoted, on the other, massive immigration of (largely unskilled) labour has occurred which creates a labour pool, but one not well suited to national needs.

The survey shows that the majority (89 per cent) of respondents regard labour as an acute problem (see Appendix I, Table 6.14). As for the nature of this problem, 67 per cent replied that the problem lies in lack of efficiency and 83 per cent replied that the shortage in labour is related to both Kuwaiti and expatriates. Concerning the question of whether this shortage is of skilled or unskilled labour, the majority, 61 per cent, replied that there is a lack of skilled labour and only about 5 per cent replied referred to unskilled labour (see Appendix I Table 6.15).

As for causes of the problem, the great majority, 94 per cent, replied that the reason behind it is the reluctance of Kuwaitis to take on technical work, followed by the preference of Kuwaitis to work in the government sector (79 per cent), rather than in the industrial sector (see Appendix I Table 6.16).

This chapter analyses the population of Kuwait, and the degree to which the supply of human capital in Kuwait fulfils the demand for a labour force generated by economic

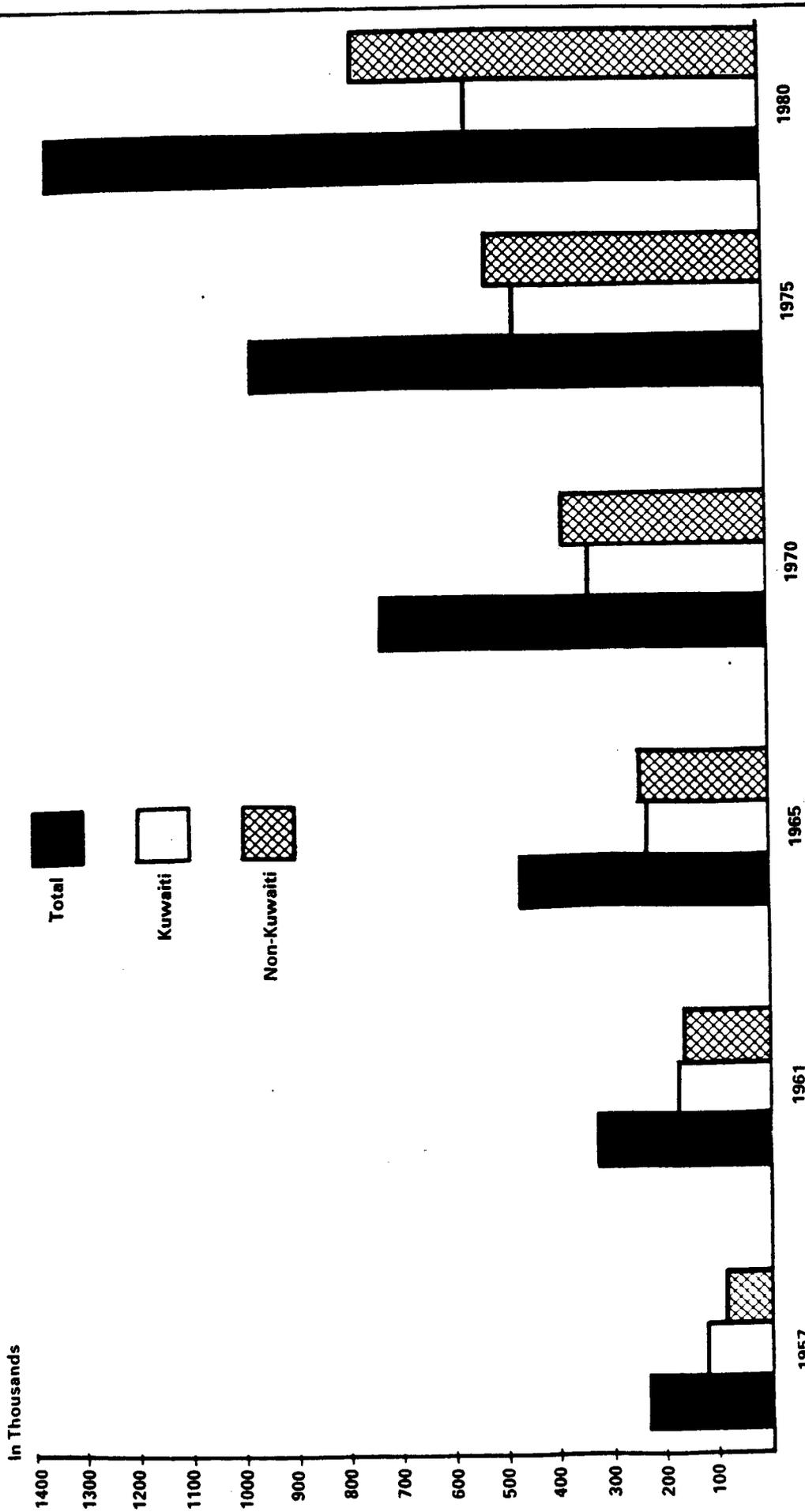
development in general and the industrial sector in particular. It also examines the composition of the non-Kuwaiti communities in terms of demographic parameters and trends in order that the present supply of labour available can be evaluated, along with needs for the future.

In order to find the degree of dependence upon expatriate labour, it is necessary to look at the distribution of both Kuwaiti and non-Kuwaiti labour. In order to analyse labour force by age category and to find the impact of each age group on the growth of the total Kuwaiti and non-Kuwaiti industrial labour force, it is essential to study the annual average growth of the total industrial labour force. Levels of education of the labour force in the industrial sector are also calculated and compared with other economic sectors. This chapter also considers wage structure and labour market. Finally, labour planning measures for Kuwait are suggested.

#### 2.6.2 Population growth in Kuwait from 1957 to 1980

The population of Kuwait has grown rapidly since oil was found. The 1957 census showed that the total population in Kuwait was 206,473. In 1980 the total population had risen to 1,355,827, an increase of 557 per cent since 1957 (see Fig 2.6.1). The population of Kuwait will increase to about 1.7 million in 1985, and will exceed 2.4 million by 1990. By the end of the century, it is expected to reach about 3 million (Shankland, Cox partnership, 1977a, 8). Kuwait's population may be divided into two groups: Kuwaiti and non-Kuwaiti. The Kuwaiti population reached 113,622 in 1957, then increased to 562,065 in 1980, which means that

FIG. 2.6.1 Kuwait: Total Population, Kuwaiti and Non-Kuwaiti (1957-1980)



it increased by 395 per cent over twenty-three years (see Fig 3.6.1). It is clear that the average increase in the Kuwaiti population is high and can be attributed to:

1. High natural increase, because the birth rate increased and the death rate decreased (see Fig 1 and 2 in Appendix II), due to improvement in the standard of living in Kuwait and the improvement in all services, especially the medical service.
2. Unnatural increase resulting from the policy of naturalisation.

The non-Kuwaiti population has also increased very rapidly. In 1957 it was only 92,851 but it increased to 739,762 in 1980, an increase of 697 per cent since 1957.

This high increase in non-Kuwaiti population is mainly due to the increase in immigration to Kuwait as a result of rapid development during this period (1957-1980) in all sectors of services and production, especially in the construction sector. Non-Kuwaitis have a higher share in the population increase for the period 1957 to 1970. However, the situation has changed since 1970. The Kuwaiti population increased by 42.5 per cent and 72 per cent for non-Kuwaitis during the period 1957-1961. In the period 1961-1965, the increase of the Kuwaiti population was 35.9 per cent against 54.8 per cent for that of the non-Kuwaiti. During the period 1965-1970 the rate of increase in the Kuwaiti and non-Kuwaitis became almost equal, when the rate of increase for Kuwaitis reached 57.9 per cent and for non-Kuwaitis 58.2 per cent. However, during the period

1970-1975, the rate of increase of the Kuwaiti overtook the non-Kuwaiti for the first time, when the increase of Kuwaiti was 35.9 per cent against 33.6 per cent for the non-Kuwaiti.

As it is known, in any country there are changes in the population whether by increase or decrease. These changes depend on four main factors: 1. Births 2. Deaths 3. Immigration from or to the State and 4. The policy of naturalisation, which moves people from immigrant status to Kuwaiti citizenship.

Article Four of the law of naturalisation states that:

"Nationality could be given to any person who lived in Kuwait for fifteen successive years on the condition that he entered Kuwait by legal ways, speaks the Arabic language, and whose profession is in need in Kuwait"

Ministry of Interior, 1966 p.3.

Population growth can be used as an indicator to ascertain the number and attitude of the population in the past and to predict their attitude in the future, and this will help in making social, hygienic, educational and economic plans on an accurate basis.

The annual average growth of the Kuwaiti population between census years is high, which also shows the continuous decrease in the total annual average growth of the population. This decrease is partially due to the continuous decrease in the non-Kuwaiti annual growth. In spite of this trend decrease,

the annual growth of the population in Kuwait is considered to be very high compared to other countries (see Fig 2.6.2), e.g. the annual growth rate in Kuwait was 61 per cent while it did not exceed 12 per cent in Great Britain.

### 2.6.3 Population of working age:

As a result of a high rate of population increase over many years, the Kuwaiti population is a very young one. In 1975 about 50 per cent of the total population were aged less than 15 years.

Population of working age is defined in this study as the total population aged between 15 years and 65 years. This definition does not mean that there are no individual cases of workers who are less than 15 years or more than 65 years old. However, the definition used here is a practical one and it may be considered near to reality and logic for two reasons:

1. It is prohibited by law to employ anyone under 15 years old; thus anyone under 15 who works or joins the labour force is doing so secretly or illegally. The percentage of this age category is very low due to the high standard of living.
2. The percentage of people aged 65 or over who are part of the labour force, is not reckoned to be high, because of their reduced capabilities and the fact that, under the new legislation, they are entitled to retirement on full salary.

Percentage female in manufacturing industries labour force and in total population 1965, 1970 and 1975.

Census Years	Female labour in Manufacturing Industries	Female % of total labour	Female % of total population
1965	0.003	1.82	38.76
1970	0.009	2.18	43.16
1975	0.034	3.50	45.34

Source: Kuwait, Ministry of Planning (1980) population census.

Females working in industry compared to the total industrial labour force reached only 0.003 per cent in 1965 and 0.034 per cent in 1975, although females represented 38.8 per cent of the total population in 1965 and 45.3 per cent in 1975. This shows the low percentage of females in the labour force in general and industrial sector in particular, although the number of females joining the labour force is increasing gradually. The government and ministries concerned with the labour force should pay more attention to females and try to encourage them to join the labour force, not only in the service sector but also in other sectors, especially the industrial sector.

The present low level of female participation in the labour force is an important element - in the near future, many more can be expected to join in, as Kuwaiti culture moves towards modern western standards, and particularly in view of the relatively open status of Kuwait among Arab countries. There will probably be a substantial increase in the number of working women.

Working males represent the larger part of the total male population. This proportion reached 61.2 per cent in 1965, then decreased to 54.7 per cent in 1975. The decrease in the rate of working males is due to the remarkable increase in non-Kuwaiti males who are not of working age. Whilst 28.2 per cent of the non-Kuwaiti population was under working age in 1965, this percentage increased to 39.7 per cent in 1975 (see Table 2.6.2).

This increase in the population under working age among non-Kuwaitis is a result of Kuwait's rapid development and the stability of social life in addition to the abundance of all necessary services such as free education, medical care etc. All this encourages the immigrants to bring their families to Kuwait.

#### 2.6.4 Distribution of active and inactive population by sex and nationality

Looking at the distribution of working and non-working population by sex and nationality, the following can be deduced:

1. Percentage increase in non-Kuwaiti of working age is higher than that of the Kuwaitis, with a continuous trend towards decreasing the gap between these two rates (see Table 2.6.2). This is a result of what has already been mentioned. In 1965 the percentage of non-Kuwaiti of working age was 71.2 per cent as against 48.0 per cent of Kuwaiti, in 1970 the non-Kuwaiti formed 62.2 per cent as against 47.1 per cent. But in 1975 the percentage of non-Kuwaiti

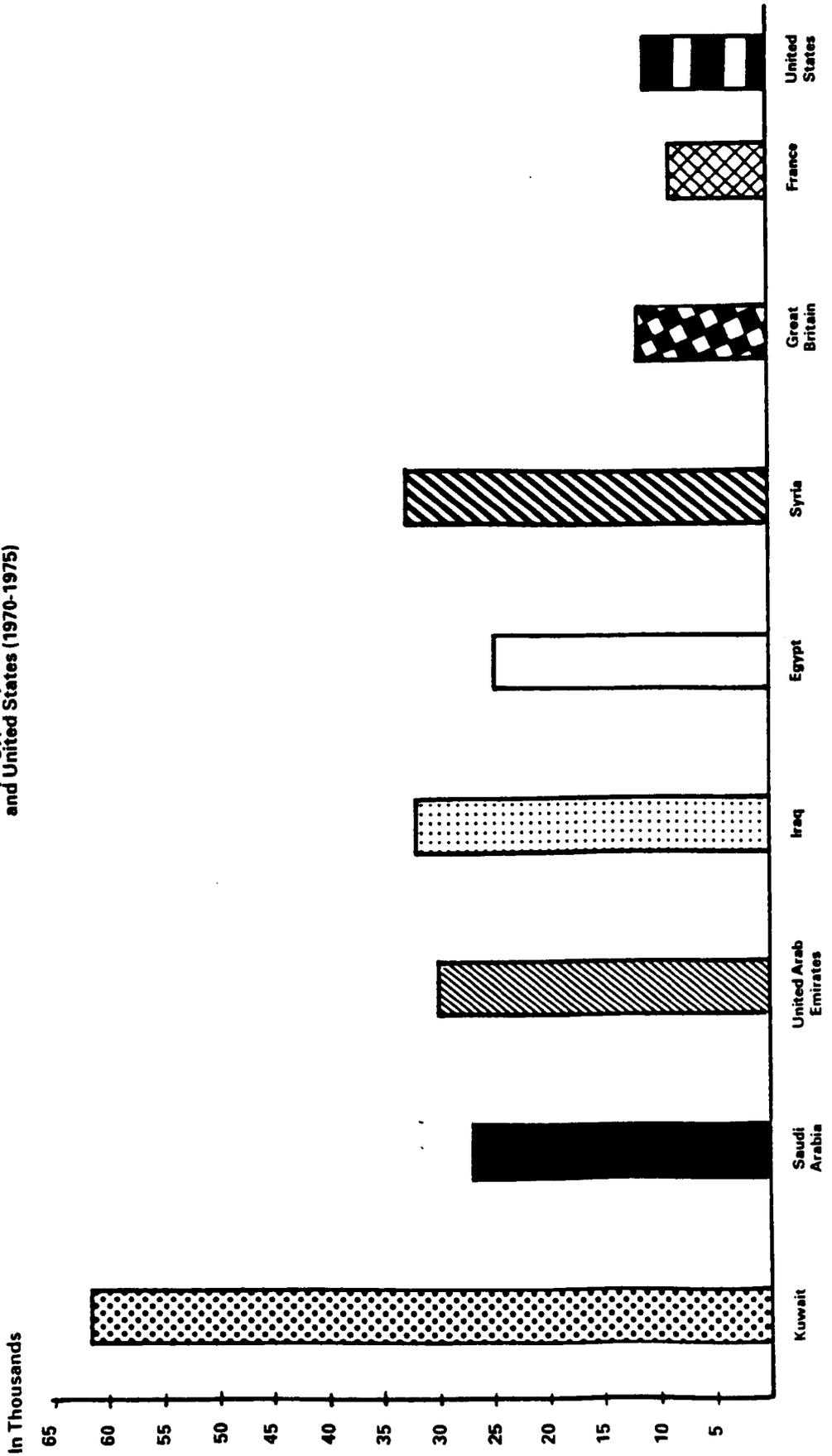
TABLE (2.6.2)

Percentage Distribution of active and inactive population by sex and nationality:

Indicator	Kuwaiti			Non-Kuwaiti			Total		
	M	F	T	M	F	T	M	F	T
	<u>Census 1965</u>								
15 and less	49.0	49.2	49.1	21.0	45.2	28.2	32.0	47.5	38.0
15 and less than 65	48.2	43.9	48.0	78.5	53.7	71.2	66.6	50.3	60.3
65 and over	2.8	2.9	2.9	0.5	1.1	0.6	1.4	2.2	1.7
<u>Census 1970</u>									
15 and less	50.4	49.9	50.1	30.5	48.0	37.1	38.9	49.0	43.2
15 and less than 65	46.8	47.2	47.1	68.9	51.0	62.2	59.6	49.0	55.1
65 and over	2.8	2.9	2.8	0.5	1.0	0.7	1.5	2.0	1.7
<u>Census 1975</u>									
15 and less	49.9	49.0	49.4	34.5	47.0	39.7	41.2	48.1	44.3
15 and less than 65	47.7	48.7	48.2	54.9	51.8	59.5	57.4	50.1	54.1
65 and over	2.4	2.3	2.4	0.6	1.2	0.8	1.4	1.8	1.6

Source: Kuwait. Ministry of Planning (1980) population census.

FIG. 2.6.2 Annual Average Growth of the Population in Kuwait, Saudi Arabia, United Arab Emirates, Iraq, Egypt, Syria, Great Britain, France, and United States (1970-1975)



was 59.5 per cent as against 48.2 per cent of Kuwaitis.

2. The high proportion of non-Kuwaiti males of working age (78.5 per cent in 1965 and 54.9 per cent in 1975), can be seen against a relatively low proportion of non-Kuwaiti females of working age (53.7 per cent in 1965 and 51.8 per cent in 1975), with a continuous trend towards decreasing the gap between these two rates.
3. There is a high percentage of the population under the working age especially among the Kuwaiti who represent about 50 per cent of the Kuwaiti population (see Fig 2.6.3). This phenomenon ensures the importance of evolving all kinds of services and devoting the major available resources to serving the future generations.

#### 2.6.5 Development of labour force in the manufacturing industries

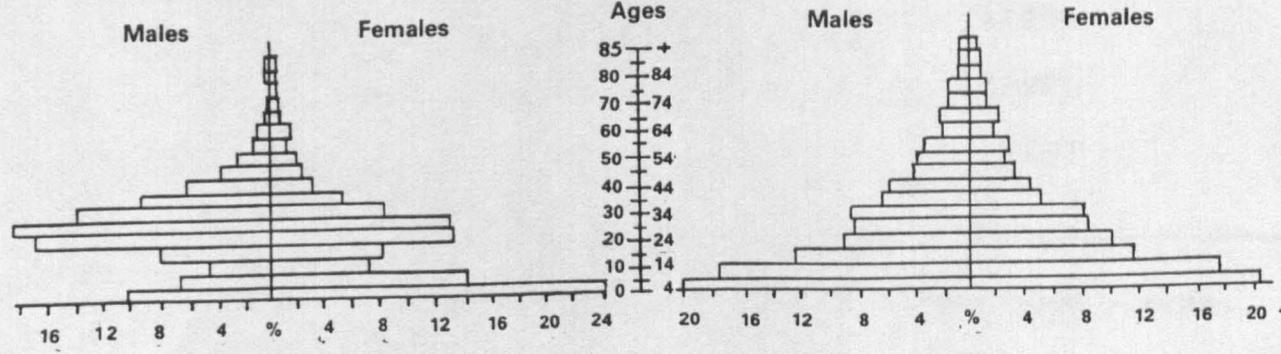
The size of the labour force in the manufacturing industries has increased from 17808 employees in 1965 to 24467 employees in 1975. This means that the industrial labour force increased by 37 per cent from 1965 to 1975 (see Table 2.6.3).

FIG. 2.6.3 Age/Sex Profile of Kuwaitis and Non-Kuwaitis in 1965, 1970 and 1975

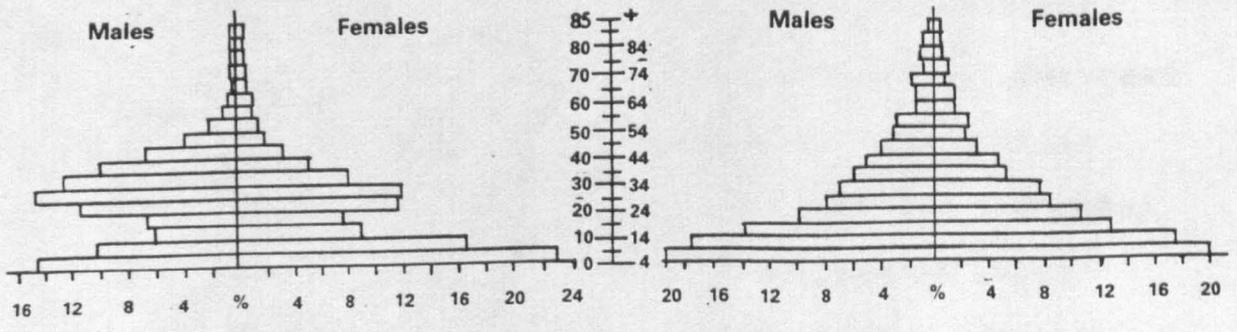
Population Pyramid of Non-Kuwaitis

Population Pyramid of Kuwaitis

1965



1970



1975

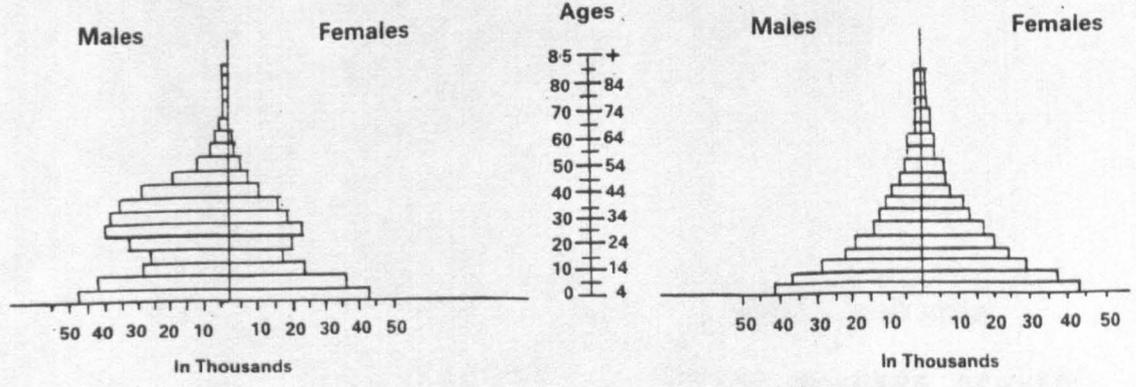


TABLE (2.6.3)

Employment in Manufacturing Industries, 1965, 1970  
and 1975

Census Years	Kuwaiti	Non-Kuwaiti	Total
1965	1781	16027	17808
1970	6022	25779	31801
1975	2258	22209	24467

Source: Kuwait, Ministry of Planning (1980) population census.

The annual average growth in the industrial labour force during 1965-1975 reached 3.2 per cent. This annual increase is proportionately less than the annual increase in other sectors for the same period, for example, the annual increase in the total population was 7.9 per cent, 6.7 per cent in the population of working age and 5.0 per cent for the total labour force. In 1975 the non-Kuwaiti represented about 90 per cent of the total industrial labour force. In order to study the annual growth of the industrial labour force of different ages, I divided the total period into:

1. Whole period 1965-1975
2. First period 1965-1970
3. Second period 1970-1975

For the first and second periods I shall use the proportional method in studying the annual average growth of the different categories of age in proportion to the

annual average growth of the total industrial labour force. I shall use the proportional growth indicator which will be written in the form of percentage within each category of age and it will be calculated in the following manner:

$$\text{Indicator of proportional growth} = \frac{1 + \text{annual average growth for each age category}}{1 + \text{annual average growth for the total industrial labour force}} \times 100$$

If the output of this equation is 100, then the annual average growth for any age category will be equal to the annual average growth of the total industrial labour force. However, if the output is higher than 100, the increase of the annual growth for age category is higher than the annual growth of the total industrial labour force. If the result of the equation is lower than 100 then the annual growth for age category is lower than the annual growth of the total industrial labour force. The results are recorded in Table 2.6.4. From these results the following may be concluded:

1. Concerning the whole period (1965-1975): total annual growth in the industrial labour force is 3 per cent. Annual growth of the mature labour force plays a major role in the growth of the total industrial labour force, where its annual growth reached 8.2 per cent, against a moderate annual growth in the youth labour force which reached 1.9 per cent.
2. It is clear that the annual growth of the youth labour force has a major impact on the growth of the total Kuwaiti industrial labour force, where its

annual growth was 4.1 per cent against a decrease in the annual average growth in the mature Kuwaiti labour force ( - 3.4 per cent). In contrast to the Kuwaiti industrial labour force, the mature industrial labour force plays a prominent role in the annual average growth of the total non-Kuwaiti labour force (3.1 per cent), 1.7 per cent for the annual average growth of youth non-Kuwaiti industrial labour force, and 10.1 per cent for the annual growth in the mature non-Kuwaiti.

4. Annual average growth of the Kuwaiti industrial labour force is higher than that of the non-Kuwaiti in the following age categories:
  - a. Youth industrial labour force
  - b. Age category (20-25)
  - c. Age category (25-30)
  - d. Age category (30-35)
  
5. Annual average growth in the non-Kuwaiti industrial labour force is higher than the Kuwaiti one in the following age categories:
  - a. Total industrial labour force
  - b. Mature industrial labour force
  - c. Age category (15-20)
  - d. Age category (35-40) (40-45) (45-50) (50-55) (55-60) and (60-65).
  
6. Annual average growth of the total industrial labour force is increasing for all age categories except for age category (20-25) where it reached - 0.7 per cent.

7. Annual average growth of the non-Kuwaiti industrial labour force is increasing for all age categories except age category (20-25) where it reached - 1.3 per cent.
8. Annual average growth of the Kuwaiti industrial labour force is increasing, for all age categories except for mature Kuwaiti - 3.4 and age categories (40-45) - 1.7 per cent, (45-50) - 4.3 per cent, (50-55) - 5.4 per cent, (55-60) - 2.9 per cent, (60-65) - 3.3 per cent.

The distribution of all ages of Kuwaiti industrial labour force in respect of the average growth of the total industrial labour force, shows, as already mentioned, the important role of the youth Kuwaiti industrial labour force in the growth of the total Kuwaiti industrial labour force.

The only two exceptions are the age categories (15-20) and (35-40). The low average growth of the (15-20) age category is due to the attention given to education by Kuwaiti people, since almost everyone of this age should be at school (compulsory education is between 6 and 20 years of age).

It may be interpreted that the low average growth of the age category (35-40) is due to a general trend of the mature Kuwaiti labour force to stop working in the service sector in general and in the industrial sector in particular, and become self employed. At this age most Kuwaitis have enough money to enable them to start a small trade business or to enter the market of the shareholders.

TABLE 2.6.4

Percentage average growth of the manufacturing industries employment by Age Group (Male)

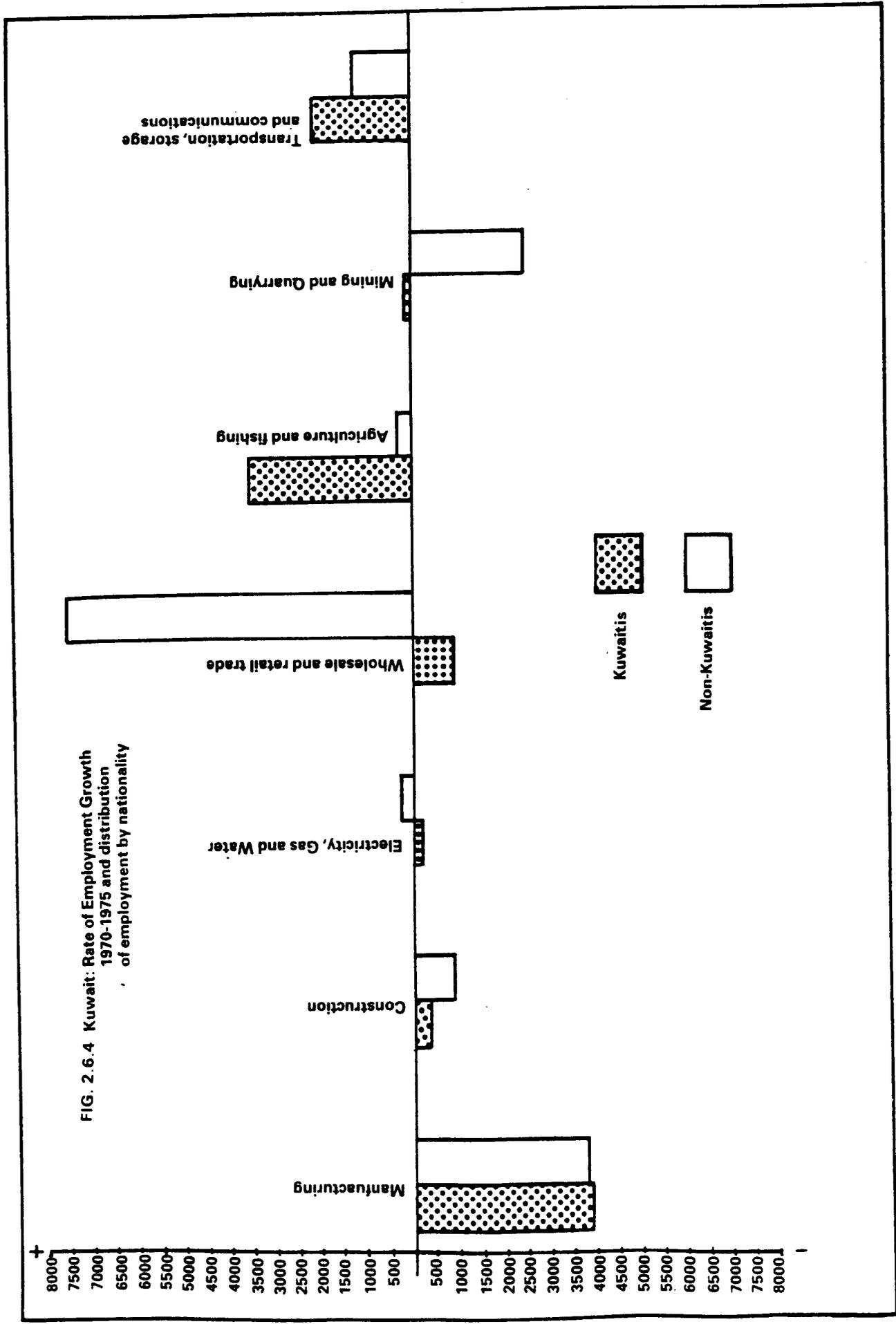
Age Group	First interval 1965-1970		Second interval 1970-1975		Whole interval 1965-1975				
	Kuwaiti	Non Kuwaiti	Kuwaiti	Non Kuwaiti	Kuwaiti	Non Kuwaiti			
Total industrial employment	27.6	9.9	12.2	- 18.1	- 3.2	- 5.4	2.2	3.1	3.0
Youth industrial employment	26.7	8.2	10.2	- 14.4	- 4.4	- 5.7	4.1	1.7	1.9
Mature industrial employment	29.4	19.7	22.2	- 27.9	6.3	- 4.2	- 3.4	10.1	8.2
15 and less than	20	9.2	4.5	- 6.7	- 0.7	- 1.2	0.9	1.7	1.6
20 "	25	25.6	4.6	- 9.0	- 5.2	- 5.7	6.9	- 1.3	- 0.7
25 "	30	25.4	8.7	- 10.9	- 5.4	- 6.0	5.7	0.6	1.1
30 "	35	29.2	14.1	- 10.9	- 4.7	- 6.3	4.2	3.3	3.4
35 "	40	31.1	17.9	- 23.2	- 3.4	- 6.6	0.4	6.7	6.0
40 "	45	31.8	19.5	- 26.8	- 0.2	- 4.4	- 1.7	9.2	8.0
45 "	50	28.5	21.5	- 28.8	0.2	- 5.2	- 4.3	10.3	8.1
50 "	55	29.1	17.1	- 30.7	7.1	- 1.7	- 5.4	12.0	9.1
55 "	60	25.5	19.8	21.9	- 24.9	- 5.0	- 2.9	10.9	7.7
60 "	65	27.5	18.4	22.2	- 26.7	- 4.6	- 3.3	11.7	8.0

#### 2.6.6. Kuwaiti/Non-Kuwaiti Employment Distribution by sector

An important comparison between Kuwaitis and non-Kuwaitis can be made on the basis of their respective diffusions within the labour force by economic sectors. Looking at the labour force by sector, status, census year, and nationality as a percentage of the separate Kuwaiti and non-Kuwaiti labour forces, we will find that the nature of the dependence of much of the labour force on the services section is further clarified when the group is separated into Kuwaiti and non-Kuwaiti categories. In 1957, 51.7 per cent of the Kuwaiti labour force was engaged in the services sector. By 1970, 61.8 per cent of the Kuwaiti labour force was concentrated in services, a 10.1 per cent increase. In 1975, 74.1 per cent of the Kuwaiti labour force was engaged in the services sector. The non-Kuwaitis, on the other hand, had decreased their concentration in the services sector. In 1957, 48.0 per cent of the non-Kuwaiti labour force was in the services sector: by 1970 this was reduced to 38.5 per cent, a reduction of 9.5 per cent. In 1975 25.9 per cent of the non-Kuwaiti labour force was engaged in services sector, a decrease of 12.6 per cent. Thus while Kuwaiti concentration in services rose considerably, that of the non-Kuwaiti diminished by approximately the same amount. In 1975, 2.6 per cent of the Kuwaiti labour force was employed in the industrial sector, compared with 10.2 per cent in 1970, a net decrease of 3,851 within five years. For the non-Kuwaitis the situation was similar, in 1975 10.5 per cent of the non-Kuwaiti labour force was engaged in the industrial sector, compared with 14.9 per cent in 1970, a decrease of 3,773 within five years (Annual statistical abstract, 1980).

The latter drawback in the industrial development of Kuwait is amply demonstrated in the industrial development of the country. The local population is unwilling to join the industrial labour force. There are a number of factors that are responsible for the reluctance of the local population to join in the industrial development of their country. 1. the standard of living in Kuwait is so high that the local population is unwilling to join the industrial labour force; 2. most Kuwaitis find it more profitable to engage in business affairs than working as labourers; 3. service in the government sector carries a very attractive fringe benefit of social security and high pay that are missing from the industrial and private sectors. Even after a hard and vigorous training for a position in an industry or in the private sector, the average Kuwaiti finds that, wages-wise, jobs in industries do not fetch as high a salary as he can expect outside the private and industrial sectors.

Overall employment is recorded as the following: in the construction sector, a loss of 984 employees, mining and quarrying a loss of 2,418 employees and as already mentioned, a loss in the manufacturing sector. Over this period (1970-1975) Kuwaiti employees moved out of jobs in the construction, wholesale and retail trade and manufacturing sector into the services sector, an increase of 27,200, and the agriculture and fishing sector, an increase of 3,181 within five years.



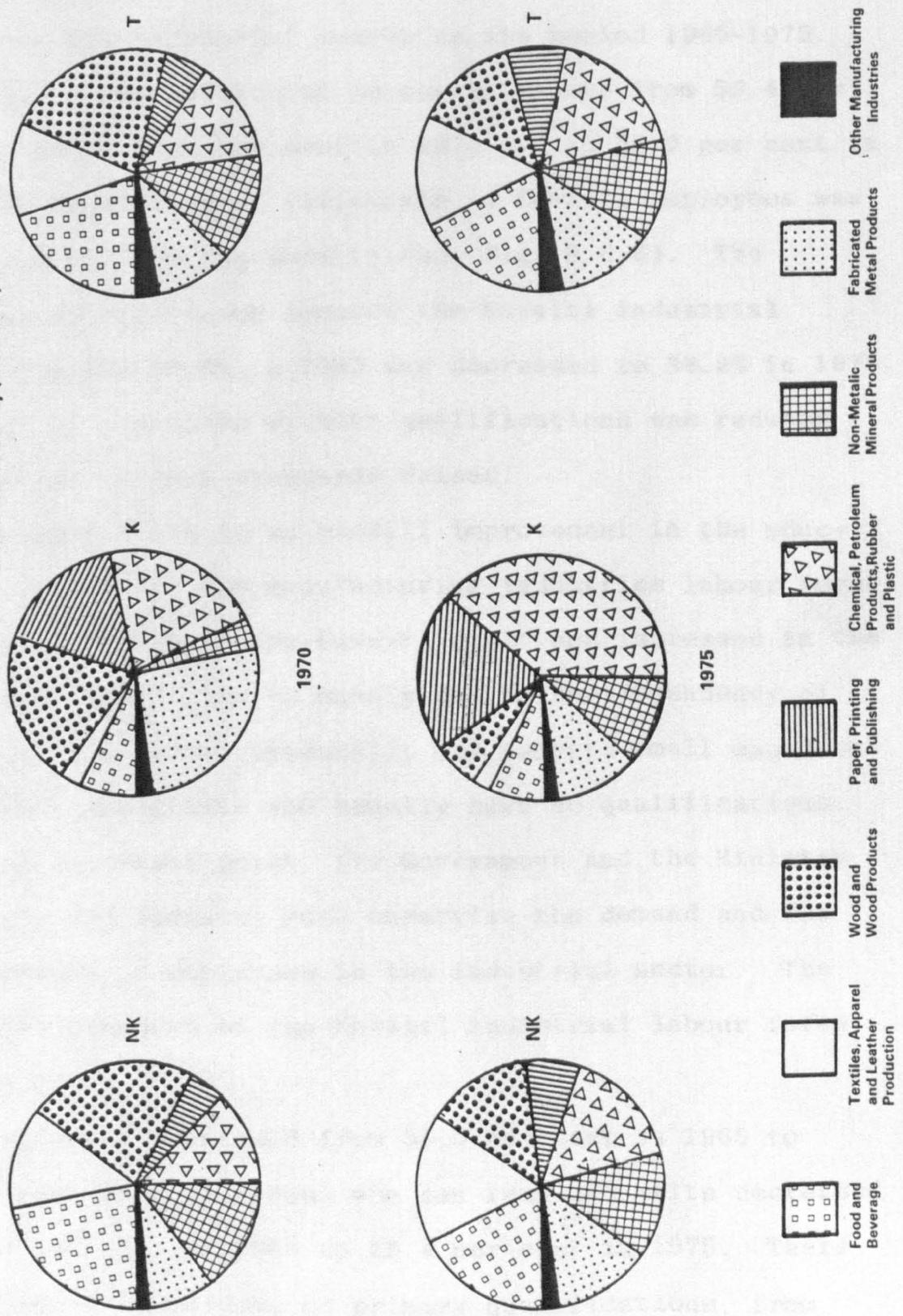
Non-Kuwaiti employees moved out of jobs in construction (- 984), mining and quarrying (- 2,418), and as mentioned the manufacturing sector into the wholesale and retail trade (+ 7,517), transportation, storage and communication (+ 1,342), electricity, gas and water (+ 118), agriculture and fishing (+ 273) and, finally, a large increase of non-Kuwaiti went into the service sector with an increase of (+ 34,647) within five years (see Fig 2.6.4).

All this movement of labour within five years is recruitment. That is to say any employee who does not find his job attractive for one reason or another can very easily switch from one place to another without any restriction or any complex regulation. This is one weak point in the labour law, which gives the Kuwaiti or non-Kuwaiti employee total freedom to select any kind of job he wants. This is why the Kuwait Government has to look again at the labour law in order to introduce some kind of restriction of this labour movement. Because, as mentioned, there is a shortage in some sectors of the labour force such as the industrial sector, one finds that the service sector suffers from labour congestion. The change in the labour law has recommended the salary of the labour in a different sector according to the nature of the job. That is why the industrial labour force has to get a bigger salary than that in the service or other sectors. This will also attract the labour force, especially Kuwaiti, to work in the industrial sector. Within the manufacturing sector, there were some changes in the pattern of labour distribution in the major groups of industries, where Kuwaiti employees

concentrated in the chemical, petroleum products, rubber and plastic. In 1970 about 21 per cent of the total Kuwaiti industrial labour force had increased to 39 per cent in 1975. The reason for that is the relatively high salary in these industries compared with others. There is a large decrease in the Kuwaiti employees in the fabricated metal products and wood and wood products with a decrease of 15 per cent and 14 per cent within five years, respectively.

The distribution of non-Kuwaiti did not change dramatically. They dominate food and beverage industries. There are two industries where the non-Kuwaiti employees decreased. These industries are the wood and wood products and non-metallic mineral products with a decrease of 8.2 per cent and 2.2 per cent within five years, respectively (see Fig 2.6.5).

FIG. 2.6.5 Percentage Distribution of Industrial Labour Force in the Major Groups of Industrial Activity (1970-1975)



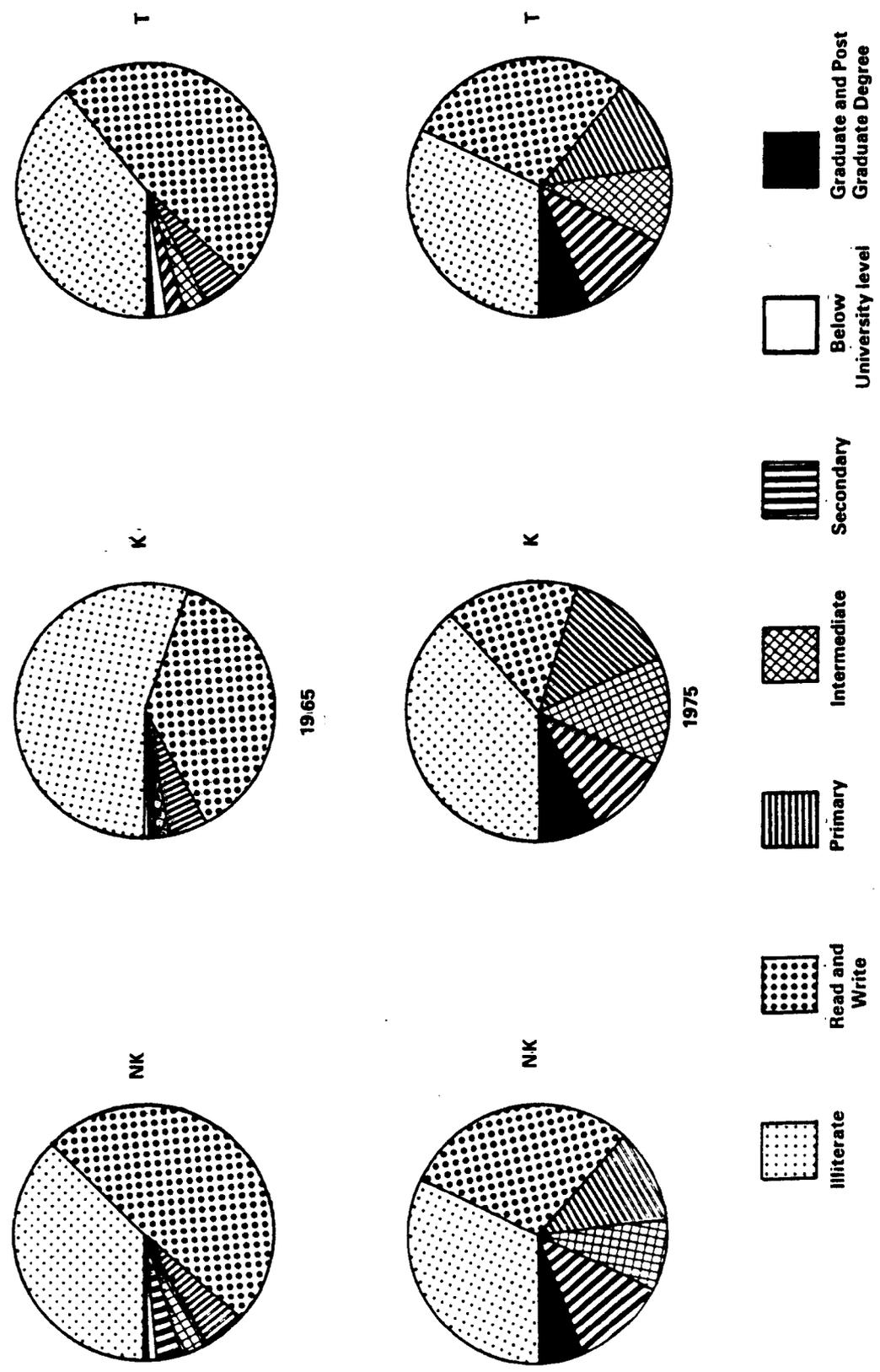
2.6.7 Distribution of industrial labour force by educational status and nationality.

The educational standard of the total labour force improved in the industrial sector in the period 1965-1975. Illiteracy in the industrial sector decreased from 39.4 per cent in 1965 to 34.2 per cent in 1970 and to 32.9 per cent in 1975. The proportion of illiterate in Kuwaiti employees was higher than that of non-Kuwaiti (see Fig. 2.6.6). The percentage of illiteracy amongst the Kuwaiti industrial labour force was 52.0% in 1965 and decreased to 38.8% in 1975. The number of employees without qualifications was reduced and other educational standards raised.

Although there is an overall improvement in the educational standard in the manufacturing industries labour force in general, illiterate non-Kuwaiti employees increased in the period 1965-1975. This is mainly due to the dependency of many industrial firms (especially the private small ones) on cheap labour immigrants who usually have no qualifications. This is an important point: the Government and the Ministry of Commerce and Industry must supervise the demand and the qualifications of employees in the industrial sector. The educational standard of the Kuwaiti industrial labour force has improved.

Illiteracy decreased from 55.0 per cent in 1965 to 38.8 per cent in 1975, those who can read and write decreased from 37.0 per cent in 1965 to 16.4 per cent in 1975. There is an increase in holders of primary qualifications, from 5.0 per cent in 1965 to 14.2 per cent in 1975, intermediate

FIG. 2.6.6 Percentage Distribution of Industrial Labour Force by Educational Status and Nationality (1965-1975)

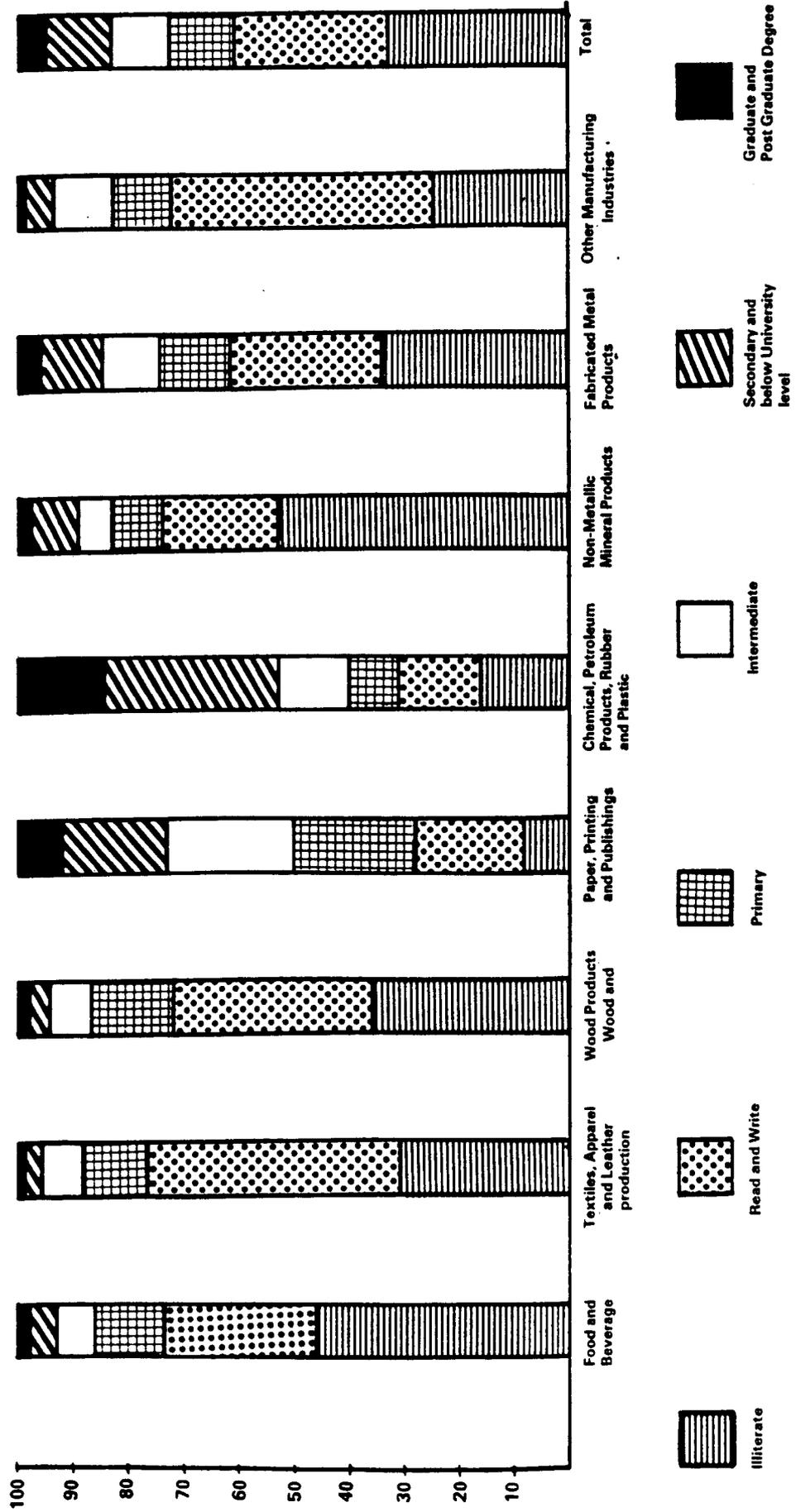


holders increased from 2.1 per cent in 1965 to 13.8 per cent in 1975. Secondary holders increased from 0.7 per cent in 1965 to 10.6 per cent in 1975. Graduate and Post-Graduate degree holders increased from 0.2 per cent in 1965 to 6.2 per cent in 1975.

The educational standard of the total non-Kuwaiti labour force is much better than that of those who work in manufacturing industries. 58.3 per cent of the total non-Kuwaiti labour force had no qualification in 1975, and in the industrial labour force the percentage reached 61.7 per cent for the same year.

Looking at the distribution of the industrial labour force in the major groups of industrial activity by educational status, there is a noticeably wide variation in educational standards in these industries. The chemical, petroleum products, rubber and plastic industries are characterised by high educational standards, where the lowest percentage of illiterate employees is found (16.1 per cent), 31.2 per cent are educated to secondary standard and below university level, 15.5 per cent hold graduate and post-graduate degrees. On the other hand, the highest percentage of illiterates is found in the fabricated metal industry (34.0 per cent), 10.0 per cent of those secondary and below university level and only 4.0 per cent holding graduate and post-graduate degrees (see Fig 2.6.7).

FIG. 2.6.7 Percentage Distribution of Industrial labour force in the Major Groups of Industrial Activity by Educational Status 1979



### 2.6.8 Salary and wages structure

There is a big difference between the Kuwaiti and non-Kuwaiti salary in almost all the major industrial activities. For example, the total wage for non-Kuwaitis was K.D. 2,221,090 in the Food industry for 1974, while the Kuwaiti wage in the same industry was 6,648,400 (see Table 2.6.5). The only sector where the average income of non-Kuwaitis is much higher than Kuwaitis is in the crude petroleum and natural gas production, where the non-Kuwaitis income was K.D. 7,369,581, while Kuwaitis income was K.D. 4,752,652. The reason for the higher than average income of the non-Kuwaitis in the oil industry is that some of the American and European experts and technicians are working in this sector. In general, the average income of the non-Kuwaiti employment in the industrial sector is much lower than that of the Kuwaiti. I cannot see any reason for that, especially when Kuwaitis and non-Kuwaitis employment have the same qualifications. If Kuwait wants to encourage foreigners to work in the industrial sector, she should equalise the salaries between Kuwaitis and non-Kuwaitis, in which case the country could attract an employment force with a standard qualification to work in industry.

TABLE (2.6.5)

Wages and Salaries of Industrial Employment  
classified by Nationality and major group of  
industrial activity, 1974 (in Kuwaiti Dinar)

Major Groups of Industrial Activity	Employees	
	Kuwaiti	Non-Kuwaiti
Crude petroleum & natural gas production	4,752,625	7,369,581
Quarrying and other mining	49,587	598,025
Food Manufacturing	66,484	2,221,090
Beverage industries	8,563	762,096
Textiles	-	93,302
Apparel except footwear	-	1,948,831
Leather products, leather substitutes of fur, except footwear and wearing apparel	-	8,880
Footwear except vulcanised or moulded rubber or plastic	-	860
Wood & wood products except furniture	5,250	722,517
Manufacture of furniture & fixtures, except primarily of metal	3,932	1,037,649
Paper and paper products	4,800	74,430
Printing, publishing products	12,585	969,995
Industrial chemicals	375,927	3,387,374
Other chemical products	4,800	87,197
Petroleum refineries	2,029,561	6,782,030
Miscellaneous products of petroleum and coal	-	326,536
Rubber products	-	62,130
Plastic products	1,867	74,633
Class and class products	-	34,577
Non-metallic mineral products	203,664	2,156,498
Iron & Steel Basic Industries	29,650	433,675
Non-ferrous metal basic	-	3,530
Fabricated metal products except machinery equipment	5,445	1,803,201

Machinery except electrical	-	790,546
Electrical machinery, apparatus, appliances and supplies	4,032	109,216
Transport equipment	-	314,463
Other manufacturing industries	-	161,131
Electricity, gas, steam	3,000	10,340

Source: Al-Sabah, Y. (1980). The Oil Economy of Kuwait pp.90-92.

### 2.6.9 The labour market

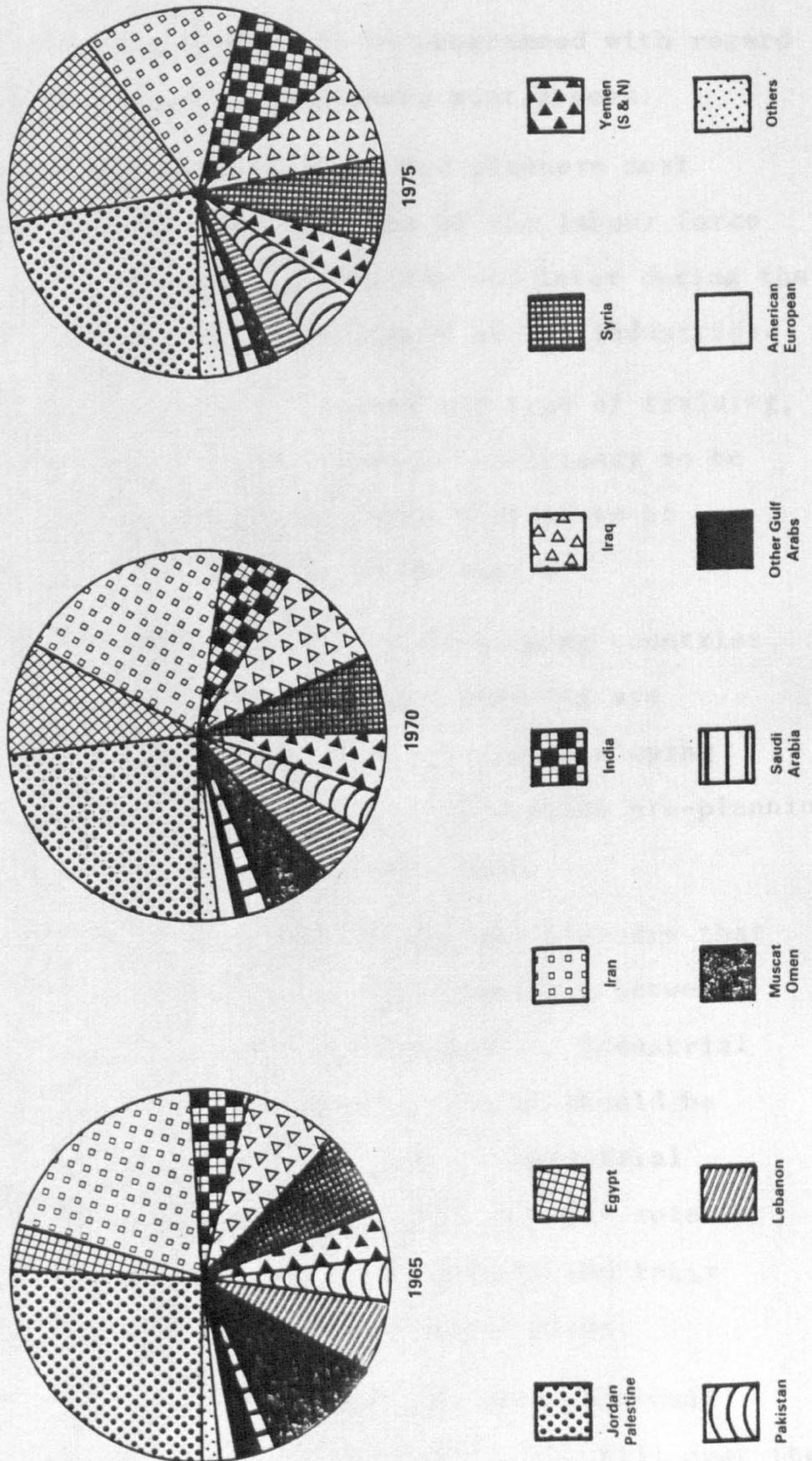
The non-Kuwaiti community of 211,444 persons, accounting for more than half of the total population in 1975, includes Arabs, Asians, Iranians, Americans and Europeans. Most non-Kuwaitis were from other Arab countries (70 per cent). The largest community within the group of "Arab non-Kuwaitis" are the Jordanians and Palestinians who represent 22.3 per cent of all non-Kuwaitis. The second largest community within this group are the Egyptians which represent 17.5 per cent of all non-Kuwaitis and then the Iraqis who represent 8.5 per cent.

The "non-Arab" community accounts for 30 per cent of all non-Kuwaitis. The largest community within the group of "non-Arab" are the Iranians which in 1975 represented 13.7 per cent of all non-Kuwaitis. Next, the Indians which represented 9.9 per cent and then the Pakistanis which represented 5.2 per cent (see Fig 2.6.8).

The total number of new jobs created throughout the economy between 1965 and 1979 was 119,000. About 72,250 or 60 per cent were occupied by non-Kuwaitis, and only 46,750 or 40 per cent were occupied by Kuwaitis. Only 10,000 or 13.9 per cent of the 72,250 non-Kuwaiti employees were employed in the industrial sector. At the same time only 800 or 1.7 per cent of the 46,750 Kuwaiti employees were employed in the industrial sector. The industrial planning board point out that the shortage of native Kuwaiti labour force, especially in the middle level, will continue to plague the industrial development of the country. Even at

the present rate of population growth, the native Kuwaiti labour force will still not be able to supply a sizable part of the labour force by the end of the present century (Five year plan 1975-1980).

FIG. 2.6.8 Non-Kuwaiti: Labour Force by Nationality 1965, 1970 and 1975



### 2.6.10 Planning Labour needs:

Every industrial project must be programmed with regard to its labour requirements; the planners must assess:

1. Its training requirements. The planners must determine beforehand the size of the labour force they would require initially and later during the final stages of the development of the industries.
2. They must work out beforehand the type of training, its duration, and the degree of efficiency to be expected from the labour force that is to be employed by the proposed programme.

The problems faced by the developing countries with regard to the pre-project planning are compounded by the fact that, in the developing countries, statistical data around which pre-planning can be carried out is not available.

However, it is essential for all planners that they should understand the relationship between the available human resources and industrial policy. Indeed, the human resources should be treated as part and parcel of industrial investment, and they should play a major role in the selection of industrial projects and their overall bearing on the development plans.

3. Each industrial project must be planned around requirements for a labour force which will meet its demand in the four areas:

- a. Technical and Supervisory
  - b. Skilled Labour force
  - c. Administrative
  - d. Unskilled Labour force
4. In the event, that the type of labour force required for the project is not available locally or within the country, the entrepreneurs must decide if they would be willing to employ foreign labour on a permanent or temporary basis until the local labour force is sufficiently trained to take their place. They must further decide whether they would like to retrain the local manpower and/or train a new one.
  5. The project must determine beforehand whether the site of the proposed industry is such as will make the work force readily available and be in good supply.
  6. The planners must make sure how their drawing on the labour force from an area will affect the existing labour conditions in the area from which the force is recruited.

In order to provide the required labour force for the industrial development in Kuwait, the following measures must be taken:

1. The establishment of technical centres for the graduation of technicians and supervisors (the middle category in industrial levels) paying special attention to educational programmes connected with the oil industry, chemical and petrochemical industry, and ship-building, in addition

to technical specialisations connected with industrial planning.

2. Act on providing means of stability for expatriates with technical skills and efficiencies through granting them permanent residence, or through naturalising whoever the state finds suitable in all technical levels. These persons will speed up the creation of technical industrial consciousness by their contact and interaction with the community, in addition to the possibility of maintaining the population balance.
3. The need for industrial enlightenment and the creation of industrial understanding for school students through improving the programme for technical education.
4. Expand industrial training by creating specialised industrial training centres to raise the standard of those working in the industrial sector.

Conclusion:

1. As a result of labour immigration, the Kuwait community is divided into two groups, Kuwaiti and non-Kuwaiti. This causes many social problems in Kuwait, where the non-Kuwaiti society claims that through it Kuwait was developed, therefore it should have the same share of wealth that the Kuwaiti society has, such as housing, social services and health care. On the other hand, the Kuwaiti society believes that it should have the highest share of the government revenues.
2. Kuwaiti people are reluctant to work in the manufacturing industry and tend to move to other sectors, especially the services sector, where they can earn the same salary as in industry but with less effort.
3. In spite of the shortage in quantity and quality both of skilled and non-skilled labour in Kuwait and the abundance of finance which could be exploited to provide the required capital for industry and which could offer credit facilities to industries, this study showed that most industries in the private sector tend to be labour intensive in small production units instead of capital intensive employing modern technology. The main interpretation of this trend is the availability of an immigrant labour force who has no qualifications whatsoever and requires only a low salary.

5. The study showed that the productivity indicator tends to improve with time in most industries. The standard of the industrial labour force tended to improve, on both education and productivity level between 1970 and 1975.

## CHAPTER SEVEN

The Impact of Industrial Pollution2.7.1 Introduction

The final chapter in this part concerns a factor important to industrial development in Kuwait, but different since it has a negative effect on industrial development and on human life. Industrial development in Kuwait is still in an early stage, and not all the public are worried at the present time about industrial pollution and its effects on both industrial development costs and on human life. But in the future as the industrial sector will expand, conservation and ecological movements which do not exist now, will come into being with the rise in levels of education and increasing contacts with countries now concerned to restrict the various forms of pollution. On the other hand many industrialists at the present time are worried about industrial pollution. The majority of the survey respondents (86.79 per cent) claim that industrial pollution represents a major problem for industrial development in Kuwait (see Appendix I, Table 7.17). Regarding the reasons, the majority (77.90 per cent) stated that the closeness of the industrial areas to the residential areas is the main reason for this problem (see Appendix I, Table 7.18). About 89 per cent of the total respondents stated that air pollution is the most serious kind of pollution (see Appendix I, Table 7.19).

Industrialisation, with its many economic benefits and its influence on standards of living, creates some problems, the chief one being environmental pollution of air, water

and land. This physical effect produces many economic and hygienic problems, endangering life or lowering the efficiency of man, animals and plants in the industrial area. As a medical survey showed, in the industrial complex of Bayonne and Elizabeth, New Jersey, the death rate from respiratory cancer in males was 35 per cent higher in an area of high air pollution than in a similar population living in a lower air pollution environment. (Southwick, H.C. 1972).

Industrial nations are currently suffering from industrial pollution which is costing them thousands of millions of dollars every year. The same study estimated that a 50 per cent reduction in United States urban air pollution would save the nation 2,080 million dollars per year in health and medical costs (Southwick, H.C. 1972).

When planning industrial programmes, the developing nations should not fall into the same errors which industrial countries have committed, but try at least to minimise the level of industrial pollution. Shuaiba Industrial Area and the neighbouring area in Kuwait is considered to be one of the largest industrial complexes in the Middle East. It is an important centre for a variety of industries, particularly heavy industries and petro-chemicals as these are constantly developing. These industrial activities cause three types of pollution:

1. Gas burners emit large quantities of carbon dioxide into the atmosphere and ground burners cause more inconvenience than the burners' chimneys.

Research shows that the degree of ground concentration of carbon dioxide in the air within the area is more than the permitted international level (Yousef, M. 1979). This concentration exists at various distances, between 500 to 3000 feet from the factory, according to the atmospheric disturbances and also the wind speed.

2. Steam spouts are found in the petroleum refineries where petrol is separated from water and the hydrogen gas polluted with sulphur. This is considered harmful to human health.
3. Sea water pollution occurs from the flow of sewage which pours into the Gulf waters from factories. This is in fact very salty water ejected by the installation of water distillation filtering units, ammoniac solution which is rejected by the chemical fertiliser plants, and also oil leaking into the sea during the loading of oil tankers, which is carried away by the action of waves to the sandy shores.

"In mid-1975, for example, pollution of the beaches of Kuwait was so bad that swimming was officially banned for some time." (Black, 1981, p.119).

The polluted sea water in turn causes many problems, chiefly:

- A. The rusting of factory equipment and copper pipes when using polluted cooling water.

- B. Disturbance in the water distillation units and the mixing of salt water with distilled water.
- C. Resulting break-downs in the electric power stations giving sudden stoppages in factory machinery.

#### 2.7.2 The policy of fighting pollution:

1. Selecting sites for industries: winds are related to the selection of sites for industries. In Kuwait the existing industries are located mainly in two areas, Shuwaikh and Shuaiba, both of these areas are very close to residential areas (see Fig 2.7.1). The best place for industrial areas are those situated to the North-East and the South-West of the urban areas (see Fig 2.7.2). The northern winds or the north-eastern winds and the southern winds or the south-western winds prevail for a period amounting to 60 per cent of the year. Most winds which blow are higher to moderate for a period amounting to more than half the year, but winds with speeds exceeding 18 miles per hour blow only for a period amounting to 10 per cent of the year.

There should be a special area to locate industries which are considered most harmful to health, some of which would need to be relocated from Shuwaikh Industrial Area, such as the insecticide industries, the sand lime brick factory and asbestos factories. These industries should be moved to the south-west of the country (see Fig 2.7.2).

2. Tree belts of at least 1 km. width should be planted around existing and future industrial areas,

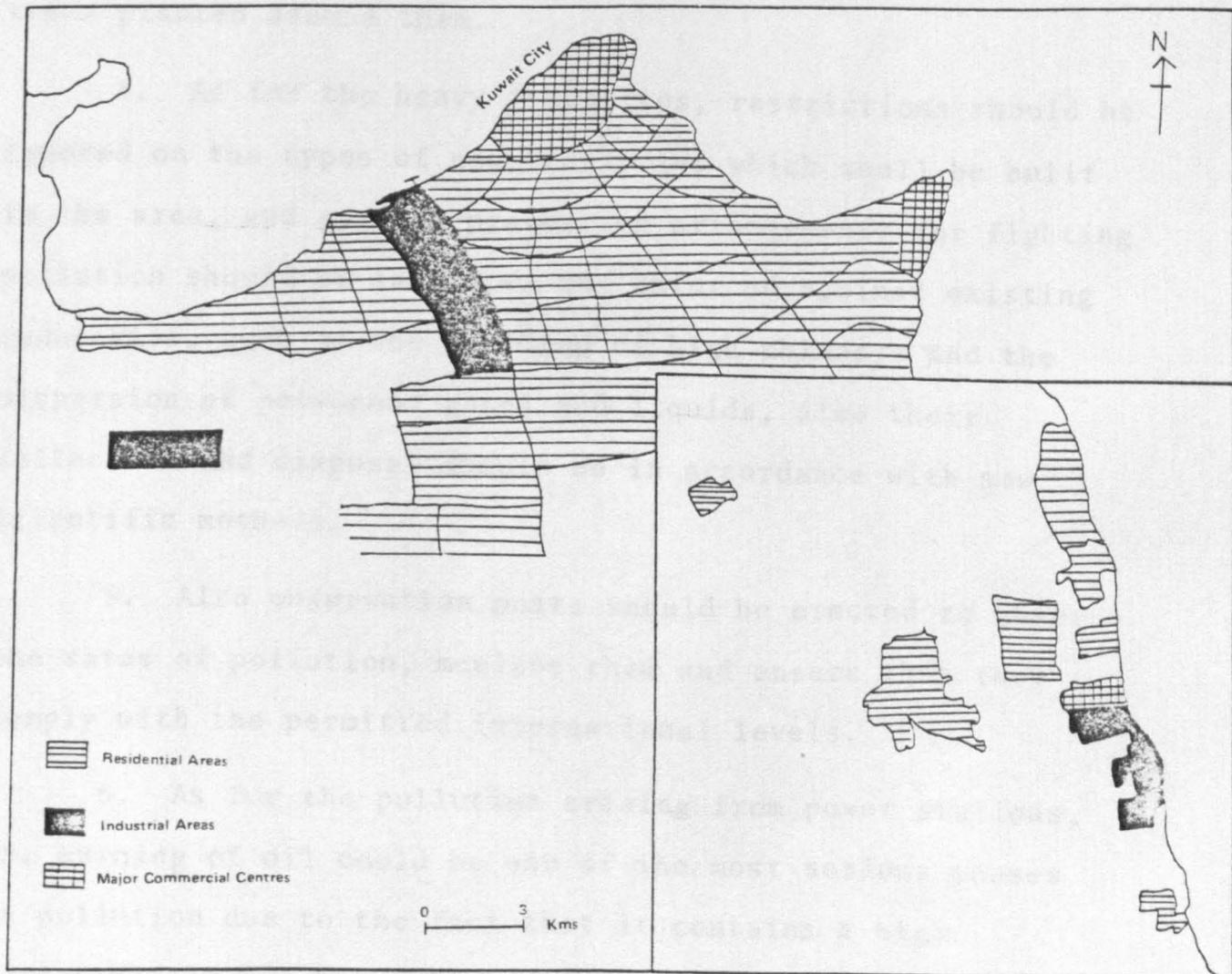


FIG. 2.7.1 Spatial Distribution of Major Urban Activities

especially around Shuaiba Industrial Area, to work as a partition to help in preventing the inconvenience arising from any pollution (see Fig 2.7.2).

3. Also the sewage treatment plants, as well as the units for disposing of rubbish, because of their smell and dust, should also be increased and should have a belt of trees planted around them.

4. As for the heavy industries, restrictions should be imposed on the types of new industries which shall be built in the area, and special preventive arrangements for fighting pollution should be laid down and enforced against existing industries, such as the building of high chimneys and the dispersion of poisonous gases and liquids, also their collection and disposal should be in accordance with new scientific methods.

5. Also observation posts should be erected to observe the rates of pollution, monitor them and ensure that they comply with the permitted international levels.

6. As for the pollution arising from power stations, the burning of oil could be one of the most serious causes of pollution due to the fact that it contains a high percentage of sulphur. In order to overcome this problem chimneys over 200 metres high should be built, or sulphur eliminated from oil before burning it.

For all these matters and in order to protect the environment, lessen the harms arising from pollution and to confine them within the narrowest of limits, the proposed solution must be adopted to prevent pollution in general,

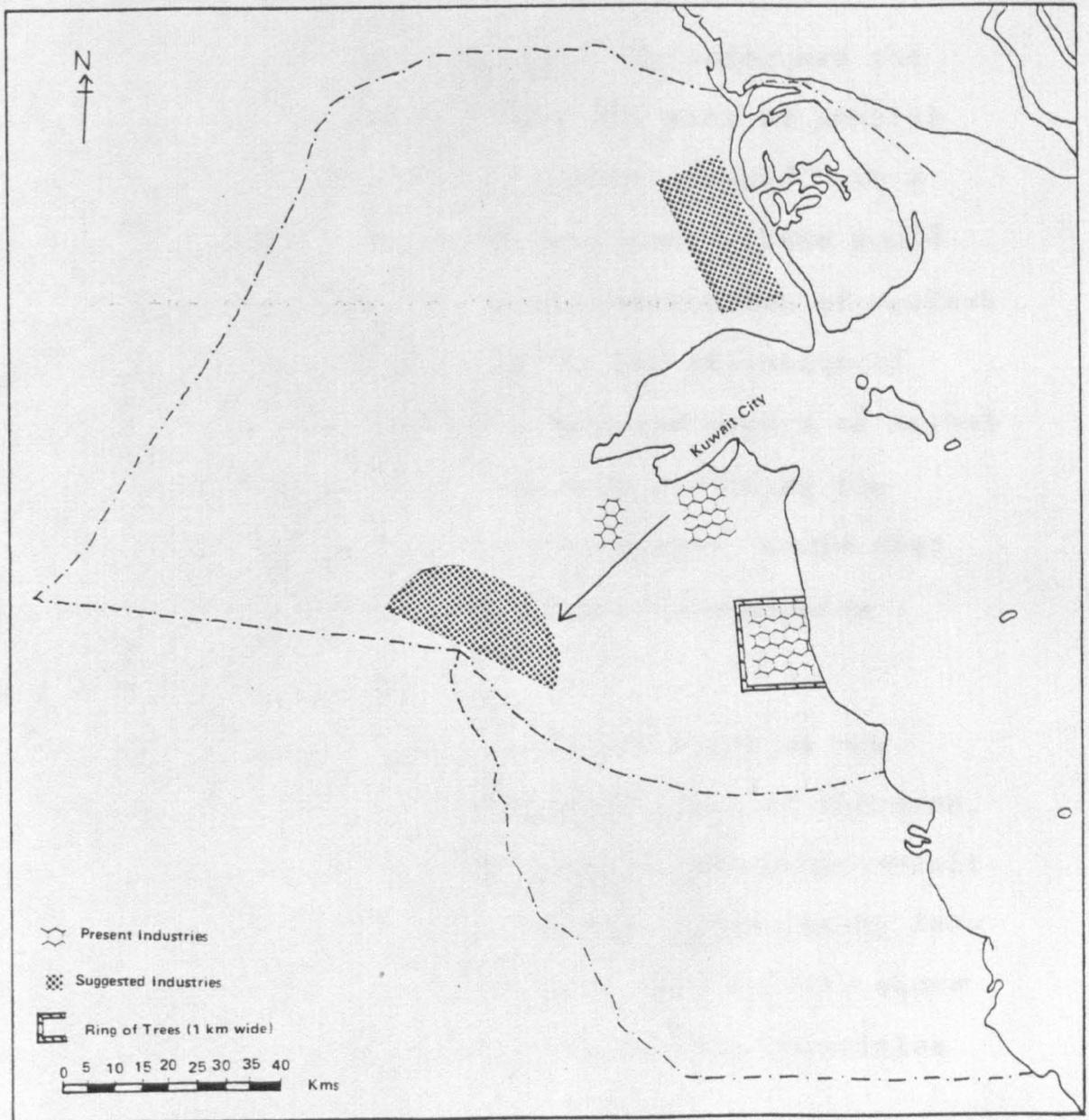


FIG. 2.7.2 The Location of Suggested Development Industries in Kuwait

and to confine and control it. Thus the systematic proposals for improving the current situation, the laying out of the appropriate solution for the existing problem and the proposal of substitute solutions for the future of the Shuaiba area are confined in three parts:

2.7.3            The Preventive Proposals: To safeguard the environment from pollution, including the area of general study, it is necessary that the government should have a long-term plan adopting preventive measures. These would minimise the harmful effects of industrialisation of various kinds on the health of citizens and on the pollution of air and water. The effect of noise and the menace to animal and fish wealth, in addition to the harm affecting the oxidation of factories, metals and equipments, would also be affected. The preventive proposals are contained in the following:

1. Imposing strict measures on all types of new industry which are to be established in the area, in order to control pollution. This would result in the permitted atmospheric pollution being less than the international level since the air above Kuwait is already polluted with high quantities of various gases.
2. Appropriate steps to fight pollution are to be imposed on existing industries, such as removing sulphur on a wider scale, and, in other cases, constructing special chimneys with specified heights and equipped with filters to purify the smoke and gases of factories.

3. Constructing effective observation posts inside the industrial area, recording the levels of pollution and verification - this in turn gives a clear image of the degree of existing pollution and allows the detection of any new pollution agents in the atmosphere at once.
4. Taking steps that would ensure the combatting of pollution in sea water; combatting oil leakages which occur during loading of oil tankers, and polluting chemical elements which are thrown into the sea at Shuaiba, such as ammonia solution which could be gathered and used for agricultural purposes.
5. Training technicians and those working in meteorology to control pollution in the air and water, as well as in industrial security.
6. Helping technical employees in the field of planning and environment in the various state ministries, in collecting the necessary data for proper planning of industrial areas and for the wise selection of sites to prevent dangers to urban areas.

#### 2.7.4 The Systematic Proposals:

These would include the following:

1. Stop further construction of industrial installations in Al-Shuaiba area; continue removing it gradually, by moving the inhabitants to substitute housing sites and forbidding companies operating in the

area to use the area's buildings for housing their employees.

2. Merge the site of Shuaiba village with the heavy industries area and make the necessary planning measures therefor.
3. The creation of a broad green belt around the heavy industries area in its new borders, with high trees which are not much affected by industrial dust, to be located at a distance not less than one Kilometer from the external fence of the industrial activities.
4. No designation of new housing areas to the west of the heavy industries area, nor to the south, at a distance less than five Kilometers.
5. Take into consideration the subject of wind directions when determining the sites for factories which emit air pollution elements, as well as the areas for special industries.
6. Requisition the lands and houses situated inside the planning area of Shuaiba and whose area is over (1000) square meters, according to the survey of the designated land made by the appropriate department.
7. Requisition the rest of the houses owned by citizens for their own housing and which have not yet been priced in accordance with specified conditions described by the committee.

8. Requisition the constructions built on the rest of the lands which are not mentioned in the two items (6 and 7) above and exchange its land against other land owned by the state, which will be planned for that purpose.
9. The municipality shall lay its hands on all lands and buildings in the area after the requisition or exchange operation has been completed and it shall not be allowed to exploit those lands for housing nomad migrants to the urban area from the desert or the workmen of companies in the industrial area.

#### 2.7.5 Other Proposals:

1. The establishment of a higher council for the preservation of the environment responsible for the supervision of all matters concerned with the preservation of the environment, attached to the Prime Minister's Council and represented by the Ministries of Health, Commerce, Finance, Planning, Public Works, Electricity, Water, Social Affairs and labour in addition to Kuwait Municipality, and Kuwait Centre for Scientific Research. The Council shall be specialised in giving priority to the surveys and projects, on the condition that the council shall have an executive section attached to it with the following remit:
  - A. Exchange of knowledge and co-operation with the educational and health authorities in Kuwait and

other states.

- B. Survey the effect of industry and industrial pollution on the population from the point of view of health and economic efficiency.
- C. Establish safe levels for pollution in the air, water and soil and prepare projects and legislation necessary to reach such levels.
- D. Promote specialised technical teams and act to train local workers at all levels in the field of protection and preservation of the environment.
- E. Observe pollution levels and control its sources.
- F. Carry out applied studies in all fields of environmental protection and fighting pollution, supervise other groups which prepare these studies and afford them the financial and human assistance they require.
- G. Supervise training policies in the various centres and promote public awareness of the various fields relating to environmental protection.
- H. Control and apply laws concerned with the protection of the environment.
- I. Draw up a full plan for the preservation of the environment.
- J. Establish specialised training centres to carry out the various controls and studies of protection and preservation of the environment.

2. Until the proposed Council has been established as well as the executive section attached to it, and until its administration staff and necessary equipment have been provided, the parties currently undertaking the surveys of pollution in the state should continue in their work provided that work shall be divided between them as follows:
  - A. Ministry of Planning in co-operation with the Ministries and the aforementioned authorities arrange for the necessary funds to carry out these studies, where the normal budgets of these Ministries do not provide.
  - B. Academic studies: These shall be trusted to Kuwait University, Kuwait Centre for Research and the Agricultural Department in the Ministry of Public Works.
  - C. The applied studies: These should be trusted to the following parties:
    1. The general authority for Shuaiba Industrial Area is to be trusted with applied studies relating to the effect of pollution on industrial plants and on the environment which falls under its control in addition to its supervision of pollution levels to ensure that they do not surpass the levels and quantities which shall be stipulated.
    2. The Ministry of Public Health: as environmental protection has been a central interest to it

for over ten years, the Ministry should take responsibilities for the preservation of the environment, particularly the protection of citizens and workmen from physical harm resulting from environmental pollution inside and outside industrial plants.

It has become imperative to the people in Kuwait, with the industrial movement still in its first stage, to act by imposing control on the environment and studying what happens to the atmosphere and water through the increase in the rate of pollution, since this affects the health of man, animal, plants, and also material things. Both Government and companies must prevent pollution at its sources and work to avoid its dangers at the present time, before the problem is magnified. It is worth mentioning two incidents in which sulphur dioxide gas escaped into the atmosphere from Al-Shuaiba Industrial Area and spread North up to South of Fahaaheel in 1967; these two incidents caused the asphyxiation of about one hundred people. Incidents of poisoning, fainting and asphyxiation occur in factories now and again through the escape of harmful gases - this is considered a warning as to what could happen in the future if the subject is not treated seriously and more carefully than before.

# **PART THREE**

## CHAPTER ONE

### 3.1.1 Strategic Elements Proposed for Industrial Development in Kuwait

Part One outlined the physical resources of the country and economic structure; it also identified industrialisation as an important feature of development for Kuwait. Part Two showed what factors were important in influencing industrial development in Kuwait. This third part will now examine strategies for industrial development and potential tools, using the findings of the previous part.

The present study has treated industrial production, but it must be recognised that any modern definition of development will emphasise consumption, and this will depend on welfare provision and community organisation. However, the forms of industrial production which are suggested here (non-oil activities, greater processing of oil in the country, state guidance) are intended to help spread income more widely in the community and thus to help the distributive side of the economy. Provision of social service is therefore not discussed further in the present suggestive.

What is meant by strategy in the field of economic and social development are the broader, larger-scale, and longer-term aspects of policies which should be adapted in order to attain general aims defined beforehand in the light of likely possibilities and be guided by historical development.

This strategy includes, for the purposes of the present study, both the necessary industrial policies and the instruments considered most appropriate for their attainment.

Within the limits of this understanding of the strategy of industrial development and in the light of the previously demonstrated diagnosis in Part One for each of Kuwait economy and industry positions as well as in the light of preliminary picture previously mentioned in Part Two for each of the future of development in Kuwait. In the light of the general objectives which industrial development strives to attain, this section of the survey tries to present a picture of the industrialisation strategy in Kuwait beginning with the basic elements, then the policies and actions which should be adopted.

Taking into account all the aforementioned elements, it may be possible to define the basic elements for the industrialisation strategy in Kuwait as follows:

1. Intensify the industrialisation of the locally available raw materials vertically and horizontally to the furthest possible extent. This includes not only expanding into new industries but also developing the existing industries which depend on ores and local raw materials. The outstanding examples would be chemicals, petro-chemicals and pharmaceuticals which depend on oil and natural gas, as well as building materials such as cement, sandlime blocks, bricks and prefabricated houses which depend on limestone, clay and sand etc.

But in this respect full surveys and research should be carried out to discover the scope and amount of the ores available as well as the existing reserves, in order that industries might keep pace with the raw materials available. This should prove beneficial from both technical and economic angles.

2. Adopt a draft technology which reflects the relative scarcity of production elements in Kuwait and subsequently pursue a rate of industrialisation compatible with the amount of savings available for investment. The shortage of trained manpower, especially those suitably trained to work in the field of converting industry, means that keeping labour intensity to a minimum must be one of the basic elements of comparison between economic projects.
3. To encourage industries which will take the place of imported goods in meeting the needs of the local requirements. This element is concerned with the necessity to create a larger market through co-ordination with Gulf and Arab states. This would enable these industries to expand to the optimum size in order to take advantage of mass production. It is also important to pursue active commercial policies which aim at reducing the import of commodities which are substitutes for the products of these industries. This could include increased import tax and custom duties sufficient to provide protection for local products in the early stages of their development and to reduce foreign competition in the future.

However, regarding the strategy of permitting imports the following points should be emphasised:

- A. The pursuit of such a strategy may involve an initial increase in imports instead of reducing them and thereafter it would be necessary to distinguish between the importing of semi-manufactured goods and the importing of finished articles.
- B. To ensure success of this strategy, many industries must develop at the same rate in order that the local market can expand in conditions of interdependency. Vertical dependency would ensure a stable rate of development in the entire industrial structure and increase diversity which would reduce the sensitivity of the national economy to external changes.
- C. Pursuing the strategy of allowing imports may cause what has actually happened in some developing countries - the separation of the local economy from the external technological developments, although this holds a lot of contradictions. To the objectives of the industrial development, it would inevitably result in a reduction in the internal standards of production whose results may not emerge until a long time after.

Therefore, in order to avoid this subversive effect, the strategy of allowing imports should be accompanied by a scientific plan appropriate to the technological development.

- D. Regarding the projects of allowing imports which are necessary to home-based production requirements, the fact that Kuwait also imports manpower must be given full attention when selecting and approving these projects. One of the basic standards in assessing, selecting and classifying the priority of such projects should be the net social benefit which the project can add to the national income.
4. If one of the strategic elements of industry in Kuwait is to monitor imports, then concentrating on export industries is also of vital importance. The development of existing industries and the creation of new projects, particularly those which use local raw materials such as oil and natural gas, fish wealth, or those industries in which energy represents a major element in their cost of production, is of utmost necessity to Kuwait in order to benefit from the cheap energy locally available.
5. Finally one of the important elements for the industrial development strategy is to define clearly the role which each sector of employment, whether the public, combined or private sector, should undertake.

The importance of this element becomes apparent in view of what this survey reveals as the weakness of the private sector's role in the industrial development because of the particular circumstances of the composition of the Kuwait economy on the one hand and the style of the Kuwaiti businessman on the other.

### 3.1.2 Policies and Measures for the Application of the Proposed Strategy

In order to ensure the progress of industrial development in the direction indicated by the strategy adumbrated above, concrete policies and measures are needed concerning the schematic framework, the standards for selection and approval of projects and the means by which to encourage individuals to invest in industry. The most important policies and measures are as follows:

I. Look into the necessity to expedite the establishment of a high-level authority for industrialisation assigned to the promotion and development of the industrial sector from all angles and having the following objectives:

1. Draw up long-term central plans and phase plans (medium and short-term) on a national basis to continue the industrialisation of the state on a complementary pattern which ensures the correct utilisation and development of the state's resources.
2. Co-ordinate existing industries and future projects.
3. Co-ordinate and support the diverse industries in the state.
4. Co-ordinate existing industries, or those to be created, and their counterparts in the Gulf area and neighbouring Arab Countries. This would ensure their complementation and protect them from harmful competition.

5. Propose policies and measures concerned with the protection of growing industries and supervise the execution of these policies.
6. Issue licences for the establishment of various industrial projects after studying them to determine their feasibility and compatibility with the general and sequential aims of the industrial development.
7. Define the priority of projects based on the standards which the aims and strategy of industrial development impose, whether in the long term or in sequential plans.
8. Develop the present industrial areas and create new ones pursuant with the requirements of industrialisation plans.
9. Lay down technical and economic criteria and define the average growth of industry in the light of the general plan for the economic and social development.
10. Prepare a suitable industrial atmosphere and environment in attracting and containing many industrial projects.
11. Propose means for co-operation with advanced industrial nations who would provide the necessary technical skills and experience for revolutionising and developing local industry, and local labour-force skills.

- II. Improve the administration of industrial areas by creating semi-autonomous public agencies for operating these areas in order to be able to perform the tasks assigned to them free from complications and bureaucratic problems.
- III. Create industrial areas similar to Shuaiba Industrial Area in suitable locations in such a way that each area would acquire a number of industrial projects. This would form an industrial centre having all the basic substantial infrastructure such as means of transport, services, housing, water, health dispensing, electricity, education, social and cultural facilities within the outline of a scientific policy for setting industry within a complementary scheme or at national economy level.
- IV. The state should necessarily be concerned with taking various steps to create and promote industrial consciousness in the Kuwaiti citizen, and make him sense the important role which industrial development is undertaking in developing the economy and Kuwaiti society. This requires the following:
1. Carry out studies on the psychology and style of the Kuwaiti businessman to discover the reasons why he is reticent about industry and prefers to direct his activities towards other fields and

subsequently take measures to remedy this matter.

2. Encourage the staging of industrial exhibitions locally and abroad to introduce industrial products, discover the needs of the market and find new markets for various products.
3. Utilise the various means of information to promote current industries, suggest areas in which new industries can be established and also the importance of each in the national economy.

Moreover stress the concept of the industrial society, consolidate its values, and inspire interest in the Kuwaiti citizen in industrial work through introducing the right educational programmes, activities and school hobbies which encourage this in the various stages of education.

V. Measures for ensuring the requirements of industry for manpower on its various levels are met and for the attraction of more technical workers, particularly Kuwaiti, to work in the industrial sector. Some of the most important of these policies are:

1. The policy concerning salaries, which should be revised in accordance with the following basic matters:

- A. The pay rate in industry should be higher than in other activities.
  - B. The pay rates should be linked with production rates.
  - C. The pay rates in Kuwait should not be less than its counterparts in neighbouring countries, and should take account of the increasing demands in the cost of living in order to maintain the stability of the workforce locally and prevent emigration to neighbouring countries.
2. Provide satisfactory standards of sickness benefit for workmen and ensure adequate safety standards at work.
  3. Also set out other policies complementing and conducive to the stabilisation of the expatriate workforce, facilitate the formalities of obtaining work and residence permits, and provide the means of education in the various stages for the expatriates' children.
- VII. Pursue the application of modern technology. This can be accomplished through expanding education on all levels with particular care in technical and industrial education, concentrating mainly on the specialisations of technical, engineering, economic, industrial science, and any other specialisations which the development operation requires in various

sectors, especially the industrial sector. This involves the necessity to provide facilities for the circulation and investigation of technology, documentation and industrial information such as scientific research institutes and technical institutes in the various branches of science.

VII. Because of the low levels of production in many branches of industrial production the situation warrants that action should be taken to promote production efficiency. This can be accomplished as follows:

1. Expansion in establishing training centres in various specialised areas.
2. It is important in this respect to observe the ways and means of controlling the quality of the products, and applying standard specifications to raw materials, products, and methods of performance.
3. Expansion of semi-technical institutes which would assist in producing more industrial supervisors and technicians.
4. Encourage expatriates to form technical training centres for their children under the supervision and with the help of the government. Undoubtedly this will add another source of trained labour more efficient and more inclined to settle down.

VIII. It is also necessary to draw up guidelines which would define the priorities on the basis of which assessment of various industrial projects shall be effected, compare them and classify them in order of importance.

These guidelines, or the classification of priorities they contain, can be revised at intervals in accordance with the requirements of each stage of the industrial development. In view of the provisions and characteristics of the Kuwaiti economy, the classification of projects and the comparison of them, and subsequently the comparison of the many branches of industrial production, can depend on many standards. Some of the most important are:

1. What is the best use for the local raw materials and resources?
2. To what extent can manpower be saved?
3. How much does the project contribute to social benefits for the national economy as a whole in addition to its commercial profit?
4. How many opportunities does the project create for the introduction and furtherance of modern technology?
5. How much use does the project make of public utilities (electricity-water-industrial plots) compared to the social

benefits that can be derived from it?

6. How well does the production comply with Kuwait standard specifications?

IX. Finally in view of what this survey has revealed of the unsuitability and inefficiency of the industrial financing available for the private sector, the following must be done:

1. Increase government contributions to loans and aids which are granted for financing industrial projects and facilitate the granting of commercial bank and industrial bank loans to the institutions of the private sector.
2. Take measures which would encourage individuals to invest in industry and reassure them that there are worthwhile savings to be made from these investments.

## CHAPTER TWO

3.2.1 Summary and Conclusions

(I) One of the problems in studying small and rich countries, such as Kuwait is the difficulty in finding a suitable framework of analysis which can fit these countries; how to classify the economy of Kuwait, whether it belongs to the developed or developing countries. It has the features and characteristics of both developed and developing countries. The features and characteristics of developed countries which link Kuwait to this group can be seen in the economic growth which is increasing annually at a high rate of 75 per cent, as well as the high income per capita which reach \$19,818. It is a capital surplus country with high propensity to save (44 per cent), the balance of payments surplus, the high standard of education, health service, etc., as well as the high percentage of urban settlement which now exceeds 90 per cent of the total population

On the other hand, there are some features and characteristics which tie Kuwait to the developing countries. These can be seen in the heavy dependency of the Kuwait economy on the oil sector which in 1979 contributes 69 per cent of the total G.D.P. Another symptom of developing countries is the limited market. However, there is a clear difference between the Kuwaiti case and other developing countries in this respect, since the limited market in Kuwait is due to the small size of the country and scant population with high purchasing power, whereas in the developing countries, the market is limited because of the low income per capita which in turn diminishes the purchasing power of individuals.

The shortage of skills and technical labour force in the country push Kuwait nearer to the developing countries. Contrary to developing countries, more than 20 per cent of whose population work in the agricultural sector, in Kuwait the service sector accounts for about half of the labour force. Nevertheless, there are some kinds of similarity between the role of the services sector in Kuwait and the agriculture sector in the developing countries, where neither require skills and high qualifications.

As one expert on Kuwait economy stated:

"The economy of Kuwait defies classification in the traditional academic categorizations of either developed or undeveloped".

Elmallakh (1968), P.1.

(II) As a result of lack in raw materials other than oil and natural gas, and lack of skilled labours and the narrow market demand, small markets are dominating and will dominate for a long time in Kuwait. In 1976, about 76 per cent of all industrial firms had fewer than 15 employees, but accounted for 23 per cent of all industrial employees and their contribution was only 6 per cent of value added to G.D.P. Most of these relatively small firms are mainly involved in the manufacture of furniture and fixtures, bakery products and manufacturing of clothing. About 13 per cent of all industrial firms had 5 - 9 employees, but accounted for 10 per cent of all industrial employees and their contribution was only 3 per cent of value added to G.D.P. Most of these firms are primarily involved in the manufacture of food and beverage products and basic metal industries. This means that about 89 per cent of all industrial firms had fewer than 10

employees, accounting for 33 per cent of the total manufacturing employment and their contribution was only 9 per cent of value added to G.D.P.

About 14 per cent of all manufacturing firms had more than 10 employees, but accounted for about 77 per cent of the industrial employees and about 90 per cent of value added to G.D.P. Most of these firms are primarily engaged in industries such as manufacture of fertilizers, chemicals, rubbers, plastic and petroleum refining (see Figure 3, Appendix II).

(III) The industrial sector in Kuwait should be looked upon from a development point of view and not merely a commercial point of view, because the revenues are not the only reasons to assess the reform on investments, but the effect of other benefits which reflect on the economy, and on the society. Developing the industrial sector in Kuwait will contribute to the development of the Kuwait economy as a whole, regardless of the substantial revenue in the short run. The kind of development proposed will enable Kuwait to depend on many established bases of production.

(IV) The manufacturing sector in Kuwait is still very much concentrated on the early stages of manufacturing and shows little vertical integration. There is little activity in the area of primary and intermediate goods. Although growing at relatively high rates (28 per cent annually during 1974-1977), the manufacturing sector still plays a modest role in the national economy accounting in 1977 for only 3.5 per cent of G.D.P., 12 per cent of non-oil G.D.P. and 10 per cent of the total labour force.

(V) The shortage of labour is considered one of the most important obstacles for industrial development in Kuwait. This problem will remain for many years to come, at least until the end of the present century, unless some radical solutions are put into action to solve it. The shortage of labour is more acute in the industrial sector than in the government sector, which is remarkably inflated with employees in some of its sections, particularly administrative and manual work which do not require special skills.

(VI) The small size of the local market in Kuwait represents one of the main problems for industrial development. It also limits the size of industrial projects, particularly those which are orientated towards the production of consumer commodities to meet the needs of the local market. Foreign competition also limits the market for local products. Given the possibilities of expanding markets into the Arab countries in general and the Gulf countries in particular, the market is considered to be an encouraging factor for industrial development provided the coordination and cooperation between these countries form an economic bloc in the field of industrialization and marketing in favour of the industries in those countries. The Arab countries as a part of this world have natural and human resources which are not distributed equally. These resources can be used to produce a number of commodities. Arab countries are in utmost need for cooperation and coordination amongst themselves in many fields, especially in the industrial sector. It may be possible to expand in marketing consolidated industries on the same line as the consolidation of iron and steel and the

, consolidation of fertilizers, on conditions that these consolidations undertake to create institutions which help marketing common commodities in the Arab countries and exportation abroad. As mentioned before, a Gulf common market, or an Arab common market is one way that Kuwait can overcome the problem of the market, although there are some reservations which are standing in the way of benefiting completely from an Arab common market.

(VII) The basic infrastructure in Kuwait can be considered as an element supporting the industrial development. The government is fulfilling its responsibilities in the construction of the basic infrastructure and providing the investments necessary for it. In the field of transport and communication, with the exception of the government slowdown in making the necessary expansion for Kuwait International Airport, the achievements which have been completed can be considered as satisfactory and rather encouraging in speeding up the rate of industrial development. Kuwait also enjoys an excellent transportation network with high efficiency. There are also expansions in Shuwaikh and Shuaika ports and an increase in the number of Kuwaiti cargo ships and oil tankers. Regarding water (potable water, cooling water and brackish water), the water resources and the production capacity available at present in Kuwait, as well as the projects for expansion in the future, cover all water requirements, whether for industry, agriculture or domestic use. The same thing can be said about electric power as the cost of electricity for industry is very low. The national petroleum company supplies oil for industrial purposes at a reduced price. Natural gas

is also available particularly in the industrial areas of Shuaiba and Shuwaikh, at a low cost. Finally, the planners in Kuwait tend to concentrate industrial activities in industrial areas selected by the government and supplied with the necessary services. The main areas are the two industrial areas, Skuwaikh and Shuaiba alongside some other areas allotted for light industries such as Alray Area, Fahahed, Ahmadi and Al-Sulaybia.

(VIII) Finance plays an important role in the development policy. Development projects are limited by a suitable financing policy based on the exploitation of the national resources available to the maximum. The financial sector in Kuwait is composed of the Central Bank, Industrial Bank and the Prime Commercial Banks in addition to the Credits and Savings Banks and some other investment institutions. The only criticism of industrial finance in Kuwait is that the banks allow loans on the basis of income and property of the borrowers, and not on the basis of the viability of these loans, i.e. the banking system still depends on the personal guarantee. Small industrial projects do not attract any loans from the Commercial Bank, unless they realize the conditions of Kuwaiti participation in ownership at the rate of 51 per cent. Subsequently, the Kuwaiti proprietor performs the signing or participates in signing to guarantee the loan. Interest rates are also high in these banks and loans are limited to one year only. However, as mentioned before, the establishment of the Industrial Bank of Kuwait will assist in providing the necessary finance for this sector.

(IX) Kuwait depends, as do other developing countries, on the developed countries in obtaining technology. The transfer of modern technology is often accompanied by many problems. The most important are the unfair conditions which some of the developed countries or multinational companies impose on the buyer to ensure profits, huge monopolised privileges, and maintain them under their technological guidance and economical or political control thereafter, as much as possible. This is due to the fact that the buyer of the developing nation enters the technology market as the weaker side in bargaining matters, with little, if any, knowledge about the deal he is going to make.

(X) One of the problems facing industrial development in Kuwait is the shortage of administrative skills. There is a lack of expertise in the basic fields of technology, engineering research and development, accountancy and consulting services in general. Kuwait is likely to remain dependent, for a number of years to come, on foreign expertise in the above mentioned fields until Kuwaiti abilities and experiences which would cover these services are made available. The administrative staff, up until now, has not sustained any coordinated comprehensive organisation on a scientific basis to define salaries, despite the fact that it is considered the encouraging element for work, which has led to ~~non-coordination~~ between the level of salaries and the level of jobs and experiences and responsibility. This discrepancy in salaries, which were not scaled on a scientific integral basis, resulted in the following: A. Crippling the role of this incentive and subsequently creating a feeling of defraud in a large

number of employees in the administration. B. Depriving the administration of many specializations and leaderships and diverting them to work either in the private sector or to migrate to the neighbouring countries where the salary is higher.

(XI) The developments which have been introduced into the social and economic system of the Kuwaiti society have been accompanied by some changes to the society, such as to the Kuwaiti women who now enter the field of education and work. Yet one can still see tradition leaving a strong affect on society. The social behaviour prevailing in industrial nations does not, as yet, exist in Kuwait society. There is also another factor hampering industrial development in Kuwait and is considered to be of the utmost importance. That is how to create incentives for people to work hard in a society which in fact enjoys a great abundance of material wealth and lives in prosperity.

(XII) Oil and natural gas are considered the most important natural resources available in Kuwait. Oil and natural gas are only processed on a very minor scale through refining and petrochemical production. This study shows that besides oil and natural gas, other natural resources are available in Kuwait such as minerals (limestone, clay and lime-sand) and some other materials which to a certain extent can be used to produce some industrial products, as required by the building materials industry. In addition, there are livestock resources from animal hides to the marine resources such as fish, pearls and prawn. None of these resources are used in a full industrial process.

(XIII) Pollution and its impact on the environment has now become one of the main problems which are facing industrial development not only in the developing countries, but also in the developed countries. Some of the industries which tend to increase the rate of pollution are chemicals, petrochemicals and building materials industries. All these types of industries are included in the industrial development plan for Kuwait. This matter is receiving the attention of those responsible in Kuwait, and a committee has been formed of all ministries and authorities concerned to study ways for the preservation of the environment and to take measures to control the rate of pollution. Perhaps the recent creation of a special authority for the preservation of the environment by Kuwait Municipality is a positive step to industrial development in Kuwait. Despite all these committees and authorities and different measures taken by the companies working in both Shuwaikh and Shuiaba industrial areas, this study shows that the rate of pollution is on the increase.

### 3.2.2 Recommendations

This section advances various recommendations, some at a general level and others more specific, which aim at encouraging the growth of industries in Kuwait, assisting in the possibility of improving its competitiveness locally and internationally.

Some recommendations refer to general policies in the social and services field, etc., which have a direct relation with the industrial sector. Listed below are the most important of these recommendations:

I: The encouragement and reinforcement of links between the apparatus of planning for industries and the industrial units, whether in the private or mixed sector, using the following suggestions:-

(1) The creation of a high authority for industrialization (or high Committees and Councils) for the industrial sector composed of planners, industrialists and those chiefly responsible for industry in the state, as well as representatives of the industrialists' investors. This authority should carry out a revision of the development of industry in the State and take principal decisions and give recommendations for solving the problems which deter growth in industry.

(2) The encouragement of holding local and international conferences, industrial exhibitions, in a manner that facilitates the transfer of technological information; reviewing the existing problems and ascertaining the means of treating these problems in addition to promoting competition amongst existing industries.

(3) The development of the activities of the Chamber of Commerce and Industry or the Committees whose establishment has already been proposed, or the industrial unions, or any official party suitable to take responsibility for studies for proposed industrial projects and forwarding the results of these studies to investors and for issuing publications which show international development in the field of industry and technology, as well as assisting in submitting solutions to the general problems of industry in Kuwait.

(4) The encouragement of the formation of industrial unions amongst existing industries which represent those really concerned with growing and developing local industries in Kuwait. Perhaps this recommendation has a particular historical importance. The major factor in building modern Japanese industries was the cooperation of a large number of industrial establishments after the second world war to find collective solutions to their problems. This brought about the creation of "the Japanese Scientists and Engineers Unions" in September, 1949. This Union undertook the setting up and pursuing of training courses for those working in industries, particularly in the period that followed its foundation (1950 - 1953) then the following up of the practical application of the developed scientific theories (AL-Yousef, 1972, P.15). The activity of the Japanese Union among the various industries led to the realization of large economic benefit which resulted from high productivity and high efficiency in operation. Japan was then able to enjoy a competitive, strong and distinguished place among industrial nations.

II: The revision of existing educational systems and their development in a way which best serves the sought economic development. The following specific recommendations may be made:-

- (1) Expansion in applied higher education horizontally (increased number of institutes) and vertically (applied science education) which would provide highly skilled teams. This, in its turn, would end the need for industry to re-train graduates with an academic background to qualify them for applied technical works. Thus the role of the academics would be confined to the development of scientific theories for the solution of some problems and the preparation of research and designs which would help in developing industry.
- (2) The adoption and promulgation of a comprehensive educational system in a way which realizes the importance of applied work and the creation of qualified technical teams to be prepared to join the labour force at an early age.
- (3) The adaption of the philosophy of further education which would ensure constant opportunities of education at any age and to any level. It is worth mentioning here that the Ministry of Education has actually established one comprehensive secondary school for trial and has begun expanding this model of school by planning another one for 1982/83. These tendencies are in line with the true needs of the Kuwaiti Community in general and industries in particular, and will realize the objectives of development for the future.
- (4) The adoption of the idea of establishing a high research council in the field of industrial management for the purpose

of forming highly qualified staff to undertake management of industrial projects with modern scientific methods.

III: The Government has to pay more attention to improving the levels of salaries and the conditions of work in both the private and mixed sector. This, in turn, will encourage investors to expand by using more modern technology to intensify capital use in relation to labour. It will also contribute towards attracting Kuwaiti labour to work in the industrial sector. These measures would also help in ending the present preference for employing a foreign labour force with low salaries and traditional technology.

IV: As the population of Kuwait is comparatively small, interest in the development of female labour was a principal factor in the development of the society as a whole. Despite the fact that women form about half of the population in Kuwait, their contribution to the work force is very low. Therefore, there are some measures which can be taken in order to increase the contribution of women in the labour force. These measures are -

(1) Increase the admission of Kuwaiti girls to the professional training centres and give them the choice to select the field which they prefer.

(2) Prepare a staff of Kuwaiti girls to take up teaching in different stages of schools.

(3) Try to reduce the rate of illiteracy among women to a minimum by encouraging them to join the illiteracy centres.

(4) Form a female committee specialized in women's affairs whose objectives would be the studying of women's problems and improvement of their abilities. Recruiting the assistance of the various information media - television, radio and

press in presenting guidance material and encouraging women to join the work force and to take up industrial employment

V: Despite the existence of many institutes and organisations which supervise the industrial sector in Kuwait (see Appendix III), the Kuwait economy has been unable to develop in the field of industry and production at the same rate as the construction or services sector. One reason for this lies in the absence of an executive body having the power to examine and sanction industrial projects, and the lack of a general policy defining a programme for investments in the industrial sector. Without the guidance of such organizations and the definition of responsibilities amongst them, it would be difficult to convert any policy of industrialization into a successful strategy.

In order to solve some of these problems the following proposals should be considered:

(1) The Government has two alternatives - either forming a new organization, or giving authority to any of the presently existing organizations for the purpose of coordinating between the institutions and organizations now existing.

(2) Responsibility for encouraging industrial investments in Kuwait is distributed at the present between the Ministry of Commerce and Industry, the Industrial Development Committee, Shuaiba Industrial Board and the Chamber of Commerce and Industry. As a result, the encouragement of investments is not strong and many businessmen invest outside the industrial sector because of the absence of such encouragement from these ministries. Again, the problem is that every ministry or department responsible for such encouragement leaves the responsibility to the others. It is therefore difficult to

find out who is actually responsible for any deficiency, because, as mentioned before, there is no definition of responsibilities amongst them. The most logical assumption is that the Ministry of Commerce and Industry should itself be responsible for the encouragement of investments in the industrial sector, since they have run a department of industrial investment with many experts.

(3) The new industrial areas which are under establishment need support for and development of their administration, or for the formation of an independent board for these areas similar to Shuaiba and Shuwaikh Industrial Boards.

VI: The expansion of the base of economic feasibility studies to include revision of the size and form of existing industries, as well as the possibilities of establishing new industries. For example, it would be possible to mention some projects such as :

(1) Establishing new petrochemical and chemical industries by the government such as fibres, textiles, pharmaceutical and cosmetic industries, in addition to the expansion in the base of industries derived from the main sources of the natural resource, because this method will minimize the rate of oil and natural gas wastage.

(2) The establishment of large industries to produce apparel for domestic consumption especially school uniforms and other clothes which are commonly known in the Gulf and other countries. Undoubtedly, the development of such an industry with its use of highly technical machinery, could contribute to the development of the textiles industry (especially those which depend on artificial fibres which can be locally

produced), and can provide ready-made clothes at a reasonable price. It also widens the scope for the participation of the Kuwaiti women in the industrial sector.

(3) The establishment of special industries to provide building and construction materials, especially the heat insulating brick industry, kerbstone and the requirements of pre-fabricated buildings.

(4) The establishment of large units for the manufacturing of furniture fixtures which will depend on a new technology and to reduce the artisan industry to a minimum. It is noteworthy in this respect that some of these commodities must be produced by artisans because some of them depend to a large extent on individual hand work.

(5) Development of leather products, leather substitutes, of fur and footwear industries. These industries must use new techniques in order to produce leather commodities, e.g., shoes, handbags, belts and suitcases. These industries could be greatly expanded and their commodities could cover the Gulf area and some Arab countries.

(6) The study of the feasibility of establishing an industrial base for production depending on light weight and small size raw materials in which the added value would form the major part, e.g., the electronics industry. The products of this kind of industry can be consumed locally at the first stage, as import substitutes. The second stage will be to find markets outside the country starting with the Gulf countries.

(7) Make more technical surveys than economic feasibility surveys to ascertain the possibilities of exploiting natural resources other than oil and natural gas, for example the establishment of freezing and canning factories for fish and

prawn and other marine life, or the production of glass and silicon (after studying the quality of the Kuwaiti sand).

VII: Preparing the necessary surveys with a view to end the phenomenon of the spreading of small size industries. The following alternative could be followed in order to stop this phenomenon -

(1) Setting up attractive systems to encourage production mergers among groups of small size industries, scattered around the state. This could bring about their independence, at the same time encourage the organization of their affairs, and concentrate them in the field of production, leaving their technical, financial and marketing problems to the central administration of these mergers.

(2) Encouraging the small size industries to expand by means of improving financing conditions in the Industrial Bank, as well as offering consulting services to them in technical and managerial fields.

(3) Studying the conversion of some small individual and medium sized industrial establishments to big projects in the form of share-holding companies and providing opportunities for citizens to contribute towards the development of their national industries. The state could encourage some of the vital industries which would be converted to shareholding companies, either by special securities for their profits, or by buying some of their shares on a temporary basis.

VIII: Expediting studies for Gulf and Arabic integration in the industrial sector. This would realize maximum economical benefits, resulting in a wide market, restricting competition and specialization by setting technical standards and specifications in a scientifically clear method. Economic

integration between the Gulf States should be viewed as an approach to economic development rather than solely as a tariff issue. Therefore, the cooperation within the industrial area should be the key factor for a cooperation between the Gulf States. Cooperation in this area, does not mean that there are no other fields for cooperation; it only emphasises that industrialization is one of the important devices for achieving the structural transformation necessary for development. It is also necessary to establish regional industrial programs as an important device for promoting industrial development at a faster rate in the Gulf region. This will need to establish and develop a Gulf Industrial Council to administer the scheme, along with a Gulf Industrial Development Bank to undertake the financial, technical and operational matter.

IX: The problem of choice of technology has been and continues to be an area of considerable discussion. With heavy unemployment and a grossly unequal distribution of income characterizing the economies of the developing countries, there is a growing call for the use of more labour-intensive techniques in manufacturing industries. In Kuwait, there is a dualistic industrial development, on the one hand the private industries are considered to be traditional industries which rely on a cheap labour force and use traditional technology. On the other hand the Government industries are modern industries using a professional labour force and modern technology. Under these circumstances, the task of equalizing the productivity of these two different industries is difficult and involves intricate policy decisions.

Each individual choice will have to be tested very carefully and separately in the context of the entire socio-economic framework.

It seems that for Kuwait it will be important to undertake those activities which ensure the flowering of innovation and development of indigenous technical capabilities, and reduce its import of modern technology. Again, it is necessary to emphasise human resources as a decisive element in modern industrialization. As a start, Kuwait industries may import technology from outside, as most industrialized countries did before and during industrial revolutions. But, after that, they reduced their import of technology to a minimum and started to develop innovations and indigenous technical skills of their people.

In order to develop new technologies and indigenous capabilities in Kuwait, the following measures are suggested -

- (1) Development of small and medium scale industries to exploit local materials. These kind of industries provide the back-up so essential for development of other sectors, especially agriculture. At the same time, these industries operate at a relatively low level of technology and are, therefore, much easier to manage than the heavy industries.
- (2) Development of techniques, publication from researchers and the dissemination of information through conferences and courses in the area of technology and production.
- (3) The setting up of a documentation and information centre to keep in touch with current technological development in the outside world.

(4) Control and supervision of import licences for machinery and material by specialized organizations.

(5) Public information campaigns using different kinds of media (radio, television and newspapers) to encourage consumers to use indigenous technology and goods.

(6) The educational programme should be accompanied by adequate outlets for knowledge and training these acquired.

X: Kuwait enjoys a good geographical location, being close to some of the markets to which its products of petro-chemicals can be exported, such as the heavily populated developing agricultural countries of the Asian Continent (India, Pakistan and Indonesia) and the African Continent (Sudan and Egypt).

The consumption by these two continents of nitrogen fertilizers (MTN) is constantly increasing (The Asian continent's consumption of nitrogenous fertilizer was 10,004,678 metric tons in 1975/76, it increased to 15,167,999 metric tons in 1978/79. About 78 per cent of these fertilizers have been met by import. The African continent's consumption was 1,251,128 metric tons in 1975/76, it increased to 1,388,561 metric tons in 1978/79 and about 84 per cent of these fertilizers were imported), (F.A.O., 1980, pp 17-20), in order that these two continents will be able to reach the food production level expected for the eighties, because of the increase in the population.

With this in mind, Kuwait with its proximity to these two blocs will have a current market to dispose of large quantities of petro-chemical products in the future. This is a promising situation, but, Kuwait must be careful of one important point which is that, due to the total dependence of this industry on exports, its production will face strong

international competition in the future, when many countries may impose high tariffs to protect their domestic products.

In brief, without a local market to utilise a substantial proportion of the production, this industry will face many risks and difficulties, and it is evidently not economically possible to find a local market to utilise some of the production due to the absence of large scale agriculture in Kuwait.

In order to reduce these risks and to secure the developing countries' markets, Kuwait could produce semi-manufactured fertilizers such as ammonia which in turn could be finished in factories set up in consumer countries, these factories preferably being jointly owned by Kuwait and the country in which the factories will be constructed. Such steps will be beneficial for both countries, because it will, to a certain extent, secure the markets for Kuwait's products without fearing foreign competition. At the same time, these consumer nations could realise some of their own hopes and ambitions to increase industrial development in their countries and reduce their own unemployment levels, because a large labour force will be directly employed in these factories, or will be working in the services which these industries require.

These countries will also secure the provision of their needs of fertilizers produced in part locally, which in turn saves some of the cost of purchasing from abroad which usually requires a foreign currency exchange.

If such a solution is attempted, it would of course require the government to work towards the making of agreements with developing countries which will accept this idea.

# **APPENDICES**

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APPENDIX I

Dear Sir,

I am about to conduct an economic survey of the state of Kuwait, the intention being to find some problems facing industrial development in Kuwait. I would be extremely grateful if you could help me in my task by completing the accompanying questionnaire. Rather than send the questionnaire to you by post, I have decided that it would be wiser to deliver it to you personally, so that I can advise you over its successful completion.

I must emphasise that the information obtained in the questionnaire is not for publication. It is not to be used for commercial or political purposes, but is entirely academic in nature, contributing substantially towards a crucial part of the enquirer's doctorate research. ALL information gained will be treated with the utmost confidentiality.

I shall be most grateful for any assistance and time that you can give me.

Yours faithfully

Abdullah Al-Kandari

A SURVEY OF THE FACTORS INFLUENCING INDUSTRIAL  
DEVELOPMENT IN KUWAIT

1. General Statements

- A. Name:
- B. Position:
- C. Where Employed:
- D. Department
- E. Qualifications - Experience:
- F. Grade level:
- G. Nationality:

INFRASTRUCTURE

Comprises roads, means of transport, ports, source of energy, water and provision of industrial area.

TABLE (1.1): Summary of replies to the question:

"To what extent does each of these elements represent a problem to industrialisation in Kuwait?"

## Roads and Means of Transport:

Replies	Number	Percentage
Acutely	45	14.15
medium	133	41.82
No problem	140	44.03
TOTAL	318	100.00

TABLE (1.2)

## Electric Power:

Replies	Number	Percentage
Acutely	48	15.09
medium	130	40.88
No problem	140	44.03
TOTAL	318	100.00

TABLE (1.3):

Fuel and Energy supplies (other than electric power):

Replies	Number	Percentage
Acutely	50	15.72
medium	128	40.25
No problem	140	44.03
TOTAL	318	100.00

TABLE (1.4):

Availability of Industrial Areas:

Replies	Number	Percentage
Acutely	70	22.01
medium	108	33.96
No problem	140	44.03
TOTAL	318	100.00

INDUSTRIAL FINANCE

(2.5) To what extent does finance represent a problem to industrialisation in Kuwait?

Acutely ( )  
 medium ( )  
 No problem ( )

(2.6) If it does represent a problem, what are the reasons?

- A. Non-availability of the necessary finance in general ( )  
 B. Non-existence of government finance ( )  
 C. High interest rates and short terms of loans granted by Commercial Banks ( )  
 D. Difficulty in providing the guarantees which Commercial Banks demand ( )  
 E. Failure of the Industrial Bank to play its role ( )  
 F. Other ( )

TABLE (2.5): Summary of replies to the question:

"To what extent does finance represent a problem to industrialisation in Kuwait?"

Replies	Number	Percentage
Acutely	74	23.27
medium	111	34.91
No problem	133	41.83
TOTAL	318	100.00

TABLE (2.6):

Replies of a part of the sample (185 respondents) who replies positively to the previous questions, regarding the reasons

Reasons	Number	Percentage
A. Non-availability of the necessary finance in general	41	22.18
B. Non-existence of government finance	46	24.86
C. High interest rates and short terms of loans granted by Commercial Banks	151	81.62
D. Difficulty in providing the guarantees which Commercial Banks demand	96	51.89
E. Failure of the Industrial Bank to play its role	79	42.70
F. Other	18	9.73

Market

(3.7): To what extent does the market represent a problem for industrialisation?

Acutely	( )
Medium	( )
No Problem	( )

(3.8): If it does represent a problem, what are the reasons?

A. The small size of the local market in general	( )
B. The non-existence of markets abroad	( )
C. The competition from imported commodities and products	( )
D. Not enough protection for local products	( )
E. The difficulty in changing the consumption patterns of people	( )
F. The difficulty in co-operating with other countries	( )

TABLE (3.7): Summary of replies to the question:

"To what extent does the market represent a problem to industrialisation in Kuwait?"

Replies	Number	Percentage
Acutely	276	86.79
Medium	23	7.24
No Problem	19	5.97
TOTAL	318	100.00

TABLE (3.8):

Distribution of the part of the sample (299 respondents) who have replied positively to the previous question, regarding the reasons.

Reasons	Number	Percentage
A. The small size of the local market	272	90.97
B. The non-existence of market abroad	167	55.85
C. The competition from import commodities	194	64.88
D. There is not sufficient protection for local products	179	59.87
E. The inefficiency of the marketing section	89	29.77
F. The difficulty of changing the consumption pattern of buyers	101	33.78
G. Other	12	4.01

RAW MATERIALS

(4.9): To what extent do raw materials represent a problem for industrialisation:

Acutely	( )
Medium	( )
No Problem	( )

(4.10): If raw materials represent a problem, what are the reasons:

A. Non-existence of natural resource for raw materials (with the exception of oil)	( )
B. Difficulty in obtaining raw materials whether in the local market or abroad	( )
C. Difficulty in transporting raw materials from their resources to production centres	( )
D. High prices of raw materials in general	( )
E. Other	( )

TABLE (4.9): Summary of replies to the question:

"To what extent do raw materials represent a problem for industrialisation in Kuwait?"

Replies	Number	Percentage
Acutely	110	34.59
Medium	151	47.48
No Problem	57	17.93
TOTAL	318	100.00

TABLE (4.10):

Distribution of a part of the sample (261 respondents), who replied positively to the previous question, relative to the reasons.

Reason	Number	Percentage
The non-existence of natural ore (other than oil and natural gas)	237	90.80
The difficulty in getting raw materials, whether locally or abroad	104	39.85
The transportation of raw materials from their source to production centres	91	34.87
The high prices of raw material in general	174	66.67
Other	5	1.92

## ADMINISTRATIVE COMPETENCE

Administrative Competence

This refers to the abilities for administration of management or executives.

(5.11): To what extent does lack of administrative efficiency represent a problem to industrialisation:

- Acutely ( )  
 Medium ( )  
 No Problem ( )

(5.12): A. Is the problem represented in:

- Shortage in number ( )  
 Shortage in efficiency ( )  
 Both ( )

B. Is the lack of administrative efficiency in:

- Kuwaitis ( )  
 Expatriates ( )  
 Both ( )

(5.13): If administrative abilities do form a problem, what are the reasons?

- A. The reluctance of administrative abilities to work in the industrial sector ( )
- B. The absence of a plan on company level to prepare and train people in required administrative abilities ( )
- C. The difficulty in obtaining the required administrative abilities from outside Kuwait ( )

- D. The migration of non-Kuwaiti administrators to better opportunities in neighbouring countries ( )
- E. Lack of a chance for young administrative abilities to appear ( )
- F. The absence of administration training in Kuwait ( )
- G. Other ( )

TABLE (5.11): Summary of replies to the question:

"To what extent does lack of administrative efficiency represent a problem to industrialisation in Kuwait?"

Replies	Number	Percentage
Acutely	79	24.85
Medium	191	60.06
No Problem	48	15.09
TOTAL	318	100.00

TABLE (5.12):

The replies of part of the sample (270 respondents) who replied positively to the previous question regarding the nature of the problem:

The Dimension of the problem	Number	Percentage
A. Is the problem represented in:		
1. Lack in number	32	11.85
2. Lack of efficiency	143	52.96
3. Both	151	55.93
B. Is the lack of administrative efficiency in:		
1. Kuwaitis	67	24.81
2. Expatriates	48	17.78
3. Both	165	61.11

TABLE (5.13):

Distribution of the previous part (270 respondents)  
of the sample regarding the reasons for the problem

Reasons	Number	Percentage
A. The reluctance of administrators to work in the industrial sector	121	44.81
B. The absence of a plan on company level to prepare and train administrators	167	61.85
C. The difficulty in procuring the required administrative abilities from outside Kuwait	81	30.00
D. Migration of non-Kuwaiti administrators to better opportunities in neighbouring countries	145	53.70
E. Lack of chances for young administrative abilities to appear	166	61.48
F. The absence of training units for administrative abilities in Kuwait	206	76.30
G. Other	17	6.30

LABOUR FORCE

Labour Force

In this category are included all types and levels of manpower except the high administrative and executive management levels.

(6.14): To what extent does the labour force represent a problem to industrialisation in Kuwait?

- Acutely ( )  
 Medium ( )  
 No Problem ( )

(6.15): Is the problem represented in:

- A. Lack in number ( )  
 Inefficiency ( )  
 Both ( )

B. Is the lack in labour force in:

- Kuwaiti ( )  
 Expatriates ( )  
 Both ( )

C. Is the lack or inefficiency in:

- Skilled labour force ( )  
 Unskilled labour force ( )  
 Both ( )

(6.16) If the labour force does represent a problem what are the reasons?

- A. The reluctance of Kuwaitis to take on trade and technical work ( )  
 B. The preference of Kuwaitis to work in the government rather than in the industrial sector ( )  
 C. The absence of a plan on state level to provide the necessary labour force ( )

- D. The absence of a plan on company level  
to provide the necessary labour force ( )
- E. The inflexibility in employment laws  
represent an obstacle in the way of  
attracting the necessary skilled  
labour force ( )
- F. Other ( )

TABLE (6.14): Summary of replies to the question:

"To what extent does the labour force represent  
a problem to industrialisation in Kuwait?"

Replies	Number	Percentage
Acutely	238	74.84
Medium	46	14.47
No problem	34	10.69
TOTAL	318	100.00

TABLE (6.15):

Replies of part of the sample (284 respondents) who replied positively to the previous question, regarding the nature of the problem.

The Dimension of the problem	Number	Percentage
A. Is the problem represented in:		
1. Lack in number	19	6.69
2. Efficiency	187	65.85
3. Both	78	27.46
B. Is the lack in labour force in:		
1. Kuwaitis	39	13.73
2. Expatriates	12	4.23
3. Both	238	83.80
C. Is the lack or inefficiency in:		
1. Skilled labour force	176	61.97
2. Unskilled labour force	14	4.93
3. Both	99	34.86

TABLE (6.16):

Distribution of the same part of the sample (284 respondents) who have replied positively to the previous question, regarding the reasons.

Reasons	Number	Percentage
A. The reluctance of Kuwaitis to take on technical work	266	93.66
B. The preference of Kuwaitis to work in government, rather than in the industrial sector	225	79.23
C. The absence of a plan on state level to provide the necessary labour force	207	72.89
D. The absence of a plan on company level to provide the necessary labour force	156	54.93
E. The inflexibility in employment laws, as an obstacle to attracting the necessary skilled labour force	184	64.79
F. Other	18	6.34

## Industrial Pollution

17. To what extent does industrial pollution present a problem to industrialisation in Kuwait?

Acutely ( )

Medium ( )

No problem ( )

18. If it does present a problem to industrialisation, what are the reasons?

A. The industrial areas are too close to the residential area ( )

B. The non-existence of pollution filters in the existing industries ( )

C. The difficulty in finding a suitable place to dump industrial waste ( )

D. The non-existence of government department having sufficient authority to control the industrial pollution ( )

E. Other ( )

19. What kind of pollution has the most serious effect:

A. Land pollution ( )

B. Air pollution ( )

C. Water pollution ( )

TABLE (7.17): Summary of replies to the question:

"To what extent does industrial pollution present a problem to industrialisation in Kuwait?"

Replies	Number	Percentage
Acutely	207	65.09
Medium	69	21.70
No problem	42	13.21
TOTAL	318	100.00

TABLE (7.18):

The Distribution of the part of the sample  
(276 respondents) who have replied positively  
to the previous question, regarding the reason.

Reasons	Number	Percentage
A. The industrial areas are too close to the residential areas	215	77.90
B. The non-existence of pollution filters in the existing industries	121	43.84
C. The difficulty in finding a suitable place to dump industrial waste	182	65.94
D. The non-existence of government department having sufficient authority to control the industrial pollution	198	71.74
E. Other	14	5.07

TABLE (7.19):

The distribution of the part of the sample (276 respondents), who have replied positively to the previous question, regarding the kind of pollution which has the most serious effect.

Kinds	Number	Percentage
A. Land pollution	135	48.91
B. Air pollution	245	88.77
C. Water pollution	207	75.00

DISTRIBUTION OF THE SAMPLE ACCORDING TO THE INDUSTRIAL FIRMS

## APPENDIX I

I. Chemical Products Industries:

1. The Plastic Co. (plastic containers, crates, bottles).
2. Al-Matrook Trading Contracting Establishment (paints).
3. Al-Yousfi Factories for Reinforced Plastic Products Establishment (glass reinforced plastic products).
4. Al-Baghi Sponge Co. (foam products for furniture paddings).
5. Al-Sanea Chemicals Establishment (sanitizing, cleaning and bleaching agents).
6. Jassim M. Al-Bahar and Partners Co. (adhesives, detergents, and shampoos).
7. Al-Rashed Industrial and Contracting Co. (chemical additives and industrial cleaners).
8. Al-Sharan Aerosol Establishment (liquid detergents and cosmetics).
9. Kuwait Sulfur Co. (sulfur powder for agricultural pesticides).
10. Al Burag Fibreglass Boat and Caravan Manufacturing Co. (reinforced fibreglass boats).
11. Packaging and Plastics Industries Co. (polypropylene and polyethylene bags).
12. Al-Tariq Trading Contracting Establishment (paints and glues).

## II. Metal Products and Engineering:

1. Arabian Transportation Vehicles Industrial Co.  
(vehicle bodies).
2. Arabian Light Metals Co. (Aluminium extrusion).
3. Kuwait Co. for Home Appliances (household ovens).
4. Kuwait Metal Containers Co. (production of metal containers).
5. Kuwait Foundry Co. (foundry).
6. Refrigeration Industry and Cold Storage Co. (central air-conditioning units).
7. Aluminium Extrusion Co. (Aluminium extrusion).
8. Al Hassawi Establishment for Refrigeration and Water Cooler Industries (commercial refrigerators).
9. Gulf Cable and Electrical Industry Co. (insulated electrical wires and cables).
10. Electrical Board Manufacturing Co. (electrical equipment).
11. Kuwait Shipbuilding and Repair Yard Co. (shipbuilding and repair facilities).
12. Al-Muhalab Contracting and Trading Co. (electrical switchboards and casings).
13. The Wiremesh Fencing Manufacturing Co. (chain link fencing).
14. Al-Anwar Metal Co. (metal doors and stairs).

### III. Food and Beverages Industries:

1. Kuwait Food Co. (meat products).
2. Kuwait United Poultry Co. (poultry meat).
3. The Modern Cold Storage Establishment (ice manufacture).
4. National Concentrated Feed Co. (animal foods).
5. Sharjah Danish Dairy Co. (reconstituted milk, yoghurt, ice-cream).
6. Kuwait Food Industries Co. (reconstituted potato chips).
7. Seven-Up Bottling Co. (soft drinks, canning).
8. Ras Al-Khaimah Poultry and Feed Co. (poultry meat and eggs).
9. Al-Khateeb and Partners Ice Manufacturing Factory (ice manufacturers).
10. Al-Saydawi Co. (sweets and biscuits).

IV. Construction Materials:

1. Gulf Marble Co. (marble cutting).
2. Al-Wafra Cement Bblocks Co. (cement blocks).
3. National Aggregates and Asphalt Co. (Aggregate quarrying and crushing).
4. The Industrial and Real Estate Co. (electricity wire).
5. Kuwait Cement Co. (clinker grinding).
6. Al-Khabbaz Establishment (artificial marble).
7. National Industries Co. (cement products).
8. Kuwait Natural Stone Manufacturing Co. (sandstone cutting).
9. Construction Materials Industries (lime and sandlime bricks).
10. Kuwait Wood Industries Co. (wooden doors).
11. Hassan Ahmad Al-Sarraj Establishment (synthetic marble).
12. Kuwait Building Industries Co. (bituminous felt).
13. Al-Khaja Concrete Roof Tiles Establishment (concrete tiles).
14. Al-Qatami Building Industries Co. (prefabricated and portable houses).

V. Wood and Wood Products :

1. Kuwait Furniture Manufacturing Co. (wooden furniture).
2. Al-Rashed-Hoskins Engineering Co. (metal furniture).
3. Al-Habib Factory for Metal Furniture Co. (metal furniture).
4. Shuwaikh Factory for Furniture Co. (furniture).
5. Al-Basheer Carpentry Factory Establishment (wooden furniture).
6. Al-Gulf Factory for Furniture Co. (fences and obstacles).
7. Al-Fahaheel Engineering Co. (wood and wood products).

VI. Paper Industries :

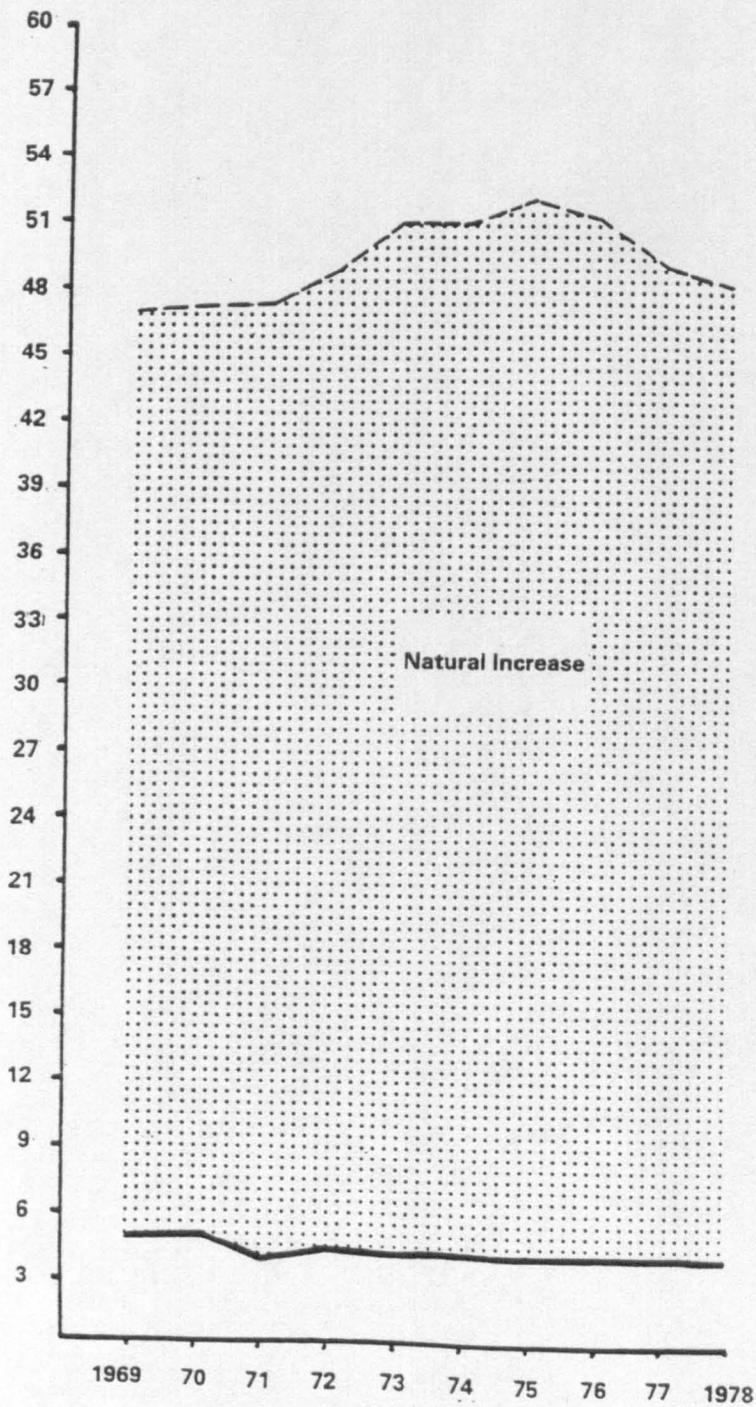
1. Gulf Paper Manufacturing Co. (paper recycling).
2. Shuaiba Paper Products Co. (cement sacks).
3. Kuwait Paper Co. (coated paper for engineering drawings).
4. Al-Ahlia Paper Products Co. (paper products).
5. Al-Rawdah Paper and Nylon Bags Co. (paper bags).
6. National Carton and Packaging Co. (corrugated cartons).
7. Kuwait Exercise Book and Paper Products Manufacturing Co. (stationery products).
8. Asraf Paper Co. (paper products).

## Appendix II

FIG 1 Live births, Death and Natural Increase Rate  
For the Kuwaiti Population

1969-1978

In Thousands



--- Live births

— Death

Natural Increase

FIG 2 Live births, Death and Natural Increase Rate For the Non-Kuwaiti Population

1969-1978

In Thousands

60  
57  
54  
51  
48  
45  
42  
39  
36  
33  
30  
27  
24  
21  
18  
15  
12  
9  
6  
3

--- Live births  
— Death

Natural Increase

1969 70 71 72 73 74 75 76 77 1978

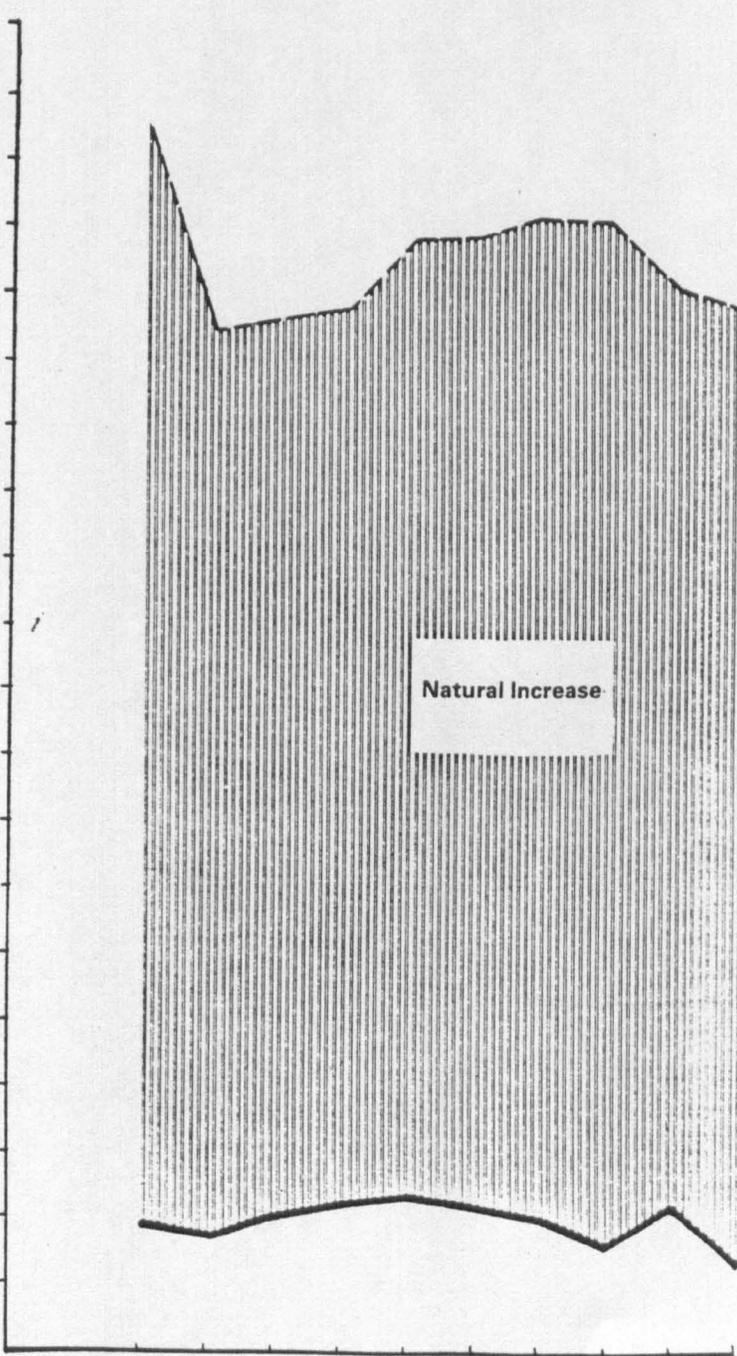
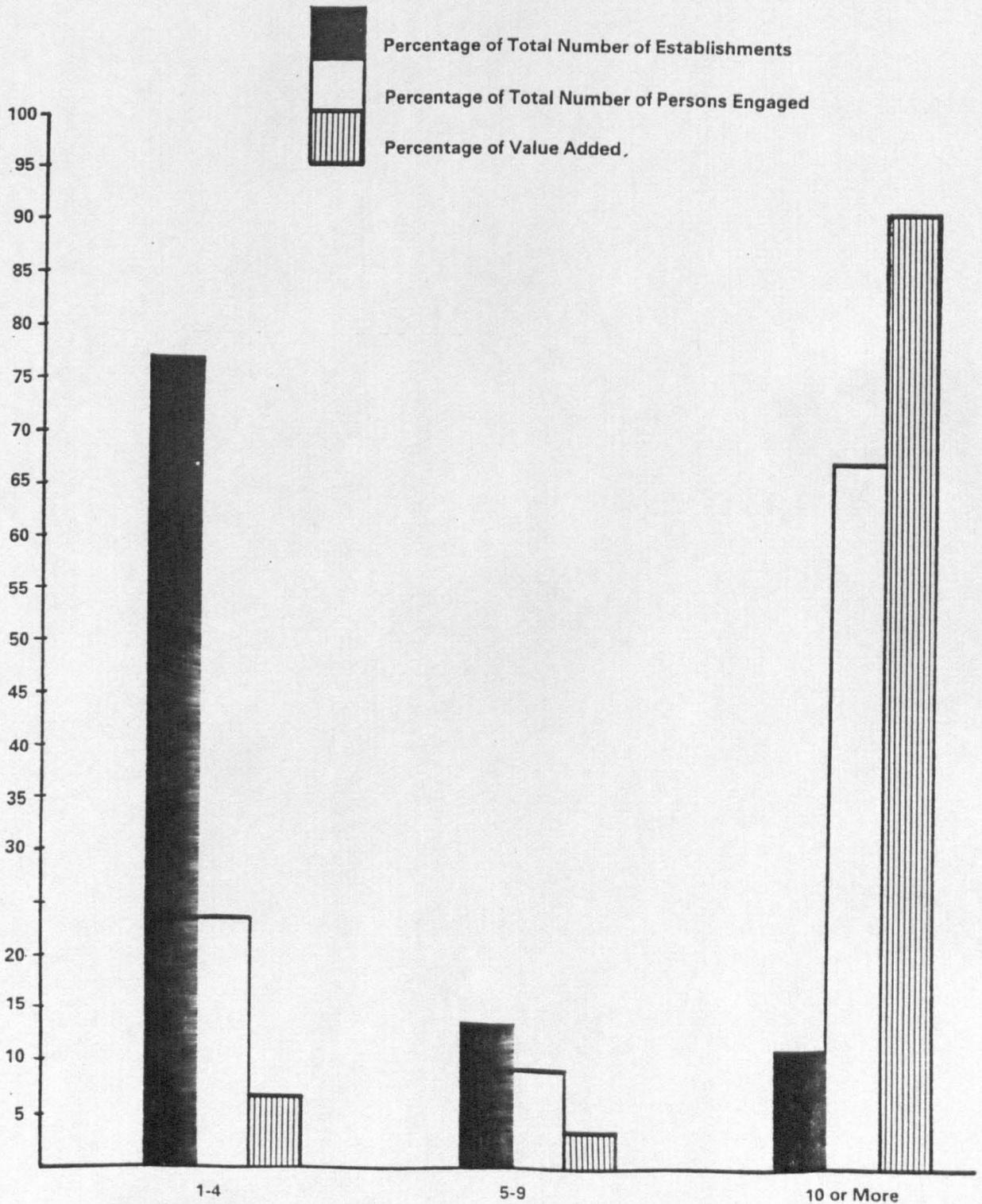


FIG 3 Manufacturing Establishments in Kuwait Classified by Size - Number of Establishments, Number of Employees and Value Added (Producer's Value). 1979/80



## APPENDIX III

Institutions and Organizations which supervise the industrial sector in Kuwait.

There follows an outline of the main institutions and organizations which are supervising the industrial sector in Kuwait and the role of each of them in brief:

(1) The Ministry of Commerce and Industry:

The Directorate of Industrial Affairs in the Ministry supervises the industrial sector and provides services and incentives for its growth within the rules and regulations which were defined by the industrial law.

(2) The Ministry of Finance:

The Ministry of Finance supervises the affairs of the public sector and combined sector by way of financing, giving easy term loans, and appointing government representatives to the management councils of companies to which the government contributes.

(3) The Ministry of Social Affairs and Labour:

The Ministry of Social Affairs and Labour undertakes supervision of the industrial sector workforce with regard to application of law in the private sector and the granting of work permits and residence permits.

(4) Ministry of Public Health:

The Ministry of Public Health supervises the industrial institutions and the workforce to ensure that adequate precautions are taken to prevent industrial injuries.

(5) Ministry of Oil:

The Ministry of Oil supervises companies involved in extracting and refining oil.

(6) Ministry of Planning:

The Planning Board with its various staffs and committees takes care that the industrial sector develops within the general framework of the economic development of the state. It helps the state to attain its aims by planning production and identifying the different sources of income.

(7) Industrial Development Committee:

The Industrial Development Committee studies systems and proposals necessary for development of the industrial sector, protection and encouragement, and gives the appropriate recommendations for industrial licences.

(8) Kuwait Municipality:

The Kuwait Municipality supplies industrial areas and allots industrial plots for projects.

(9) The Higher Council for Petroleum:

The Higher Council for Petroleum formulates policy with regard to oil and its refinement.

(10) Shuaiba General Administration Authority:

Undertakes the co-ordination of general interests and industrial services in Shuaiba industrial area and acts to cultivate and develop the area.

(11) Housing Department:

The Housing Department deals in contracting with owners of industrial projects, recommended by the industrial development committee, with regard to plots allotted to them by the municipality.

(12) The Development and Engineering Consultation Office:  
Undertakes the studying and assessment of industrial projects which are submitted to the Ministry of Commerce and Industry.

(13) Exhibitions Supervisory Group in the Ministry of Commerce and Industry:

Deals with organising international exhibitions which are held in various states.

(14) The Industrial Bank:

The State has contributed to the establishment of the Industrial Bank to extend loan and trust facilities to the industrial private sector.

(15) The General Committee for Specifications and Measurements:

This has been formed by the Government and is the approved governing body for all standard specifications affairs. A supervisory management was also formed for specifications and measurements, attached to the Industrial Affairs Department until a decree is issued for forming the General Authority for specifications and measurements.

(16) Chamber of Commerce and Industry:

The Chamber of Commerce and Industry undertakes the introduction of local industries and production to outside parties, participates in the stipulation of standard specifications, and assists in the protection of the national industries.

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