ALGERIAN DEVELOPMENT AND URBANISATION.

. A CASE STUDY OF SKIKDA

by

Kaddour Boukhemis, M.Sc.,

Thesis submitted for the Degree of Doctor of Philosophy

in the Department of Geography

University of Glasgow

August, 1983

TO

my Wife

and

my Parents

C O N T E N T S

List of Tables

List of Figures

List of Plates

ACKNOWLEDGEMENTS

I wish gratefully to acknowledge the invaluable assistance provided in the execution of this research by Professor Ian B. Thompson, supervisor and Head of the Georgraphy Department, University of Glasgow, whose constructive criticism has been much appreciated; Dr. A. Morrison, Dr. A. Findlay and Mrs. A. Findlay for advices on computing matters; the Algerian government, which provided financial assistance during the stages of this research; and the help of various Algerian institutions and individuals who gave me access to collect enough data and documents without which it would have been impossible to produce a study of this nature.

My deep gratitude goes to my wife, Anissa, whose unfailing encouragement and close interest meant so much to the progress of this work.

Last but not least, to my parents goes a particular note of gratitude for giving me moral support.

A B S T R A C T

The thesis studies Algerian development and urbanisation, with particular reference to Skikda, Eastern Algeria.
The study is divided into two parts. Part One analyses Algeria's economic development in terms of the geographical background, the economic structure, the evolution of development strategies and their relationship to regional economic theory. Part Two is a case study of Skikda, which includes empirical detail at the regional and local level to test the general conclusions arrived at in Part One.
In particular, this part examines the spatial and economic transformation of Skikda and the acceleration of inter-regional migration as a consequence. Finally, the conclusion attempts to contribute to the reappraisal of the past planning strategies and to review future options.

ABBREVIATIONS

AARDES	:	Association Algérienne pour la Recherche Démographique Economique et Sociale.
CADAT	:	Caisse Algérienne D'Aménagement du Territoire.
CIA	:	Compagnie Immobilière Algérienne
CICRED	:	Comité International de Coordination des Recherches Nationale en Démographie
CMPK	:	Complexe de Matières Plastiques de Skikda
CNRES	:	Commissariat nationale aux Recensements et Enquêtes Statistiques.
CNRP	:	Commissariat National au Recensement de la Population
HLM	:	Habitat à Loyer Modéré
LNG	:	Liquified natural Gas
MPAT	:	Ministère de la Planification et de l'Aménagement du Territoire
PCD	:	Plan Communal de Développement
PUD	:	Plan d'Urbanisme Directeur
RGPH	:	Recensement Général de la Population et de l'Habitat
SEP	:	Secrétariat d'Etat au Plan
SONAREM	:	Société Nationale de Recherche et d'Exploitation Minières

SONATIBA	:	Société Nationale des Travaux d'Infrastructures et du Bâtiment
SONATRACH	:	Société Nationale de Transport, de Recherche et, de Commercialisation des Hydrocarbures
STR 1	:	A person of working age, unemployed but who used to have a job.
STR 2	:	A person of working age, unemployed and looking for his first job.
TRC	:	Tableau Récapitulatif Communal

I N T R O D U C T I O N

Aims and Objectives

This thesis is set against a national background which although not unique has many highly individual characteristics. The Colonial past, culminating in a highly destructive war of liberation, the political and economic repercussions of independence and the background of extreme demographic pressure are common to many emerging nations. Similarly, the inheritance of an economic and social structure and pattern of resource are intended for external purposes rather than for internal development has posed structural and spatial problems of major proportions. While these are problems facing many developing nations, in Algeria they are compounded by several specific circumstances. Above all, the demographic background is particularly critical. Algeria has one of the youngest and most rapidly expanding populations in the Third World. To offset this handicap, she is fortunate in having substantial resources of oil and gas, albeit a resource which is finite and subject to price variations. There is thus an equation between the potential for development based on oil revenues on the one hand, and the pressure of uncontrolled population growth on the other. Algeria is further distinctive in that it has opted for a socialist society and thus a highly centralised model of political decision making. In theory, this offers both advantages and risks. The main advantage is that a strong central authority is able to direct resources, both physical and financial, into sectors

and locations which are seen as national priorities. The risk are that once made, decisions are difficult to modify since they have become part of the institutional structure. Similarly, a highly centralised political and planning system tends, at least initially, to concentrate on the macro scale of decision making and may be unaware of, or insensitive to, the regional and local impacts of national policies. This is particularly significant in Algeria, since the uneven resource base over the national space, the nature of the colonial heritage, the distorting effects of warfare and the sheer size of the country combine to give Algeria a high potential for social and economic spatial disparity which can only be countered by a sophisticated analysis of problems, an appropriate planning strategy and effective administrative machinery at all levels. There is no doubt that Algeria has approached its development problems with vigour since 1962 and has some impressive achievements to its credit. There is no doubt also, as recent changes in planning strategy have shown, that there is need for a critique of planning in the light of its effects, some of which were not anticipated and some of which were probably inevitable anyway in a system which aimed to maximise growth as rapidly as possible. The need for re-appraisal is particularly urgent in terms of the spatial effects of development policy. This is to some extent ironic since some of the most important early planning decisions were highly spatial in nature; the selection and location of a limited number of urban-industrial growth poles for example. The broader

spatial impact of these locational decisions were, however, not always anticipated since they were based on sectoral priorities (the need to expand specific industrial activities at optimum locations), rather than on a balanced and integrated view of the development of the national space to its full potential. These decisions were probably logical and rational in the conditions of the times: the urgent need of foreign revenue, the need for import substitution ...etc. However, the consequences are now becoming clear in terms of the longer term spatial effects; the over-congestion of the coastal cities, the acceleration of inter-regional migration, the economic stagnation of many of the provincial and interior towns and the general neglect of the base of the urban hierachy and the rural sector.

The Algerian government is now in the process of reappraising its planning strategies and is more aware of the need for, and the advantages to be derived from, a greater spatial component. This thesis attempts to contribute to this reappraisal by examining the relationship between development strategies and urbanisation. The urbanisation process is seen, at least in part, to be related to past planning approaches and is thus a logical setting in which to examine the successes and limitations of planning so far and to review future options. In addition to an overall assessment of urbanisation trends and problems, the thesis, in Part Two, concentrates on the Skikda region as a case study. As well as providing empirical detail at a local and regional level, the choice of Skikda is justified by its selection by the government as one of the

growth poles within the Eastern industrial triangle (of Skikda, Annaba and Constantine). It therefore reflects directly the impact of government location policy, especially as Skikda was deliberately selected as a location for development of a key sector, the oil and gas processing industry. Moreover, Skikda is the central point of a diversified Wilaya (Department) which contains a range of environments, land use systems and settlement patterns and thus the impact of development can be demonstrated in a variety of different circumstances.

The Thesis is not specifically seen as directly testing a stated hypothesis or conceptual basis. Nevertheless both these elements are implicit in the study. For example, it may be stated as a general hypothesis that a development policy based on sectoral growth (hydrocarbons, petrochemicals, gas liquification...etc) may result in imbalances of a spatial nature, and that a policy based on growth poles may have deleterious effects at a regional level in terms of core-periphery relationships. Similarly, although one chapter, (Chapter Four) reviews Algerian regional policy in a theoretical sense, each chapter contains as a context frequent reference to relevant theoretical literature and comparative studies.

The thesis is divided into two parts. The first part analyses at a broad level Algeria's economic development in terms of the geographical background, the economic structure, the evolution of development strategies and their relation-

ships to regional economic theory. Part Two is a case study of Skikda, which includes much empirical work to test the general conclusions arrived at in Part One.

Methods and Sources.

The methods adopted in this thesis were subject to several constraints. An obvious constraint was that being based in Glasgow, frequent visits to the study area were impossible. Nevertheless, a number of visits were made to the case study area as well as to Algiers, Constantine and Oran. A second constraint concerns the consistency of data, particularly on a temporal basis in view of changes in boundaries, definitions and classifications in census data. In view of these constraints, it was decided to base the detailed study of Skikda on the most recent and most reliable source available, the 1977 Census, and to compile information in a disaggregated form, the "Fiches ménages" of individual households, which required time consuming work in the Census Bureau at Oran and subsequent computer filing at Glasgow. Field work was concentrated in Skikda at two levels, a detailed mapping of the urban structure and a personal inquiry in the port-industrial zone into the volume and origin of the labour force of each of the major employers. Initially, at certain stages relating to planning matters and employment, problems of confidentiality inevitably caused difficulties.

The thesis is thus based on several separate sources. Much of Part One is a 'desk study', based on published work available at Glasgow in the Newbigin Collection of the Geo-

graphy Department and in the University Library. The Library of the Documentation Centre for Middle Eastern and Islamic studies at Durham University was also consulted. Further documentation for desk study was also obtained in Algeria from the CNRES in Algiers, Oran and Constantine CNRP Libraries, Archive Centre in Constantine and CADAT of Skikda. Although this desk study was mainly based on secondary sources, an effort was made to rework and recalculate published data so as to be most relevant to the thesis. Valuable information was also drawn from studies such as that of Bendjelid (1976) and Prenant and Semmoud (1979) on the spatial aspects of industrialisation in Algeria at micro levels, particularly on the impact of industrialisation upon employment. A very small number of workers have studied Algerian urbanization, of which the first major study on Algerian cities and their growth was that by Prenant (1976). Urban concentration or primacy has induced Cote (1978) to view urbanization in terms of the important growth and role of Algiers, the capital. Lawless (1981) looked into the evolution of Algerian urbanization, providing a historical perspective on its comtemporary problems; while Bennoune (1980) focussed his paper on the causes and consequences of urbanization. More recently, Brulé and Mutin (1982) stressed the impact of industrialisation on the urbanization process in Algeria. It is worth mentioning the valuable work produced by Meskaldji (1979) on the typology and characteristics of spontaneous settlement in Constantine.

Secondly, the thesis contains original work based on

census extracts and fieldwork. The use of census extracts was crucial in the field of migration since the 1977 census although rich in detail is only available in coarse aggregated form in published reports. Since migration was considered to be the crucial element in Skikda's development, individual household records totalling over 21,000 migrants were extracted from the Census Bureau in Oran, requiring approximately three months work in Oran, and a further two months in coding in Glasgow. The mass of data gathered was subsequently re-aggregated so as to be comprehensible and mappable, but it constitutes a major original contribution of the thesis and a topic worthy of a thesis in itself in terms of the data gathered.

It is hoped that the combination of desk study and original data, coupled with the author's familiarity with the case study of Skikda has been successfully synthesised into an account which will contribute to the debate on regional planning in Algeria which has now reached a crucial stage.

Part One

PART ONE

Chapter One

FACTORS IN ALGERIA'S ECONOMIC DEVELOPMENT

The importance of geographical factors in a country's economic development is a common place of economic and historical analysis. In Algeria, these factors are of great significance and for this reason it is appropriate to preface this study with a brief account of the area's principal physical and human and natural resources characteristics.

1.1 Land and Climate

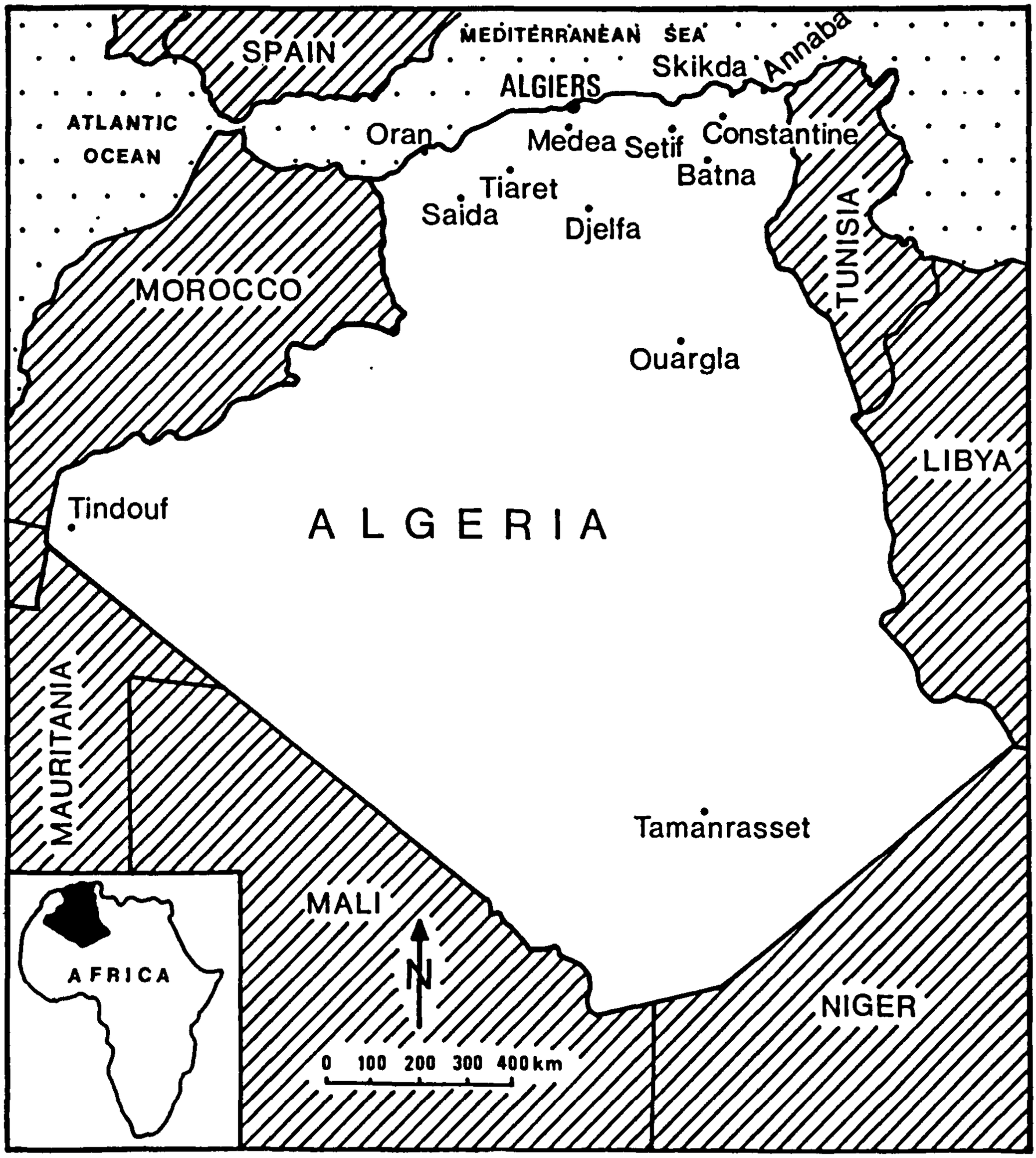
a. Physical Features

Algeria, situated in the northern part of Africa (the Maghreb) of which it constitutes the central portion, has an area of 2,381,000 square kilometres and covers one twelfth of the total land area of Africa (Fig.1.1). However, over 90 per cent of the country is arid or semi-arid with a very small population. Climatic and physical conditions have influenced the density of population in the various parts of the country. The Algerian population tends to be concentrated in those areas in which the average annual rainfall exceeds 100 millimetres. Not surprisingly, it is in the northern strip of the country, where the climate is most hospitable, that the bulk of the Algerian population is to be found. It covers 10 per cent of the total area and has over 90 per cent of the population.

In general, Algeria is a geographical unit whose physical character, relief and climate create certain original conditions on which socio-economic geography of the country depends. A

Fig.1.1

ALGERIA : GEOPOLITICAL LOCATION

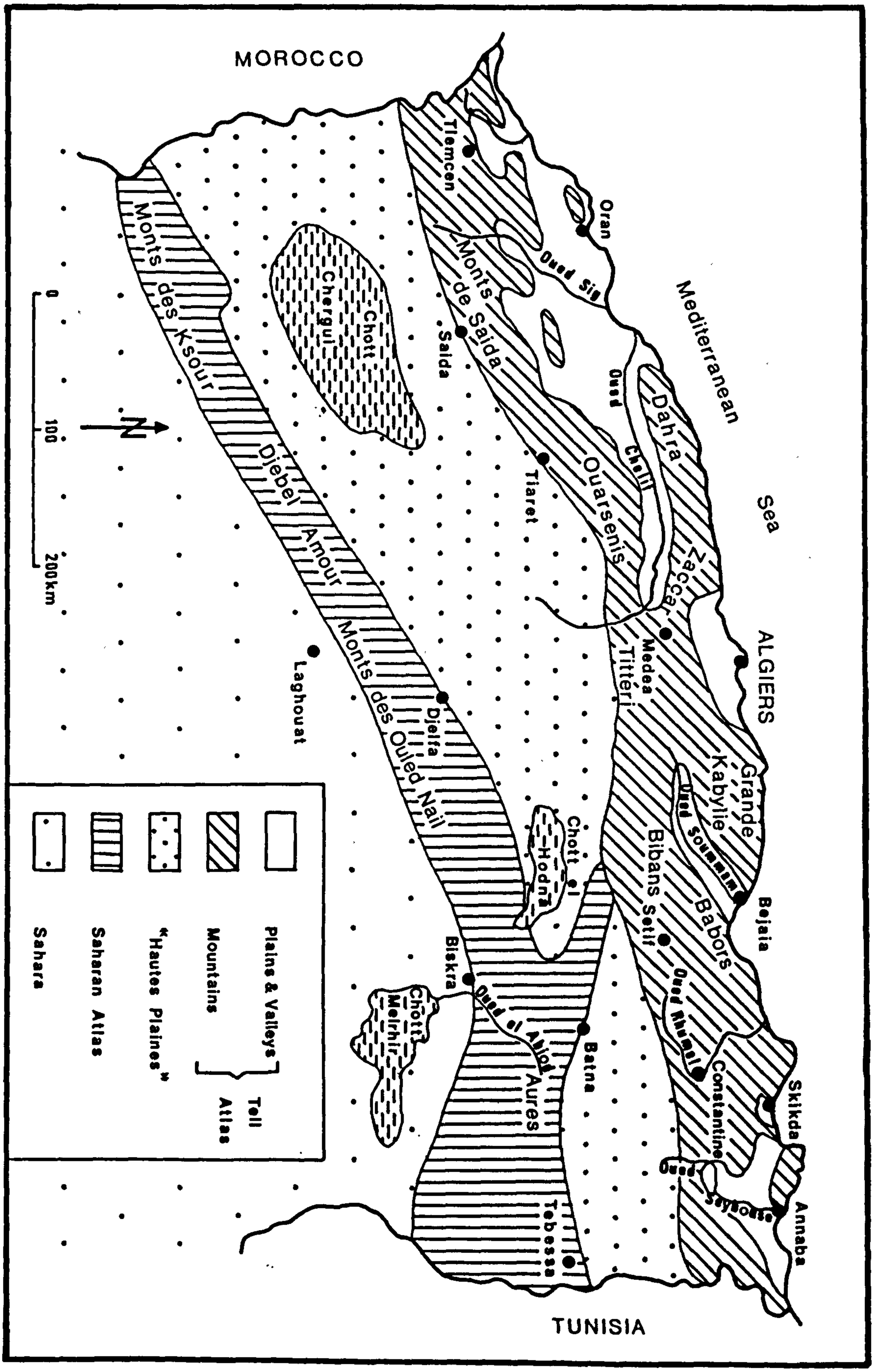


series of zones aligned approximately East-West for some 800-900 kilometres, succeed each other rapidly from the well-watered coastal strip to the desert edge, comprising coastal mountain chains and depressions, the Hautes-Plaines, the Saharan Atlas and the Sahara (Fig.1.2).

In the northern part of the country is situated the Tell and is separated from the Mediterranean coast only by discontinuous and narrow coastal plains, such as the Mitidja and Annaba plains. It consists of a complex series of mountains (Grande-Kabylie, Edough...) and valleys (Chelif, Soumam, Saf-Saf), which receive an average annual rainfall of 1000 millimetres. Here individual ranges, plateaux and massifs vary in height from 500 to 2500 metres and are frequently separated from one another by deep valleys and gorges which divide the region into self-contained topographic and economic units.

There are striking differences in physical environment and human response between the well farmed coastal plains and the adjacent mountains. The plains and valleys are characterised by a modern and intensive cropping system, commercially oriented; whereas the mountain areas are the domain of dry-farmed cereal cultivation and small-scale livestock rearing on a traditional basis. The plains of the Mitidja and Annaba and the Chelif valley are good examples of the intensive agriculture developed throughout the years. The Mitidja plain, west of Algiers, is approximately 100 kilometres long , backed to the south by the Blida Atlas (MUTIN,

Fig.1.2 ALGERIA: MAJOR PHYSICAL FEATURES



Source: Gauthier, A. 1976

1975). Extensive vineyards and orchards and large farms have replaced what was once a marshy waste. On the hill slopes citrus and other fruit trees flourish, while vegetables are widely grown. Water is used for irrigation, particularly in the reclaimed northern and eastern parts of the plain. In general, the main agricultural products of these coastal lowlands are vine, citrus fruits and vegetables. Attempts are being made to increase greatly the production of these crops. In the late fifties, wine production was by far the most important agricultural activity, most of it being exported to France making Algeria the main exporter of wine in the world. Vines are grown almost continuously along the coast from the Moroccan to the Tunisian border. Vineyards occupied over 5 per cent of the land in 1955. However, after independence, France restricted imports of Algerian vine, and the area under vineyards was cut by half. Between the coastal ranges and the Hautes-Plaines in the south, rise a series of mountain chains (Ouarsenis) with a series of depressions (Bel-Abbès, Guelma).

Roads and Railways have to make use of suitable valleys and depressions, for the mountains form a natural barrier to communications. Eastern Algeria is even more handicapped by the rugged relief. For instance, the chief characteristic of the Kabylie massif is that it is deeply dissected, causing a series of narrow and deep valleys. Settlements are located up to a height of 2000 metres and avoid the valley floors. The high rainfall permits permanent cultivation and characteristic tree-crops such as Olives and Figs are produced. Cereals and vegetables are planted under the trees. However, the population has to supplement its income by working outside, for

the small amount of cultivable land is insufficient to support it.

In general, these coastal plains, with only 3 per cent of Algeria's land area, have over 50 per cent of the population . Overall, 76 per cent of the Algerian population is concentrated in the Tell zone.

South of the Tell lies a zone of featureless plains known as the Hautes-Plaines, extending from 200 to 300 kilometres in width. They are a great contrast structurally and climatically to the Tell. They gradually narrow and fall in height eastward (400 metres as against 1200 metres in the west), and end in the Hodna basin, of which the base is only 400 metres above sea level.

The region receives only between 400 and 200 millimetres of rainfall per annum, and is therefore characterised by a semi-arid climate in which summer droughts last from 5 to 6 months. It is the domain of mechanised cereal cultivation on a more or less extensive basis on large farming units and also of semi-nomadic livestock rearing.

The settlement pattern tends to be dispersed, with a population density much lower than in the Tell. The Hautes-Plaines account for only 18 per cent of the total population.

There are many basins of internal drainage, known as Chotts, which fill with water during winter, but dry out and become salt pans in the summer. The largest of these Chotts are the Chott Chergui and Chott El-Hodna.

The southern margin of the Hautes-Plaines is marked by a series of mountain chains and massifs that form the Saharan Atlas. The meeting of the latter and the Tell Atlas, in north-eastern Algeria, forms the Aurès mountain; a compact bloc of high relief.

South of the Saharan Atlas, lies the Sahara, which is a vast arid and desert area, occupying five-sixths of the total land area of Algeria. It is characterised by extremes of temperature, wind and aridity. Mean average rainfall is everywhere less than 100 millimetres. Such conditions explain the extreme sparseness of the vegetation and the division of population into settled cultivators who occupy the oases dependent on permanent supplies of underground water, and nomadic pastoralists who make use of temporary pastures which become available after the Winter and Spring rain.

b/. Climatic Constraints

Given its vast extent, Algeria extends through several climatic zones. The coastal zone with its maritime Mediterranean climate, has cool and mild winters, and hot rainless Summers. The inner Tell has cold Winters, often with considerable snowfall. The Hautes-Plaines and Saharan Atlas have a continental climate with seasonal contrasts very marked. Winters are very cold in contrast to hot Summers. The rain falls mainly in Spring, though thunderstorms may occur in Summer. The Sahara, itself, is one of the hottest regions of the world, with mean annual temperatures

exceeding 40°C. The diurnal variations of temperatures are very marked (SELTZER, 1946).

This distinction of four climatic zones gives only an artificial reflection of the characteristics of the Algerian climate. The influence of the Mediterranean Sea, the size of the continental land mass and the compartmentalisation of the relief reinforce the contrasts in the rhythms of rainfall and variation in temperature in the different regions of Algeria (Table 1.1).

In the case of precipitation, a decrease in rainfall may be noticed in two directions: North-South and East-West (Fig.1.3). The Tell fold zone is well watered as a whole and the mountain chains of its northern slopes receive over 1000 millimetres, as against 50 millimetres in the Sahara. The decreasing rainfall from the East towards the West is explained by the fact that Algeria is located immediately in the rainshadow of the middle Atlas Ref mountains; while Eastern Algeria is higher, particularly in the South-East where the massif des Aurès exceeds 2000 metres in height and receives more than 1500 millimetres of rain. As a consequence, the Western Tell is characterised by its tendency towards semi-aridity (300 millimetres on average).

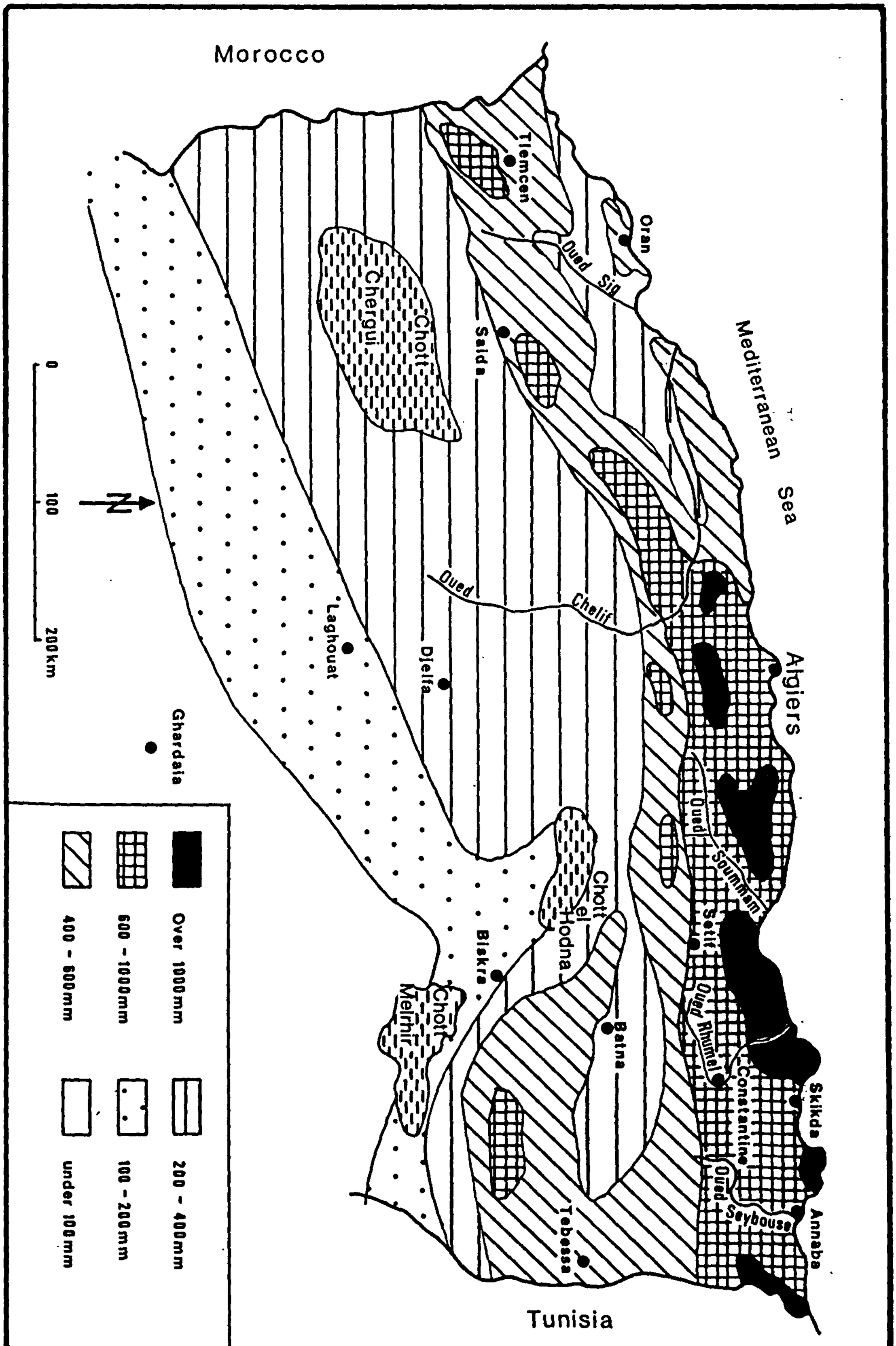
More than the quantity of rainfall, the character of the rain, on the one hand, plays a decisive role in accelerating the speed of erosion, and on the other hand, is as important to the plant life as the total amount; and the

TABLE : 1.1 Climatic characteristics of selected areas

Physical Units		Stations	Temperatures (degrees Centigrade)		Mean Annual Rainfall (Millimetres)
			Coldest month	Hottest month	
Littoral		Oran	12	26	428
		Algiers	13	26	647
		Annaba	11	25	787
Tell Atlas	Mountain	Medea	7	25	800
		Tizi-Ouzou	9	28	893
	Basin	Sidi Bel-Abbes	8	25	395
		Guelma	9	27	677
Hautes-Plaines	Northern limit	Tiaret	6	27	622
		Setif	5	25	469
		Constantine	7	26	594
	Southern limit	Saida	7	27	430
		Batna	5	25	346
Saharan Atlas		Djelfa	4	25	308
		Biskra	11	34	156
Sahara		Bechar	8	33	79
		Ghardaia	10	34	68
		El-Oued	11	34	73

Source:= Seltzer -"Le Climat del'Algerie", 1946

Fig.1.3 ALGERIA : RAINFALL



Source: Gauthier, A. 1976

function of rainfall in the soil varies according to the season when it occurs. As ISNARD (1950) wrote "C'est non pas sur les répartitions géographiques des quantités de pluies qu'il faut attirer l'attention, mais sur la répartition géographique des differents régimes pluiométriques". The dynamics of soil erosion are manifested very differently from one area to another. On cultivated land, gullies appear more rapidly, and on clay it results in mass movements (mud flows, collapse of slopes). Precipitation, in Algeria, has a markedly torrential character, falling in a very short period (WALKER, 1964). Thus, the fluvial regime of the Maghreb in general, and Algeria in particular, has such typical characteristics that the term Oued has passed into geographical vocabularly. A Oued is a water course with irregular flow which normally has a dry bed in Summer and is swept by violent and abundant floods during Winter. This poses a major problem for summer irrigation. In general, irrigation throughout the country is necessary for intensive crop cultivation. Rivers are more transient than in Morroco, where the melting snow of the Haut Atlas fills the rivers in early Summer. Irrigation schemes have been carried out, but widespread erosion and deforestation have caused siltation of dams and irrigation in Algeria is facing serious problems.

In terms of temperature, the contrasts are more pronounced in Algeria than in the other two countries of the Maghreb. This greater continentality is caused by the central position of Algeria, whereas Morocco and Tunisia are

bordered by the sea into low latitude. Temperatures often vary greatly within short distances in Algeria. Drought is the most fundamental characteic of Algeria's climate (HOUSTON, 1964). The dry summer begins usually in late May and lasts until late September.

All these features of the climate reduce, on the one hand, the physical environment to a fragile condition, necessiting concerted action in the struggle against erosion; and on the other hand, have profound repercussions on the hydrology, soils and human settlements.

1.2 Population and Urbanisation

a. Population

The Algerian government regards the spatial distribution of population, and especially the rate and pattern of urbanisation, as its most serious population problem. The Algerian population displays the typical demographic features of a developing country. The rate of population growth is high. It rose from an average of 2.6 per cent per annum between 1954-1966 to 3.9 per cent for the 1966-1977 period (Table 1.2) as a result of a sharp fall in death rates not compensated for by a similar decline in birth rates (TABLE 1.3).

TABLE 1.2 Population growth rate, 1901-1977

Periods	%	Periods	%
1901-1906	+1.8	1931-1936	+2.1
1906-1911	+1.2	1936-1948	+1.6
1911-1921	+0.4	1948-1954	+2.7
1921-1926	+0.8	1954-1966	+2.6
1926-1931	+1.6	1966-1977*	+3.9

SOURCES : - CICRED "La population de l'Algérie" p.18,1974
-* 1977 Census

TABLE 1.3 Demographic characteristics of the Algerian population, 1901-1979

Periods	Birth rate (‰)	Death rate (‰)	Natural increase (%)
1901-1905	37.8	32.8	0.50
1906-1910	35.5	30.5	0.50
1911-1915	35.3	27.4	0.79
1916-1920	34.9	31.4	0.35
1921-1925	37.2	29.4	0.78
1926-1930	42.3	26.6	1.57
1931-1935	43.4	25.3	1.81
1936-1940	42.1	25.1	1.70
1941-1945	42.9	43.1	0.02
1946-1950	42.2	32.2	1.00
1951-1955	47.4	20.6	2.68
1956-1960	45.6	-	-
1961-1965	48.5	14.6	3.39
1966-1969	47.8	14.9	3.29
1970-1975 a	48.8	15.4	3.34
1976-1979 b	46.4	13.4	3.30

SOURCE: - CICRED,"1974,p.19
- a: Europa Publications, p.255, 1981-82
- b: MPAT, 1979a

For the period 1901-1925, the birth rate stood between 35 and 37 per thousand; it was 42.5 for the period 1926-1950, 47.5 for the 1951-1977 period. The highest peak was reached for the 1970-1974 period: 50 per thousand. These figures mean that since 1950, birth rate in Algeria has been twice as high as in the developed countries. This growth of population in Algeria, over the past 20 years, illustrates how complex are the interactions between various factors in development. The decline in mortality, that was a prime cause of the acceleration in population growth, was the result of the earliest efforts at improving living standards, including the establishment of public health systems and the eradications of major diseases.

Algeria's population is particularly young, with the bulk of it between the ages of 0 and 19. In 1977, 57.6 per cent of the population was under 19 (TABLE 1.4).

TABLE 1.4 Population structure, 1977

Age group	Male	Female	Total
0-19	29.4	28.2	57.6
20-39	11.9	12.5	24.4
40-59	5.7	6.5	12.2
60 & more	2.7	3.1	5.8
	49.7	50.3	100.0

SOURCE : MPAT, 1979a.

Indeed, a country with such a large proportion of its population in the youthfull age classes is likely to record a relatively high rate of fertility, particularly if encouraged by social attitudes (early marriage for girls) (TABLE 1.5).

TABLE 1.5 Some characteristics of the female marriage rate in Algeria in comparison with that of France.

	Algeria	France
Average age at marriage	18.4 years of age	23 years of age
Proportion of unmarried at 20 years of age	18.5%	75%
Proportion of unmarried at 50 years of age	1%	10%

SOURCE: CICRED, 1974,p.44.

This age structure has a variety of effects on a number of economic and social problems, such as education, housing and employment. This trend may be reversed in the future, but the rate of population growth is unlikely to fall below 2.5 per cent per year in the forseable future. Both birth and death rates appear to be high when Algeria is compared with industrialised countries. However, according to the theory of demographic transition (CALDWELL, 1976), somewhat later the birth rate begins to fall, and then the two rates pursue a more or less parallel downward course.

In the case of Algeria, it is uncertain how long this rather rapid growth will continue, for social beliefs and customs play major roles. For instance, children are the traditional source of security in the old age of parents (COALE and HOOVER, 1959, p.10). Moreover, this raises the important question of whether poor families in the Third-World see demographic issues in the same light as it is seen in developed countries (DRAKAKIS-SMITH, 1981, p.9). There is no guarantee that Algeria will eventually follow the demographic transition experienced in the West in the near future. New structures must be created in both urban and rural areas which facilitate the transmission of a new image of family size that is deeply embedded in new forms of social organisation and production relations (MORAWETZ, 1978).

In relation to its area, Algeria has a population of small proportions: 11 million in 1966, 17 million in 1977; with an average population density of only 8 persons per square kilometre. Obviously, this is explained by the great extent of the nation occupied by the Sahara desert. However, if we take into account only the northern strip, where two-thirds of the population is grouped, then an average density of 40-45 persons per square kilometre is reached. It is closely associated with the zone of high rainfall, intensive agriculture and the marked degree of commercial activity and urbanisation. It was the main centre of European settlement with the largest cities of Algiers and Oran, where the french formed the majority of the population. About 10 per cent of the Algerian population was European

until 1962, but with independence, most of them have returned to France. Thus, Algeria is densely populated, and faced, particularly, with mounting pressure in areas such as the Kabylie. The latter has 4 per cent of the area of Algeria and around 20 per cent of the population. Population density is amongst the highest in Algeria; nevertheless, pressure is relieved to some extent by migration to the cities of Algeria and to Europe.

b. Urbanisation in Algeria

The urbanisation of Algeria, during the colonial era was, on the one hand, geared to the establishment of European settlers; cities such as Algiers, Oran and Constantine contained 38 per cent of the European urban population (BENACHENOU, 1976,p.157). These colonial settlements were designed primarily to operationalise the economic exploitation of their hinterlands (DRAKAKIS-SMITH, 1981, p.19). On the other hand, it was characterised by the marginalisation rather than the integration of the Algerian population into the urban socio-economic system of that time (BENNOUNE, 1980,p.48). Non-agricultural employment increased from 250,000 in 1948 to 431,000 jobs by 1958. In other words, only 180,000 jobs were created in a period of ten years (BENNOUNE, 1980, p.47). This was not enough to absorb the one million rural migrants who arrived in the cities before the start of the war (BENNOUNE, 1980, p.47). For instance, the number of bidonvilles in Algiers increased from 16 in 1942 to 90 in 1952. By 1954, 164 bidonvilles were in existence. Over 30 per cent of the

population of Algiers was living in this type of housing (DESCLOITRES, 1961, p.112). One-third of the populations of Oran and Annaba were estimated to be living in bidonvilles in 1954 (HANCE, 1970,p.284). Further, 390,000 jobs, of which 25 per cent in the secondary sector, were planned for the 1959-63 period, but have never been realised (GAUTHIER 1976,p.95). The reason was that the country became a market for products from factories of the metropolitan country, which led to a clear policy against any economic development, even when the demand had grown large enough to support national or local development, particularly manufacturing. Moreover, this process of urbanisation was accelerated during the war, particularly between 1958-1960, when up to 2.5 million people were regrouped into Centres de regroupement (CORNATON, 1967). In 1962, when the Europeans fled from the country for France, 300,000 housing units were taken over by Algerians, within a few months.

The juxtaposition of these forms produced a more complex urban form and organisation within the colonial city (MABOGUNJE, 1969). Colonialism had its impact not only on the level and distribution of urbanisation, but even more strikingly, on the internal ecological order of the cities which are now all more or less fragmented into sub-quarters of highly varying character, often juxtaposed against one another with little interaction or integration(ABU-LUGHOD, 1976,p.201). As FRIEDMANN and WULFF (1974,p.53-54) pointed out "constructing broad generalization about Third World cities is always a hazardous business. Yet if a single

fact stands out, it is that cross cultural studies of urban land use have consistently reported the existence of a 'dual city'". Similar descriptions have been given on many other cities (MCGEE (1967) BRAND (1972), MABOGUNJE (1968)). The development of these urban centres was strongly biased by the transport system, since the common characteristic of the colonial cities is that their economy was dominated by trade. The port was par excellence the colonial city, and all transport systems (roads, railways) focused on it (MABOGUNJE, 1980, p.153).

After 1962, the massive transfer of population from rural areas to the cities provoked severe economic and social problems which the newly independent country was poorly equipped to solve. The majority of the urban population remained poorly integrated into the urban economy, already seriously dislocated after the departure of the Europeans. Consequently, some writers speak not of the urbanisation of the Algerian population but of the ruralisation of the cities (LAWLESS, 1981, p.565). Thus the important tasks facing the Algerian urban planners were those of absorbing "Le flux continu des migrants en intégrant ceux-ci dans l'économie urbaine, afin de transformer à moyen terme le paysan déraciné en un citadin ayant sa place dans l'organisation sociale découlant des rapports de production" (BARDINET, 1972, p.12). Nevertheless, the state was persuaded that the structures left by the Europeans could satisfy the housing needs of the population (BARDINET and PRENANT, 1969). In reality, the population was already experiencing difficult housing conditions. In 1972 the national average was 7 persons per housing unit; 85 per

cent of these housing units had less than 3 rooms, and 60 per cent of the population of the cities lived at more than 3 persons per room (FRANCHET, 1972, p.39). According to the 1966 census, 600,000 rural migrants were added to the urban population, at an average of 140,000 per annum, between 1962-1966. Furthermore, the census reveals that 35 per cent of the urban population was located in the Algiers, Oran-Arzew, and Annaba-Skikda-Constantine regions.

As a result of the implementation of the successive development plans, the rural exodus continued. Between 1966-1973, about 900,000 people migrated to the urban centres (BENNOUNE, 1980, p.61). This represented an annual average of 120,000 migrants.

The average annual growth rate of the rural population was 2.5 per cent, while the urban population grew by an average of 6 to 7 per cent a year during the 1966-1977 period, as compared to a national average of 3.2 per cent (TABLE 1.6)

TABLE 1.6 Rural-urban population change, 1966-77

	1966	%	1973	%	1977	%
Total population	11.8		14.7		17.3	
Urban population	3.7	31	5.7	37	6.8	40
Rural population	8.1	69	9.0	63	10.5	60

SOURCE:- 1966 and 1977: Census returns; 1973: BENNOUNE, 1980, p.21.

BENNOUNE (1980,p.62-63) showed that the rural exodus con-

tributed 25 per cent of the growth of the urban population during the 1966-73 period. He added that almost 83 per cent of the migrants were attracted to the six major cities in 1976, of which 70 per cent to the three metropolises: 42 per cent in Algiers, 18 per cent in Oran and 10 per cent in Constantine. As a result these cities have been crushed by an unprecedented migratory movement.

Because of its historical and geographical setting, Algeria has one very important metropolitan area (Algiers), leading to an urban system with peculiar characteristics. For instance, although Algiers lost 350,000 Europeans in 1962, it experienced a very rapid urban growth and grew to almost 900,000 in 1966, and by 1977 it formed a metropolis of 1.5 million people. This "Primate City" dominates the urban structure and overpowers its nearest rivals (HAMDAN, 1972,p.160). It is characteristic of countries which until recent times were politically or economically dependent on other countries (BERRY, 1961). As FRYER (1953) pointed out, this growth of a "Primate City" was facilitated by the colonial system by centralizing the administration of the country. However, this statement is time specific, for a number of actual and potential growth poles, such as Oran, Constantine and Annaba are becoming big metropolises and turning themselves into the nucleus of Algerian industrialisation. Attempts to reverse the trend of Algiers, being the only Algerian metropolis, called for solutions of a political rather than economic nature. The concentration of economic power in an important urban industrial focus, which is

established in Algiers and spilling out for about 150 to 200 kilometres around it, is very much related to the evolution of the whole process of Algerian development during and after colonisation. Some facts about Algerian growth should be presented to provide a framework for understanding this process of urbanisation, the nature of which will become clearer as we analyse Skikda.

The first of these facts relates to urban population increase. Only 3.7 million in 1966, by 1977 the urban population had already surpassed 6.8 million people. In the same period, the Algerian population increased from 11.8 million to 17.3 million. This shows the intensity of the urbanisation process. TABLE 1.7 represents the number of Algerian cities in the 1966-1977 period, classified according to population size.

TABLE 1.7 Algerian Cities: number and population 1966-77

Population Size	Cities				Change 1966-77	
	1966		1977		%	
	N.	POP.	N.	POP.	N.	POP.
More than 500,000	1	884,200	1	1,473,800	-	66.68
100,000 to 500,000	3	719,000	7	1,528,500	133.3	112.59
50,000 to 100,000	9	616,900	16	1,051,700	77.7	70.49
20,000 to 50,000	28	868,400	39	1,259,300	39.2	45.01
10,000 to 20,000	32	457,100	69	974,600	115.6	113.11
less than 10,000	21	165,100	81	445,800	285.7	170.02
TOTAL	94	3,710.700	213	6,733.700	126.6	81.47

SOURCE: MPTA, 1979b.

For this classification[2] taken into consideration were agglomerations defined as "potentially semi-urban" by the Ministère de la Planification et de l'Aménagement du Territoire. These centres are likely to have urban characteristics in the near future, for they received an important amount of investment. Towns are multi-functional and would be desirable to employ ratios for different types of functions in developing a classifactory system (HARRIS, 1943). However, to classify cities in Algeria, the criterion of size will be used. City functions are obviously important criteria for classifying cities, particularly for those concerned with economic development. But, a major difficulty arises, because available data make it very difficult to use any of the quantitative systems that have been applied to cities in the western world (MAYER, 1969). Few comparative rankings in terms of the predominant activities displayed in urban centres have been established for Algeria (BARDINET and CABOT, 1973). Unfortunately, such rankings were limited to the criterion of occupation by economic sector; therefore, nothing can be learned about income levels, educational differences, public health and social structures (STAMBOLI, 1980, p.20). Thus, size has the advantage of simplicity and is obviously an important characteristic. It is statistically the most convenient and permits dividing urban centres by internationally accepted rank-sizes, thus facilitating national and international comparisons.

The number of cities increased by 126 per cent whereas the urban population increase was 81 per cent, which shows

the evergrowing concentration of people in towns. This intensity is clearly shown by the fact that in 1954, the urban population represented only 25 per cent of the whole population, while in 1977, it represented 40 per cent (41 per cent according to BRULE and MUTIN (1982,p.41)). It is suggested that by 1986, the urban population of Algeria could reach 61 per cent of the total population (Le Coz, 1972,p.5; BARDINET, 1974,p.82).

Whether in 1966 or in 1977, there was only one city with a population of over 500,000: Algiers. However, it experienced a population increase of more than 500,000 (from almost 900,000 to 1.4 million). Given its present rate of growth, it is predicted that the city will have 4.5 million in the year 2000 (COTE, 1978). The macrocephalic structure of the Algerian urban system is evident, for Algiers overburdens the urban hierarchy of the country. Algiers' population is three times larger than that of Oran, which is the second largest Algerian city. The gap is widening, for Oran's population was 31 per cent in 1977 of that of Algiers as against 61 per cent in 1954 (BRULE and MUTIN, 1982,p.41). However, this macrocephalic structure is less striking when compared to other countries of North Africa. In Tunisia and Morocco, for instances, 40 and 28 per cent of their urban population is located in Tunis and Casablanca respectively as against 22 per cent in Algiers (BRULE and MUTIN, 1982,p.41). This mushrooming of the biggest city is aggravated by the fact that one of the most general assumptions of demographers, that of low natural increase of the urban population, does not hold in Algeria.

The census data for 1977 shows that in the metropolitan area of Algiers, the general fertility rate was higher than the national index.

The next class in Table 1.7 (100,000 to 500,000 inhabitants) represents cities of regional status. Although, they increased by 133 per cent, they represented only 23 per cent of the urban population in 1977 (20 per cent in 1966). Their role as regional metropolises is being out-classed by the superior growth of Algiers.

The characteristic of the Algerian urban hierarchy is the emergence of medium and small-sized hinterland towns. They account for 55 per cent of the urban population, as against 45 per cent in Tunisia and 36 per cent in Morocco (BRULE and MUTIN, 1982,p.43). The increase is particularly high in the class of less than 20,000 inhabitants. These small-sized towns have increased by 183 per cent and account for 21 per cent of the urban population. However, when it comes to the spatial distribution of the urban population, we see a certain disequilibrium within the major regions of the country. The central area of Algeria is by far the most urbanised; its urban population accounts for 45 per cent as against 39 per cent in the western region of the country. As far as the eastern part of Algeria is concerned, it has the lowest urban population rate, 35 per cent.

Perhaps the most obvious fact that emerges from the classification of the Algerian cities and needs to be examined, is that, as in most countries, there is one big city,

almost invariably the capital, which represents a greater range of activities than any other city in the country (JONES, 1976, p.81). JEFFERSON (1939) called such cities 'Primate', and produced a law which stated that 'a country's leading city is always proportionally large and exceptionally expressive of national capacity and feeling'. TABLE (1.8) shows the size of Algiers with the comparative size of the second and third largest cities and how the disparity seems to be more marked.

TABLE 1.8 Population ratio of the 2nd&3rd City to the Capital

	1954	1966	1977
Algiers	100	100	100
Oran	61	37	33
Constantine	25	28	23

SOURCE: - 1954: calculated after LAWLESS, 1981,p.564
- 1966 and 1977: M.P.A.T., 1979b.

In the majority of cases, the largest city is more than twice as big as the next largest (JONES, 1976,p.81). However, Jefferson's concern was particularly with the importance of the primate city, while some other writers used other alternative propositions to examine the size relationship between all cities in a given country. STEWART (1947) and ZIPF's (1941,1949) studies are perhaps the best known. In his rank-size rule, Zipf showed that if all cities of any country were classified by population size in descending order, then there is a regular ratio between the position of each and its size proportionate to the largest city. In general, the rank-size rule and the primate city law describe two

different phenomena, the first giving a much greater emphasis to cities subsidiary to the capital, and the second emphasizing the dominance of one city at the expense of all others. There seem to be stages through which a country progresses, and the orderly rank-size relationship seems to be the last (JONES, 1976, p.84). This could be the result of the increasing complexity of the urban structure. Furthermore, during the economic development process, some cities would attain considerable size, as it is apparent in Algeria.

A further important fact about the Algerian urban system is that, consequent on the strategy of the colonial system, which emphasised the outward orientation of the economy of the country and its continued dependency, the major urban centres were organised and located so as to maximise contact with the metropolitan country rather than to maximise access to the national territory (MCNULTY, 1976,p.219). McNulty, even, adds that whereas the primary task of independent African nations is the integration of regions and people, the colonial administration functioned on a principle which had the directly opposed intent of maintaining regional separateness, a principle which served both their economic and their political interests. Needless to say, this pattern of development has resulted in the rather marked patterns of regional inequalities which characterised the country. However, compared to most colonized African countries, particularly countries south of the Sahara, which exhibit most of the characteristics of poorly developed areas (KANSKY, 1963), Algeria reflects the generally high level of development of most of its systems. The urban and transport systems

illustrate high degrees of connectivity, with large areas served by transport facilities and good interconnections between all urban centres.

The post colonial period has been marked, on the one hand, by the important stress on integrating all systems, is
for it/considered as a general measure for development. For instance owing to the lack of coherence in the urban system, growth generated in one part of the system may not be effectively transmitted to other parts of the system. On the other hand, the emergence of a new urban hierarchy in which linkages between Algiers, the capital, and the regional and sub-regional administrative centres are gradually replacing an essentially colonial urban system where the inland towns, functioning as marketing and collecting centres, were linked to the large coastal ports (LAWLESS 1981,p.568). For a long time, after independence, many of these towns continued to function like overgrown villages. However, since economic and administrative functions were assigned to them, they gained importance and became focal points for the surrounding regions. As a result, the state not only administers the country but controls and directs the economy through these towns (LAWLESS, 1981, p.568). In his concern for the problem of spatial determinants, JOHNSON (1970,p.171)

argues that the major difference between developed and underdeveloped countries is in their relative number of central places and in the dispersion of these towns, small cities, medium-sized urban centres, and larger cities. He emphasised, that in underdeveloped countries, there is a lack of towns

capable of facilitating a wide spatial diffusion of light manufacturing and processing industries. Similar comments were made by SMITH (1959,p.212) in writing about modernisation in Japan. Thus, the creation of a viable internal spatial organisation should seek to break the stranglehold of the primate city on the evolution of the urban system. This cannot be achieved except as part of the overall socio-economic transformation of the country (MABOGUNJE, 1980,p.219).

In conclusion, we can say that possibly the most important events that took place in theAlgerian urban system in the 1966-1977 period were the consolidation of Algiers and the emergence of medium and small-sized towns. These events are related to the Algerian economic evolution which is increasing the level of concentration of population. Although, RAYFIELD (1974) sees the contemporary city as a continuation of the colonial city, Algerian urbanisation is entering a new phase, which could have a profound effect upon the future pattern of development. It is characterised by the attempts of the Algerian planners to create an urban system which more adequately reflects and serves national economic and social objectives. However, at the present time, the lag of the system is equally evident, with great concentration in the bigger cities, with increasing intra-regional differentiation, due mainly to strong migratory flows heading towards the regional metropolises, with no capacity of creating jobs in the same proportion. This lag presents very critical problems for there is clear evidence of the existence of a "northern developed Algeria" and a "southern underdeveloped Algeria". This dualism reflects the Algerian development

process, in which the northern part and its urban system dominate the spatial organisation of the Algerian economy. Thus, both demographic and economic growth were accompanied by heavy concentration, following the lines of the classical economic model for developing countries in which heavy concentration is held to happen in the early periods of economic evolution, followed by a shift toward a state of equilibrium or tendency to it after several generations (FAISSOL, 1976, p.171). However, the problem posed by this situation is that, in as much as the amplification of inequalities as a process does not have any control mechanism or any decentralisation capacity, it can run into a dangerous bottleneck as development proceeds. For this reason, the Algerian planners of urban policies should proceed cautiously.

1.3 Natural resources (Fig. 1.4)

a. Minerals (excluding hydrocarbons)

Controlled by a national or state company, SONAREM (Société Nationale de Recherche et d'Exploitation Minières), Algeria's mineral industry shows significant potential (TABLE 1.9). The country is currently exploiting major deposits of iron, mercury, lead, zinc and phosphates. Less significant deposits being exploited include copper and salt. The function of these minerals in the programme of development is to provide raw materials for expanding industrialisation.

The most important mineral is iron with an average grade of ore around 60 per cent. The annual output has fluctuated greatly since independence but reached 3.8 million metric tons in 1977 (SECRETARIAT d'ETAT au PLAN, 1976).

Fig.1.4

MAJOR MINERAL RESOURCES IN ALGERIA

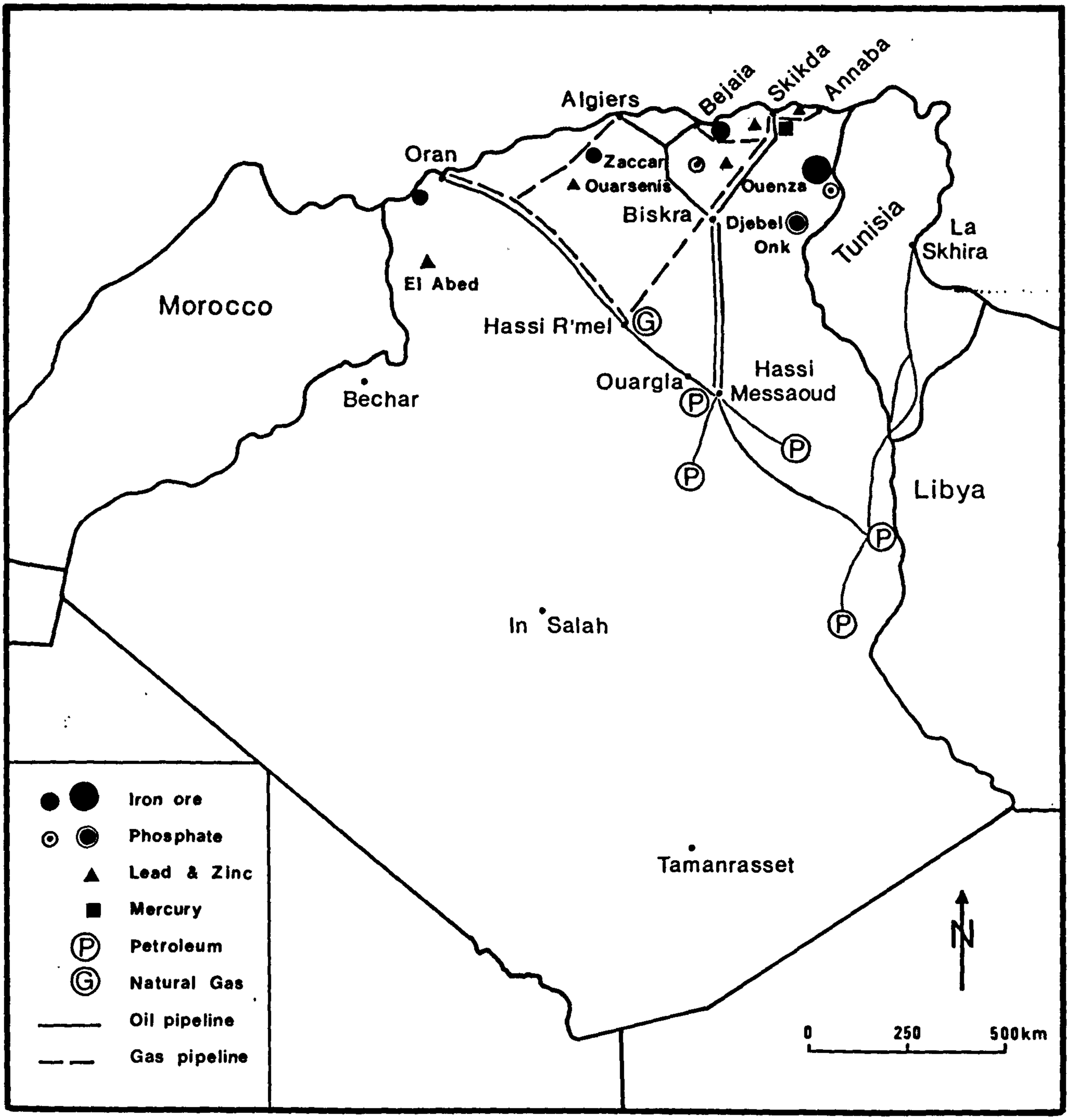


TABLE 1.9 Mineral resources production, 1974-78 (000 tons),

	1974	1975	1976	1977	1978
Iron Ore	3,800	3,200	2,800	3,200	3,050
Phosphate	802	703	742	1,180	1,140
Lead	4.6	4.2	3.2	1.4	2.8
Zinc	19.1	20.5	14.3	5.8	9.9
Copper	1.6	1.6	1.6	1.5	0.7

SOURCE: -1974 & 1975: SEP, 1976.

-1976,77 & 78: MPAT, 1979a.

Although a high proportion of ore (50 per cent) was exported in 1978, its main purpose is to feed the Annaba iron and steel plant. Most of the production (75 per cent) comes from the deposits of Ouenza. Further deposits were found at Djebel Bouari and Gara Djebelit, with reserves estimated at 2,000 million tons of medium-grade ore. Production may begin by 1985-86.

The second most important mineral is phosphate of which more than 800,000 metric tons is mined annually. Although Algeria is overshaded by the vast reserves of Morocco, it has a fairly large deposits : 200 to 500 million metric tons. Exploitation of the most important deposit, Djebel Onk, began in 1960. The production is to feed the Arzew and Annaba fertilizer plants, and the surplus is exported.

Coal was important but has been declining mainly because of higher transport costs. However, Algeria is planning to increase its production to be used to make coke for the new steel plant at Annaba.

The production of other mineral resources such as lead and zinc, has been of modest quantity: 9,900 metric tons of zinc and 2,800 metric tons of lead in 1978 (Ministère de la Planification et de l'Aménagement du Territoire, 1979a,p.17). The use of new processing facilities are increasing the output considerably. Since the use of mercury was developed, Algeria became amongst the leading world producer of this mineral. Algeria has, too, a substantially important deposit of uranium. Salt is produced at about 40,000 metric tons.

In general, mineral production has remained reasonably stable over the past decade, and contributes 19 per cent of Gross Domestic Product (KURIAN, 1982). Approximately 60 per cent of Algeria's non-hydrocarbon minerals production is consumed locally by the country's expanding industry.

b. Petroleum and Natural Gas

Since petroleum deposits were discovered in 1956 in the area of Hassi Messaoud, other fields were subsequently discovered. However, the extent of reserves of oil is not well known. Production of crude oil rose from 1.2 million tons in 1959 to 57.2 million tons in 1978(TABLE 1.10).

TABLE 1.10 Production of Crude Oil, 1967-80
(Million Tons)

Year	Production	Year	Production
1967	39.0	1974	47.2
1968	43.0	1975	45.8
1969	45.0	1976	50.1
1970	48.2	1977	53.5
1971	36.5	1978	57.2
1972	50.1	1979	56.9
1973	51.0	1980	51.5

SOURCE : 1967-73 from SAYIGH, 1978a
1974-75 from SEP, 1976
1976-78 from MPAT, 1979a
1979-80 from Europa Publication, 1981-82

Crude oil produced is transported to the coast by pipelines; however, for a long time this production was limited by the capacity of the pipelines (in 1965, there were only two pipelines). To solve the problem, the Algerian government established a national company SONATRACH (Société Nationale de Transport et de Commercialisation des Hydrocarbures) to be responsible for the transport and marketing (by the mid 1970s, this Company, through nationalisation, was controlling the entire hydrocarbon sector). A third pipeline, with a capacity of 22 million tons came into operation early in 1966, and by 1978, there were 7 main oil pipelines running from the fields to the coast. Most of the oil is being exported as crude oil, but the government is planning to export more refined products. To fulfill these commitments, Algeria has invested in refineries, which would bring the refining capacity to around 22 million tons a year.

The most important refinery of the country is located at Skikda with an annual capacity of 15 million tons. Production of crude oil is falling slightly, particularly since 1978, following the government's decision to cut production by more than 15 per cent to conserve resources (EUROPA PUBLICATIONS LIMITED, 1981, p.249). However, its place is being taken by natural gas. Algeria is likely to be one of the world's leading producers, for it has some 15 per cent of known world reserves, and when all its liquefaction plants and tankers are completed, Algeria will become a major world exporter of liquified natural gas (LNG). Although natural gas was discovered in 1958 in Hassi R'Mel, its use was delayed until 1961, after completion of the gas pipeline to the coast. By 1977, 5 main gas pipelines were running to the coast and making natural gas available for domestic, commercial and industrial use. Another gas pipeline, with a capacity of 12.5 trillion cubic metres, running through Tunisia, Sicily and Italy, is under construction to provide Western Europe with gas. Because of the increase of Algeria's high grade crude oil price, revenues from oil and gas exports increased by more than 52 per cent from 1978 to 1979. However, hydrocarbons are not just contributing to the country's foreign earnings but through their transformation they will contribute to the growth of agriculture and other industrial sectors and will reduce certain industrial and chemical imports.

Chapter Two

THE STRUCTURE OF THE ALGERIAN ECONOMY

2.1 The Colonial Era

The pre-independence era of Algeria was most of all marked by the dualistic structure of its economy, with regard to industry, agriculture and trade, in such a way as to serve the interests of the metropolitan country (France) and the European minority living in Algeria. In the whole of Africa, this position could be compared only with that of the European population in South Africa (NORBYE, 1969,p.472). In 1960, this European population was around 1.1 million out of a total population of 10.1 million, or 10 per cent of the total population. Moreover, 81 per cent of this European population was living in urban centres, while 80 per cent of the Algerians were living in rural centres (SAYIGH, 1978a,p. 523). In addition to their numerical strength in the cities, they controlled the socio-economic life of the country and enjoyed privileges. They owned the most important means of production in all sectors. Their control of non-agricultural activities can be seen from the fact that in 1957 over 44 per cent of salaried employment and over 70 per cent of the Civil Service consisted of Europeans (SAYIGH, 1978a, p.523). About 41 per cent of the country's arable land, that is 2.8 million hectares was owned by about 22,000 European farmers (KURIAN, 1982). They also controlled 80 per cent of the industrial sector. Of the more highly qualified workers, 90 per cent were Europeans (AMIN, 1967). It is worth adding that the vast majority of the unskilled workforce, in the agricultural sector, was Algerian (over 90 per cent). Unemployment and under-employment among urban

Algerians was very high: 25 per cent (SAYIGH, 1978a,P.523). The inadequate opportunities for the education of Algerians at all levels of instruction in general, and at technical, secondary, and higher education in particular, was very marked (TABLE 2.1). This pattern was to continue with only marginal improvement until independence. However, in spite of this relative improvement, only 37 per cent of the primary school population was Algerian in 1961.

TABLE 2.1 Enrolment in Secondary and Higher Education

	1959		1961	
	Algerians	French	Algerians	French
Technical level	10,900	5,300	-	-
Secondary level	11,000	34,000	-	-
University	-	-	600	5,000

1 : data for Algiers University only.

SOURCE : SAYIGH, 1978a.

It can be said that the French notion of Algeria's integration with France was a very selective one, since it did not try to raise the educational, and training levels of the Algerian to meet those of the French. The official policy was aimed at the preservation of a wide gap between the two communities (SAYIGH, 1978a, p.524).

This situation led, in 1954, to a war which lasted for almost eight years. Obviously, heavy losses were inflicted on both sides, particularly on the Algerian population (1.5 million victims). The violence of the war led in turn to

dramatic changes in the socio-economic structure, for about 2.5 million people were regrouped in Centres de regroupement (CORNATON, 1967) and a large number migrated to Tunisia and Morocco (NORBYE, 1969, p.472). During the struggle, the European community in Algeria was not only against an independent Algerian state, but sabotaged progressive policy measures initiated by France and aimed to defeat the uprising through a policy of justice (NORBYE, 1969,p.472).

In 1958, the average income per capita in Algeria was £90. This relative prosperity benefited only the European community, since their average income was estimated at £365 against £29.5 for the Algerians. The latter is relatively low, in spite of the fact that many benefited from job opportunities in the prosperous urban centres (NORBYE, 1969, p.478). In agriculture, income per head was approximately £20.5 (c.f. £735 for the European), because of the stagnation of the traditional agricultural sector and the population pressure in the countryside which made it possible for the European farmers to have a very low paid labour force. Algeria's rural population was 6.8 million in 1959. NORBYE (1969,p.479) added that the income gap in agriculture was much larger than in non-agricultural activities; £47 against £330.

The other major aspect of the dualism in the Algerian economy was land ownership in the agricultural sector. Although, the European sector represented only 3.3 per cent of the total farm units, it controlled 27 per cent of the agricultural land area (ISNARD, 1958,p.85). It is important

to emphasise that the land owned by Europeans was virtually limited to northern Algeria except for the few cases in the Sahara. They occupied the most fertile land ... which was nearest to urban population. This proximity gave the advantage of markets and savings in transportation costs, as well as the convenience of exportation of agricultural produce (SAYIGH, 1978a, p.524). Well developed, combined with superior capital investment and a more advanced agricultural technology, this modern sector developed a very profitable system. The Algerian sector was predominantly traditional and consisted of about 600,000 holdings with an average farm size of 8 hectares (KURIAN, 1982), and located on areas of extensive land erosion which reduced the potential output. Thus having acquired all the best land, a skilled labour, a very cheap unskilled workforce, and a better organised administration, the European sector had a distinct advantage in production. Out of the 22,000 European farmers, 29 per cent controlled 87 per cent of the colonial agricultural land, that is 2.4 million hectares, with an average size of more than 100 hectares (ISNARD, 1958,p.86). In 1957, the European farm units produced about 60 per cent of the crops, 90 per cent of the wine, 40 per cent of the cereals and about 80 per cent of the fruit and vegetables (NORBYE, 1969,p.479). Meanwhile, the Algerian sector was driven back to the savaged hill-slopes, high steppe-like plains and the mountains (DUMONT, 1973, p.261). Another important problem worth noting, with respect to this agricultural sector, was the large discrepancy between the relative size of the labour force. The modern sector, with its 2.3 million hectares of fertile land provided work for only 250,000 workers, while the traditional

sector, with less than 6 million hectares of poor, degraded agricultural land, had to support 650,000 farming families and 600,000 families of landless peasants (DUMONT, 1973, p.261).

In general the main aspects of the Algerian economy, in the colonial era, may be briefly summarised. The modern sector engaged only a small proportion of the population but obtained all the advantages of technological improvement and economic reorganisation, while the traditional sector encompassed the vast majority of the people but remained dependent on the age-old inefficient technology and outmoded economic organisation (MABOGUNJE, 1980,p.37). This distortion in the allocation of resources and in incomes resulted in massive unemployment and pauperisation of most of the Algerian population. This led to a massive rural exodus mainly towards the coastal towns and the development of slums. The under-employment and unemployment stemmed from the fact that external imperatives guided the market and technology of the modern sector (DUMONT, 1973, p.261). During the latter part of the war, efforts were being made by the French administration to correct these distortions. They were presented in a Five-year plan, called the Constantine Plan (Plan de Constantine), of economic and social development, which was to run from 1959 to 1963. This plan was, above all, France's attempt to win the war by social and economic means, for it was based on the philosophy that in the future the standard of living should be raised to reach the level of that of the French (NORBYE, 1969,p.489). However, in the midst of a war, this was unlikely to happen, because this

policy was dependent on the injection of a massive amount of French and foreign capital. Moreover, Algeria's population was predominantly rural and rural development could not be carried out vigorously since the rural population had been forcibly moved from rural areas. The plan was expected to achieve an annual growth rate of 7 per cent based on French aid of 200 million old Francs a year, in addition to an annual investment rate of another 200 million old Francs (MARTENS, 1973,p.26). The aim was to create approximately 470,000 jobs, of which 145,000 in the construction industry, 113,000 in manufacturing industries, 80,000 in services, 50,000 in public service, 2,500 in petroleum industry and 80,000 which would have to be compensated by migration of Algerian workers to France (NORBYE, 1969,p.490). Although the plan put more emphasis on urban activities, rural development was to receive 90,000 new houses and around 760,000 hectares were included for improvements and land reform (NORBYE, 1969,p.490). The relatively high growth rate (3.5 per cent), which was achieved, was mainly due to the growth of mining operations and the infrastructural works of the embryonic industry (MARTENS, 1973,p.25). In 1961, in contrast to the objectives of the Constantine Plan and the colonial development policy, there was a significant flight of capital and a process of disinvestment: 85 per cent of the savings were transferred to France as compared to 26 per cent in 1954 (AMIN, 1970,p.118). In general, only 35 per cent of the capital allocated was invested, for most of it was returned to France by the Colons as their private investments (CLEGG, 1971,p.78).

Thus industrialisation and agricultural development which should have been the basis of the new Algerian economy did not take place. The former, which was to receive substantial private investment, witnessed a reversal in the process with disinvestments, while the latter was violently disorganised by the regroupment policy undertaken by the French Army administration. This policy dispossessed and proletarised more than 2.1 million Algerian peasants (BENNAMANE, 1980, p.33). Furthermore, the intention of raising the standard of living in Algeria to that of Europe within a generation was meaningless, considering the very uneven distribution of income prevailing in the country (SAYIGH, 1978a, p.529). The economic dislocation and the disruption of planning was aggravated during the last 2 or 3 years of the war. The level of production of the entire national economy dropped by 35 per cent in 1963 (BENACHENHOU, 1976, p.477). Although the departure of 80 to 90 per cent of the European Community, in 1962, has made available 450,000 jobs for the Algerians, this was not enough to absorb the rural unemployment (1 million), and the urban unemployment which was estimated between 150,000 to 200,000 persons (DUMONT, 1973,p.262).

2.2. The Post Independence Economic Development

Although Algeria was in a more advantageous position than any newly independent country, given the potential value of the oil and gas reserves (KNAPP, 1977), and the important assets inherited such as urban infrastructure, transport, railways, ports, roads, social infrastructure (hospitals, schools), and food processing industries, the

level of production fell in the few years immediately following independence in almost all sectors of the economy. This was because of the general disruption in the political and economic life of the country, on the one hand, and because foreign investments were stopped in all sectors, for nationalisation was set as a major objective in the Tripoli Programme of May 1962, on the other. The production, for instance, of the most important mineral, iron-ore, declined considerably from 3.4 million metric tons in 1960 to 1.9 million metric tons in 1963 (SAYIGH, 1978a, p.533). Thus, in order to create jobs for the unemployed mass and an increase in the national economy, an effort was made by the new Algerian government to achieve a successful transition from an economy where the dynamic sector was owned and dominated by the European to an economy run by the Algerians. For instance, of all the North African countries, Tunisia has been the first to accomplish this transition by and large successfully, which enabled the country to embark on a relatively rapid rate of growth (KARMARCK, 1967,p.18). Since Algeria was largely dependent on the inflow of French capital, it had to introduce some development strategy to correct the distorted structure and to develop the economy to the point where it will be capable of self-sustained growth.

Before discussing specific strategies it is necessary to resolve some fundamental questions concerning the nature of development in general. Development was defined by EASTERLIN (1968,p.395). "as a rapid and sustained rise in

real output per head and attendant shifts in the technological economic and demographic characteristics of a society". SARDAR (1977, p.39) defined it "as a strategic compound of private and collective actions, with their intended and unintended consequences, through which a society moves from one state of organisation, one system of ideas, beliefs and transitions, and one stock of equipment to another in the context of other societies which have followed or are following a similar (though far from identical) route with similar (though differing) hopes, aspirations and fears". For SEERS (1969,p.3) development is not only economic growth, but also when people in a country have adequate living conditions, jobs and reduce income inequality among them. If all these three objectives have been achieved, then beyond doubt this has been a period of development for the country. However, in reviewing his concept of development, he added that the crucial target for any country would be to create a self-sustained economy (SEERS, 1977,p.5). Before that MYRDAL (1968) defined development as far from being a simple economic process of raising living standards or increasing the rate of growth. Development is also seen as part of the process of modernisation, for according to LERNER (1968, p.387)" modernisation is the process of social change in which development is the economic component". However, PYE (1966) provides the best definition describing development as a multi-dimensional process of social change. It is not simply a case of building an industrial complex, but also a question of manpower to operate it, including the changes wrought in the educational system.

Furthermore, development involves not merely economic changes but also social and institutional ones (MOUNTJOY, 1978,p.23), which should be oriented to the needs of the masses (SAYIGH, 1978b,p.11). Development has become a universal priority, a self-generating aspiration resulting from status inequalities in the international system (NETTLE, 1969,p.15). In general, the central problem in the theory of economic growth is to understand the process by which a community is converted from being a 5 per cent to 12 per cent saver, with all the changes in attitudes, in institutions, and in techniques which accompany this conversion (LEWIS, 1955,p.225-226).

2.3 The Algerian Strategy for Economic Recovery

The Algerian strategy of development gave priority to the sector which would be capable, in the long run, of generating a self-sustained economy, based on the exploitation and transformation of the natural resources. This strategy gave priority to industrial development and within the industrial sector to large-scale and capital-intensive heavy industries, such as petrochemicals, iron and steel, mechanical and electrical industry, so as to produce an accelerator effect. The fundamental economic goals of Algeria have been the expansion of production to enable the economy to reach a stage of self-sustained growth by the mid-1980s, the achievement of economic independence by building up the country's domestic market, and the improvement of income distribution (NELSON, 1979,p.127). In relation to its size and population, Algeria is not richly endowed with agricultural resources. The

rural population cannot be supported at a reasonable standard of living on the limited agricultural land available, and must therefore find employment in industry, which in turn will provide machinery and fertilizers for agriculture as well as furnishing a market for an improved and increased agricultural output (KNAPP, 1977,p.123). Unlike many Latin American countries, Algeria has no large reserves of fertile land which could be rapidly brought into use, to give full rural employment. Thus no long-term policy of development can be based solely on agriculture, for geographical factors limit its productivity (TIDAFI, 1969). However, progress in agriculture is a pre-condition for industrial progress. Agriculture provides the food to support the population and raw materials for the agro-industries. Industrialisation depends to a large extent on the links it can establish with the agricultural sector. It cannot play its part to the full unless it becomes integrated into the country's economy, transforming its raw materials and modernising it.

Industrialisation is not viewed as a universal panacea for all the ills of Algeria, but rather part of the new trend of a leading sector in the growth process. It is one of the tools with the aid of which the vicious circle of back-wardness and poverty can be broken (CUKOR, 1974,p.9). It is superfluous to argue whether only industry or only agriculture should be developed, or whether one or the other should be given absolute priority. Obviously both must be developed. Industrialisation is in close interrelation with the growth of the other branches of the economy, mainly agriculture (CUKOR, 1974,p.9). Development of the various

economic sectors has first of all a complementary character rather than a competitive character; growth of the one being a pre-condition and cause of the other. Moreover, the role of the two most important branches of the economy, agriculture and industry, which produce the majority of material goods, are of special importance. For the successful development of agriculture, for instance, a domestic industry is also needed, and the supply of industrial inputs for agriculture cannot be left to imports. However, the fundamental problems of development strategy can be traced back to the fact that it is impossible to develop everything simultaneously, and it is therefore necessary to establish priorities (CUKOR, 1974,p.61).

The desire of the Algerian government to try to industrialise the country as rapidly as possible is essentially well based. Algeria is keen to exploit its large resources of petroleum and natural gas. In fact, with its very limited possibilities in the agricultural field and its large unemployment, Algeria is condemned to industrialise for the sake of industrialisation (NORBYE, 1969, p.510). Before independence, Algeria exported mainly agricultural products (wine, citrus fruits, wheat) to France. However, after independence, these exports were no longer protected by the metropolitan country, and Algeria found that its exports earnings were far more vulnerable to price fluctuations than was the case with the countries that export a variety of industrial products. The terms of trade have tended to move adversely against the primary producers. For example,

from 1948 to 1962, the volume of exports from underdeveloped countries increased by 4.5 per cent yearly, while the value increased by only 3.5 per cent (KARMARCK, 1967). Meanwhile, the prices of the manufactured goods, Algeria was purchasing, increased. With the heavy reliance the Algerian economy had on the export of agricultural products, the magnitude of such fluctuations presented major problems to the authorities. This alone was a powerful reason for trying industrialisation, so as to stabilise the economy. Particularly, from ROSENSTEIN-RODAN'S (1943) view of industry as a major strategy for development, to ROSTOW'S (1956) and HIRSCHMAN'S (1958) linkages and spread-effects, the concept of industrialisation largely appeared as the leading sector in the growth process.

In order to construct an independent national economy and to weaken the regional disparities inherited from the colonial era, Algeria chose the implementation of an industrial strategy aimed at global industrial development in which basic industries (petrochemicals and iron and steel) constituted the backbone. The objective looked for was the construction of a cohesive industrial structure stemming from industries creating further industrial growth, or "industrialising - industries", a concept advocated by the French economist Destane DE BERNIS (1966, 1977). The creation of this dynamic industrial base should permit the exploitation of energy and mineral resources "upstream" and above all should stimulate the creation "downstream" of a wide range of consumer goods industries. Of central importance, is the concept of linkages between different sectors of the economy

and particularly between agriculture and industry (De BERNIS, 1968). The agricultural sector was to be integrated with the industrial sector to provide not only an internal market for industrial products but also a source of new raw materials for industry. The development of these basic industries will have an important effect in guiding the economic structure towards equilibrium (CASADIO, 1976). The choice of an "industrial strategy" derives from the assumption that modern industry is able to raise per capita income, accumulate capital resources for investment, and improve the balance of payments at a much more rapid rate than any other strategy (BROOKFIELD, 1975,p.72). Furthermore, to counterbalance the industrial concentration on Algiers, the industrial development model adopted was based on the creation of development poles, situated mainly on the coast (Oran-Arzew, Annaba, Skikda).

2.4 Problems of Setting up Industries and the Role of Government.

There are many self-reinforcing constraints on initiating industrialisation in any underdeveloped country. Probably the most important and dangerous one is a market that is too small. For their manufactured goods to compete successfully on even terms in the developed countries is beyond reach (KARMARCK, 1967,p.154). The penetration of the international market, on any scale, is becoming more difficult since the varieties of commodities produced and consumed there, depart further and further away from the simple goods that a country embarking on industrialisation is able to produce (KARMARCK,

1967,p.155). it is quite obvious that industrialisation should rely on domestic raw materials, because if the equipment for production and the know-how is secured from abroad and in addition to this, the raw material supply is based on imports, the new industry will hardly prove remunerative at the present technological standard of the country (BOGNAR, 1968,p.276).

Moreover, industrialisation is particularly onerous in the early stages of development, when skills are scarce, but crucial choices have to be made with respect to the sector and scale of investment. Successful industrialisation has generally required substantial and efficient investment in supporting infrastructure. Perhaps, the foremost shared problem at early stages of development is how to foster a consistent policy framework that supports industrialisation without harming the development of the other most important element in the economy, the agricultural sector. Since the overwhelming mass of the population depends on agriculture, it is important, however, that in spite of doing everything possible to secure development of manufacturing industry, the main opportunities for economic growth are steps which will have the effect of increasing agricultural output (KARMARCK, 1967,p.155). Nevertheless, as industrialisation proceeds beyond the initial stages, other issues come to the fore for policy considerations; for the growing interdependence in the industrial structure calls for complex investment planning and coordination.

In general the Algerian government has played a crucial

role in stabilising the economy, and initiating and supporting the early stages of industrialisation. The state of crisis and chaos of the economy that accompanied independence forced the new government to take action. By 1980, the only parts of the economy under private control were small-scale consumer manufacturing enterprises, small-scale retail trade and the traditional agricultural sector. In 1975, the public sector accounted for more than 75 per cent of the total production and for about 83 per cent of new investment (NELSON, 1979,p.133). This domination, on all sectors of the economy, was made through gradual nationalisation of all foreign interests. The role of the government was described by the late President Houari Boumedienne as one of liberating the economy from all foreign hegemonies and of building up a truly genuine national economy. The state's role extended beyond the provision of expensive large-scale physical infrastructure essential to the growth of industrial activities. The emphasis was not merely on development but on fast development, and this was necessary because of the fast increase of the population and the economic backwardness of the country after independence. Furthermore, since the route towards industrialisation is based on heavy industries which require heavy capital investment and advanced technology, it is controlled by the state through national companies. These public enterprises were created for several reasons, including the desire to launch large-scale industrial projects, which could not be taken by the private sector, because they were beyond its capacity. However, there is a growing concern about their poor profitability and operational inefficiences. The reasons are mani-

fold: new companies take some time to become going concerns, because they must train their labour, which will affect both quantity and quality of production which will lead to difficulties in breaking into the market; they will be working below capacity for a considerable period; costs of production will be high in early stages, particularly, because of their pursuit of other social objectives such as employment and development of backward regions. Nevertheless, all these difficulties should lessen as development proceeds. To mobilize and employ all the forces available in the struggle for development requires that the government prepares and puts into effect a general economic plan. The heart of such a plan is to procure the necessary capital in order to raise the amount of investment (MOUNTJOY, 1978,p.134).

Chapter Three

DEVELOPMENT PLANNING IN ALGERIA

3.1. Review of the Various Development Plans

Development planning in Algeria is a serious matter, and not merely a shopping list of projects desired by the different ministries as it often is in other countries (NELSON, 1979,p.136). The concern of the Algerian government, particularly the one of 1965, with economic development was the diversification of the economic structure, implemented by means of various plans of development (TABLE 3.1).

As far as the national plans are concerned, the Three-year Plan, 1967-69, allowed the organisation of the economy by state control of the main resources and the creation of public enterprises. The plan was modest but its importance for the economy was great, for it was the base of a long term development programme running into the 1980s (TABLE 3.2). It achieved 82 per cent of its target with investments of 9.1 billion Algerian Dinars (SUTTON, 1981a, p.356).

The core of the development effort is the two Four-year Plans, the first of which ran from 1970 to 1973 and the second from 1974 to 1977.

TABLE 3.1 Date and Category of development plans.

Date of Implementation	National Plans	Regional Development Plans	Local Plans
1966		Oasis Wilaya	
1967-69	Three-year Plan		
1968		Aurès & Grande-Kabylie	
1969		Titteri	
1970-73	1st Four-year Plan		
1970		Tlemcen & Setif Wilayate	
1971		Saida Wilaya	
1972		El-Asnam Wilaya	
1973		Annaba & Constantine Wilayate	
1974-77	2nd Four-year Plan		
1974			P.C.D.
1980-84	Five-year Plan		

TABLE 3.2 Investment, by sector, during the Three-Year Plan, 1967-69

SECTOR	PERCENTAGE
Agriculture	17.6
Housing, Public utilities, Health	6.4
Infrastructure, Transport	10.2
Education & Training	9.4
Industry	49.8
Administration	4.0
Tourism	2.6
TOTAL	100.0

The first Four-Year Plan (1970-73) was more ambitious and emphasised the establishment of a capital-intensive sector, involivng the hydrocarbon, iron and steel, chemical and engineering industries which were to serve as a basis for economic growth. About 34 billion Algerian Dinars were invested compared to the originally proposed 27 billion, which achieved 9 per cent annual growth rate(Europa Publications, 1981,p.246). While industry absorbed 42 per cent (TABLE 3.3), the proportion going to immediate improvement in the condition of the people was correspondingly small, only 5 per cent of the investment plan being allocated to housing, in spite of a rapidly growing population(KNAPP,1977).

TABLE 3.3 Investment by sector in the First Four-Year Plan (1970-73).

SECTOR	PERCENTAGE
Agriculture	17.8
Housing, Public Utilities, Health	11.6
Infrastructure, Transport	10.9
Education & Training	11.9
Industry	42.2
Administration	3.1
Tourism	2.5
TOTAL	100.0

The most important poles of development received 75 per cent of investments and 60 per cent of the jobs created (JACQUEMOT and NANCY, 1973). Between 300,000and 320,000new jobs were created during this plan (NELSON, 1979,p.136).

The second Four-Year Plan (1974-77) aimed to consolidate the effort made during the previous plan, with a continued priority to industrialisation (TABLE 3.4). The plan projected an annual growth rate of 10 per cent, an increase of 8 per cent in personal incomes, and the creation of 450,000 jobs (KURIAN, 1982).

TABLE 3.4 Investment by sector in the Second Four-Year Plan (1974-77).

SECTOR	PERCENTAGE
Agriculture	15.2
Housing, Social Services	13.3
Infrastructure	14.0
Education and Training	11.3
Industry	43.5
Administration	1.3
Tourism	1.4
TOTAL	100.0

Because of the large increase in income resulting from oil price rises, the total investment was almost four times that of the first Four-Year Plan (110 billion Algerian Dinars). Industry had once more the lion's share with 43.5 per cent of total investment. Projects aimed at improving infrastructure and the neglected social services are also important; 14 per cent for the former and 13.3 per cent for the latter.

Although Algeria's priority is on the basic industries, the plan gives more emphasis to agriculture through the backward-linked multiplier-effect industries (fertilisers, tractor plants, and plastic manufactures); however, agricultural development is lagging behind (CASADIO, 1976,p.48). In terms of employment, a relatively secondary place to industry has been given so far in creating jobs,in comparison with its large share of investment funds (SUTTON, 1976,p.84). Moreover, it fell short of its admittedly low target (SUTTON, 1981a, p.357). According to the World Development report of 1978 Algeria's Gross Domestic Product (GDP) grew by an annual average rate of 6.2 per cent in the period 1970-76, compared to 4.4 per cent in the 1966-70 period. During 1980, it was estimated to have grown by a further 6.5 per cent (EUROPA PUBLICATIONS, 1981, p.246).

After a transitional period in which the government reviewed what was achieved and what adjustments should be made, a new development plan, covering 1980-84, was adopted, with a projected investment of 400.6 billion Algerian Dinars. The plan has maintained the priority given to industrial development, 38.6 per cent (Africa Research Bulletin, 1980), however, there is a shift in emphasis from heavy to light industries particularly to labour-intensive ones such as building materials, textiles and food processing industries. The new plan emphasises the importance of improving the social needs of the population. Thus housing, health and education will account for 32 per cent of the total investment. One notable feature of the plan is that one-half of overall expenditure has been allocated for the completion of projects left over from the previous plan (Africa Research Bulletin,1980).

It appears that the underlying principle of the new economic thinking is one of creating a second industrial axis along the Hautes-Plaines, to slow down the population drain towards the coastal cities, with emphasis on more productive labour-intensive projects in light industries so as to meet the severe shortages of consumer goods.

Parallel to these industry-dominated national development plans operational since 1967, a series of regional development plans has been promoted, each scheduled for three or four years (SUTTON, 1976, p.84). Launched in 1966 these "special programmes" or regional development plans were supplementary investments to promote the lagging regions and ease regional disparities (BAKOUR, 1972,p.14). They had considerable importance in the effort which has been made to improve the economy and living standards of regions which are naturally under-endowed and distant from any spread-effects generated by the major centres of production (Fig. 3.1). They have also been of obvious political importance, in contributing to a sense of national unity and in strenghtening the articulation of the state and party machine over the country as a whole (KNAFF, 1977,p.124).

From 1966 to 1970, Six Wilayate (A Wilaya (plural: Wilayate) is the largest territorial administrative unit, in which the country is subdivided) benefited from these programmes: Oasis (1966), Aurès (1968), Grande-Kabylie (1968), Titteri (1969), Tlemcen and Sétif (1970). While in the beginning, these regions were chosen on the basis of the Wilayate boundaries, the new plans of Saida (1971) and El-Asnam (1972) were crossing substantially these limits,

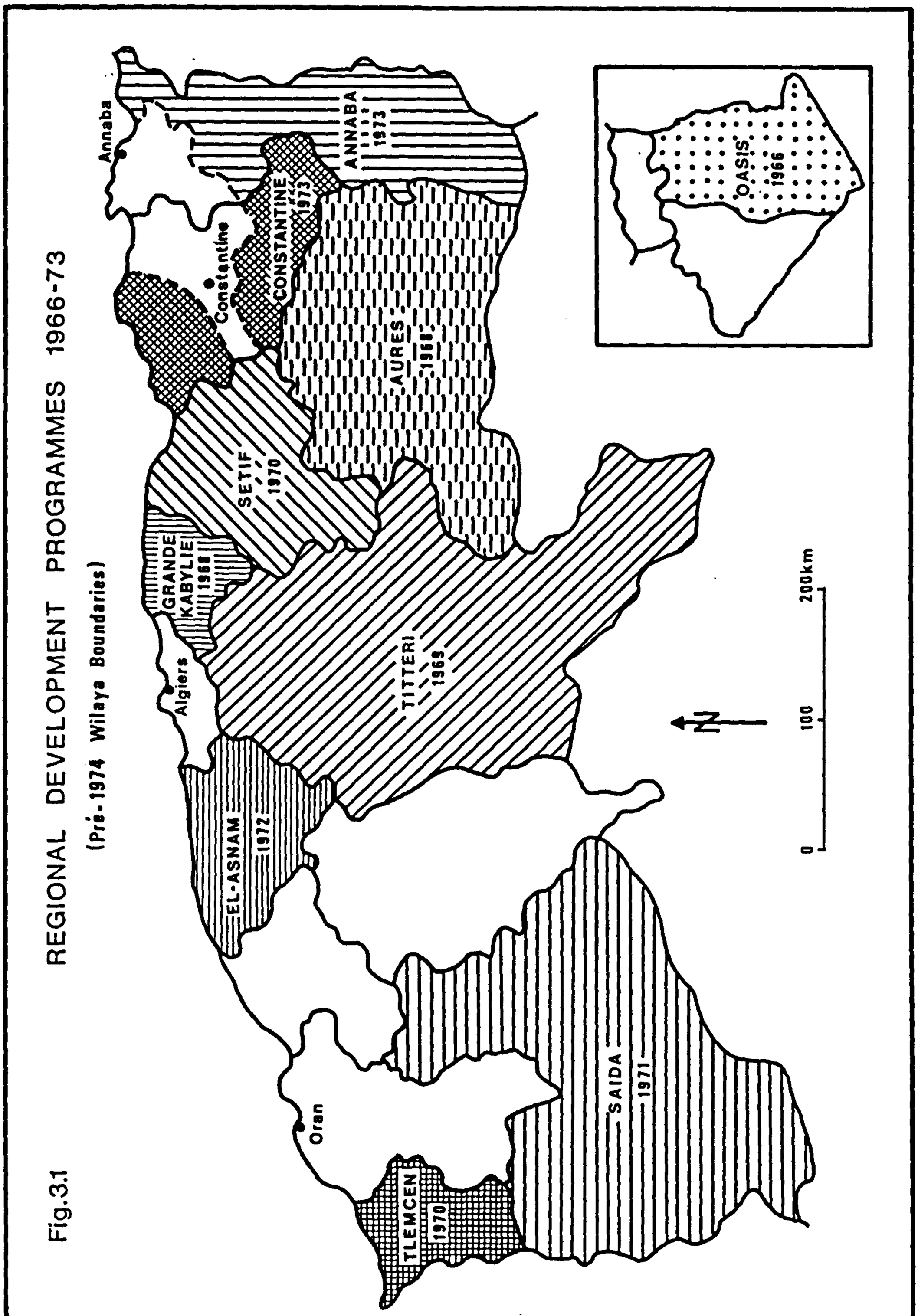

REGIONAL DEVELOPMENT PROGRAMMES 1966-73
(Pré-1974 Wilaya Boundaries)
OASIS
1966
Annaba
ANNABA
1973
Constantine
CONSTANTINE
1973
SETIF
1970
AURES
1968
GRANDE
KABYLIE
1968
Algiers
TITTERI
1969
EL-ASNAM
1972
Oran
TLEMCEN
1970
SAIDA
1971
200km
100
0
N

Fig.3.1

in an attempt to encompass the reality of the economic and social situations of the whole area (NACER, 1979, p.34). The experience has helped to introduce the spatial dimension in the development plans, and the awareness of the existence of different capacities among the regions to perform development efforts (NACER, 1979,p.36). Indeed, the whole approach on the Wilaya basis was completely abandoned with the programmes of Constantine and Annaba (1973), where more homogeneous regions have been designated. Since the Commune represents the basic economic and political unit of the Country, the focus was on the development of 78 lagging communes in the 2 different Wilayate (43 communes from the Constantine Wilaya, and 35 communes from that of Annaba). If in the past most of the investment were concentrated in the chief town of the region, in both plans, the cities of Annaba and Constantine were excluded since they benefited from the different national plans (MIGNON, 1974,p.389). More recently five new Wilayate were granted "special programmes": Bechar, Adrar, Laghouat, Ouargla, and Tamanrasset (PRENANT, 1978). As well as aiming to lessen regional disparities in infrastructural, social and educational provision, these "special programmes" also promote specific agricultural and industrial developments appropriate to the potentiality of the regions (SUTTON, 1981a, p.359). The sectoral allocation of investments in these regional development plans shows a contrast with the pattern of investment in the national programmes. While the industrial sector benefited more from the national development planning, here the agricultural sector was very much assisted, reflecting the importance of agricultural activities within these backward regions (NACER, 1979,p.34).

Since national planning was promoted by the central government, the experience of these regional development plans made a very important innovation in decision-making in the development process, because they led to the emergence of local authorities in the formulation of the policies to promote the development of their regions. This is particularly needed considering the highly centralised and somewhat bureaucratised pattern of the decision-making system (NACER, 1979,p.36). Furthermore, to involve the local authorities in the development planning process, a major policy development contained in the second Four-Year Plan was introduced: The Communal Development Plan (Plan Communal de Développement). This adds a certain devolution of decision-making and management to local communities as apposed to the centre-down form of regional development measures practised before (SUTTON, 1981a, p.363). 200 poor rural and urban communes benefited from this scheme. The total allocation was almost 6 per cent of the overall investment of the second Four-Year Plan of which only 31 per cent was effectively realised (NACER, 1979,p.37). This investment was mostly allocated to agriculture and economic infrastructure (TABLE 3.5).

TABLE 3.5 Sectoral allocation and realisation in the Communal Development Plans, 1977

SECTORS	ALLOCATIONS %	REALISATIONS %
Agriculture	18	33
Irrigation	38	26
Economic Infrastructure	20	30
Social Infrastructure	15	31
Administrative Infrastructure	3	37
Equipment	6	54
TOTAL	100 %	31 %

SOURCE : NACER, 1979,p.38.

The aim is to modernise and raise the income distribution by the establishment of new economic activities within these poor communes so as to provide decent living conditions for their populations. Moreover, it is to prevent the aggravation of the regional disparities and to organise the rural exodus to the more favoured zones (REPUBLIQUE ALGERIENNE DEMOCRATIQUE et POPULAIRE, 1974, p.16; JACQUEMOT and NANCY, 1973).

By 1978, the most important changes that have occurred in the sectoral composition of the GDP are the decline of agriculture and the growth of industry, particularly hydrocarbons. In 1978, agriculture accounted for only 7 per cent of the GDP, compared to 21 per cent in 1960. By contrast, the industrial sector grew from 24 per cent in 1960 to 58 per cent in 1978, of which 30 per cent from hydrocarbons. In 1979, the GDP was estimated at 120 billion Algerian Dinars, an increase of more than 280 per cent since 1973. This high growth rate made per capita income rise dramatically. From an estimated $ 300 in 1965, it climbed to $1590 in 1979. Compared to neighboring countries of Morocco and Tunisia, it is a very high level (NELSON, 1979, p.137).

3.2 The Development of an Integrated Industrial Sector

a. General characteristics.

The government policy of consolidation and restructuring of the economy culminated by the nationalisation of the mineral resources in 1966, and the hydrocarbon sector in 1971. In addition, industrialisation was given the leading role in the government's economic policy and the major investment effort in all development plans was devoted to this end.

One interesting feature of post independence development is the changes within the industrial structure. Although consumer goods industries, designed to remain of limited importance during the colonial era in order to allow the French industry to export substantial quantities of its products to Algeria, expanded rapidly; today Algerian industry includes the production and processing of hydrocarbons, petrochemical production and transformation and the production of iron and steel and other capital goods. Since, it is of paramount importance in the inter-relations between the different branches of industrial production, diversification towards mechanical and electrical producer goods, construction goods, such as cement and assembly plants of transport vehicles has taken place.

Although, manufactured goods accounted for 9.8 per cent of Algeria's exports in 1972 (CASADIO, 1976, p.102), manufacturing industry is heavily dependent on the developed countries as a source of equipment and other industrial goods. In 1978, industrial goods accounted for 79 per cent of the total imports, as against 61.8 per cent in 1972. In value, they increased by more than 500 per cent. In 1974, compared to the Arab world, Algeria had 13.3 per cent of the total manufacturing industry, and was the leading country for metal products and machinery (CASADIO, 1976, p.103). Compared to Morocco and Tunisia, Algeria is the only country in the Maghreb, where industrial activities are gradually shifting to the manufacture of basic chemicals, fertilisers, iron and steel (TABLE 3.6). As to the other branches of manufacturing, the food industry has its focus in Tunisia and Morocco, to a

TABLE 3.6. STRUCTURE OF ALGERIA'S MANUFACTURING INDUSTRY COMPARED TO TUNISIA AND MOROCCO

COUNTRY		BASIC SECTORS OF THE MANUFACTURING INDUSTRY										Classification according to economic use		
		Total manufacturing industry	Food, beverages and tobacco	Textiles, leather and leather products	Wood, furniture and fixtures	Paper products and printing	Chemicals and Petroleum products	Non-metal mineral products	Basic metal	Metal products	Other manufacturing industry	Consumption goods	Intermediate and capital goods	Total
ALGERIA	Actual	100	25	21	8	-	9	9	-	28	-	54	46	100
	Projected	100	19	21.1	-	-	12.1	8.1	7.3	14.4	17.7	58	42	100
TUNISIA	Actual	100	48	12	2	5	15	9	4	5	-	67	33	100
	Projected	100	27.9	27.8	3.8	8.8	12	7.1	-	13.3	-	67.7	32.5	100
MOROCCO	Actual	100	47	13	2	4	17	5	-	12	-	66	34	100
	Projected	100	33	25	3	5.2	9.9	6	0.5	17.4	-	66	34	100

SOURCE = CASADIO, 1976,p.105.

lesser extent Algeria. However, the two countries are planning to reduce its importance by almost half. The textile and wood industries are concentrated in Algeria; however, Tunisia and Morocco are attempting to double the existing figures in these industries.

Industrialisation in Algeria is based on the policy of import substitution within the framework of the national market and concentrating on consumer industries (SCHNETZLER, 1981, p.83). The share of Algeria's imports of industrial consumer products, compared with total industrial products, has fallen from 17 per cent in 1972 to 6 per cent in 1978, while the rate of industrial investment imports increased substantially for the same period. Nevertheless, to achieve economic growth, it is important to foster the integration of economic activities and to develop the market by reducing disparity of income.

b. Establishment of basic industries

This policy is based on the establishment of dynamic large-scale enterprises which would act as a base for rapid development of the economy. Given the necessity for accelerated economic growth, Algeria is aware of the importance of establishing integrated plants based on heavy industries, particularly on processing hydrocarbons (KOUADRI, 1969) and other raw materials. The development is viewed in the light of a global and integrated economic development policy, with powerful effects and important investment multiplier results likely to have on the whole economy (ANDREFF and HAYAB, 1978). A spectacular development in the industrialisation of natural

resources is taking place in Algeria, particularly the petrochemical sector, because of its potentials and complex forward and backward linkages. As a leading sector, it bridges over the consumer and producer sectors for it supplies plastic goods and produces industrial fibres and fertilisers. The programme is expanding with the construction of LNG plants at Arzew and Skikda, in order to exploit its huge reserves of natural gas. For instance, Arzew's liquified natural gas plant, where 15.5 billion cubic metre of LNG will be produced annually, is the most important LNG plant of its kind in the world. In addition to the production of a variety of chemicals (PVC, Vinyl Chloride, etc...) and other intermediary or finished products, it will boost Algeria's production of synthetic protein which is of considerable importance to the agricultural industries. Although, it is still a young industry, this sector is designed to become not only an exchange-saver but also an exchange-earner, if efficiency, competitivity, and markets are ensured (HERSHLAG, 1979, p.71)

The capital goods sector is considered by Algeria to be a fundamental condition of "self-reliance" and the industrialisation drive. Thus prodigious steps are being taken to set up an iron and steel industry, because of the dynamic effect of steel development on the rest of the economy. The widespread support for this sector in Algeria stems from its strategic aspects, backward and forward linkage effects, and diversification of output and trade away from traditional structures. Since the country has the necessary raw materials (Algeria is a major exporter of high quality iron-ore), fuel

bases and transport facilities, then the establishment of iron and steel plants is one of the most desired features of planned development, opening the doors to a great range of other industries, particularly those making heavy capital goods (MOUNTJOY, 1971,p.215-16). A project likely to prove most effective is the iron and steel plant erected at Annaba (Eastern Algeria), with a capacity of 400,000 tons per year. It is being expanded to produce up to 1.8 million tons annually. However, it is unlikely that sufficient skill and management ability to run such plant will be built up locally for a number of years, but even at very high salaries the hiring of foreign skill and knowledge, provided that these are passed on, is here a good investment (MOUNTJOY, 1971,p.216).

The cement industry is also of considerable importance to the development of a country (UNESOB, 1973a). Therefore, Algeria gave top priority to build cement plants (El-Asnam, Constantine, Azzaba) owing to the ever -growing demands of industrial and infrastructure projects.

Another growth sector in Algeria is the production of consumer durables such as refrigerators, television sets, (TIZI-OUZOU and SIDI-BEL-ABBES) and the automotive industry (heavy vehicles) based on assembly plants (ROUIBA). The importance of the latter is increased by the emphasis in the development plans to expanding the manufacture of products which promote the establishment of other industries.

The engineering industry is also receiving priority in the industrial development. It is regarded that only when the

country has achieved the ability to produce some of the necessary equipment locally, that it can control its industrial development and move its economy to the take-off stage (CASADIO, 1976,p.113).

Finally, since the rapid growth of the basic industries requires parallel accelerated development of the basic material and social infrastructure, there are tremendous possibilities for the construction and building industries (UNESOB, 1973b). It is indeed vital to increase the capacity and productivity of these industries, because of the contribution they make to the implementation of development plans, and the indirect effect on many other industries, particularly those involved in producing furniture and textiles (CASADIO, 1976,p.115).

Due to its oil, natural gas and iron ore endowments, Algeria is becoming an important country for oil refining, petrochemical industries, gas liquefaction plants and iron and steel, which would lead to the emergence of a diversified economy. Nevertheless, the Algerian economy in general and industry in particular, is facing serious unresolved issues, on which its future development depends, such as the shortage of skilled labour force, a heavy dependence on foreign technology,a dramatic unemployment situation, and a stagnant agriculture exercising an adverse impact on effective demand for manufactured goods.

3.3 The Weakness of the Agricultural Sector

Out of the 2.3 million square kilometres, only 6.8 million

hectares are suitable for crops, which correspond to 3 per cent of the total land area. 86 per cent of the cultivated land is devoted to cereals mainly wheat and barley (KURIAN, 1982). The most important characteristic of this sector is that it presents a sharp contrast between a traditional sector and a modern one. Agriculture is the largest sector in terms of employment, however its contribution to the GDP is only 7 per cent. Not only agricultural production is laggging behind targets, but the annual output was far below the growth rate of any other sector of the economy in the 1970-77 period (KURIAN, 1982), and did not even match the annual increase in population. Output fell by an average of 8.7 per cent annually in the 1970-76 period, compared to an annual decline of 1.6 per cent in 1960-70 (EUROPA PUBLICATIONS, 1981, p.247). More seriously, Algeria is overwhelmingly dependent on foreign food imports, particularly since grains and meat, the products on which the bulk of the population depends, are lagging in performance. Algeria was only 30 per cent self-sufficient in food in 1980, compared with 73 per cent in 1969 (EUROPA PUBLICATIONS, 1981, p.247). The situation is worsening because of population pressure and growth, increasing urbanisation and industrialisation, and soaring prices of food imports. The value of Algerianfood imports increased by more than 350 per cent between 1972-78 (MINISTERE de la PLANIFICATION et de L' AMENAGEMENT du TERRITOIRE, 1979a). Furthermore, the decline in output, combined with a rapid increase in population suggests a significant downward trend in the per capita income of the agricultural sector (NELSON, 1979,p.163). Many factors contributed to the declining trend of agriculture

since independence: land tenure structure (fragmentation), flight of a large proportion of the young workforce, and lack of incentive to produce. Thus, in 1971, to increase production and incomes the government proclaimed the "Charter of the Agrarian Revolution" providing for the break up of the large private farms and the nationalisation of absentee landlords and their redistribution to families of landless peasants who would be organised in cooperatives. Being part of the concept of rural development, the agrarian reform has been also associated with the achievement of economic as well as social objectives (SAYIGH, 1978a, p.535). Since agriculture is the principal economic activity of the country, it is obvious that any significant change in this sector will have profound effects on population distribution and settlement patterns. Moreover, when one speaks of economic development, one envisages change, not maintaining traditional ways and structures. Development in agriculture implies more efficient production methods, greater capital investment, changing ownership patterns, new marketing and transport mechanisms (DESMOND, 1971). The top priority is to accelerate the expansion of agricultural production to attain self-sufficiency. Furthermore, it is of the utmost importance for Algeria to achieve a balance between the industrial and agricultural sectors, because up to now the process of development is being stopped by the neglect of agriculture, Overall, only increased and diversified agricultural production provides a sound basis for successful industrialisation at a later stage (HOYLE, 1974,p.4).

3.4 Labour Force and Nature of the Employment Problem

According to the 1977 census, the labour force totalled 3,007,799 of whom 22.3 per cent were unemployed (TABLE 3.7). Agriculture employed almost 30 per cent of the work force, and industry, including hydrocarbons, construction and public works, 32 per cent (TABLE 3.8). However, because rural families were somewhat larger than urban ones, it was believed that over half of the population depended on agriculture for its livelihood (NELSON, 1979,p.107).

TABLE 3.7. Active Population Structure, 1977

	Total	Percentage
Occupied population	2,336,972	77.7
Unoccupied population or S.T.R. 1*	325,760	10.8
Unoccupation population or S.T.R. 2*	345,067	11.5
	3,007,799	100

*S.T.R.1 : a person of working age, unemployed but who used to have a job.

*S.T.R.2 : a person of working age, unemployed and looking for his first job.

SOURCE : MPAT, 1979a.

TABLE 3.8 Distribution of the Labour Force by Economic Sectors, 1977

SECTORS	URBAN	RURAL	TOTAL
Agriculture	9.2	90.8	29.6
Industry	66.7	33.3	17.2
Construction & Public Works	42.8	57.2	14.8
Transport	65.2	34.8	5.7
Services	69.4	30.6	21.3
Trade	69.2	30.8	7.9
N.A.	55.8	44.2	3.5
TOTAL	46.4	53.6	100.0

SOURCE : MPAT, 1979a

It is reported that non-agricultural employment had risen from 863,000 in 1969 to more than 1.2 million in 1972, and was over 1.4 million in 1976. In the industrial sector employment by 1980 was expected to be at a level nearly three times that of 1969 (NELSON, 1979, p.108). However, this increase has just kept the pace with population growth, for the ratio of occupied population to that of total population for the 1966-77 period has not changed: 14 per cent (BRULE and MUTIN, 1982,p.59). They added that around 240,000 industrial jobs were created during that period, which represent 17 per cent of the total employment in 1977. The average annual growth rate of the labour force during 1970-80 was 3.5 per cent (KURIAN, 1982). Women constitute a small but growing portion of the total labour, 5 per cent in 1979; and their number was estimated to have increased by 242 per cent between 1966 and 1973.

In general, the country suffers from a severe unemployment problem, which is particularly aggravated by the influx of school leavers into the labour market. Although open unem-

employment dropped from 32.9 per cent in 1966 to 22.3 per cent in 1977, it still is relatively high in Algeria (TABLE 3.9). The problem of employment is likely to grow with the population increase, the continuing migration flows to the cities and the increasing participation of women in the labour force.

TABLE 3.9 Evolution of the Labour Force in Algeria, 1966-77

	1966		1977	
	N	%	N	%
Occupied labour	1720 710	67.1	2336 972	77.7
S.T.R. 1	560 262	21.8	325 760	10.8
S.T.R. 2	283 691	11.1	345 067	11.5
Total labour	2564 663	100.0	3007 799	100.0

SOURCE : 1966 : Secretariat d'Etat au Plan, 1970
1977 : MPAT, 1979a.

The import-substituting industrial development cannot yet be considered as a supplier of extensive employment apportunities, due to its tendency to capital-rather than labour-intensive technology. For instance, although the output per worker is high and particularly beneficial to a very wide sector of the developing industrial economy, iron and steel works and refineries require immense investments of capital, but they give relatively little employment (MOUNTJOY, 1971, p.217). Even where industrial employment did increase, it grew less rapidly than urban labour supply, due to capital intensive methods as well as to under-utilisation of capacity (DONGES, 1976). More important, industrialisation can also widen the income inequality gap between the modern industrial sector and the

traditional agricultural sector (KUZNETS, 1955; MYRDAL, 1957). As part of its effort to equalise regional incomes, the government has maintained a policy of locating many of its industries in the poorest regions. Two-thirds of the projects proposed for the second Four-Year Plan were to be located outside major urban areas, on the one hand; and further industrialisation of Algiers was actively discouraged since it was providing employment for about 45 per cent of the total industrial labour force, on the other (NELSON, 1979, p.150).

Earlier, it was observed that Algeria's urban development has been characterised by increased primacy in the distribution of population by city size. This is also true in relation to the growth of industrial activities. The Wilayate of Oran, Algiers and Annaba, which comprise just 19 per cent of the total population, had 59 per cent of all industrial employment in 1976 (BRULE and MUTIN, 1982, p.60). In 1977, these urban cities represented 35.1 per cent of all urban employment and 23.1 per cent of the total employment in the country. This tendency to concentrate infrastructure and industry, and all the other trappings of modernisation in the cities, coupled with the continuing rapid population growth in rural areas, had the natural and dual consequence of making the rural areas less attractive and the urban areas more enticing (EDWARDS, 1974,p.4). The Authorities are becoming concerned both with the equity dimension of these trends and with the increasing problem of creating constructive employment opportunities for its rapidly growing population. The planned new industrial jobs of 1977 were intended to reduce the

share in employment of these Wilayate from 59 per cent to 49 per cent. Nevertheless, despite the government's goal of diversifying the geographic location of industry, by 1978 most of the projects were concentrated on the coast. Overall, considering the present use of technology in the country, industry has only a marginal impact on employment because of its limited labour-absorbing measures in much of manufacturing (MORAWETZ, 1974; FRIEDMANN and SULLIVAN,1974).

Since by definition accelerated growth leads to "disproportions and disequilibrium", appropriate measures should be worked out to reduce the growing inequalities between economic sectors, urban and rural areas and population segments (CASADIO, 1976, p.193). Linkages between the Algerian industry and other sectors of the economy are not particularly strong yet. Industry does not seem to induce much growth in the agricultural sector, for instance. To qualify as a leading sector, industry must induce or transmit growth elsewhere in the economy, develop new and strong backward and forward linkages, generate technical progress and, thus benefit sectors that purchase manufactured inputs (IKRAM, 1980). As Edwards (1974,p.10) put it "the employment problem is likely to be one of long duration and any lasting and comprehensive solution must be one which pervades the entire economy". Efforts to relieve the employment problem by stimulating work opportunities in one sector alone are likely to be inadequate. He added that "in these circumstances, the importance of reducing the rate of population increase as a means of easing employment problems can hardly be questioned, even though the first impact of such reductions on the labour force cannot

possibly be felt in a short term. it would alleviate the employment problem mainly because of the direct effect it would have on decreasing the proportion of those seeking work and because of its indirect effects on national income and capital accumulation permitting more of the nation's resources to be devoted to the creations of jobs" (EDWARDS, 1974,p.16). As we will see later, the high dependency ratio to working population means that people will be left with less savings and capital accumulation.

It is essential for Algeria to establish a combined agricultural-industrial development planning, focusing on labour-intensive agro-industry which can absorb some of the rapidly growing labour force, promote the modernisation of agriculture and lessen the heavy dependence on food imports, on the one hand; and to require the acquisition and mastery of the new industrial process and techniques that will make the country in control of its industrial development and less heavily dependent on the industrialised nations, on the other.

Chapter Four

REGIONAL ECONOMIC THEORY AND ALGERIAN REGIONAL DEVELOPMENT

4.1 The Regional Growth Process

Since this thesis is not a study in regional economic analysis but an evaluation of regional development policy and planning in Algeria, it would be far beyond its aim to include a large section on regional economic theory. However, in order to understand the key elements of regional economic trends in Algeria, it is necessary to review some aspects of regional theory.

There are many theories of regional growth; however, most of them fall into two types (RICHARDSON, 1973). The first type is that the interregional growth process is basically equilibrating and that economic growth leads to the equalisation of returns to labour and capital and to convergence of interregional income per capita differentials. The most representative theory of this type is the neo-classical models developed by BORTS (1960) and SIEBERT (1969). Conversely, the second type states that economic growth is spatially imbalanced and promotes disequilibrium and leads to an increasing concentration of economic activities and population in few regions of the country and probably to divergence of regional per capita income differentials. This is representative of the cumulative causation models advocated by MYRDAL (1957) and KALDOR (1970), which have some affinities with the centre-periphery model used to analyse regional development by FRIEDMANN (1966).

However, WILLIAMSON (1965) argues that interregional growth tendencies are a function of the level of development, and that spatial disequilibrium is the characteristic pattern in the industrial "take-off" period but that equalisation trends tend to predominate at later phases of development. Others maintain that the contradiction between the two approaches may be resolved if the spatial dimension is introduced since then it becomes necessary to draw a distinction between inter- and intra-regional growth characteristics, whereupon it becomes possible to find spatial polarisation within regions but diffusion and convergence between regions, or even some other combination (RICHARDSON, 1975).

The question may be posed as to which of these theories is most relevant to the Algerian experience. During the last decade or so, the increasing concentration of industry and population in a few metropolitan regions, such as Algiers, Oran-Arzew, and the Annaba-Skikda-Constantine triangle, which worked to the disadvantage of the poor regions (flow of labour and capital), is suggestive of the Myrdal-Kaldor models. Nevertheless, this is insufficiently precise, since Algeria's regional income statistics are unavailable to permit a better analysis.

4.2 Growth Pole Theory and Strategies

The dominant characteristic of the Algerian regional policy since the beginning of the 1970s has been the heavy emphasis on the growth pole strategy. The influence of the French experience on the Algerian regional planning, in both

its theoritical framework and practice, is strongly marked.

The theory of growth poles dates from the theory of Pôles de Croissance proposed by F. PERROUX (1955) in the 1950s and has been elaborated further by others since the 1960s. He emphasised the role of leading industries (propulsive industries) in generating development because of their rapid growth and polarising effects, and because of their high technological level and the possibility of transferring it directly or indirectly to other sectors. The use of space, in PERROUX's (1950) notion of the growth pole, as an economic rather than a geographic sense has been discussed in detail in literature (DARWENT, 1969; HANSEN, 1967). For Perroux, there are 3 types of economic space: Economic space as defined by a plan, economic space as a field of forces, and economic space as a homogeneous aggregate (HANSEN, 1967). In each case it is very clear that Perroux's analysis centres on complex economic relations rather than on specifically geographical considerations. The interaction between propulsive industries and others is seen only in relation to the matrix of a theoritically open economy whose bounds are arbitrarily limited to a nation or a region. Locations in geographic space are not considered (DARWENT, 1969).

In contrast to Perroux's non-geographical orientation was Boudeville's emphasis on the regional character of economic space. He attempted to make the connection between the growth pole notions as defined in abstract space, and the location of a growth pole in geographic space, by measuring the impact of the steel smelting industry on the economy of

the province of Minas Gerais (Brazil) (BOUDEVILLE, 1957). Furthermore, he translated these ideas into a spatial context by defining a regional growth pole as "set of expanding industries located in an urban area and inducing further development of economic activity throughout its zone of influence" (BOUDEVILLE, 1966, p.11). Boudeville (1961) maintained that from an economic point of view, there are 3 types of space or region: homogeneous, polarised, and planning or programming regions. The homogeneous region has maximum internal homogeneity where each of the constituent zones has relevant characteristics as close as possible to those of the others. Polarised regions are a heterogeneous space in which the different connections and flows are predominantly in one direction, towards a pole which dominates the region. Finally, the programming region is a space placed in the hands of an authority to attain a given economic goal. The fact that 31 geographic units (Wilayate) which have been created in Algeria is no mere coincidence. They are the basic units for regional planning in Algeria (LAWLESS, 1981, p.573). In general, although Boudeville adopted Perroux's terminology, he gave it a more concrete usage by maintaining that the theory of economic space "is the application of a mathematical space on or in a geographic space (BOUDEVILLE, 1968). However, there is no doubt that the theory of growth pole, as adapted to a spatial context by Boudeville has been an important construct in recent years for linking analysis of the growth process with spatial changes and, perhaps even more important, for integrating theory and policy (RICHARDSON, 1973, p.78).

Since, in a spatial context, growth poles imply urban centres, the growth pole theory stresses the role of cities in regional development (RICHARDSON 1973,p.83). Many other authors attempted to link agglomerations with growth poles (LEBRET, 1961; ANTOINE and WEILL, 1968). One interpretation of growth pole strategies is to concentrate infrastructure and other resources on the leading cities of lagging regions so that these cities will be a counter-weight to the metropolises of the prosperous areas, will connect the region through the national urban hierarchy to the interregional transmission network for innovations and social change, and will improve the intra-regional distribution of resources and population (RICHARDSON, 1975,p.31). The present choices of location for growth poles in Algeria and the main emphasis on the growth pole as an instrument of industrial development make it clear that this approach to growth pole strategy has not been fully adopted in Algeria. The policy is aimed at establishing growth poles to promote decentralisation of industrial activities from the over-urbanised area of Algiers, and at creating a large-scale import-substitution export-oriented industrial complexes, located on the coast, to promote rapid industrialisation. However, little is known about the ability of a pole to generate favourable spatial effects over a wide area. The growth poles have had little impact on solving the economic and social problems of their regions. There is a failure of the Algerian poles to vitalise their hinterlands. Indeed, any effects that have been observed tend to be negative. On the one hand, the poles led to extensive in-migration from

the surrounding areas and therefore had a denuding demographic effects on the region. On the other hand, if the provision of services to the area is an important function of the growth pole, they are not supplied through a hierarchical system of urban centres, and therefore induce a metropolitan enclave in a rural desert rather than strengthen and stabilise the regional urban hierarchy (RICHARDSON, 1975, p.32). The growth pole is supposed to act as a point of entry for new ideas, dynamism and social change. This function is particularly important in Algéria, because its economy was dominated by the traditional local industries and agriculture. However, in the last plan (1980-84) the growth pole strategy was abondoned in favour of a policy covering a much wider area.

4.3 The Development Poles Policy

In the 1960s growth pole strategies became commonplace in many countries all over the world. In the case of Algeria, since most of the policy advisers were French, thus under the influence of Perroux, it was hardly surprising that a development pole strategy was one of the main targets of the country. Nevertheless, it is well known that a growth pole strategy can imply very different things according to the level of development of the country. In some cases, countries adopt national growth poles to cement the national urban hierarchy and to promote efficiency objectives in spatial policy; in other cases, regional growth poles are created as an instrument for promoting interregional equity by stimulating spatial concentration in backward regions; finally, in a few instances a growth centre strategy has meant the

development of small but viable agricultural service centres in rural areas (RICHARDSON, 1975,p.111).

The Algerian experience seems much more consistent with the first type of poles' strategy (a strategy based on national rather than regional poles). The poles are regarded much more as an extension of a national development and sectoral planning strategy than as an instrument for developing the backward areas of the country. Furthermore, they are considered a spatial means for promoting the industrialisation of the Algerian economy, with particular emphasis on developing large-scale industrial complexes at the poles. The most important feature of the poles selected is that they were not created in the most backward regions. They were located in the northern part of the country (coastal poles), which is characterised by a well developed agricultural sector (Annaba, Skikda, Oran). However, in terms of national spatial strategy, the development of these poles is important for counter-balancing the industrial concentration of Algiers.

Industrial development at the poles has been dominated by the petrochemicals and iron and steel industry sectors. This is very important, particularly since the concept of large-scale industrialisation has been adopted in Algeria, for the sectors are suitable for large-scale industrial complexes. It is a fact this strategy gave priority to industries connected with the transformation of the natural resources. The main problem in the sectoral strategy is the neglect of other sectors, such as food industries, particularly since all the different poles are surrounded by important agricultural regions. The other most important feature of the poles,

is their industrial specialisation characteristic, which suggests that the theory of functional poles has had a major influence on the development of the Algerian poles' strategies. In all poles, there is a dominant industrial sector. In general, the lack of infrastructure was a serious constraint on development, particularly serious lack of adequate technical infrastructure, such as industrial sites, water, transport facilities, etc.... . Although, one must reckon that pole development is a long term strategy, the inter-dependencies between poles are developing rapidly.

The poles' policy should not be regarded as a complete solution to Algeria's regional development problems. A more serious problem of the growth pole approach in relation to the Algerian planning is its low labour absorptive capacity. Since labour absorption has become one of the fundamental questions of the economic development of Algeria, the approach has to be complemented by other approaches. Algerian planners had too high hopes for the poles of development, and the results have led to a certain degree of disenchantment. One of the main objectives of Algeria's regional policy was to integrate the southern and northern parts of the country into a cohesive national economy. However, the pole strategy made a relatively small contribution, if any at all, and the North-South dualism had become a reality.

Furthermore, the excessive optimism about the prospects of the poles and the neglect of socio-economic considerations have been a serious weakness in many aspect of the Algerian

urban and regional policy. For instance, whereas some attention has been given to education related to industrial development (creation of colleges of technology) in recent years, there has been little progress in housing policy. There is a severe housing shortage all over the country. In the preoccupation with providing the technical infrastructure for industrialisation, insufficient attention was given to social infrastructure. Infrastructure is as important as, if not more important than, industrial planning as an instrument of regional growth (RICHARDSON, 1975,p.53). There are no convincing arguments for the view that technical infrastructure deserves primacy over social infrastructure. Investment in the latter has the advantage of securing social goals, as well as stimulating economic development (RICHARDSON, 1975,p.53). Although, one of the consequences of poles' strategy is the attraction of migrants from the surrounding areas, no special measures were prepared to provide these migrants with housing at the poles. The rate of population concentration around the major poles of development amounted to 5.5 per cent annually (BENNOUNE, 1980, p.64). One has only to visit a city to see the deplorable conditions in some quarters, and shanty towns on the margins with inadequate housing (HANCE, 1970). There is no city in Algeria where these conditions are not worsening despite some efforts to move against the problem. The provision of housing, which is the most characteristic aspect of the urban setting, is the largest and most expensive urban need. How to meet the housing needs of the present and burgeoning population of the Algerian cities is an almost insoluble dilemma. The actual housing programme is in no case keeping up with the increasing

population. The deficit of housing is of astonishing proportions, doubtless underestimated, and progressively greater as a result of the increased in-migration of population and the overuse of the existing housing supply, which accelerates its deterioration. The deficit is almost un-believable, and results partly from the chronic overcrowding which has taken place over the last ten years or so. 5 to 6 persons to a room is not an atypical finding. It is further accentuated by the fact that housing is competing with other government priorities which are crucial problems of develop-ment (BREESE, 1966). Various efforts are made by local authorities to reduce the dimension of the problem. They have contracted for the construction of low-cost houses, on the one hand; and are including financial aid to individual builders, on the other; but despite this effort the problem is contin-uing to worsen. To overcome this problem, private or semi-public organisations could be established, with the specific function of building houses at the poles, along side the national company (SONATIBA) for building houses. The 1966 census revealed a deficit of approximatly 300,000 housing units. The pressure on the housing market increased steadily, for, from 1966 to 1970, the number of households rose by about 230,000, while that of habitable accommodations rose by only 50,000 (BENNOUNE,1980,p.64). Only 20,000 housing units were constructed during the first ThreeYear Plan, compared to 31,000 during the first Four-Year Plan (1970-73). In 1976, it was revealed that 80.2 per cent of all urban families lived in accommodation varying from 1 to 3 rooms, 16.8 per cent in 4 to 5 rooms, and 3 per cent in more than 6 rooms (BENNOUNE, 1980,p.65). This concentration was bound to aggravate the

housing crisis.

There is a pressing need for closer integration of economic and physical planning, because regional planning is not just interference with the distribution of resources on a macro-spatial scale in order to reduce regional income differentials, but also a question of ensuring that at the micro-spatial level the resources are utilised in such a way as to improve and enhance the quality of life for the population as a whole (RICHARDSON, 1975,p.136).

4.4. The Role of Cities in Regional Development.

The relationship between urban structures and regional development is important, particularly when the latter is based upon industrialisation. As HODGE (1968,p.101) noted "it causes hardly a ripple of interest today when one suggests that modern economic development takes place chiefly within an "Urban-industrial matrix." Furthermore, as BOS (1965) pointed out, urbanisation and industrialisation are two aspects of the same process. Urban centres imply scale, and scale is the key to industrial growth. The fact is that the process of urbanisation is closely associated with social and cultural change that transforms attitudes to economic progress and technological advances (RICHARDSON, 1973). This phenomenon has been labelled "psychological polarisation" by the growth pole theorists. This is very important, since in certain circumstances, particularly in developing countries, urban growth may have an adverse effect on development of the surrounding hinterland (HOSELITZ, 1955). The role of a city,

in the regional growth analysis, is somewhat wider than implied in the "urban-industrial matrix" relationship (RICHARDSON, 1973). He added that it cannot be considered in isolation, for, it is merely the major component of a wider system, the regional urban hierarchy. People and activities cluster into urban centres of different size so as to achieve an efficient way of organising and distributing regional resources.

Nevertheless, the major problem in understanding the inter-relationships between the size and spatial structure of the regional urban hierarchy and regional growth is that there is no satisfactory theory for explaining how the hierarchy evolves and its strategic meaning for regional development. Although, there is LOSCH's (1954) analysis of hierarchical centres based upon market areas for industrial firms, the Bos Model (1965) which distributes industries among centres of different size according to their relative economics of scale, and Christaller's (1966) central place theory for explaining the spatial distribution of the supply of urban services, none of these has a serious dynamic content and hence has little value for exploring the regional growth process (RICHARDSON, 1973). However, he added that the size and efficiency of a region's leading metropolis is probably the major link between urban structure and the rate of regional development. Even more important, the emphasis is not just on size but also on the degree of connectivity with the rest of the national economy (RICHARDSON, 1973).

In general, the theory of regional growth emphasises the spatial aspects of development at all levels; from the spatial structure of the national economy, through the efficiency of the network system, to the organisation of the national urban hierarchy.

In Part One, an attempt has been made to analyse the factors underlying Algeria's development, both physical and human. The structure of the economy has been reviewed and an attempt was made to critically assess the progress of planning in the development process. Finally, Algeria's development has been viewed against the background of theoretical concepts of economic and spatial development. In the process of this analysis, an attempt was made to critically review the Algerian development process, to define problems and to propose alternative strategies. In order to refine some of these general ideas, Part Two examines in detail the case of the Skikda urban region as a case study. After describing Skikda's regional setting an analysis is made of the city's growth in terms of physical expansion and the evolution of its economic structure. This is followed by a detailed analysis of the demographic implications of Skikda's transformation which is seen as essential in order to evaluate the performance of planning and to predict future requirements.

Part Two

PART TWO

Chapter Five

SKIKDA AND ITS REGIONAL SETTING

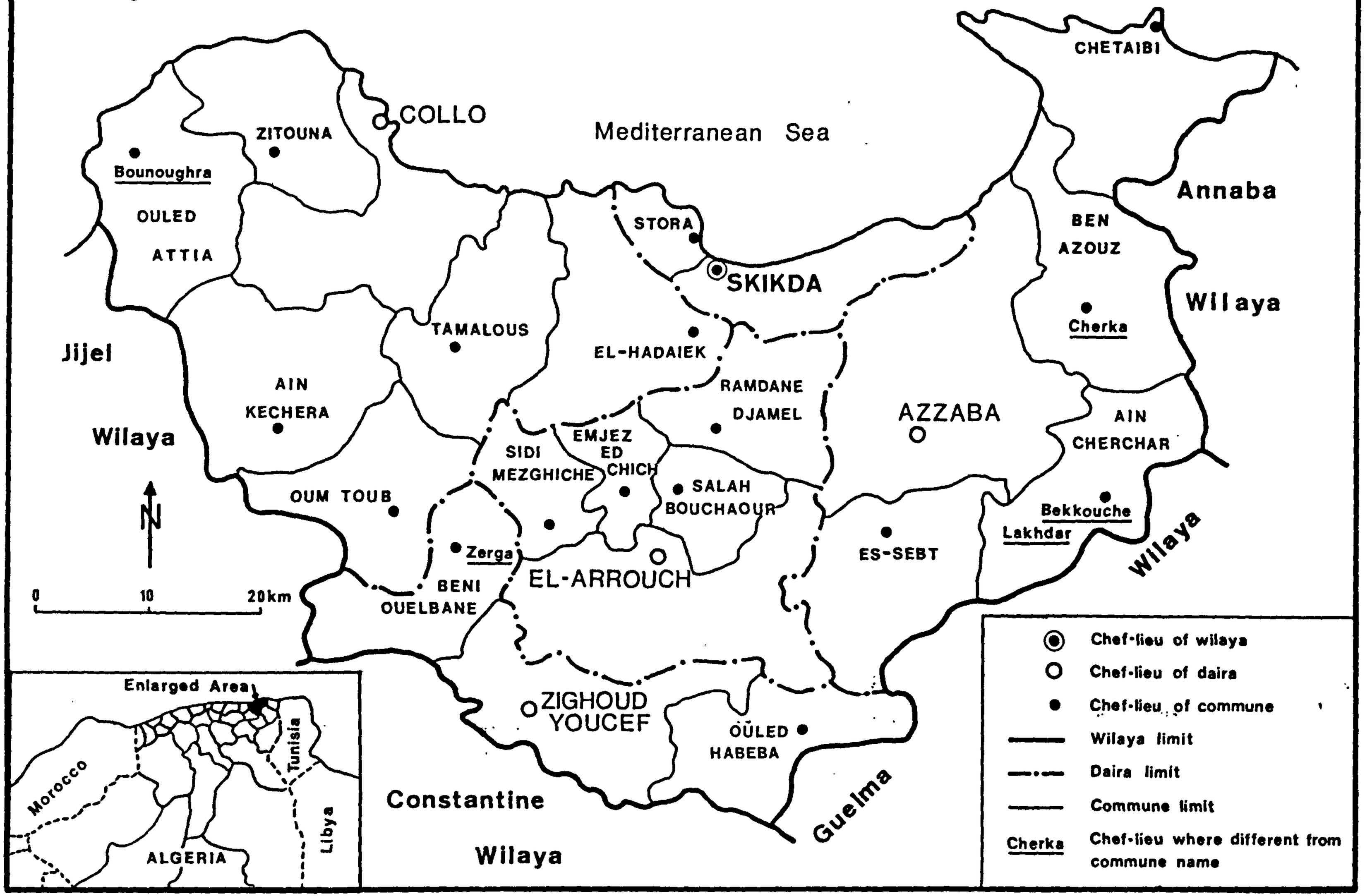
The landscape of the wilaya of Skikda has a charm of a subtle quality for it offers scenic qualities and attractive features of coastal and mountainous areas. Many of the satisfactions it can offer depend on increasing knowledge of the elements that have contributed to the making of those individual characters that are inscribed deeply on the landscape. The latter is the work of man as much of nature, yet throughout the story of man's occupation and development of the region, the importance of the character of the endowment provided by the physical environment is always clear. A sketch of the regional contrasts that have been of deep influence on the pattern and history of the economic and social development of the region affords an introductory framework to complement the systematic and thematic chapters that will make up this study.

5.1 The Wilaya: Location and Regional Contrasts.

The wilaya of Skikda, Eastern Algeria, occupies approximately 4,748 square kilometres, or 0.2 per cent of the total land area of the country. It is bounded on the east by the wilaya of Annaba, on the south-east by the wilaya of Guelma, on the south-west by the wilaya of Constantine, on the west by that of Jijel and, on the north by the Mediterranean Sea (Fig. 5.1). Approximately 49 per cent of the territory is mountainous, 25 per cent hills and 26 per cent basins and valleys (Fig. 5.2).

Fig.5.1

THE WILAYA OF SKIKDA



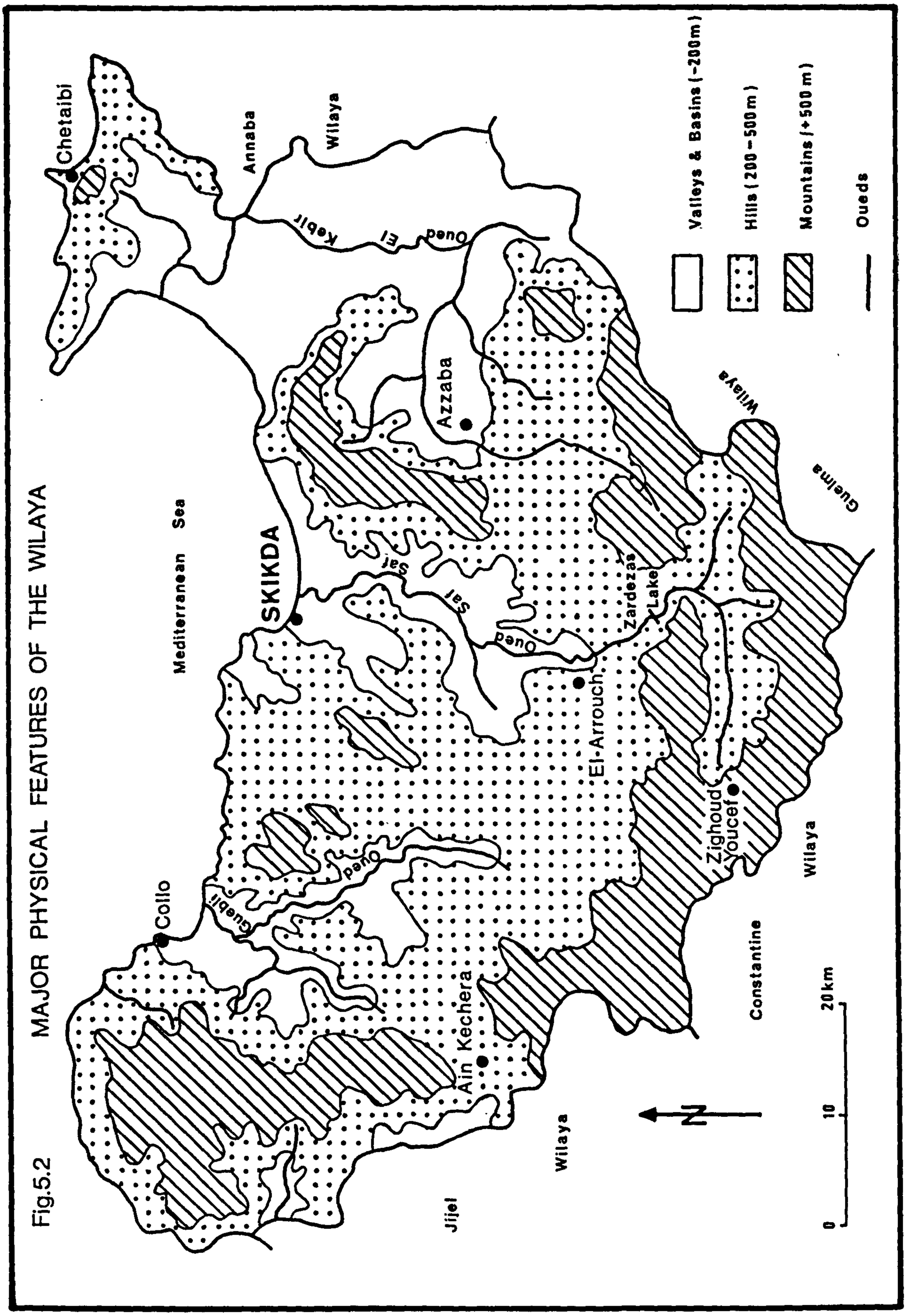

MAJOR PHYSICAL FEATURES OF THE WILAYA
Valleys & Basins (-200m)
Hills (200-500m)
Mountains (+500 m)
Oueds
Chetaibi
Annaba
Wilaya
Oued El Kebir
Azzaba
SKIKDA
Mediterranean Sea
Oued Saf Saf
Zardezas
Lake
El-Arrouch
Wilaya
Guelma
Collo
Oued Guebli
Kechera
Ain K
Zighoud Youcef
Constantine
Wilaya
20km
Jijel
Wilaya
N
0
10

Fig.5.2

For administrative purposes, the wilaya is broken down into 5 divisions, known as dairate (plural of daira): Skikda, El-Arrouch, Collo, Azzaba and, Zighoud Youcef. The largest of them all both in size and population is the daira of Collo with 1,546 square kilometres and 146,064 people. The smallest daira is that of Skikda which has an area of 391 square kilometres, while the least populated is that of Zighoud Youcef with only 37,000 inhabitants. These dairate are further divided into a total of 22 communes; the daira with the maximum number is that of Collo with 7 communes, while the daira of Skikda consists of 2 communes only, of which one is the most populous of them all (92,000 people) and the other the least populated, with around 4,200 inhabitants. It is worth noting that the commune of Azzaba (407 square kilometres) is even larger than the whole daira of Skikda (391 square kilometres) (TABLE 5.1). The wilaya as a whole is administrated from the city of Skikda.

The wilaya is divided into 4 clearly contrasted regions, distinctive not only in their physical geography but also in their historical development and modern character. The relatively wide valley of the Saf-Saf, running broadly from south to north, is the dominating relief feature of the whole region. It has provided a valley corridor along which the north-south communications have been important in the evolution of this part of Eastern Algeria, not only as a route for penetration of settlers, but also in the era of railway that saw the Skikda-Constantine and Skikda-Annaba lines use the low gradients of this natural course. The valley is characterised by a rather modern and intensive agricultural

TABLE 5.1 Size and Population, Wilaya of Skikda

COMMUNES	Area in km^2	POPULATION 1966	1977	Change %
Skikda	191	70,248	107,717	53.3
Stora	200	1,397	4,195	200.3
Total DAIRA	391	71,645	111,912	56.2
El-Arrouch	349	29,496	38,147	29.3
Ramdane Djamel	180	12,984	18,228	40.4
Sidi mezghiche	72	8,953	11,111	24.1
Salah Bouchaour	93	10,266	13,177	28.4
Em-jez-edchich	64	6,863	9,556	39.2
Total DAIRA	758	68,562	90,219	31.6
Azzaba	407	19,220	28,546	48.5
Ben Azouz	272	10,682	14,307	33.9
Es-Sebt	234	11,842	12,756	7.7
Chetaibi	246	7,513	9,238	23.0
Ain Charchar	250	11,474	16,616	44.8
Total DAIRA	1,409	60,731	81,463	34.1
Collo	250	30,191	40,967	35.7
El-Haddaiek	155	8,503	11,784	38.6
Ouled Attia	260	10,813	15,263	41.2
Tamalous	216	16,475	23,063	40.0
Zitouna	182	14,232	18,316	28.7
Ain Kechera	275	14,209	19,517	37.4
Oum Toub	208	12,014	16,592	38.1
Total DAIRA	1,546	106,437	145,502	36.7
Zighoud Youcef	272	14,932	18,375	23.1
Ouled Habeba	209	7,472	6,976	-6.6
Beni Oualbane	163	8,931	11,915	33.4
Total DAIRA	644	31,335	37,266	18.9
Total WILAYA	4,748	338,710	466,362	37.7

SOURCE: CADAT, 1981
MPAT, 1979b.

sector. West of the Saf-Saf valley lies the Collo region, which consists of a chain of mountains dominated by a traditional agriculture. Apart from the tiny flat area at the mouth of the Oued Kebir, offering a highly agricultural land, most of the region remains a grazing for the surrounding villages. It was one of the most affected areas during the war. On the contrary the Azzaba region on the eastern side of the wilaya presents a mixture of traditional and modern economic activities. The basin floor is highly mechanised compared to a subsistence agricultural sector on the slopes.

The south of the wilaya, the Zighoud Youcef area, the region's most individual area, consists of hills on which an extensive agricultural system has been developed. Compared with the other zones, the integration of Zighoud Youcef in the wilaya is very weak so far. On the contrary, it has kept strong contact with its former Chef-lieu de wilaya, Constantine (BENDJELID, 1978).

5.2 People and the Environment.

The population of the wilaya, according to the 1977 census, was 466,362, or approximately 2.75 per cent of the total population of Algeria, which gave an average density of 98 persons per square kilometre. Nevertheless, as indicated in Table 5.2, regional densities deviate markedly from this overall average figure. Much of the central part of the wilaya, particularly the valley of the Saf-Saf contains around 175 persons per square kilometre. While to the west, the density is around that of the regional average, the south

and east are characterised by very low averages, less than 58 per square kilometre. Locally also, the pattern of population density is characteristically uneven. Areas with very different densities lie in close proximity one to another and the zones of uniform density are of limited extent.

TABLE 5.2 Regional Densities, 1966-1977

AREAS	DENSITIES	
	1966	1977
SAF-SAF	122.2	175.0
COLLO	68.8	94.1
AZZABA	43.1	57.8
ZIGHOUD YOUCEF	48.7	57.9
TOTAL	71.3	98.2

SOURCE: Calculated from TABLE 5.1.

For instance, there is a striking difference between the upper and lower sections of the valley. Here densities are 119 and 286 per square kilometre respectively. Even within the upper section we notice some relatively important differences between the communes. For instance El-Arrouch commune has a density of around 110 persons per square kilometre, while the adjacent communes have 150 (Em-Jez-Edchiche, Sidi Mezghiche), 70 (Beni-Oualbane) and, 30 (Ouled Habiba).

Geographic distribution is another important dimension of population growth in the wilaya. The overall increase of population during the last decade has been accompanied by

important shifts in the distribution of population between regions and between rural and urban areas and, these trends are likely to continue in the future (Fig. 5.3). Moreover, this will have important implications for the planning of social and economic development throughout the area. Of the total population of the wilaya 327,919 or 70.3 per cent are classed in the census as rural residents, while the rest, 138,443 or 29.7 per cent, is listed as urban, of which about two-thirds live in Skikda, the leading city of the wilaya. Actually, as we explained in Chapter Two, the census takes a rather liberal view of what constitutes an urban community, for few of the urban centres listed contain only a few thousand people, most of whom depend directly on agriculture for their subsistence. Compared to the country, the wilaya of Skikda is not highly urbanised (TABLE 5.3).

TABLE 5.3 Rural-Urban Population Evolution, 1966-1977

	WILAYA			ALGERIA		
	1966	1977	Annual increase	1966	1977	Annual increase
Urban	23.5	29.7	6.7	31.4	39.7	7.4
Rural	76.5	70.3	2.4	68.6	60.3	2.4
TOTAL	100	100	3.4	100	100	3.9

The 1966 census estimated that about 80,000 people (less than the present population of Skikda) or about 23.5 per cent lived in urban centres, while in 1977, the urban population went up to 138,500 inhabitants or 29.7 per cent of the total

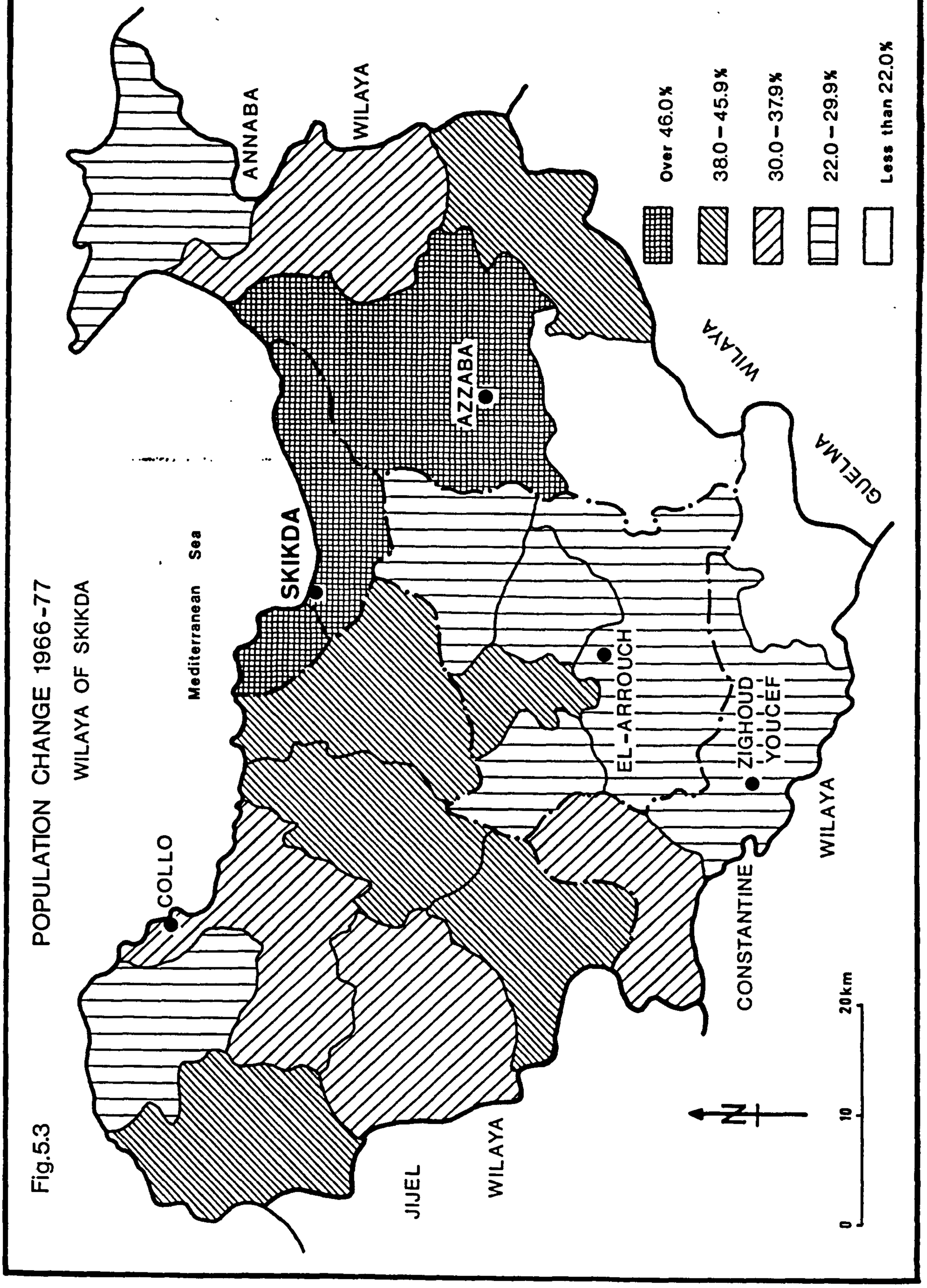

POPULATION CHANGE 1966-77
WILAYA OF SKIKDA
Over 46.0%
38.0–45.9%
30.0–37.9%
22.0–29.9%
Less than 22.0%
ANNABA
WILAYA
AZZABA
SKIKDA
Mediterranean Sea
COLLO
EL-ARROUCH
ZIGHOUD YOUCEF
CONSTANTINE
WILAYA
GUELMA
WILAYA
JIJEL
WILAYA
20km
0
10
N

Fig.5.3

population. This is far below the national urban population rate (40 per cent). Although the population of the wilaya has been growing annually at a rate slightly below that of the national average (3.4 per cent a year for the wilaya against 3.9 per cent per annum for Algeria), the growth of the urban population has been rapid and sustained. Between 1966 and 1977, while the total population increased by 37.7 per cent, the urban population increased almost by 75 per cent. In other words, the population is becoming increasingly concentrated in towns or urban agglomerations as they might be more probably called. TABLE 5.4 lists the different urban centres of the wilaya.

TABLE 5.4 Characteristics of the urban Centres of the Wilaya.

Agglomerations	POPULATION 1966	POPULATION 1977	Growth rate (%)
SKIKDA	59,605	91,395	53.3
STORA	(614)	1,845	100.0
EL-ARROUCH	(9532)	12,920	100.0
COLLO	10,828	12,408	14.7
AZZABA	9,034	12,063	33.5
Y.ZIGHOUD	(6999)	8,612	100.0
TOTAL	79,467	139,243	75.2%

SOURCE: (-) Non urban in 1966. MPAT 1979b.

The urban population in 1977 was concentrated in 6 different urban centres, against only 3 in 1966, of which 5 are Chef-lieu de daira and 1 Chef-lieu-de commune, Stora, 5 kilometres west of Skikda, which is also regarded as an urban

centre. The interesting point worth noting is the uneven population increase among these centres. Considering the former 3 urban centres, only Skikda showed a substantial increase of 53 per cent, while the other 2 had a low growth rate, particularly Collo with the lowest rate of them all, 14.7 per cent. Although the table shows that the newly promoted urban centres increased by 100 per cent, it is however interesting to see their real increase taking into account in 1966 population grouped within the built-up area and that of 1977. Stora showed an astonishing population increase of 200 per cent, while the other 2, El-Arrouch and Zighoud Youcef, increased by 35.5 per cent and 23 per cent respectively.

In general, the geographical distribution of the population can change because of different natural rates of increase or internal migration. So far, the decisive element in the pattern of urban growth has been the important migration flow to Skikda.

This phenomenon of urban growth leads to a number of problems, and several questions may be posed. Firstly, why do people move into towns? Secondly, what is the scale of this urban growth? And thirdly, what are the problems this urban expansion is generating?

Every year a high proportion of people leaves the country-side and moves into the urban centres, particularly the largest one (TABLE 5.5). Traditionally in the wilaya most people look to agriculture for employment; but, as the population

grows, the jobs in agriculture are not expanding sufficiently enough to absorb the growth of that population, and thus, large numbers have to seek employment in other activities which are most of the time concentrated in urban places, particularly in Skikda. In addition to that, many are leaving

TABLE 5.5. Volume of Migration within the Wilaya

Periods	Migrants	%	% of migrants to Skikda
1974-77	14,075	18.5	30.7
1971-73	9,766	12.8	39.0
1967-70	11,272	14.8	39.8
1963-69	17,353	22.7	54.1
before 1962	23,847	31.2	53.9
TOTAL	76,313	100.0	46.9

SOURCE : 1977 census.

the rural areas and moving into the towns because of the attraction of urban life, with the hope of getting better jobs and better standards of living. In general, such social and economic lures are the cause of migration to the urban centres.

The second problem is the scale of urban growth. Throughout the wilaya, the population is becoming increasingly concentrated in urban places. Until a decade ago, there was only one town in the whole of the region, Skikda, which could be qualified as an urban centre. Today, there are 6 with urban characteristics. While urban populations are

swelling almost everywhere, the outstanding fact is the exagerated growth of Skikda. As we saw earlier, taking the wilaya as a whole, the urban population has grown from 23.5 per cent in 1966 to almost 30 per cent in 1977, of which 65.6 per cent of the overall urban population are gathered in Skikda. The degree of urbanisation varies considerably throughout the wilaya. These variations are related to the degree of industrialisation and general economic development in different parts of the area. However, all the evidence seems to suggest that the wilaya is about to experience a phase of rapid urbanisation between now and the end of the century.

Thirdly, this urban growth in the wilaya has led to some problems, mainly problems of employment, housing and social services. The major and crucial problem is unemployment. Data on the structure, distribution and, development of the work force and employment situation for the wilaya are scarce. The most recent comprehensive data set available on the labour force was that of the 1977 census (TABLE 5.6).

TABLE 5.6 Distribution of Labour Force by Activity Sector, Wilaya, 1977

Sectors	Urban		Rural		TOTAL	
	N	%	N	%	N	%
Agriculture	1,339	7.4	16,736	92.6	18,075	31.3
Industry	5,227	49.8	5,271	50.2	10,498	18.2
Construction & Public Works	4,018	43.6	5,204	56.4	9,222	16.0
Services	11,094	55.7	8,823	44.3	19,917	34.5
TOTAL	21,678	37.6	36,034	62.4	57,712	100

SOURCE: Secrétariat d'Etat au Plan, 1978a.

The dominant elements of employment are agriculture with 31.3 per cent, services 34.5 per cent, manufacturing 18.2 per cent and building and public works 16 per cent. We notice that rural labour force dominates all sectors, except the services which is normal since most services are located in urban places. It has been estimated that in the wilaya around 28.5 per cent of the work force is unemployed, of which 12.3 per cent are people looking for their first jobs (TABLE 5.7). This is relatively high when compared to the national unemployment rate of 22.3 per cent.

TABLE 5.7 Structure of the Labour Force, 1977

	Urban		Rural		TOTAL	
	N	%	N	%	N	%
Occupied Labour	21,678	37.6	36,034	63.4	57,712	71.4
S.T.R.I	1,993	15.1	11,163	85.9	13,156	16.3
S.T.R.I	2,997	30.3	6,910	69.7	9,914	12.3
TOTAL	26,668	33.0	54,107	67.0	80,782	100

SOURCE: Secrétariat d'Etat au Plan 1978a.

The table shows also that out of this high unemployment rate, 78.3 per cent are from rural areas. Furthermore, TABLE 5.8 shows that the most affected age group is the one between 19-29, which represents almost 50 per cent of the overall unemployment. This is particularly alarming considering that every year a high proportion of the actual population under 18 years of age is likely to be available

on the labour market. A long term policy is needed to solve

TABLE 5.8 Age Structure of the Unemployed Labour Force (STR1 + STR2), 1977 (Percentage).

Age-groups	STR 1	STR 2	1 + 2
Under 18	4.6	95.4	14.8
19-29	42.3	57.7	49.5
30-59	98.1	1.9	33.6
Over 60	97.8	2.2	2.1
TOTAL	56.6	43.4	100%

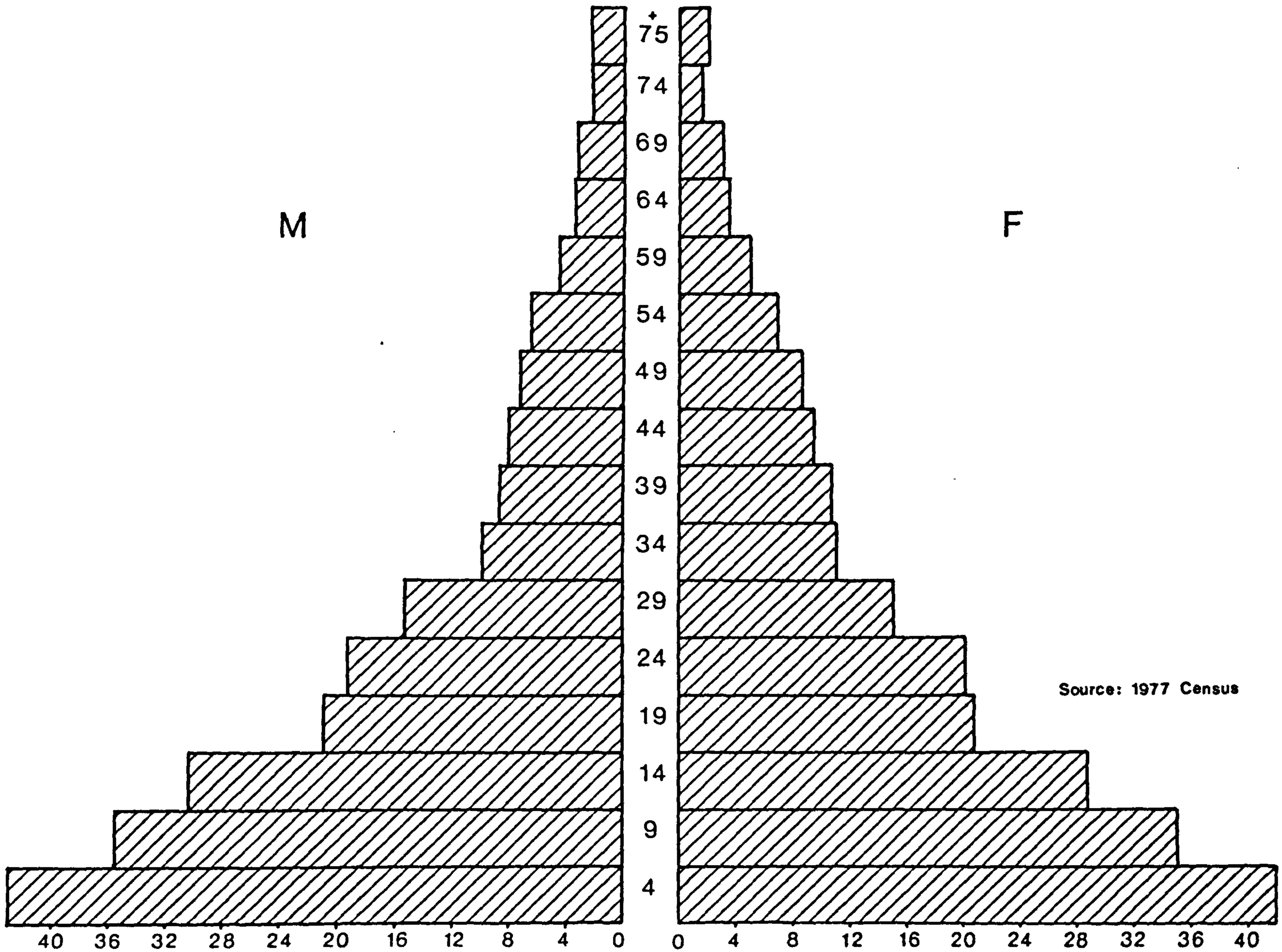
SOURCE: Census returns, 1977

this unemployment rate, since 56 per cent of the population of the wilaya is between 0 and 18 years of age (Fig. 5.4). In general, when most of these urban centres began to grow, they did so less from economic causes than as a by-product of general population growth. The city of Skikda, for instance, until the end of the 1960s, developed and expanded in a way very different from the cities of the industrialised countries. It had no manufacturing industries of its own and grew as an exporting centre for foodstuffs and raw materials from its hinterland. Therefore, to reduce this relatively high rate of unemployment throughout the wilaya, there is an urgent need for the establishment of some kind of labour-intensive industries.

Another problem of urban growth is a social one. There is an enormous gap between the mass housing needs and the supply

Fig. 5.4

POPULATION STRUCTURE BY AGE AND SEX
SKIKDA WILAYA, 1977 (in 1000s)



Source: 1977 Census

in every urban centre or area of the wilaya, and as the population increases, the problem is likely to get worse. One might even speculate that the housing need has already out-stripped the abilities of the authorities to cope with necessary housing programmes. The consequence of this has been the development of shanty towns, or spontaneous settlements; particularly since authorities abandon any systematic attempt to stem the flood. It is difficult to present precise figures of their numbers but it has been estimated that 11,779 "gourbis" (slums) are to be found throughout the wilaya, of which 1,674 or 14.2 per cent in Skikda. In general, many of these urban centres suffer serious problems in relation to housing, water supply and other social services. Housing conditions are on the whole better in urban than in rural areas. Overall 36.8 per cent of the houses throughout the wilaya are connected to public system of sewerage (S.E.P. 1978b). While water was piped to 39 per cent of the houses, more than 20 per cent were not connected to any source. The rest relies on wells and reservoirs. 35.8 per cent of the dwellings were not connected to electricity, and 68.2 per cent used gas (10.6 per cent town gas and 57.6 per cent bottled gas). However, the difference is striking between urban and rural areas. Around 80 per cent of the urban dwellings are connected to all facilities compared to only a maximum of 19 per cent in rural houses; except for the use of gas which is well spread throughout the wilaya. Furthermore, if before the second world war, not much electricity was used, few rural areas were supplied and, power stations were small; today the region provides a major contribution to the national output in the generation

of electricity. With its widespread industrial activities since the late 1960s, Skikda made increasing demands upon power resources, which led to the establishment of an important power station.

5.3 Transport Network.

Whatever view is taken as to the importance of communications in economic development, it cannot be disputed that there is a need to improve and extend transportation throughout the wilaya. Probably the most important reason for emphasising the role of transport in the economic development is that as Hodder (1968,p.193) put it "improved and extended transport facilities are necessary to the widening and fusion of the market in areas already settled, and in stimulating further production for internal and external trade in a country and so in encouraging the growth of a modern exchange economy". The network of ground communications in the wilaya of Skikda presents a composite pattern based on portions of national routes which traverse the region, broadly in a north-south direction, and routes which radiate in some directions from centres of population (Fig. 5.5). Supplementing this broad pattern is a network of local roads and a railway line.

Since such facilities are of crucial importance, improvements and modernisation of several roads are taking place besides a new railway line being developed (Skikda-Constantine). Undoubtedly, the latter may have a significant effect upon the future industrial development in the area.

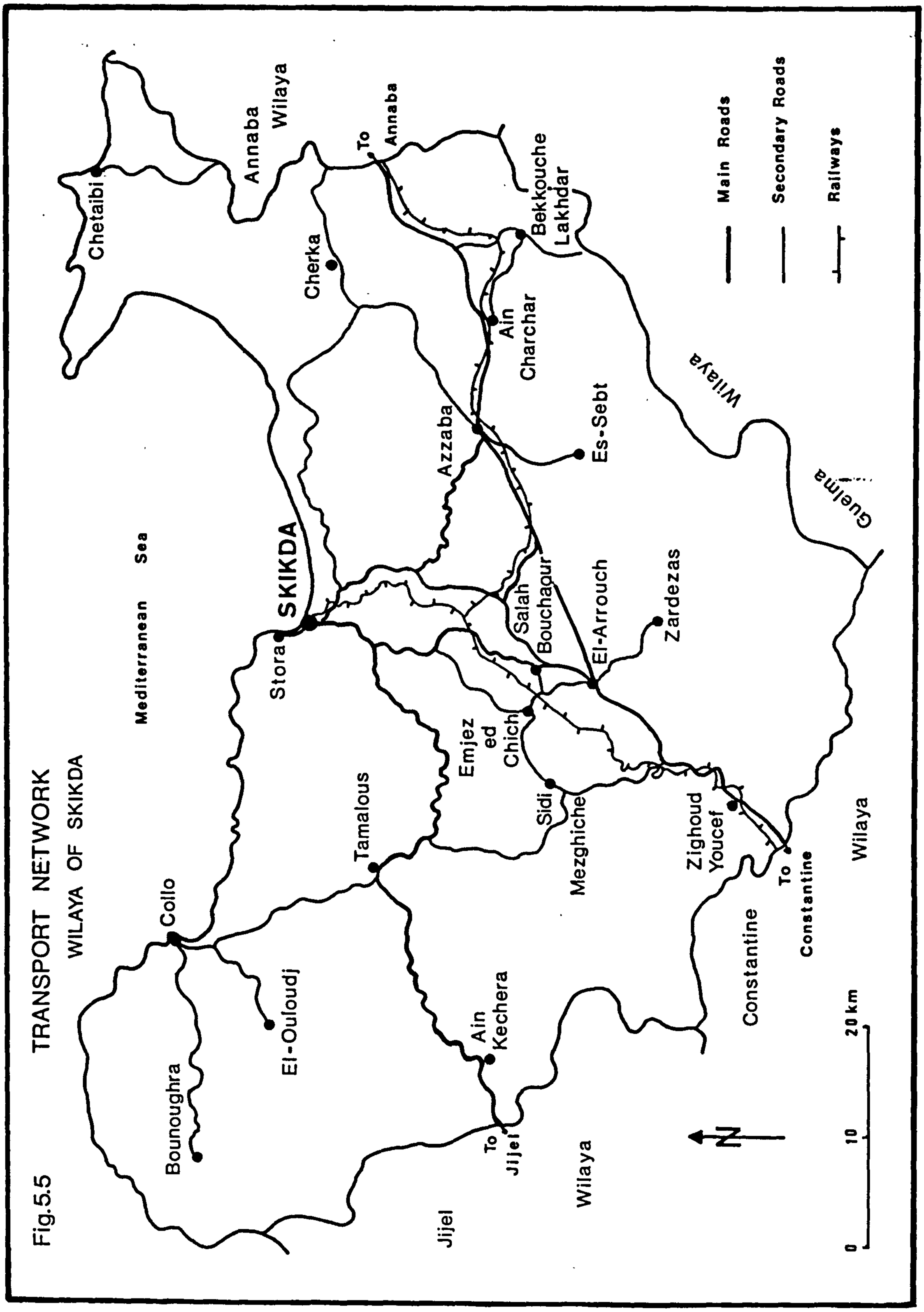

TRANSPORT NETWORK
WILAYA OF SKIKDA
Main Roads
Secondary Roads
Railways
Mediterranean Sea
SKIKDA
Collo
Chetaibi
Annaba Wilaya
To Annaba
Cherka
Azzaba
Ain Charchar
Es-Sebt
Bekkouche Lakhdar
Wilaya
Guelma
Salah Bouchaour
El-Arrouch
Zardezas
Tamalous
Emjez ed Chich
Sidi
Mezghiche
Zighoud Youcef
Constantine
To Constantine
Wilaya
El-Ouloudj
Ain Kechera
Bounoughra
Jijel
To Jijel
Wilaya
20 km
N
0
10

Fig.5.5

But whatever may be the advantages to the region consequent upon the new Skikda-Constantine railway line, many other improvements to the road system are required, and some of them are now urgent. The outstanding deficiency is the lack of a first-class motor road from Skikda to Collo. For the time being, once the small villages are passed the road becomes narrow and tortuous except for a few local improvements here and there. Summer holidays from Constantine and many other interior cities increases yearly and the need for direct access by a modern road will be all the greater.

Overall the demographic history of the region is closely related to its political and economic development. The region has experienced a marked industrial prosperity and growth since the late 1960s. Increasingly the city of Skikda has come to dominate the economy and social life of the wilaya, and has been the main focus of population growth. A favourable industrial structure has been one important factor contributing to the city's economic progress.

Chapter Six

THE SPATIAL AND ECONOMIC TRANSFORMATION OF SKIKDA

So far geographers researching in Algeria have not given much attention to socio-economic analysis of regions or cities but they have, of course, written a great deal about national development. It is obvious that the same techniques may be applied at a sub-national or city level. In this section, thus, we are concerned with the development of Skikda, but it is necessary in analysing the characteristics and trends of the development of the city of Skikda to draw comparisons with the corresponding facts about the development of the Wilaya as a whole, and with Algeria as a national unit. Little has been published previously on Skikda from the geographical, economic and social points of view, and the field is therefore wide. One of the results of this research is that it reveals how much there is to be done, not only geographically, but also in closely related fields like sociology and economics. We have tried to make this part more than purely descriptive by attempting to cast it within the more general framework of a theory of city growth in which physical and socio-economic elements are considered.

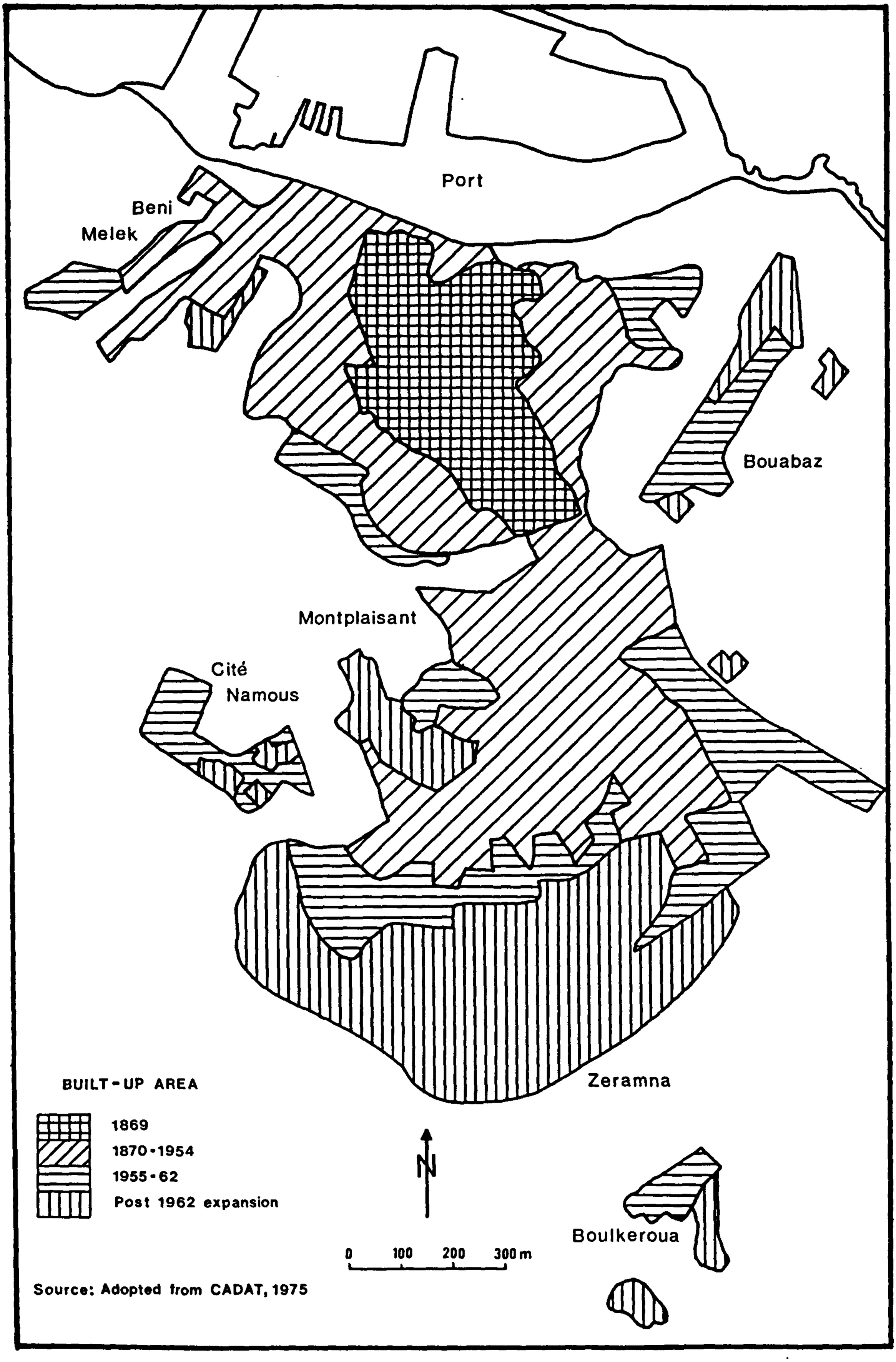
6.1 Historical background.

In the year 1838, two kilometres west of the estuary of the Oued Saf-Saf, a small settlement was established, Phil-
-ippeville. This was the French garrison centre which became in turn a market centre for the Saf-Saf valley, a port to serve as an outlet for the newly conquered region, an adminis-
trative capital with a population approaching 92,000 in-

habitants in 1977 and, finally an industrial city famed for its huge petrochemical complex. Like many other Algerian cities, the colonial name of Philippeville was changed to Skikda after independence. The location and early growth of the city exhibit an exceptionally close relationship to the physical conditions afforded by the site. In contrast to the ill-drained and marshy nature of the alluvial valley of the south, the comparatively elevated dry ground afforded by the chosen site, offered favourable conditions for early settlement. Philippeville occupied the inhabited site of the Roman town of Rusicade (AlGERIA, 1944, Vol.II). The town stands in the flat bottom and on the sides of a dry valley between two hills, Djebel Bou Yala on the west and Djebel Mouader on the east. Except for the valley of the Saf-Saf, the surrounding areas are hilly. Thus, like most Algerian cities, Philippeville was a creation of the French. Walled on all sides except the northern side, the town lies immediately south of the port, from which the main street runs north-west south-east, along the line of the dry valley. All streets run either parallel or at right angles to the main one, except for some on the western side. Those at right angles are steep and are sometimes stepped. While the Roman reservoirs have been restored and used and fed by a canal from the Oued Beni Melek; many of the modern buildings within the city centre stand on Roman foundations(ALGERIA, 1944, Vol II).

Thus, although the city's origins can be traced back to the Roman period, its present day morphology originates largely from the late nineteenth and early twentieth century (Fig.6.1). At the very beginning most of the civilian houses were on the

Fig.6.1 SPATIAL EXPANSION OF SKIKDA



Source: Adopted from CADAT, 1975

west flank, while the military barracks were on the east flank. It is only around 1860 that civilians expanded to the east flank. For all that period, the flat southern area was neglected because of its ill-drained nature. In general from this period, it is however, rather difficult to follow and date the different stages of the extension of the city, mainly because of the absence of any urban planning. During the 1930s, the wealthier citizens had established themselves on the hills of the west (Beni Melek) and south-west (Montplaisant) to form high class residential areas (Fig. 6.2). While, south of the city, along side the road to Constantine and Annaba, was created a working class suburb, called Faubourg de l'Espérance. After the second world war, the outward growth still continued as a result of considerable private housing schemes as well as municipal housing programmes. The latter became important during the implementation of the Plan de Constantine in the late 1950s. They were mostly developed on the periphery, particularly south of the city (Cité Frères Saker, Ballot-CIA), in order to accommodate the increasing Algerian population. In addition Centres de Regroupement were installed around the city (cités Bouabaz, Chetaibi and Boulkeroua) by the French army administration for those displaced from the surrounding rural areas (Plate 6.1). The post independence period, is particularly characterised by similar housing schemes to that of the Plan de Constantine, brought along side the previous one (Cité Zeramna), and by the growing proportion of bidonvilles on the outskirts of the city (Plate 6.2).

During the colonial era there were numerous

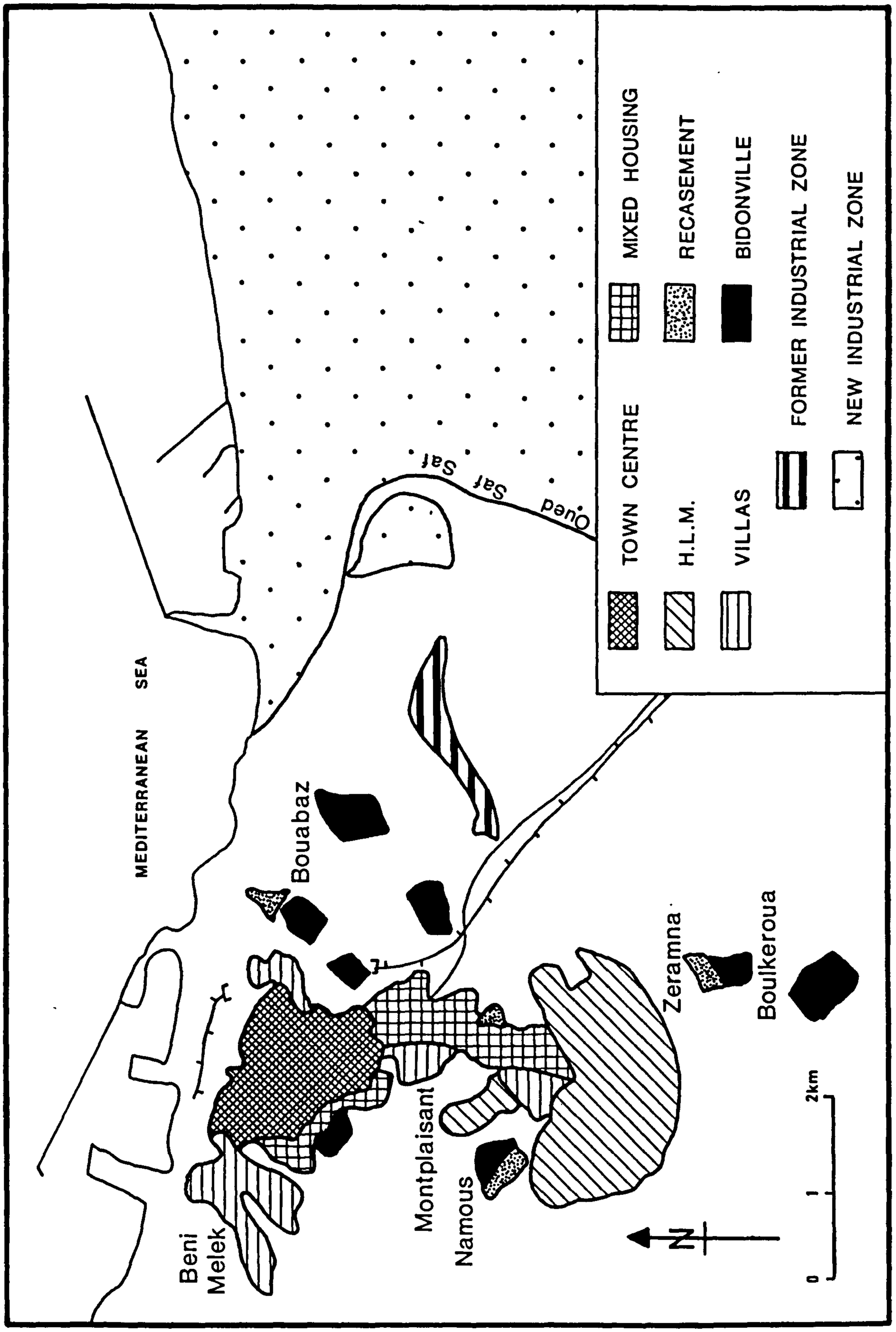

MORPHOLOGICAL ZONES OF SKIKDA
MIXED HOUSING
RECASEMENT
BIDONVILLE
FORMER INDUSTRIAL ZONE
NEW INDUSTRIAL ZONE
TOWN CENTRE
H.L.M.
VILLAS
MEDITERRANEAN SEA
Oued Saf Saf
Bouabaz
Zeramna
Boulkeroua
Montplaisant
Namous
Beni Melek
N
0
1
2km

Fig.6.2

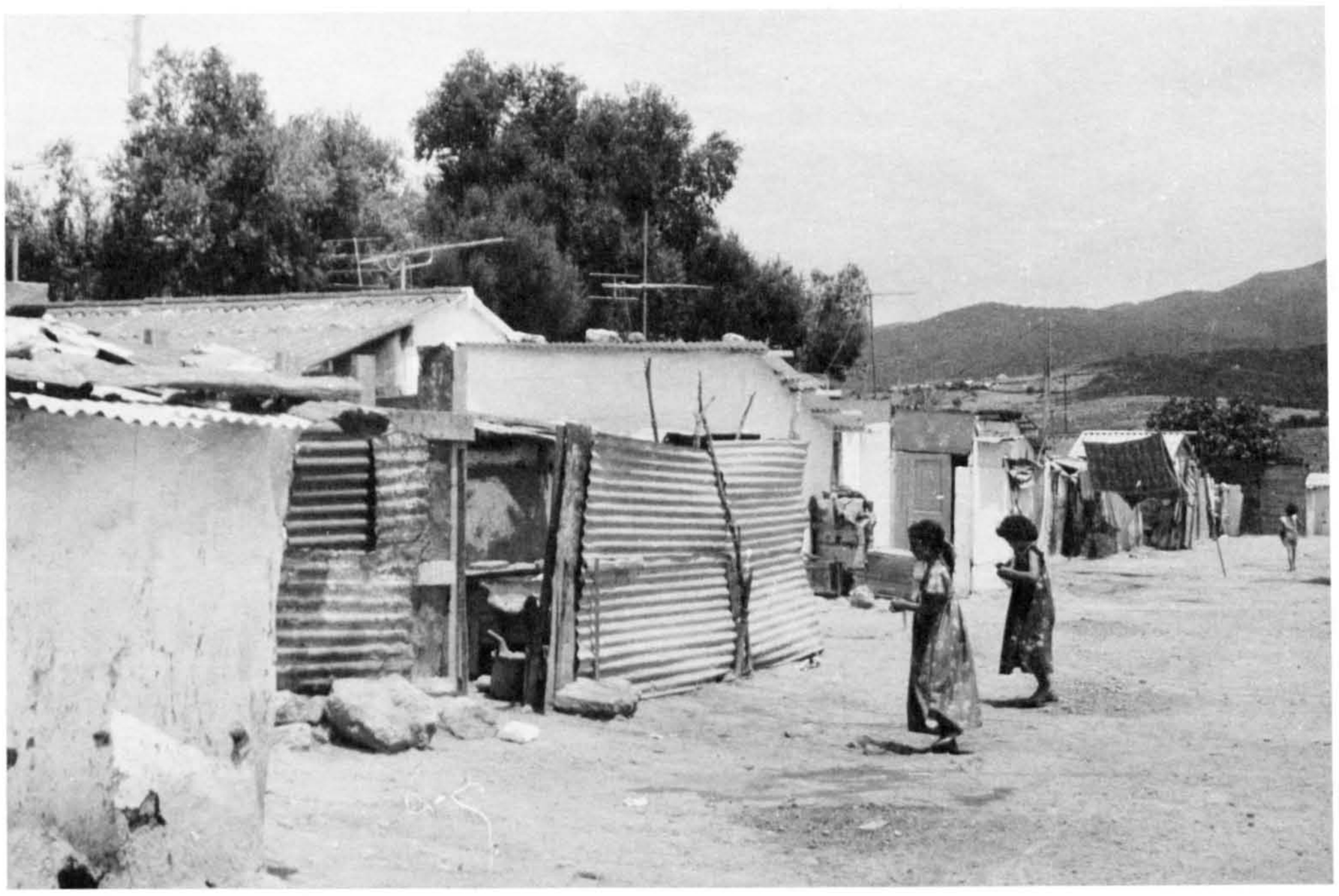


Plate 6.1

Example of a 'recasement' (Cité Hamrouche Hamoudi)

Plate 6.2

'Bidonvilles' on the outskirt of the city

small factories in the town, the main products being Corks, Bricks and Tiles, Cigarettes, Mineral Waters, Macaroni and other cereal products and, Sardine Canneries. In addition the city accumulated a number of craftsmen engaged in trades such as Shoemaking, Boiler-making, Ironworks and, Woodwork; but only in numbers sufficient to satisfy strictly local needs. The city itself was strictly a market town with an economy that was based not so much upon local industrial specialisms. Import and export trade through the port was also important. The main exports were cereals, cork, timber fruit, particularly citrus-fruit, flour, marble and some minerals, especially iron ore and iron pyrites from the massif of Fil-Fila, east of the city. The import trade consisted mainly of manufactured goods. Since the port played a major contribution in the development of the city, a short description is essential. Entirely artificial, the port was for the most part completed in 1892, though there have been since considerable improvements. Running north-westward, a conspicious breakwater, the Grande Jetée du Nord protects the port on the north, while the south is being protected by the Jetée du Chateau Vert, extending north-north-eastward. Apart from several warehouses and small foundries and workshops where minor repairs can be effected, there are no ship-building yards or engineering works.

6.2. Character and Internal Structure of the Modern City

The colonial town is being transformed into a modern city. There are many reasons for these changes and they can be traced to the influence of the economic situation, the political climate and, the local authorities initiative in planning.

Some of these changes are inevitable and they would have taken place whether there was any city planning or not. But the purpose of planning is that these changes should follow a definite pattern, a logical and consistent plan. It is difficult to measure the effect as to what would have happened if the planning had not been applied. However, it is not an overstatement to say that without planning there would have been chaos.

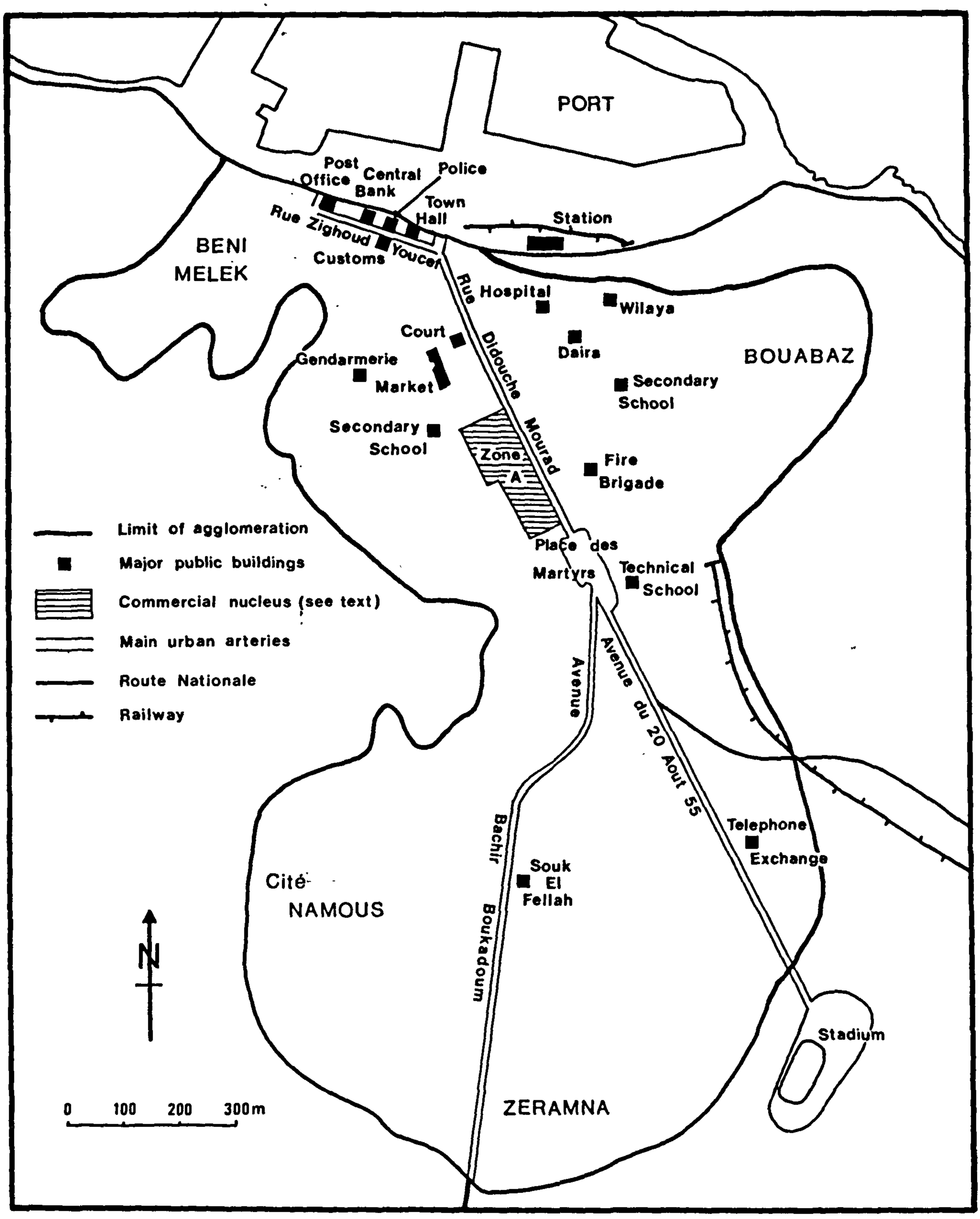
The importance of the city lies in the rapid development growth which, in a relatively short period of time, turned the colonial city into a metropolis of industry. In addition to the city becoming a chef-lieu de Wilaya in 1974, Skikda is a centre of industry, agriculture, distribution, commerce, justice and administration. For the most part its inhabitants earn their living in occupations related to manufacturing and services. As a major shopping centre, favoured by Skikda's location which allowed it to dominate over the surrounding rural and urban areas, the city has considerable attraction. The catchment area is about 4,700 square kilometres with a population of almost 500,000 people. Skikda is amongst the prosperous cities in Algeria and by reason of its facilities, compactness and attractive surrounding country-side and seaside, Skikda may be considered an attractive city in which to live. In a sense Skikda is a city of radical change. For the most part its pattern of land use is emerging dramatically rather than gradually. Similarly, since the city cannot provide sufficient social amenities for its own population increase, it is reasonable to assume that fundamental change will come about in its basic structure.

Having briefly outlined the growth of Skikda, it is now opportune to analyse its contemporary internal structure. Starting with the commercial structure, the city centre completely dominates the commercial activity of Skikda, thus emphasising its role as a focal point not only for the city itself, as will be demonstrated later, but also for the surrounding rural areas. In contrast, the few subsidiary centres are overwhelmingly retail in function, particularly for convenience goods and, therefore, are more localised in their service areas.

As Thompson has noted in the case of Oran, "In general, the notion of a clearly-defined and coherent Central Business District in the conventional sense is not applicable here. It is more appropriate to describe it as an amalgam of activities, both commercial and residential" (THOMPSON, 1982, p.31). Within the city centre are to be found the major retail outlets, offices and social sources (Fig.6.3). Despite its small areal extent a certain degree of internal specialisation may be recognised. In the Main Street (Rue Didouche Mourad), the shops contained within this area cater for the long-term needs of the population, and, therefore, food shops are relatively few in number. Parallel to the Main Road, but limited to the south-west area is the main retail area or zone A, including "Rues Y. Kadid, K. Belizidia and, A.Abdenour". Here, shops selling clothing, foot-wear, household goods and such specialised goods as jewellery tend to predominate. Further north on "Rue K. Belizidia", the enclosed market, open 6 days a week, contains the usual variety of functions and, its central location provides

Fig.6.3

LOCATION OF KEY SERVICES IN SKIKDA



additional focality to this area. The eastern side of the city and the continuation of the Main Road further north-north westward (Rue Zighoud Youcef) show non-shopping functions such as the administrative functions associated with the town hall, the central bank, the main post-office, customs and police headquarters, hospital, Daira and Wilaya offices, army headoffice and the fire brigade. In contrast, the small subsidiary centres are overwhelmingly convenience shopping areas, to provide the basic day-to-day needs of the immediately surrounding population and, tend to act as lower order centres for the city centre. Morphologically, they consist of two basic types. First, there are the small street shops within the inner part of the city. Second, there are those shops located within the recent housing estates. In fact, the distribution of these small subsidiary centres, in general, shows a close relationship with particular stages of Skikda's growth. Although some of them originated to serve outlying places, they can no longer meet the need of their own population because of the rapid increase of inhabitants of the areas which later grew around them.

Thus, as would be expected, the city centre has over-whelmingly the greatest range of functions. It possesses not only extensive shopping facilities but also considerable social service and office functions. Probably the most significant development in recent years was the opening of two Souk-El-Fellah or shopping centres, of which one is outside the main city centre and the other is completely out of town. However, this development in suburban centres does not indicate a shift of retailing to the suburbs. On

the contrary, the city centre is sharpening the competition and as a result it raises a question mark over its future congestion. Like any other new Chef-lieu de Wilaya, the city of Skikda is constantly in the process of change, both in its internal commercial and social structure and, its regional relationships with other places.

In addition, much of Skikda's urban population suffers from other poor urban services, such as housing, filtered water, sewerage, refuse collection and health. The future housing requirements of the city stem from three principal factors; the replacement of the very low-standard dwellings, the relief of the present housing shortage and, the accommodation of the anticipated population increase. Already, a deficit of 9,000 housing units was recorded in 1972 (BENDJELID, 1976). The total demand is estimated at 40,000 dwellings for the period 1975-1990 (CADAT, 1975). In general, the problem of housing will remain a pressing one in the city for many years to come. As old properties deteriorate further slum conditions will continue to spread or to intensify. Although, slum clearance and re-housing were undertaken by the local authorities, the task was hampered largely by the continued increase in population since independence, aggravated by building shortages and other difficulties. It is not surprising, therefore, that for the past ten years or so the authorities have been preoccupied with housing schemes. A major residential expansion is planned in the extreme south and south-west area of the city.

Besides this housing problem, an effective means of sew-

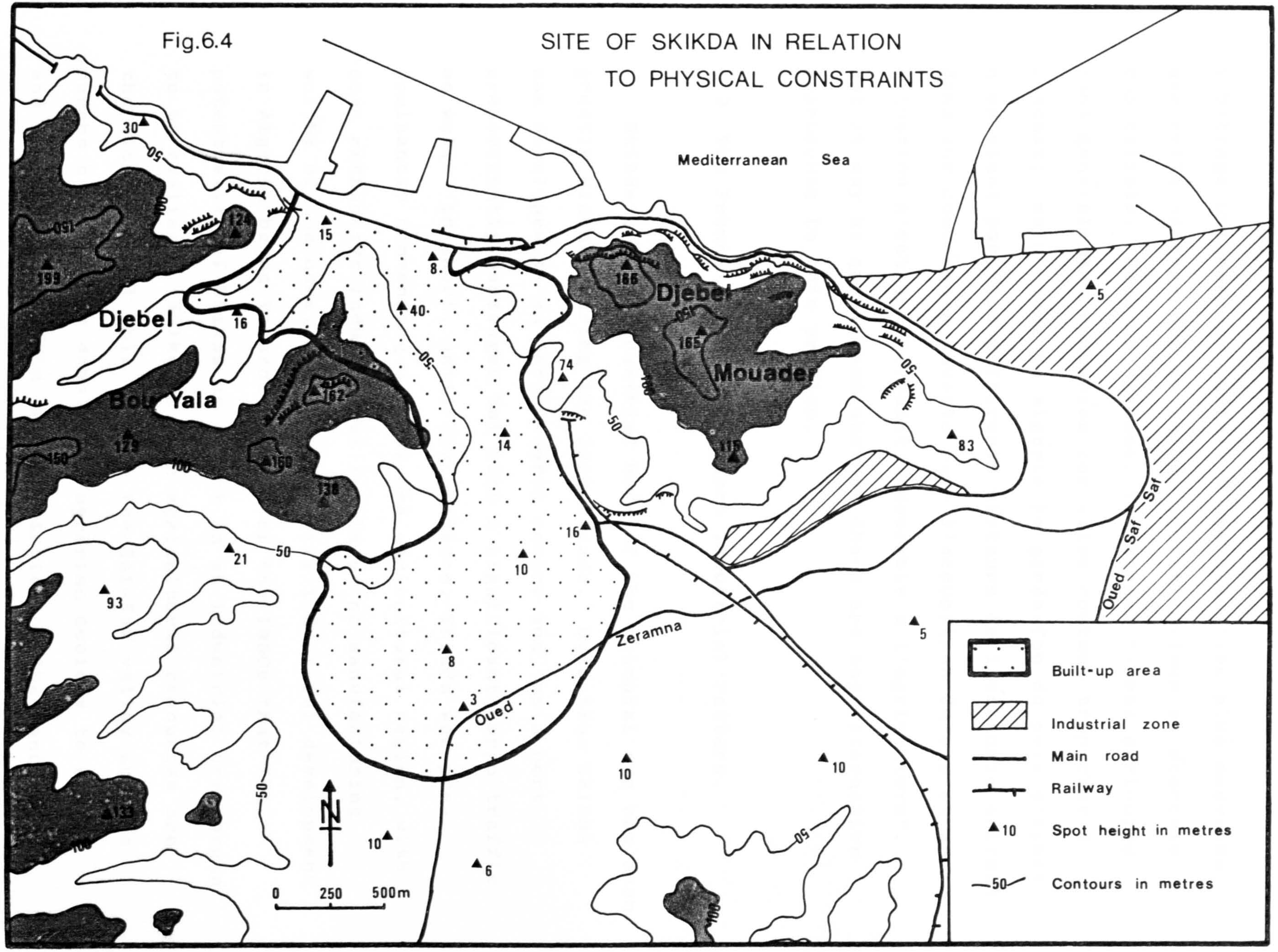
erage disposal is an essential requirement of a civilised community and, in urban areas particularly, public health largely depends on such provision. In Skikda the problem is exacerbated by the discharge of untreated industrial sewerage into the sea, creating a threat to health as well as tourism. The system is adequate for the old town, but the area is growing fast because of industrial development. Moreover, the rapid growth of both the city and the industrial zone have increased the demand for potable water, beyond the capacity of the existing system. If in the past 60 per cent of the water of the Zardézas barrage was for domestic consumption (BOUKHEMIS (A), 1979); this is no longer true, for most of the water is now diverted to industrial use. This led to a shortage of water throughout the city, with some areas being only serviced once a week or so. Although ground water sources are important in the area and would supplement the surface water supplies, the authorities have not developed them. Of importance is the problem of refuse collection. Although the collection and disposal of refuse should not present a major problem in Skikda, since the local authorities are responsible for cleaning streets and collecting refuse from houses, unfortunately, the services vary considerably from one area to another. Apart from the main city centre, the concept of regular collection from all buildings in other areas does not appear to have taken root yet. In contrast to the short supply of most urban sources, gas and particularly electricity are adequate to meet all demands in the long term. The concentration of population has considerably eased distribution. But, hospitals, clinics, and other health facilities and personnel

are inadequate for the population demand. At present, there is just one hospital of 900 beds, and one doctor for more than 6,000 people. More important, neither health nor family planning services are reaching the majority of the population. This, however, stems from poor organisation. Doctors and other personnel are not usually there to provide the needed service, because of lack of incentives.

In general, Skikda occupies a significant geographical position in the country. Throughout its long history, the value of its position was enhanced by the convergence of land and water routes. Although the town does face many problems, these stem not from its regional situation, but from the construction of its site. In general, the physical expansion of Skikda was forced into a particular pattern because it was easier to build in certain directions rather than others. The town is crammed into a narrow valley, beyond which it cannot expand easily (Fig. 6.4). To the north the sea barred its way and to the west and east precipitous slopes hamper development. The only way is to the south, however, the land is highly agricultural. Industrialisation throughout the country has already taken the best agricultural lands, which has led to a paradox in itself; particularly when one knows that Algeria can hardly bring new areas into cultivation. Working on the impact of industrial development and urban growth in the Oran-Arzew region, Couderc and Désiré (1975, p.21) have summarised the paradox as 'l'économie Algérienne a choisi la voie du socialisme de la planification c'est donc par là que peuvent se réaliser les meilleures occupations de l'éspace et les arbitrages les plus judicieux entre les differentes activités. Or, les carences de cet

Fig.6.4

SITE OF SKIKDA IN RELATION TO PHYSICAL CONSTRAINTS



arbitrage ont conduit en fait à une situation plus mauvaise que celle qu'engendre la loi du profit maximum en économie capitaliste. Sous ce systeme, les bonnes terres agricoles sont généralement épargnées car elles coutent trop cher à l'achat; mais comme en Algérie le garde-fou du prix d'achat n'existant pas, les differents secteurs de l'économie entrent dans une concurrence ouverte pour l'occupation du sol et sa situation n'est que rarement favourable à l'agriculture". But it may be questioned whether there are any alternative approaches to this problem.

6.3 The Foundation of the Modern Industrial Pattern.

Skikda's tiny industrial base of the colonial era has been greatly widened during the last decade. Over time Skikda has developed as an agricultural centre and, as a port, predominantly passenger but with a significant cargo traffic as well. In short, until independence, Skikda was predominantly commanding a rural and agricultural region, with some extractive industry but little or no manufacturing worthy of the name. It was not until industrial development in Algeria began towards the end of the 1960s that the potentiality of Skikda as a port in an industrial area began to be realised. Skikda's main agricultural resources are the rich alluvial soil of both the Saf-Saf valley and the Azzaba basin, which enabled an agrarian society to emerge and flourish. The twin characteristics of the land are fertility and limited supply. The favourable physical conditions of soil and climate facilitate the introduction of a variety of crops and enable multicropping whenever water is available. The construction of the Kenitra barrage,

south of Skikda (commune of Beni Oualbane) is precisely for that purpose (BOUKHEMIS (K) 1979). The disturbing feature of this agricultural sector, however, is a marked decline of agricultural production, but there is scope for higher returns through organisation, greater use of improved inputs and better cultivation techniques.

In general the different sectors of the economy vary greatly in their resource endownments and in the degree to which they have been affected by circumstances and policy actions. It is therefore not surprising that economic growth has proceeded as unevenly across sectors as it has over time. For instance, the governemnt's policy of fostering oil and gas refining, and the emergence of petrochemicals as a new source of industrial raw materials, are developments which have greatly affected the region. Consequently, the preponderance of agricultural activities is now less marked, and the famous fishery industry is today quite small.

Unlike the colonial type of development where industry was integrated within the urban core, the most striking feature of the new industrial pattern is the heavy concentration of manufacturing industry in the outer areas of the city, mainly eastward (Fig. 6.5). During the colonial period, there were forces in operation that tended to encourage plants to locate within the central zone of the city. Accessibility is highest at the city centre because it has developed through time as a major focus of routes and consequently is the most easily reached part of the entire urban area (GARNER, 1967,p.337). However, since independence, the

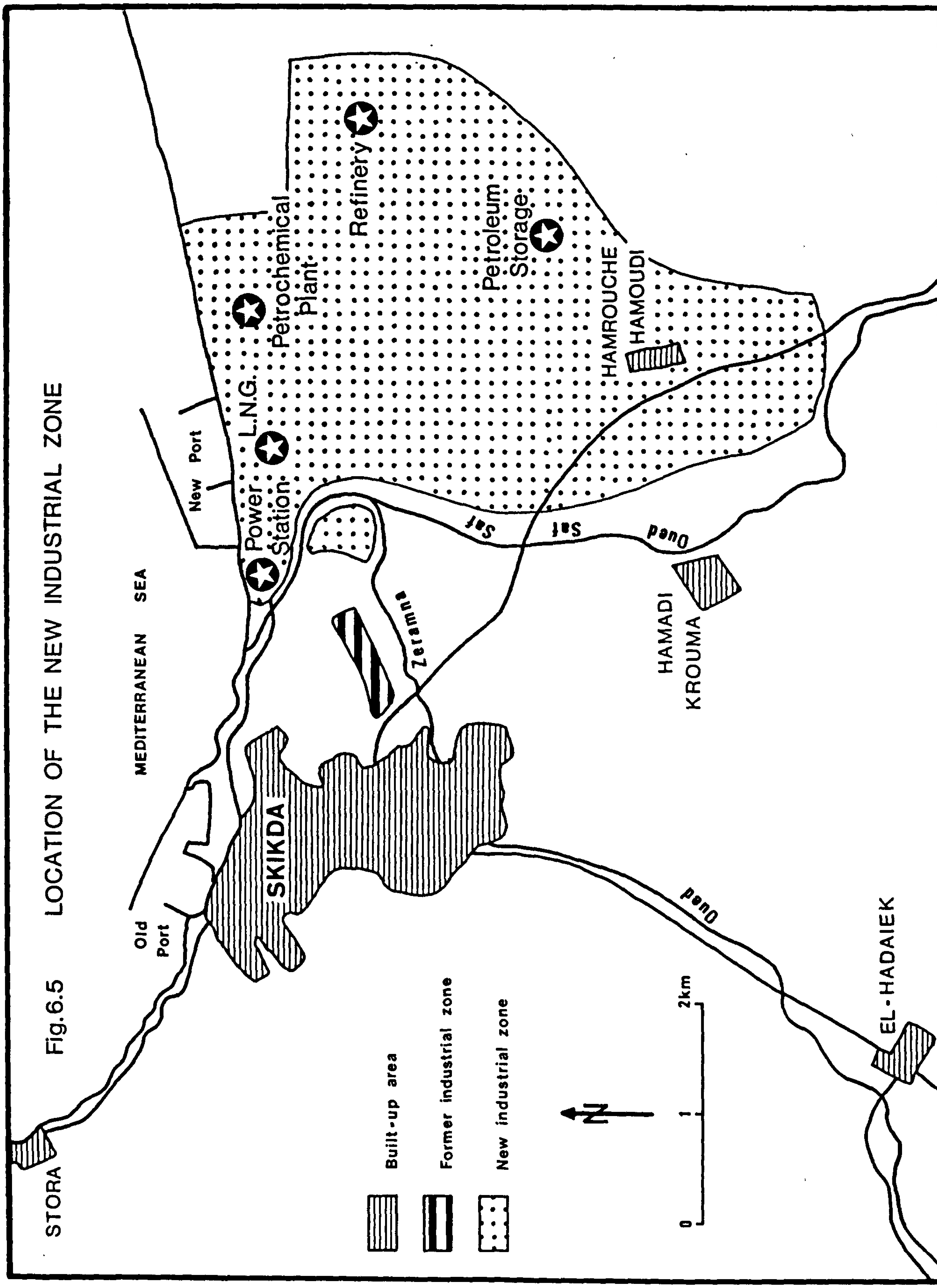


Fig.6.5 LOCATION OF THE NEW INDUSTRIAL ZONE

planner's aim to remove all inconveniences, such as noise and pollution, caused by industry from housing and shopping areas has prompted the growth of planned industrial estates or commonly called in Algeria, zones industrielles. The evidence suggests that such a process is well developed in Skikda, since more than 2000 hectares have been allocated as zone industrielle. By moving away from the city centre, the small firms could purchase land, in this zone, of lower value.

Industries related to the processing of hydrocarbons need extensive sites of reasonable flat land. A large plant needs a site of more than 1000 hectares in order to accommodate the heavy and extensive units and to allow for storage and safety equipment. Furthermore, because of its high industrial linkages, a wide range of associated industries using refinery products as their raw materials, are to be found within this area. Altogether, more than 5000 different products are obtained from mineral oil and 2000 of these are manufactured by the refineries themselves (JARRETT, 1969,p.273). However, for the time being just a few products are produced in Algeria. Thus, the first point to emphasise is the important scale upon which mineral oil is today produced and refined throughout the world. As Jarrett (1969,p.246) pointed out "one of the most dramatic features of the economic geography of our time has been the enormous increase in the consumption of mineral-oil products". According to FRYER (1965) petroleum products formed the most important single group of commodities entering world trade, accounting for about 10 per cent of the total value of this

trade. It is of interest to note that there has been an impressive change in the global pattern of the hydrocarbon refining industry. There are, indeed, strong reasons to explain this changing pattern. The most important reason is that the demand for hydrocarbon products is today virtually world-wide; therefore producing countries, such as Algeria, made efforts to secure the benefits of a processing industry for themselves.

Consequently, the most significant industrial changes in Skikda have been in the oil and natural gas refining and the related industries. The oil refinery and the liquified natural gas plant (LNG) are the largest and most important units in Algeria, and therefore merit special attention on account of their significance to the industrial development of the country. The oil refinery has a capacity of 7.5 million metric tons a year, while the LNG plant is producting 3.5 billion cubic metres of liquified gas with a planned production capacity of 15 billion cubic metres. Not far away from the LNG plan, is located the petrochemical plant (CMPK) which produces semi-finished products to feed the Setif and El-Asnam plastic plants. In addition, since the old port was too small, a new port, capable of receiving gas carriers and oil tankers with capacities of 125 000 cubic metres and 100 000 metric tons respectively, was constructed east of Skikda. This locational aspect is of vital importance since Algeria relies on exporting the products. Furthermore, to meet the need of these industrial units, an important power station was built.

It may also be noted that labour requirements do not constitute a locational factor as far as this industry is concerned. Oil-refining and liquefaction of natural gas deal mainly with fluids and gas in pipes and vessels; thus it is an industry which lends itself ideally to automation, and consequently does not make heavy demands on labour. The industrial complex which operates 24 hours a day and only shuts down at unfrequent intervals for overhaul, for instance, is operated by fewer than 2000 men considering all shifts. Overall, the plants employ some 3000 people. As we will see later, in such plants, it is not surprising to find that a high proportion of graduate assistance is required. In fact, on account of the widespread use of automatic techniques, the employment level is low in relation to the scale of capitalisation. The rate of job has been evaluated at 1,306,000 Algerian Dinars in 1976 (BENDJELID, 1976).

6.4 Manpower and Employment.

The literature of economics approached the problem of employment by constructing models. One of the first models was the Harrod (1939) and Domar (1946) model. This was used in both planning the rate of economic growth required to absorb the forthcoming additions to the labour force, and in calculating the size of the unemployment gap if such growth is not achieved (JOLLY et Al, 1973, p.14). But, probably the most well known of these employment models is that of Lewis (1954), later revised by Fei and Ranis (1964) and became the Lewis-Fei-Ranis model. In this model, Lewis assumed that the expansion of the modern sector would absorb the whole work force surplus. However, as

Stewart (1978,p.201) said " a few factors invalidated this assumption. On the one hand, with technical progress the expansion of employment has lagged behind that of output. On the other hand, rapid population growth has meant that employment expansion in the modern sector, even with quite respectable growth of output, has not kept the pace with additional numbers coming onto the labour market". She added that "this is largely a matter of simple arithmetic. If we consider a small modern sector employing 10 per cent of the labour force, the growth in employment in that sector has to be a multiple of the growth in population if all extra people are to be absorbed in this modern sector. With a modern sector of 10 per cent of the work force, and a growth in population of 2.5 per cent per annum, modern sector employment would need to grow at 25 per cent per annum to employ all additional workers. Since output normally grows about twice the rate of employment, this would require an annual output growth of 50 per cent. Yet in most countries, growth in output in the modern sector of 10 per cent per annum is a considerable achievement, with a corresponding annual employment growth of 5 per cent. Thus the growth of population invalidates a simple growth strategy and accentuates the employment problem" (STEWART, 1978,p.201). It has become increasingly evident, particularly from the experience of other developing countries, that rapid growth at the national level does not reduce poverty and inequality or provide sufficient productive employment (ILO, 1976).

a. The Structure of the Labour Force and Employment in Skikda.

The economically active population is one of the most difficult demographic variables to define and measure because of the complexity of interactions between work status and other aspects of social and economic change (MERRICK and GRAHAM, 1979). Application of modern analytical techniques to labour force growth and composition needs a clear and consistant definition of the economically active population. According to the United Nations, the active population is defined as those individuals who furnish the supply of labour for production of goods and services (UN, 1968a). Although, current international standard definitions of the labour force recognise as active anyone who is working, a major problem in Algeria is the classification of unpaid family workers engaged in agricultural works, particularly in the private sector, and women who combine housework with production of goods or services for the market. Durand (1975) has reviewed the main sources of divergence in definitions of the economically active population.

Over time, the Algerian census has become more precise in defining the active population. The 1977 census defined the active population as all occupied people of all ages, the unemployed aged between 18 and 59 years and, women partially engaged in economic activities. However, all official publications separate out the proportion of women partially employed (Secrétariat d'Etat au Plan, 1978(b)). Overall, the labour force includes paid employees, employers, the self-employed and unemployed workers. Not included are housewives, young children, students, retired and disabled people even though they may be receiving income in the form of pensions,

and unpaid family workers. The 1966 and 1977 censuses were the first to tabulate the active population by age and sex. Specific attention, to individuals who were unemployed and looking for work, was extended to people seeking work for the first time. Further tabulations by occupation, major economic sectors and status are provided.

The total labour force, in Skikda, grew approximately from 15,560 in 1966 to almost 22,000 in 1977 which corresponds to a total growth rate of 40 per cent or to an average annual growth rate of 3.6 per cent (TABLE 6.1), compared to a population growth rate of 4.8 per cent per annum. At this rate, the labour force would double in size in a very short period and the burden imposed on the wise use of capital as a means of creating employment opportunities is very substantial indeed. Overall, the occupied population increased from 8960 to 17,830, giving an annual growth rate of 9.0 per cent for the same period. In terms of participation ratio, there is a decrease in the crude activity rate (labour force/ total population) from 22.2 per cent in 1966 to 20.2 per cent in 1977. On the contrary, an important increase is observable in the refined rate (occupied population/working age population (15-64) from 12.8 per cent to 16.6 per cent. Compared to Annaba, for instance, which received a substantial investment in iron and steel industry, the total labour force there increased at a rate of almost 3 per cent per annum for the same period, against an employment growth rate slightly higher than that of Skikda, 10.1 per cent a year (AARDES, 1979(b)). More important, the unemployment rate in Annaba dropped dramatically from 43.5 per cent in 1966 to

TABLE 6.1 Labour force evolution in Skikda Commune, 1966-77

	1966		1977	
	N	%	N	%
Occupied Labour	8960	57.6	17832	81.8
S T R 1	4300	27.6	1739	8.0
S T R 2	2300	14.8	2232	10.2
Total Labour	15560	100	21803	100

SOURCE : 1977 Census Returns

10.1 per cent in 1977, while in Skikda, the decrease was less dramatic from 42.4 per cent to 18.2 per cent for the same period.

Trends in the sectoral distribution of the labour force can be seen more easily by using the percentage breakdown by branch of economic activity shown in Table (6.2). The most striking change in the sectoral pattern of employment is the shift from agricultural to non-agricultural activities. It is thought that the share of total labour in agriculture was as high as 30 per cent in 1966, compared to 4.0 per cent in 1977. This decline is an indication of significant structural change in the Algerian economy in general and that of Skikda in particular. Closer examination of this structure reveals some important points. As we recall from an earlier chapter, Algeria's conscious efforts to industrialise were

TABLE 6.2 Distribution of the Occupied Population by branch of economic activity, Skikda Commune, 1977

	Employment	Percentage
Hydrocarbons	1833	10.3
Manufacturing	2055	11.5
Construction & Public Works	3973	22.3
Other industries	677	3.8
Administration and Services	6110	34.3
Commerce	1830	10.2
Agriculture	709	4.0
n.a.	645	3.6
Total Labour	17832	100.0

SOURCE : 1977 Census Returns

in import-substitution during which industrial output grew much more rapidly than employment. The share of industry broadly defined appears to have an important impact on employment creation, however, like the country as a whole, most of the increase actually occurred in construction (TABLE 6.3).

The distribution pattern by sex of the labour force in Skikda shows the increasing importance of female participation (TABLE 6.4).

The main factor responsible for recent increases in

TABLE 6.3 Evolution of Non-agricultural Employment in Algeria, 1966-77

	1966		1973		1977		Change 66-77
	N	%	N	%	N	%	%
Industry	100 000	13.7	265 000	21.9	401 000	25.7	301.
Construction and Public Works	70 000	9.6	190 000	15.7	345 000	22.1	392.
Transport	50 000	6.8	77 000	6.4	132 420	8.5	164.
Administration and Services	320 000	43.8	480 000	39.8	498 000	31.9	55.
Commerce	190 000	26.1	195 000	16.2	183 580	11.8	3.
Total non-agricultural employment	730 000	42.4	1207 000	-	1561 210	66.8	113.
Total employment in Algeria	1720 700[a]	100.0	n.a.	-	2336 900	100.0	35.

SOURCE : 1966 data, BENNAMANE, 1980
1973 data, Europa Publication, 1981-82
1977 data, MPAT, 1979 (a)
(a) : Secretariat d'Etat au Plan, 1970

female employment has been the service sector. Compared to the four Algerian metropolises, female participation in Skikda is slightly lower than in these cities (TABLE 6.5).

TABLE 6.4 Employment by Sex and Economic Sectors in Skikda, 1977

	Industry	Construction	Services	Agriculture	n.a.	Total
Females	17.8	7.7	69.1	1.1	4.3	9.8
Males	26.4	23.9	41.9	4.3	3.5	90.2
Total	25.6	22.3	44.5	4.0	3.6	100.0

SOURCE : 1977 Census.

Underlying the trends in participation for both sexes are major changes in patterns of participation by age. Because of a rise in the proportion of school attendance, it is a fact that in Algeria or in Skikda, there is an important decrease in labour participation of the young and old-age groups, particularly as far as the former one is concerned (TABLE 6.6.). The decline in participation ratios at beth extremes of the working-age distribution are seen to be typical of shifts that occur as industrialisation and urbanisation proceed (MERRICK and GRAHAM, 1979). While the typical pattern of a predominantly agricultural economy consists of early labour force entry and late exit; the one of an industrial country shows a late entry and early exit pattern because of an increase in educational opportunities for young persons and earlier retirement. As far as Algeria or Skikda are concerned, they show a pattern which falls between these two types.

TABLE 6.5 Female Labour Participation in Skikda compared to the Four Algerian Metropolises, 1977.

	Female Labour	Percentage
Skikda	1748	9.8
Algiers	36935	14.8
Oran	14300	15.2
Constantine	6376	12.0
Annaba	5224	12.3
Total Algeria	180380	7.6

SOURCE : Secrétariat d'Etat au Plan, 1978(b)

TABLE 6.6 Changes in Labour Participation of The Young and Old-age groups, in Algeria (percentage)

Age-groups	1966	1977
Under 14	4.3	0.5
Over 64	4.3	3.5

SOURCE : 1966 and 1977 Census Returns

Age pattern of recent trends in female activity rates offer several contrasts with male. Female activity rate in the entry age-group is relatively higher in Skikda. TABLE (6.7) shows important differences in the age-specific activity rates between males and females. Although, overall

labour participation dominates the age-group 30-59 (58.9 per cent), which coincides with the high proportion of male participation (61.4 per cent); by far females are more involved in the earlier age (19-29).

TABLE 6.7 Activity Rates by Sex in Skikda, 1977

Age-groups	Female	Male	Total
Under 18	2.9	1.4	1.5
19 - 29	56.9	32.5	35.0
30 - 59	36.9	61.4	58.9
Over 60	3.3	4.7	4.6

SOURCE : 1977 Census

Further data on labour force structure show important characteristics in the occupational and sectoral composition of employment in 1977. Insight into the composition of employment can be obtained from tabulations of the occupied labour by socio-professional categories and economic sectors (TABLE 6.8). Tables presenting detailed breakdowns of occupations (16 categories) by branch of economic activities are found in the 1977 census. The breakdown by branch of economic activity is also detailed (22 categories) and, not just for example, combining such categories as manufacturing, mining and construction in a single group called industry.

Overall, because of the relatively low labour absorptive capacity of technologies used in import-substituting industrialisation of Algeria, it has been expressed that the relative decline in agricultural employment and the increase

TABLE 6.8 Distribution of Employment by Major Socio-professional Categories and Branch of Economic Activites, in Skikda, 1977 (Percentage).

Socio-Professional Categories	Industry	Construction & Public Works	Services	Agriculture	n.a.	Total
Employers	12.6	26.6	55.7	5.1	-	0.4
Self-employed in Agricultural activities	-	-	-	100.0	-	1.1
Self-employed in non-agricultural activities	14.5	6.2	78.7	-	0.6	7.9
Liberal profession	-	-	100.0	-	-	0.1
Executive or Senior manager	38.6	11.3	45.7	1.2	3.2	1.9
Middle Executive	27.3	14.3	55.2	1.8	1.4	12.4
Clerk	20.7	11.7	61.7	1.9	4.0	29.4
Non-agricultural skilled workers	37.4	39.2	23.4	-	-	27.8
Unskilled workers	25.1	38.5	36.4	-	-	13.7
Unskilled farm labourer	3.2	-	9.8	87.0	-	2.3
Apprentices	24.6	2.6	67.5	3.5	1.8	0.6
n.a.	1.5	0.5	0.5	1.3	96.2	2.2
Total	25.6	22.3	44.5	4.0	3.6	100.0

SOURCE : 1977 Census

of labour on the market have not been matched by an increase in productive employment elsewhere. This will lead us to see in detail the characteristics and the type of labour and employment found in the large-scale industrial complex of Skikda.

b. The Industrial Complex

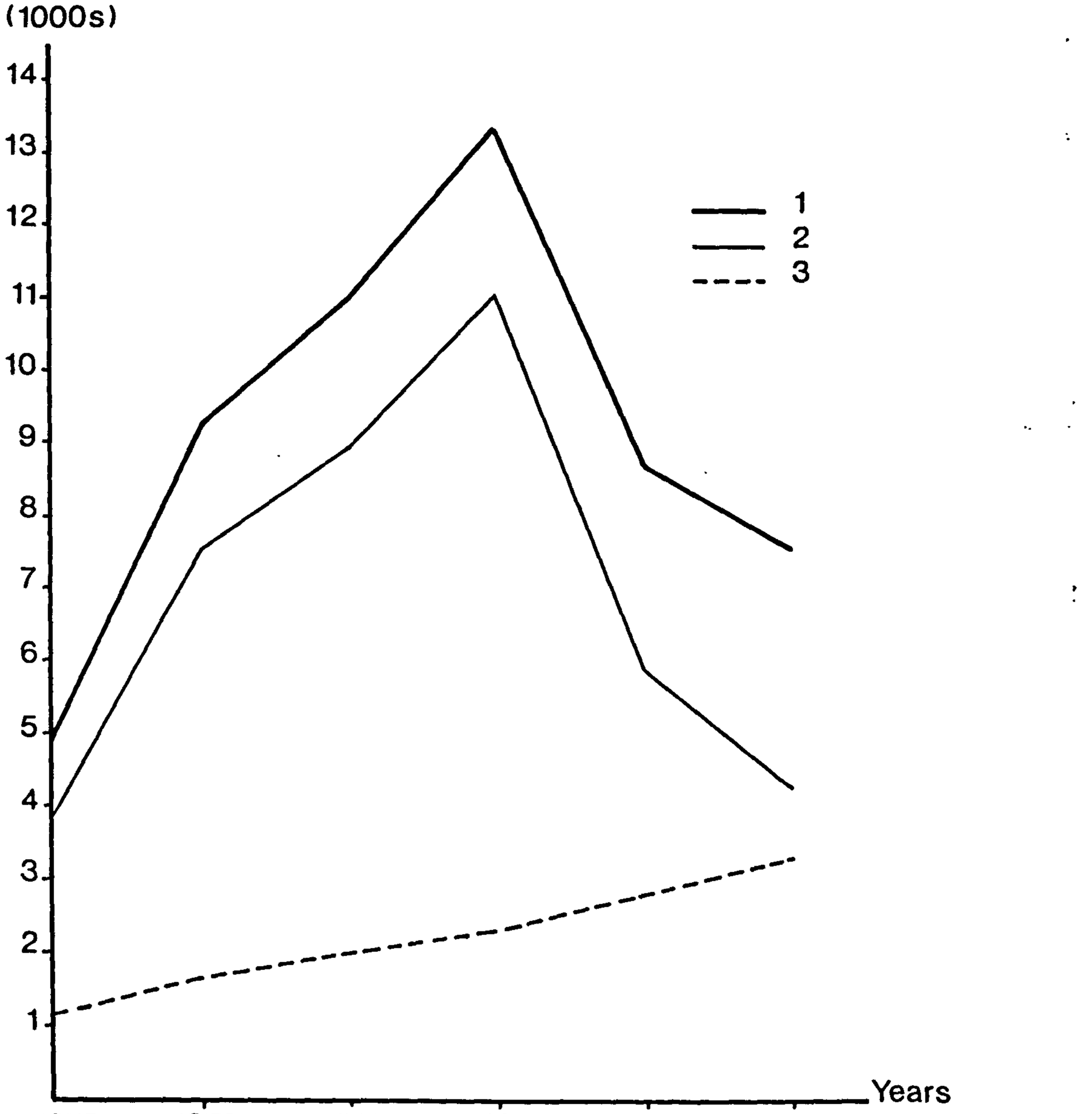
As far as the labour force within the industrial complex is concerned, in 1980, overall 7500 people were employed (Fig.6.6.) of which 4200 were under temporary contracts for the construction of new industrial units and extensions to the existing ones. Unfortunately, there has been an important decline in this labour since 1980, as a few projects have been dropped from the area. The remaining 3300 people are employed on a permanent basis of which the LNG plant employs approximately 950, the petrochemical plant (CMPK) 1150, the oil-refinery 1050 and the power station 150 people. A survey covering 2714 permanent workers showed the youthfulness of this labour (Fig.6.7): 55.5 per cent are between 20 and 29 years of age. Overall, 86.1 per cent are within the age-group of 20-39.

Looking into the origin of this labour (TABLE 6.9), around 80 per cent are native of the Wilaya itself, of which more than 45 per cent are from the daira of Skikda (Skikda-Stora). Apart from the power station, we notice a decrease in the proportion of labour originating from Skikda in the three other units, which corresponds to their entry into service. For instance, since the GNL plant was the first to be put into service, we see a relatively high proportion of

Fig.6.6

EMPLOYMENT VARIATION IN THE INDUSTRIAL ZONE

1975-80



1: Total work force

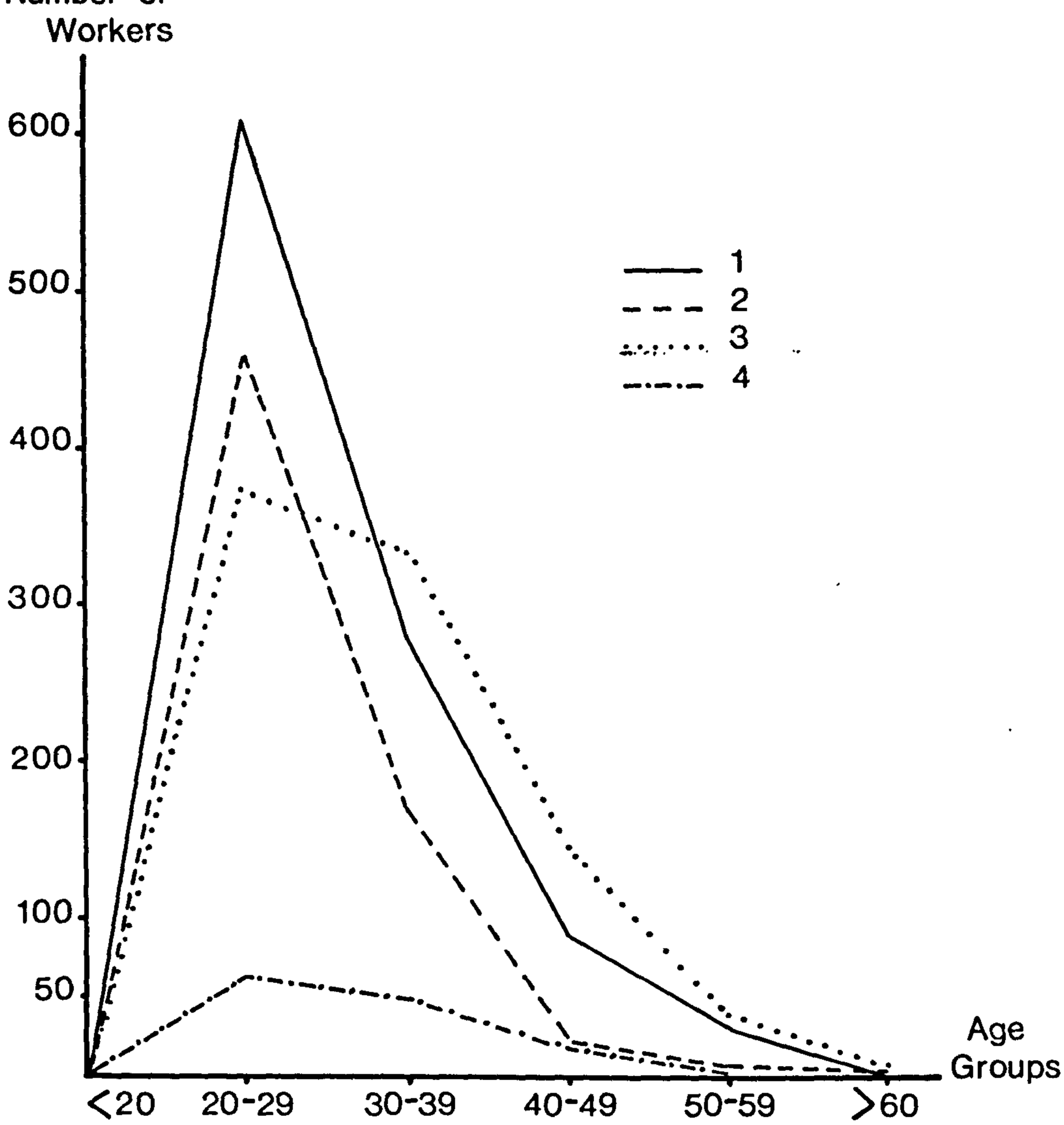
2: Construction work force

3: Permanent industrial work force

Source: Personal enquiry

Fig.6.7

DISTRIBUTION OF THE PERMANENT INDUSTRIAL WORK FORCE BY AGE-GROUP AND BY PLANT



1: Petrochemical plant (C.M.P.K.)

2: Refinery

3: L.N.G. plant

4: Power station

Source: Personal enquiry

TABLE 6.9 Origin of the Permanent Industrial Work Force, 1980

ORIGIN	L.N.G.		C.M.P.K.		Refinery		Power-station		TOTAL	
	N	%	N	%	N	%	N	%	N	%
Skikda - Stora	477	52,5	444	43,9	270	40,9	34	25,4	1225	45,1
Saf-Saf Valley	131	14,4	141	13,9	52	7,9	18	13,5	342	12,6
Collo region	97	10,7	185	18,3	73	11,1	21	15,7	376	13,9
Azzaba	29	3,2	72	7,1	32	4,8	8	6,0	141	5,2
Zighoud Youcef	25	2,8	30	3,0	21	3,2	7	5,2	83	3,1
Wilaya of Constantine	33	3,6	34	3,4	50	7,6	13	9,7	130	4,8
Eastern Algeria	98	10,8	59	5,8	123	18,6	25	18,7	305	11,2
Central Algeria	6	0,7	7	0,7	12	1,8	4	3,0	29	1,1
Western Algeria	2	0,2	-	-	2	0,3	1	0,7	5	0,2
Southern Algeria	7	0,8	8	0,8	14	2,1	1	0,7	30	1,1
Other Countries	2	0,2	-	-	9	1,4	1	0,7	12	0,4
Undeclared	1	0,1	32	3,1	2	0,3	1	0,7	36	1,3
TOTAL	908	100	1012	100	660	100	134	100	2714	100

SOURCE : Personal enquiry.

workers from Skikda itself.

It is also interesting to know that out of the 54.9 per cent which are not native from Skikda, as much as 55.9 per cent took up residence in the daira of Skikda. This gives an overall total labour of 75.8 per cent being in residence in the area. The rest of the labour is scattered all over the Wilaya, of which the Saf-Saf valley accounts for 10.8 per cent (TABLE 6.10). Furthermore, out of the 2714 employees, 50.6 per cent are married supporting an average of 2.9 children (TABLE 6.11). It is also a qualified labour, for as much as 90 per cent possess a skill. As far as the petrochemical industry is concerned, current advanced technologies (in this case, a highly capital intensive one) represent the most appropriate solution in circumstances where the optimum may be unattainable in the short run. Consequently, this large-scale complex has not in itself created a large volume of employment.

Summing up the interaction between labour structure and employment, we arrive at the conclusion that the principal sources of employment in 1977 were administration and services, and construction sectors. Nevertheless, there has been a relatively important increase in the industrial sector's employment share from 1966 to 1977.

In contrast to the relative diversity of male employment, female participation is mainly limited to clerical jobs. However, the increase in the female labour force that has occurred in Skikda during the last decade or so suggests

TABLE 6.10 Present residence of the Labour Force, 1980

Place of residence	Labour	Percentage
Skikda-Stora	2058	75.8
Saf-Saf Valley	294	10.8
Collo region	122	4.5
Azzaba	78	2.9
Zighoud Youcef	28	1.1
Outside Skikda Wilaya	134	4.9
TOTAL	2714	100.0

SOURCE : Personal enquiry

TABLE 6.11 Other Characteristics of the Labour Force

	Unmarried		Married		Undeclared		Total	
	N	%	N	%	N	%	N	%
Power Station	34	25.4	93	69.4	7	5.2	134	4.9
GNL Plant	332	36.6	568	62.5	8	0.9	908	33.5
CMPK	519	51.3	487	48.1	6	0.6	1012	37.3
Oil refinery	432	65.5	224	33.9	4	0.6	660	24.3
Total	1317	48.5	1372	50.6	25	0.9	2714	100.0

SOURCE : Personal enquiry

that a turning point is happening in the role of women in the Algerian economy. The participation is most evident in the 20-29 age-group. Whatever the causes, the increasing female participation trend has important implications for both economic and demographic change in Algeria, in the future, particularly in certain areas. As Merrick and Graham (1979, p.192) noted " increased female participation taps a previously underutilised source of productive capacity. The shift of female production activity from the household to the market affects related areas of household decision, like reproduction".

The other interesting point is that the large proportion of unemployed people in Skikda has increasingly raised doubts about the adequacy of the industrialisation process as a source of remunerative employment. It was thought that once the process of growth had begun, once health, capital and, knowledge increase, and as education spreads, so employment opportunities would begin to improve. Calculations of surplus labour were often used to show how the need for additional manpower in the developing modern sector could be met. Today, however, the more likely question would be whether productive ways to absorb the surplus can be found (TURNHAM, 1971,p.9). The rapid growth of population throughout the country or in Skikda, since 1966, has increased the labour force by unprecedented proportions. As Myrdal (1968) points out the long run cumulative effects are nothing short of disastrous, especially with regard to employment. It is resulting in a widening gap between the supply of and demand for labour (TABLE 6.12). The problem is aggravated by the

fact that Algerian development policy, so far, is based on a very capital-intensive industrial sector. This, in turn, generates a demand for skilled labour rather than the unskilled workforce which can be found easily on the labour market.

TABLE 6.12 Skikda's Unemployed Labour compared to the Four Algerian Metropolises, 1977

	STR 1		STR 2		1 + 2		Total labour	
	N	%	N	%	N	%	N	%
Skikda (a)	1739	8.0	2232	10.2	3971	18.2	21803	100.0
Algiers (b)	9336	3.5	13087	4.8	22423	8.3	269628	100.0
Oran (b)	5145	4.9	6050	5.8	11195	10.7	104088	100.0
Constantine (b)	4354	6.7	8262	12.7	12616	19.4	65176	100.0
Annaba (b)	1903	4.0	2842	6.1	4745	10.1	46876	100.0
Algeria (c)	325760	10.8	345067	11.5	670827	22.3	3007799	100.0

SOURCE : a: Census returns
b: Secrétariat d'Etat au Plan, 1978a
c: MPAT, 1979a

Compared with the historical experience of the industrialised countries, today's transformation effort must contend with much more rapid labour force growth. For instance, throughout the nineteenth century, the labour force in European developed countries grew at less than 1 per cent a year, whereas in Algeria it has been growing at almost 1.6 per cent between 1966-77. It took almost a century for the labour force to double in the developed nations, it is now taking less than a generation in Algeria. Such differences in

the pace of labour force growth have significant implications on the development process.

A consequence of this rapid increase in the labour force combined with insufficient growth in industrial employment is the high rate of unemployment experienced, particularly by the new entrants to the labour market. When examining the age distribution of the unemployed labour in the Wilaya of Skikda, we find that the most affected age-group is that of 19-29, with 50 per cent of overall unemployment. In Skikda, itself, the percentage is even higher, 56 per cent, as far as the same age-group is concerned (TABLE 6.13).

TABLE 6.13 Distribution of the Unemployed Labour Force by age-group, in Skikda, 1977

Age-groups	STR 1		STR 2		1 + 2	
	N	%	N	%	N	%
Under 18	43	2.5	794	35.6	837	21.1
19-29	813	46.7	1412	63.3	2225	56.0
30-59	824	47.4	26	1.1	850	21.4
Over 60	59	3.4	-	-	59	1.5
TOTAL	1739	43.8	2232	56.2	3971	100.0

SOURCE : 1977 Census

However, the incidence of unemployment on this young age-group makes it a pressing social issue, for unemployment has both economic and social implications that are universally recognised as harmful both to society at large and to the individual who is without work (BRUTON, 1974, p.49). In general,

the rapid growth of the labour force will make the creation of adequate employment opportunities more difficult in the future than it was in the past. The solution is not likely to be simple. The efforts required to cope with this expansion in the supply of labour are the creation of remunerative employment opportunities through the promotion of appropriate agricultural and industrial development strategy, and more important, a population planning policy in which lies the potential to reduce labour force growth in the long run.

Chapter Seven

DEMOGRAPHIC ASPECTS OF SKIKDA

7.1 Population growth.

The demographic characteristics of Skikda are typical of most cities in developing countries. The natural rate of population growth rose substantially in 1973 reaching an average of 3.3 per cent a year, but it declined slightly to around 3.1 per cent in 1980. Typically, this population explosion was the result of a sudden fall in the death rate unmatched by a decline in the birth rate. From TABLE (7.1), we notice that the population of Skikda increased rapidly from about 3,000 to 21,251 in a period of 56 years (1845-1901). After that period, it increased steadily. In 1936, the total population was already three times that of 1901. Furthermore, it is worth noting that it took almost a century for the Algerian population to equal that of the European. Overall this evolution was marked by a rather chaotic pattern, which can be seen through the inconsistency of the annual growth rates (TABLE 7.2). The difference between the two groups of population is relevant. It is only when the Algerian population became consistent in its growth, particularly after 1921, that the fluctuations in the overall annual growth were less marked. The important decrease of the 1960-66 period is mainly related to the political instability in the country. More than 25,000 Europeans left the city when Algeria gained its independence in the summer of 1962. However, the rapidly increasing Algerian population restored the overall growth rate to around 4.8 per cent per annum between 1966-77. During that same period, the urban, the rural and, the total population of the commune have been growing at a rate of

TABLE 7.1 Population Evolution of Skikda Commune 1845-1977

Years	European Population	%	Algerian Population	%	Total
1845	2987	100	-		2987
1846	5003	100	-		5003
1851	8071	88.1	1091	11.9	9162
1856	6647	86.0	1082	14.0	7729
1866	11941	91.7	1081	8.3	13022
1871	10327	84.1	1947	15.9	12274
1876	11360	82.7	2376	17.3	13736
1881	14258	88.3	1885	11.7	16143
1886	17426	81.5	3964	18.5	21390
1891	17574	80.6	4226	19.4	21800
1896	14628	75.0	4887	25.0	19515
1901	14124	66.5	7127	33.5	21251
1906	15940	64.3	8835	35.7	24775
1911	16750	64.7	9141	35.3	25891
1921	18433	56.7	14056	43.3	32489
1926	21706	53.5	18835	46.5	40541
1931	23773	49.8	23977	50.2	47750
1936	33836	51.2	32276	48.8	66112
1960	26000	30.6	59000	69.4	85000
1966	-		70248	100	70248
1977	-		107717	100	107717

SOURCE: 1845-1926 : ALQUIER, 1927
1936 : Algeria Vol II, 1944
1931,1960 : LAWLESS, 1981
1966-1977 : MPAT, 1979b

around 4.8 per cent yearly each. In general the Algerian population of Skikda has almost doubled in a period of 17 years (82.6 per cent from 1960 to 1977). As we will see later, projections of the future estimate that the population of Skikda will jump to about 260,000 inhabitants in the year 1990. This means that the population will more than double in less than 20 years, and that will put an excessive burden on all future development plans. The main reason for this population explosion is that while the birth rate has shown a relative stability and fluctuating around the rate of 37 or 38

per thousand, the death rate has rapidly declined to about 5 to 6 per thousand.

TABLE 7.2 Annual Growth Rates, 1845-1977

Years	European Population	Algerian Population	Average Annual Growth Rate
1845	-	-	-
1846	67.5	-	67.5
1851	12.3	-	16.6
1856	- 3.5	- 0.2	- 3.2
1866	7.9	- 0.01	6.8
1871	- 2.7	16.0	- 1.1
1876	2.0	4.4	2.4
1881	5.1	- 4.1	3.5
1886	4.4	22.0	6.5
1891	0.2	1.3	0.4
1896	- 3.4	3.1	- 2.1
1901	- 0.7	9.2	1.8
1906	2.6	4.8	3.3
1911	1.0	0.7	0.9
1921	1.0	5.4	2.5
1926	3.6	6.8	4.9
1931	1.9	5.5	3.6
1936	8.5	6.9	7.7
1960	- 0.20	3.4	1.2
1966	-	3.2	- 2.9
1977	-	4.8	4.8

SOURCE : Calculated from TABLE 7.1

Industrialisation and rapid urban growth have accelerated changes in the structure of the population of Skikda and that of the Algerian society as a whole. Compared with European

countries where industrialisation was accompanied by a transition from high to low birth and death rates, with a period of accelerated population growth during the transition, as declining birth rates lagged behind rapidly declining death rates, a process known as the demographic transition. Coale (1974, p.48) said that "a general description, if not a full explanation, of the changing rates of increase in more developed areas since the eighteenth century is provided by what demographers call the demographic transition". Fertility and mortality, which constitute the demographic transition, are expected to accompany a country's progression from a largely rural to a primarily urban and industrial society. Virtually all the populations classified as developed have undergone demographic changes of this kind, although the timing and extent of the changes vary considerably (COALE, 1974,p.48).

Using the demographic transition scheme to describe and analyse the demographic variation, Robinson (1981, p.31) distinguished 4 successive stages: A high-stationary stage, an early-expanding stage, a late-expanding stage and finally, a low-stationary stage. The second stage or early-expanding stage is more appropriate to Algeria in general and Skikda in particular, for both are marked by a continuing high birth rate associated with a falling death rate. The decline in the death rate by improvements in medicine, sanitation, nutrition, etc, all of which create conditions favouring higher birth rates and longevity (ROBINSON, 1981, p.32). Theoretically, as economic growth materialises and social conditions improve, both of which tend to curb the birth rate, Algeria will begin

to move into the third or late-exapnding state.

However, assessments of economic and demographic trends in developing countries, including Algeria, have raised many questions about the applicability of a transition model to these countries. The gradual decline of mortality, which was concomitant with economic growth in Europe, has been expedited by modern medical science in developing countries, making mortality decline an exogenous factor in the development process (ARRIAGA and DAVIS, 1969; PRESTON, 1975). Birth rates, which declined in response to the socio-economic pressures of industrialised urban life in Europe, are substantially higher in developing countries than they were in Europe on the eve of the industrial revolution. In Algeria, the real effect in demographic terms has been the population growth rate that is most of the time double those experienced by European nations during their demographic transition. Some neo-malthusian authors, such as DEMENY (1965), see the demographic situation of the developing countries as a circular process in which slow economic growth prevents declines in the birth rate, while the resulting population increase restrains economic growth. Thus control of population growth is a necessary requirement for breaking the vicious circle. Others, such as DAVIS (1963) and FRIEDLANDER (1969) have stressed a view of the transition process that embraces a multiplicity of demographic responses to modernisation.

In general, demographic as well as soio-economic factors are important in understanding the process of change. One of the factors, that accounted for the relatively low birth rates at the beginning of the transition throughout Europe, was the

late average age of marriage, and the high proportion of the population never marrying. Unfortunately, as we saw in Chapter Two (TABLE 1.5) the age of marriage in Algeria, particularly for females, is typically earlier and that marriage is more universal. Another factor, also important for its contribution to a reduction in the average size of the urban family and to a late average age of marriage is education which would also increase female employment opportunities. Female employment in Skikda represents a rather high percentage compared to the national average of 7 per cent of the total labour force. Women represented 9.8 per cent of the occupied work force, of which more than 60 per cent is employed in the service sector, in 1977. However, throughout the Wilaya, they only represented 5.3 per cent.

Summarising thus far, in Algeria in general or Skikda in particular, there is no evidence that demographic changes are occurring for the better. The population has been and still is increasing at a very alarming pace. The birth rate has maintained itself and perhaps increased but the main factor of this population explosion has been the marked drop in the death rate because of improvements in medicine.

7.2 Population Composition

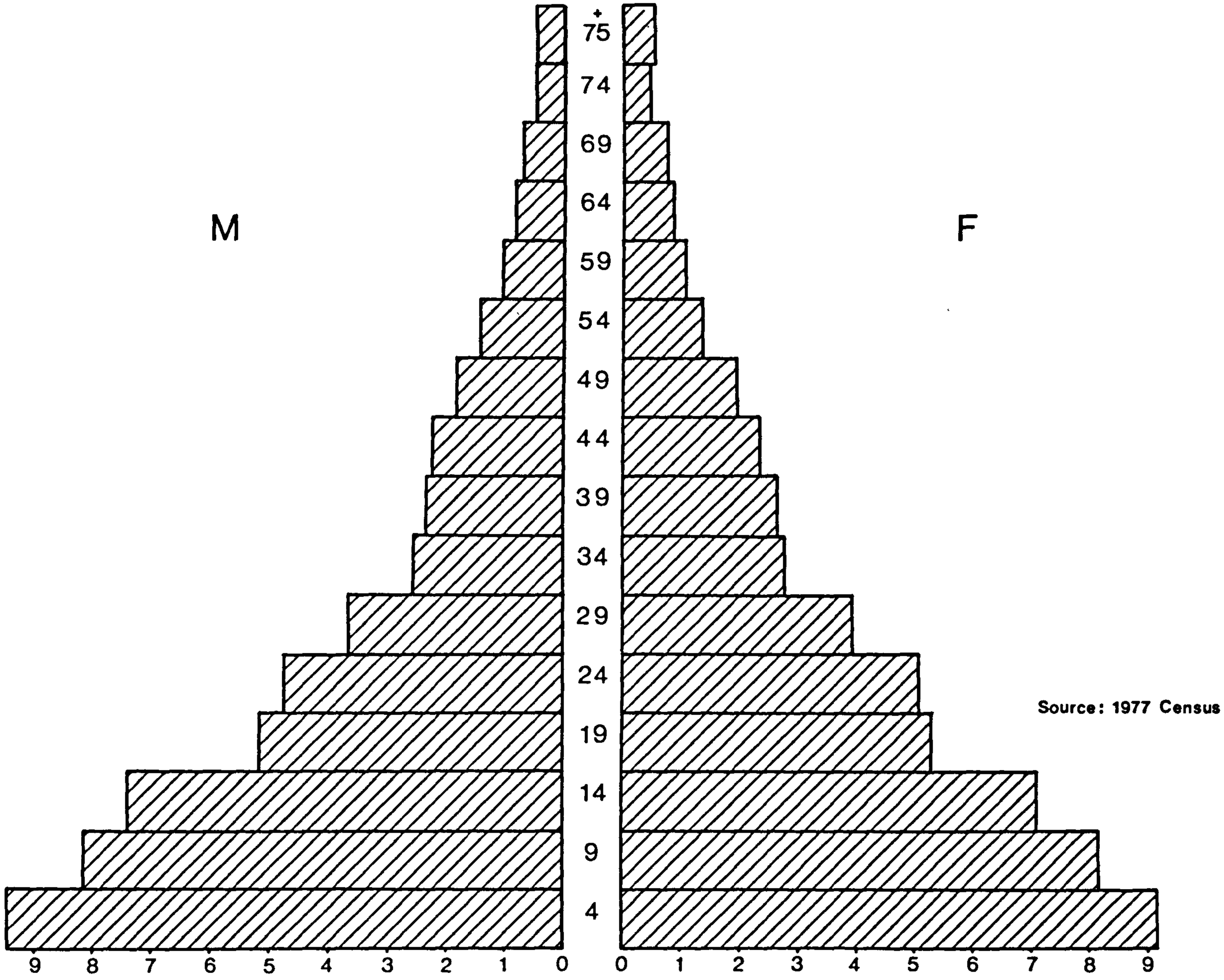
So far, we have been concerned mainly with population growth and growth rates, but another very important demographic aspect to which attention should be drawn concerns the age and sex composition of the population. This composition of the population reveals several important aspects and characteristics of the study area. It shows among other things the

size of labour force and the burden represented by children and aged people on the productive population and on the government. Thus, it is appropriate at this stage of the study to stress these demographic features, particularly since they are of such relevance and significance in the demography of the city. To illustrate these structural features of the population, we use the population pyramid which is a "shorthand means of dramatising the differences in age and sex structures of populations" (HARTLEY, 1972,p.34).

Skikda's population pyramid shows a broad base and a concave curvature of its vertical sides, as illustrated in Figure (7.1). This kind of pyramid is a characteristic of all Algerian cities and typifies populations with a very high birth rate and a reduced death rate. A number of important facts can be drawn from the study of this particular kind of pyramid. It shows a very high proportion of young people which gives a low median age of the population, particularly since life expectancy in Algeria is short, thus, relatively few people reach old age. As we can see from TABLE (7.3), the percentage of the young population, under 14 years of age, in Skikda or Algeria, is high particularly when compared with those of the developed countries where the proportion of young people under 15 years of age is of the order of 20 to 30 per cent (ROBINSON, 1981,p.129). Clearly, then there is a very high rate of youth dependency. When considering the age distribution and median age of population by sex, we notice a certain difference (TABLE 7.4). The proportion of female children under fifteen years of age was consistently below the corresponding proportions of male

Fig. 7.1

POPULATION STRUCTURE BY AGE AND SEX
SKIKDA COMMUNE, 1977 (in 1000s)



Source: 1977 Census

TABLE 7.3 Distribution of Population by Broad Age Categories and median Age, 1977 (Percentage).

	0-14	15-64	Over 65	Median Age
SKIKDA	46.4	50.3	3.3	16.75
WILAYA	48.5	47.2	3.3	15.75
ALGERIA	47.0	49.9	4.1	16.4

SOURCE : 1977 Census

TABLE 7.4 Age Distribution and Median Age by Sex

	0-14		15-65		Over 65		Median Age	
	M	F	M	F	M	F	M	F
SKIKDA	47.5	45.6	49.2	51.2	3.3	3.2	16.25	17.2
WILAYA	49.6	46.9	46.7	49.9	3.7	3.2	15.2	16.65
ALGERIA	48.6	45.9	47.5	49.6	3.9	4.5	15.65	17.05

SOURCE : 1977 Census

children, and that obviously affected the median age. Consequently, the female population had always a median age over that of male population. As shown in TABLE (7.5), the sex ratio for the young age group was 103. However, there is an increasing predominance of females from about the age of 15 and onwards till the age of 64, particularly for Skikda and its Wilaya. After that, one would expect to find in the old age group women outnumbering men, particularly since the

longevity of women is greater (TABLE 7.6). The overall Algerian population comes within this expectation, but it is not the case, as far as Skikda and its Wilaya are concerned; for there is a reverse in the trend. The sex ratio for the old age group was 102 and 112 respectively.

TABLE 7.5 Sex Ratios by Age Groups, 1977

	0-14	15-29	30-44	45-64	Over 65
SKIKDA	103	95	92	92	102
WILAYA	103	99	86	90	112
ALGERIA	103	101	85	89	83

SOURCE : 1977 Census

TABLE 7.6 Life Expectancy at Birth in Algeria

	Male	Female	Both Sexes
1960	-	-	46
1970	52	53	53
1975	-	-	53
1977	54	56	55

SOURCE : World Development Report 1978
Ministère de la Planification et de L'Aménagement du Territoire, 1979a.

In general, this population composition has very important repercussions on the city. On the one hand, the high proportion of young implies that there is a huge potential for

continued population growth as the young move into the reproductive phase. As Ehrlich (1972, p33-34) said "the developing countries have a much greater proportion of people in their pre-productive years. As these young people grow up, the size of the childbearing fraction of the population will increase astronomically. In turn their children will further inflate the size of the youngest groups. These masses of young people are the gunpowder of the population explosion". On the other hand, this mass of young people imposes a burden upon the authorities for the provision of social amenities and upon the proportion of the occupied labour force. TABLE (7.7) shows the dependency ratio, that is the young children (0-14), the elderly (over 65) and, the unemployed labour for Skikda compared to that of the Wilaya and the country. One might be surprised at the inclusion

TABLE 7.7 Dependency ratio, 1977 (Number of dependents per Employed Worker).

	SKIKDA	WILAYA			ALGERIA		
		Urban	Rural	Total	Urban	Rural	Total
Dependency ratio	5.9	6.2	8.8	7.8	6.1	8.0	7.2

SOURCE : 1977 Census

of the unemployed labour in the ratio. This is justified on the grounds that unemployment benefit does not operate in Algeria and, unemployed people are supported by any working member of their own family. Considering the average burden of

7.2 persons per occupied worker throughout the country, the population of Skikda is in a more advantageous situation with a ratio of 5.9. Conversely, the burden on the rural population is quite important, particularly when compared with an average size family per household, in rural areas of 6.65 for the Wilaya and 6.67 for Algeria. This high burden is mainly due to the high unemployment rate in rural areas. For instance, out of a 23,070 unemployed workers in the Wilaya, a high proportion, of 73 per cent, concerns the rural population. Ehrlich (1972,p.33) added that this unfortunate dependency ratio is an additional heavy burden to the countries as they struggle for economic development. The situation is further aggravated by the fact that women do not participate in economically productive work as for instance do many females in the developed countries (ROBINSON, 1981), as Hartley (1972,p.34) has commented" in the very nations most in need of the productive potential of each individual one finds that women's reproductive performance prevents their making other contributions".

Although Algeria is treating the problem of population control rather gingerly, the planners have not ignored the demographic aspect in development planning. Detailed population projections have been used in plans. Discussions, particularly after the 1977 census on the implications of population growth for development took place. Theories on the effect of population increase on economic growth, such as that of Coale and Hoover (1959), stress the high dependency that a young and rapidly increasing population brings difficulties in providing social services, such as education, health, housing, and in reducing unequal income distribution.

Models were used to stress the weight put on developmental budgets by this rather high population increase. However, some such as Arthur and McNicholl (1975) have argued that these models miss much of the complexity of the developmental process. But, it is encouraging to see the Algerian government, particularly during the last plan, focusing its policy on the questions of employment and income distribution and, on development and utilisation of the country's human resource potential.

In general, population growth has had its social costs. Skikda's broad-based age distribution has made it difficult to minimise deficits in social services, particularly housing, and the growing working-age population has put pressures on the economy to create productive activities to use the increased flow effectively. Certainly much remains to be done. Given the magnitude of these problems, the resources required for this task are substantial, particularly when one thinks in the light of demands from other sections of the economy. Until now, allocation of resources has favoured economic growth more than income distribution. As a consequence of the present imbalanced development, there has been a marked flow of people from rural areas to cities. These movements worsened the urban employment problem and added to congestion and other problems of developing urban areas in a more rational way (BRUTON, 1974,p.75).

7.3 Recent Migration Movements to Skikda.

The important shift to towns and cities in underdeveloped countries has been qualified by Koenigsberger (1976,p.59) as

"the largest migration movement in human history". In Algeria, movements of population between rural areas and towns have been of economic and demographic significance for the last decade or so. The rate of urban growth at present is close to 7 per cent. In Skikda, for instance, rural-to-urban migration is considered a major problem for the city, because it puts pressure on urban infrastructure and affects urban unemployment. Although the factors influencing this migration are of different types, these are symtomatic of a more fundamental economic and demographic problem that concerns the whole of the country rather than just this urban area. Data from the recent census (1977) allow a somewhat more refined approach to the measurement of internal migration than earlier censuses. The census included a number of questions aimed at specifying the direction and timing of interregional migration flows, as well as characteristics of migrants. It provides also, information of the population by place of birth, past and present residence.

a. Characteristics of the Migrants and Migration Flows

Internal migration can be defined as the mobility of people from one geographical point to another within the boundaries of the country, seeking for residence in the new destination place. This pattern of mobility affects to a great extent population growth, its sex and and age composition, its socio-economic structure, and all the other demographic characteristics of the total population. As far as this study is concerned, the characteristics of migrants will be discussed later; here, we will concentrate on the

volume, origin and the timing of these flows.

TABLE (7.8) shows some of the major dimensions of migration towards Skikda. We can distinguish three different historical periods, as far as these movements are concerned. First and foremost, we should distinguish between forced and voluntary migration. In the case of the former, the person

TABLE 7.8 Lifetime Migration to Skikda Commune

Periods	Migrant population	Percentage
Before 1962	12864	35.9
1963-66	9378	26.2
1967-70	4489	12.5
1971-73	3811	10.6
1974-77	5239	14.6
TOTAL	35781	100.0

SOURCE : Census, 1977

who is migrating has either no decision or hardly anysay about the decision to migrate (DU TOIT, 1975,p.1). In the case of Skikda, the movement of people which took place before 1962, particularly between 1954-62, falls in the first category (forced migration). The state of war with its insecurity, "forbidden zones" and the creation of Centres de regroupement made the people leave the countryside for the city. This shift of population from rural to urban areas became the principal component of population growth in the cities. More than one-third of the overall in-migration to Skikda

concerns the pre-independence period. The second period (1963-66), although shorter, has been characterised by an important migratory flow, since it represents 26 per cent of the total migration. It corresponded to the independence period, which saw thousands of Europeans (around 20,000 overall) leaving the city, and being replaced by Algerians. The last period (1967-77), which can be sub-divided into three sub-periods, coincides with the different economic plans put forward by the new Algerian government. The movement of people is different in structure and more organised than the rural exodus of the colonial era or that of the pre-industrial period of Algeria (BOUMAZA, 1980).

Altogether, in 1977, more than 33 per cent of the population of Skikda was born outside the city, compared to 31.7 per cent in 1966. Between 1966 and 1977 in-migration accounted for 12.6 per cent of the total popul-ation, and represented 36.1 per cent of the overall increase. However, the importance of migration in urban-isation must not obscure the equally important fact that the population of even a fast-growing city is often mostly born in that city (ROBERTS, 1978, p.104). Calculating the proportion of urban growth due to the natural increase of Skikda's urban population, we found that 63.9 per cent of urban growth, from 1966 to 1977, was the result of natural increase, which accounted for 22.3 per cent of the growth of its total population.

Davis (1972) said that "as a country urbanises, natural increase within the city becomes an increasingly

dominant contribution to urban growth, simply because of the sheer size of the urban population relative to the rural population". Unlike the Wilaya of Constantine, for instance, where a relatively small percentage contribution to urban growth from migration means a large outflow from the rural areas, since urban population is larger than its rural population (64.3 per cent against 35.7 per cent); on the contrary, in the Wilaya of Skikda, rural population is much larger than the urban one (70.1 per cent to 29.9 per cent). However, when it comes to urban population growth, during the same period (66-77), the difference between the two cities is striking. Skikda saw its urban population increasing by 4.8 per cent annually, while that of Constantine increased by just 3.3 per cent. Despite these variations, we notice that Constantine has attracted almost three times more migrants than Skikda from 1966 to 1977: 13,500 and 37,100 migrants respectively. Thus, it seems that larger cities, in Algeria, dominate the overall trend in city-ward migration. This contribution of migration to urban growth is, however, a cumulative one; children of migrants born in towns or cities are contented as part of the natural increase of urban place (ROBERTS, 1978,p.105). He added that even in those countries in which net-migration contributes a minor fraction of urban population growth, the migration experience may be an important one in the urban social structure. We found out, for example, that in Skikda, migrants who are economically active (15-60 years of age) represent almost 28 per cent of the total economically active population of the commune. This concentration, in this particular age-group, appears to be based in part, on the attraction of the

city's economic opportunities.

Furthermore, since the census is an important source offering the best means for studying the role of migration in the process of social and economic transformation that has taken place in Skikda, a collection of detailed data, at household level from the 1977 census on migration was gathered. It includes information at three different levels: the Chef-lieu of Commune, the secondary agglomerations and the scattered settlement within the commune. Nevertheless, the study deals only with recent migrant population, namely those who settled in the commune between 1962 and 1977 (post-independence movements). Thus, any migrant who settled in Skikda before 1962 is not taken into account. As we saw earlier in Table 7.8 , this category of migrants represents almost 36 per cent of the total migrants. The reason for such a period choice is simple, for we were interested in migratory movements which occurred after Algeria gained its independence (1962), thus dealing with a purely Algerian problem.

Contrary to most cases where the census authorities impose restrictions on access to household forms for confidentiality purposes, the 1977 census has exceptionally been made available to researchers at the fiche ménage level (household return). This availability of data at this very basic scale permits an investigation of problems at whatever scale of aggregation is appropriate and even allows analytical work at a micro-scale, rarely possible without considerable fieldwork (SUTTON, 1981 b,p.45). The fiche

ménage form may be divided into two major sections (see appendix B). The first section provides a geographical code, details of the address, as well as a wide range of information on the dwelling. The second section gives data on demographic and socio-economic characteristics of each individual. These fiches ménages were made available at the Oran census centre (CNRP) where the information was processed. Needless to say that this documentary stage, which involved almost three months of data collection in Oran, was a very long and tedious task, because this meant the necessity to go through every single household form, systematically select the migrant members according to the definition adopted and record the demographic and socio-economic information related to that segment of the population.

In addition, focus on the spatial aspect of migration to Skikda was made possible by means of the plans districts, which consist of a series of detailed locational maps of the commune, securing limits of zones or districts. Besides the above sources, other official census publications, at the commune level on various facets of population, were used as a tool to compare migrant and total population characteristics.

On the basis of the data extracted form the fiches ménages 21,600 migrants were recorded for the 1962-77 period (TABLE 7.9), and represent almost 95 per cent of all migrants officially declared for that period. These 21,600 migrants account for 60.4 per cent of the overall in-migrant population settled in the commune of Skikda.

TABLE 7.9 Recent Migration to Skikda Commune, 1962-77

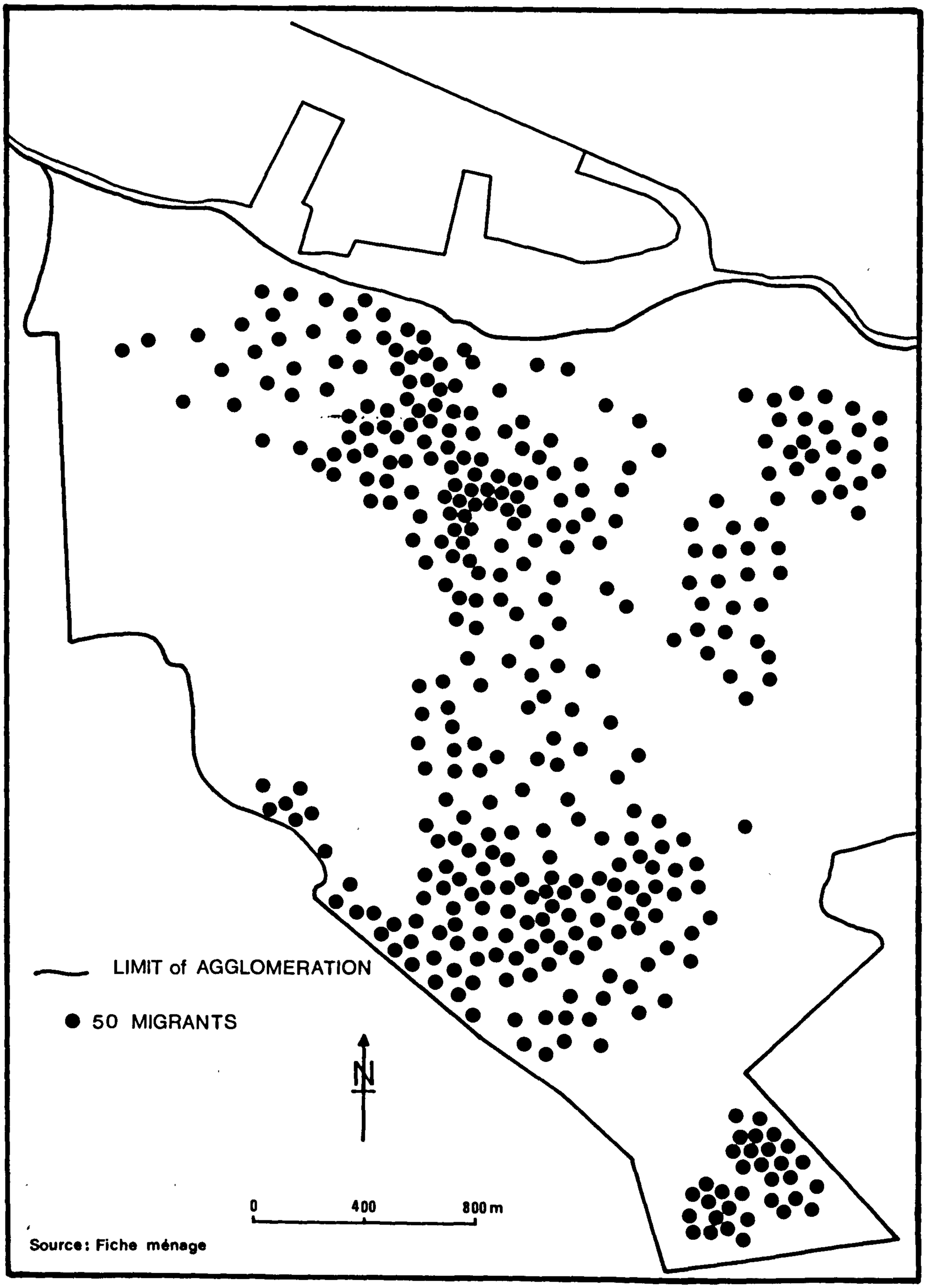
Period	Migrant population	Percentage
1962-66	8934	41.4
1967-69	2737	12.7
1970-73	5101	23.6
1974-77	4828	22.3
TOTAL	21600	100.0

SOURCE : Census, 1977 (Fiche ménage)

The summarisation of detailed results showed, among other things, the residential location of these migrants within Skikda (Fig. 7.2, and TABLE 7.10). This spatial distribution was made possible since information was recorded for different districts of the city. It shows that the Centre ville district (city centre) holds the largest number of migrants, namely 3524 of the overall migrant population in the city. Following this area, but to a lesser extent, concentration also occurs in two other districts: Bouabaz and Cité Frères Saker, with 2483 and 2474 migrants respectively. Overall, these three areas group around 40 per cent of the total migrant population. A Much lower concentration of migrants, but still significant, occurs also in five other areas, namely Beni Melek, Quartiers Est and Sud , Cités CIA-Ballot and Boulkeroua. On the whole, over 87 per cent of these recent migrants are found in the city. The remaining 13 per cent or so are scattered all over the commune, including the secondary agglomerations (Plate 7.1).

Fig.7.2

DISTRIBUTION OF MIGRANT POPULATION, 1977



Source: Fiche ménage

TABLE 7.10 Migrant Population by District

	Migrant Population	Percentage
1. Centre ville	3524	16.3
2. Beni Melek	1141	5.3
3. Musée-Souk	369	1.7
4. Quartier Est	1120	5.2
5. Cité de l'Espérance	695	3.2
6. Cité Montplaisant	280	1.3
7. Quartier Sud	1101	5.1
8. Cité des Oliviers	735	3.4
9. Cité Namous	519	2.4
10. Cités Citernes-Bel-Air	715	3.3
11. Cités CIA-Ballot	1133	5.3
12. Cité Frères Saker	2474	11.4
13.Cité Zeramna	988	4.6
14. Cité Boulkeroua	1642	7.6
15. Bouabaz	2483	11.5
Total City	18919	87.6
16. Secondary agglomerations	646	3.0
17. Scattered settlement	2035	9.4
Total Commune	21600	100.0

SOURCE : 1977 census (Fiche ménage)

A better insight in the analysis, and of more significance, may be achieved when examining the percentage of migrants in the total population of each district. For instance, all districts have over 10 per cent of their population made up of migrants (TABLE 7.11, and Fig 7.3).

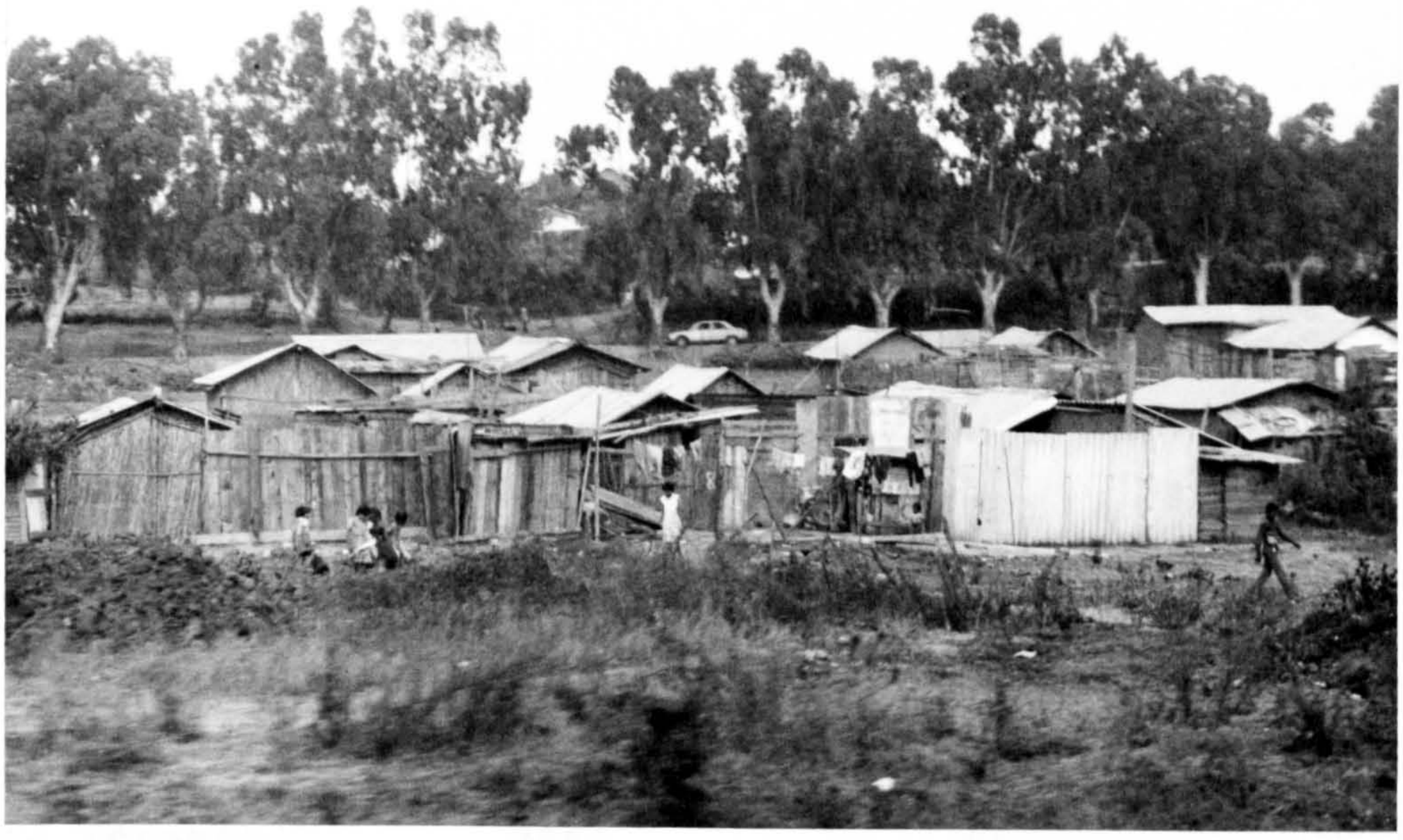


Plate 7.1

'Bidonvilles' of recent migrants (Cité Hamrouche Hamoudi)

TABLE 7.11 Distribution of Migrant and Total Population by Area, 1977

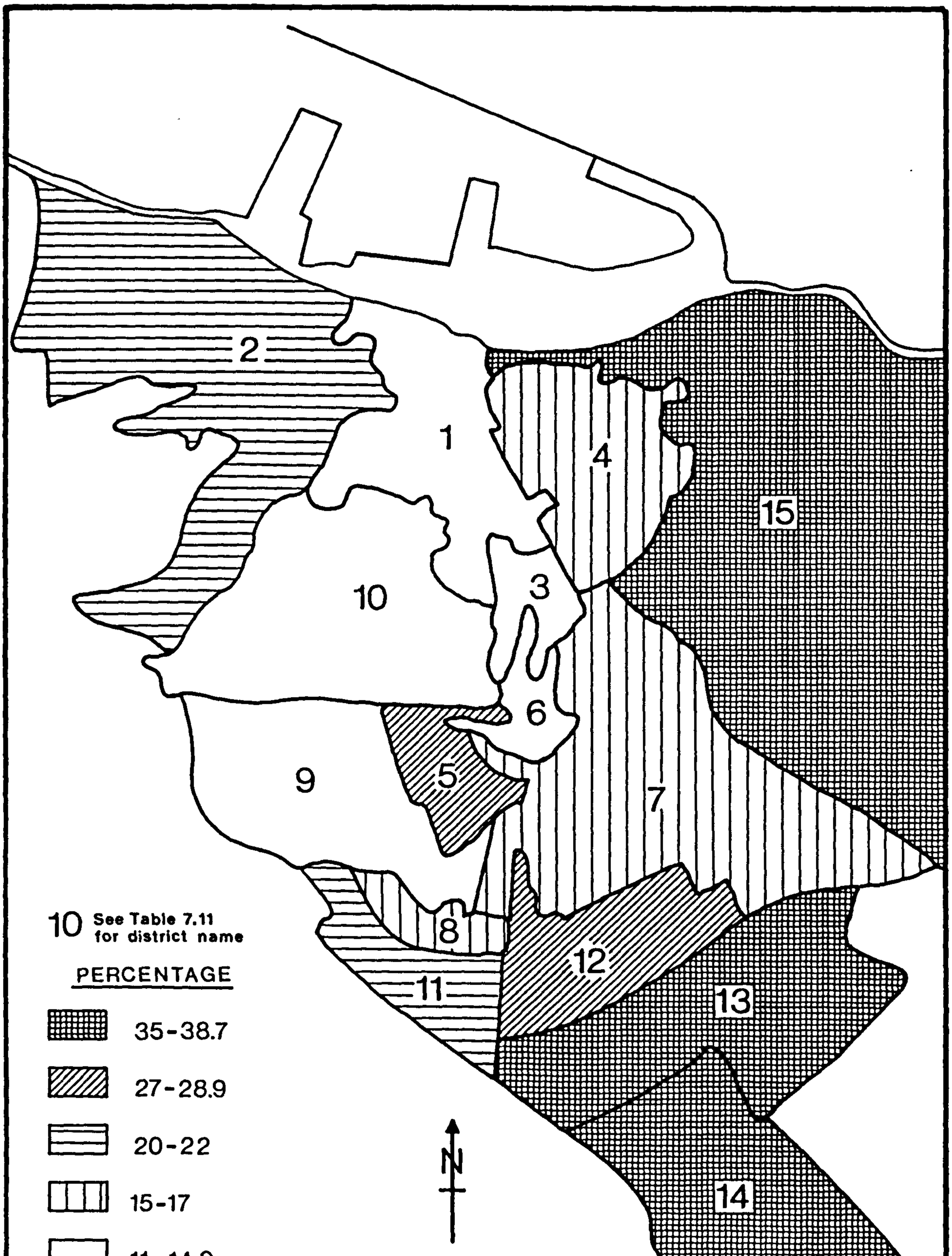
Area	Total Population[1]	Migrant[2]	Percentage
1. Centre ville	24321	3524	14.5
2. Beni Melek	5180	1141	22.0
3. Musée-Souk	3360	369	11.0
4. Quartier Est	6547	1120	17.0
5. Cité de l'Espérance	2487	695	27.9
6. Cité Montplaisant	2068	280	13.5
7. Quartier Sud	6583	1101	16.7
8. Cité des Oliviers	4357	735	16.9
9. Cité Namous	3953	519	13.1
10. Cités Citernes-Bel Air	4946	715	14.5
11. Cités CIA-Ballot	5620	1133	20.2
12. Cité Frères Saker	8795	2474	28.1
13. Cité Zeramna	2551	988	38.7
14. Cité Boulkeroua	4611	1642	35.6
15. Bouabaz	6429	2483	38.6
Total City	91809	18919	20.6
16. Secondary Agglomerations	5880	646	11.0
17. Scattered Settlement	10207	2035	20.0
TOTAL COMMUNE	107896	21600	20.0

SOURCE : 1. 1977 Census (T.R.C.)

2. 1977 Census (Fiche ménage).

Fig.7.3

PERCENTAGE OF MIGRANTS IN THE TOTAL POPULATION OF SKIKDA BY DISTRICT



Source: Fiche ménage TRC

However, it is worth mentioning that in bidonvilles areas, such as Bouabaz and Boulkeroua, the proportion of migrants relative to their total population is relatively high (over 35 per cent) . Similarly, the newly built high rise (HLM) district (Zeramna) has recorded the highest percentage of migrants (38.7 per cent). Despite being part of the Constantine Plan, districts such as CIA-Ballot and Frères Saker show interesting figures of over 20 per cent. In fact, the construction scheme of most of the flats, of these two areas, was completed two and in some cases three years after Algeria gained its independence. This explains why these two districts display high percentage of migrants from the 1962-77 period. Finally, amongst the districts with the lowest proportion of migrants in their overall population are the Centre ville (14.5 per cent) and Musée - Souk (11 per cent). These areas have reached a saturation stage and therefore can no longer spatially expand or absorb newly arriving population. In general, until the mid 1960s, migration contributed mainly to the city centre. However, since the late 1960s, the major contribution is towards the peripheral growth of the city.

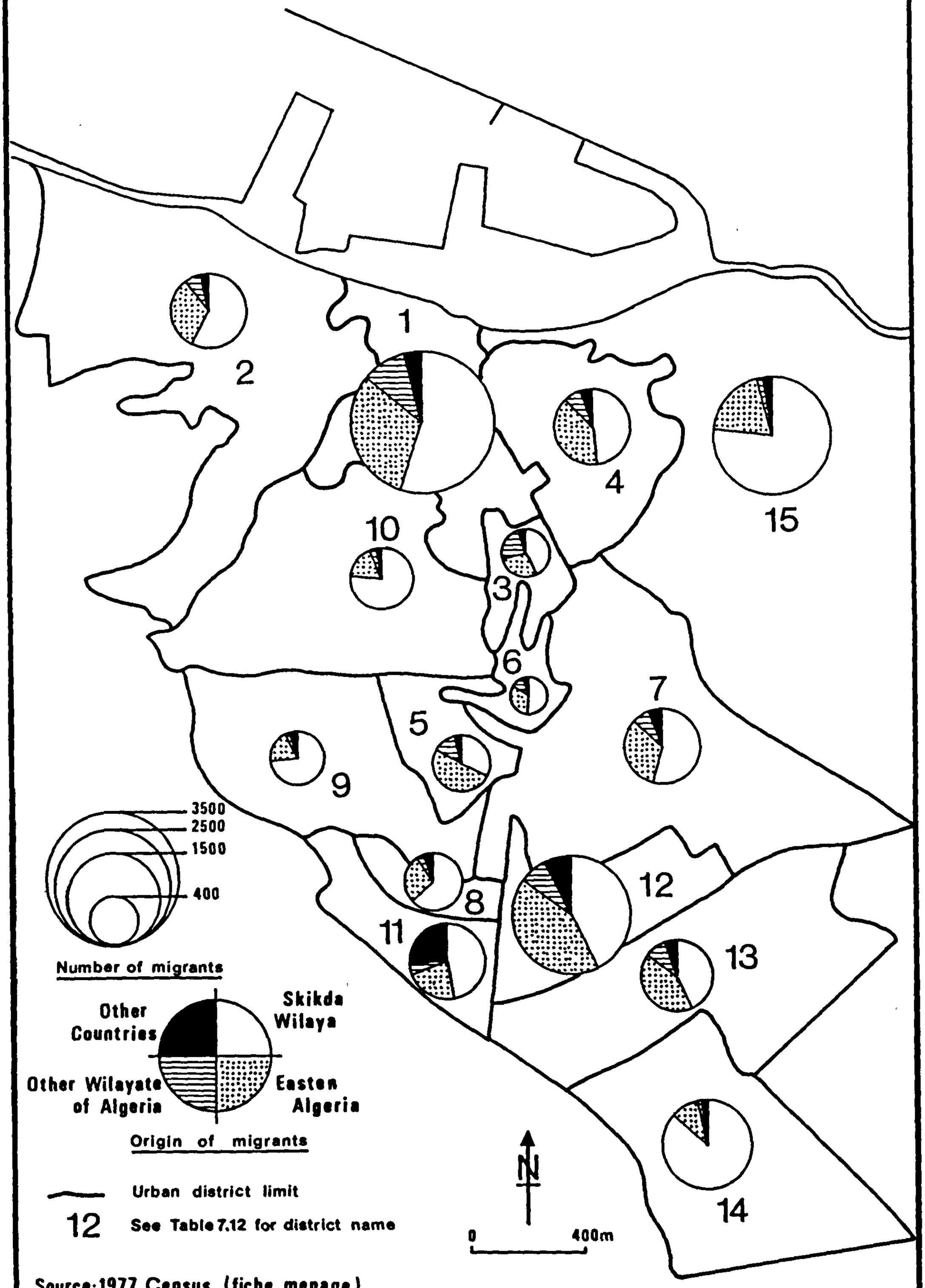
Having described in general terms the spatial distribution of migrants together with their percentage in the total population by areas, it is equally important to indicate the contribution of each major area of origin to the total volume of migrants within each district of the city. TABLE 7.12 and Fig. 7.4 show that migrants from the Wilaya of Skikda predominate in all areas with the exception of one district, Cité de L'Espérance. This predominance varies from 43 per cent to 87 per cent. The share of migration

TABLE 7.12 Distribution of Migrant Population by Area and by Origin

ORIGIN	WILAYA		Eastern Algeria		Other Wilayate		Other Countries		TOTAL Migrant
	N	%	N	%	N	%	N	%	N
1. Centre ville	1943	55.1	1095	31.1	364	10.3	122	3.5	3524
2. Beni Melek	656	57.5	365	32.0	89	7.8	31	2.7	1141
3. Musée -Souk	158	42.8	106	28.7	89	24.1	16	4.3	369
4. Quartier Est	546	48.8	442	39.5	80	7.1	52	4.6	1120
5. Cité de L' Espérance	227	32.7	351	50.5	98	14.1	19	2.7	695
6. Cité Mont-plaisant	143	51.1	90	32.1	35	12.5	12	4.3	280
7. Quartier Sud	599	54.4	363	33.0	80	7.3	59	5.0	1101
8, Cité des Oliviers	467	63.5	205	28	26	3.5	37	5.0	735
9. Cité Namous	383	73.8	100	19.3	12	2.3	24	4.6	519
10. Cités Citerres -Bel Air	547	76.5	129	18.0	24	3.4	15	2.1	715
11. Cités C.I.A. -Ballot	539	47.6	242	21.4	52	4.6	300	26.4	1133
12. Cité Frères Saker	1061	43.0	1051	43.4	189	7.6	173	7.0	2474
13. Cité Zeramna	430	43.5	418	42.3	97	9.8	43	4.4	988
14. Cité Boulke-roua	1427	86.9	171	10.4	18	1.1	26	1.6	1642
15. Bouabaz	1909	76.9	479	19.3	34	1.4	61	2.4	2483
Total City	11035	58.3	5607	29.6	1287	6.8	990	5.3	18919
16. Secondary Agglomerat-ions	337	52.2	194	30.0	60	9.3	55	8.5	646
17. Scattered Settlement	1472	72.3	493	24.3	20	1.0	49	2.4	2035
TOTAL COMMUNE	12844	59.5	6294	29.1	1367	6.3	1094	5.1	21600

SOURCE : 1977 census (fiche ménage)

Fig.7.4 DISTRIBUTION OF MIGRANT POPULATION BY ORIGIN



Source: 1977 Census (fiche menage)

from Eastern Algeria to the different districts is also substantial. The proportion varies from 10 per cent to 50 per cent. As for the remaining sending areas, none seems to have some impact, with the exception of migrants from "other Wilayate" in the district Musée -Souk (24 per cent), and those from "other countries" in the CIA-Ballot district (26.4 per cent).

Focusing now on migration flows to Skikda commune, it emerges that more than 59 per cent (of which 24.2 per cent are from the Collo region) of these migrants came from within the Wilaya boundaries (TABLE 7.13 and Fig.7.5); that is less than 40 miles radius from the city. Furthermore, analysis of Skikda's electoral file (population of over 18 years of age) in 1973, showed that out of the 33,730 electors, 46.6 per cent were born outside the city of which 83.4 per cent were from the Wilaya itself (BENDJELID, 1976,p.113). One of the most generally accepted features of migration during the industrial revolution in Europe was that it tended to be short distance migration with the one provision that the larger the city, the greater the area from which it drew its migrants (McGEE, 1971, p.106). Ravenstein (1885) and Redford (1926) reported, also, the same short distance internal migration pattern which occurred during the nineteenth century in England.

Graham's analysis (1970) of internal migration suggests that in the early stages of urban-economic expansion it is not necessarily the poorest areas in a country which have the most substantial outmigration rates but those areas

TABLE 7.13 Distribution of the Migrant Population by Area of Origin

Area of Origin	Total migrant	Percentages
Stora	516	2.4
Saf-Saf Valley	4065	18.8
Collo region	5234	24.3
Azzaba	1865	8.6
Daira of Zighoud	1164	5.4
Total Wilaya	12844	59.5
Jijel	1283	5.9
Constantine	1860	8.6
Oum-El-Bouaghi	501	2.3
Guelma	920	4.3
Annaba	513	2.4
Tebessa	86	0.4
Setif	404	1.9
Bejaia	219	1.0
M'sila	84	0.4
Batna	424	2.0
Total Eastern Algeria	6294	29.1
Total Central Algeria	626	2.9
Total Western Algeria	146	0.7
Total Southern Algeria	596	2.8
Maghreb countries	764	3.5
Other countries	330	1.5
Total Migration	21600	100.0

SOURCE : 1977 Census (Fiche ménage)

MIGRANT FLOWS TO SKIKDA COMMUNE
1962-77

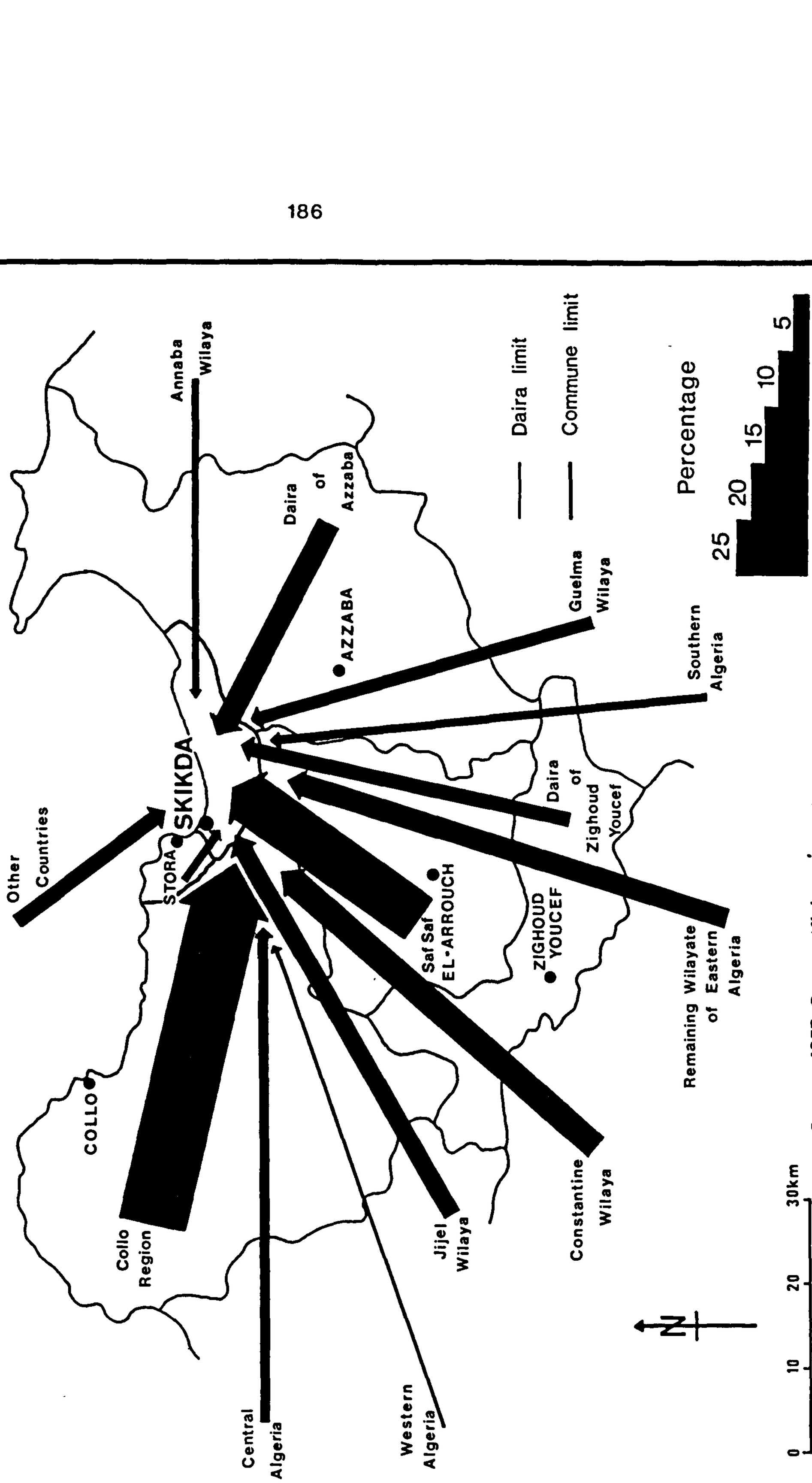


Fig. 7.5

close to the expanding economic centres. Although, in the case of Skikda, as was stated earlier, the migration pattern confirms Graham's findings, it is, however, the poorest area of the Wilaya, in this case the Collo region, which has the most important outmigration rate. Outside the Wilaya of Skikda, migration is dominated by flows from the surrounding Wilayate of which Constantine and Jijel are the most important, followed by Guelma. Overall, 29.1 per cent of the migrants are from Eastern Algeria. The rates of migration from other parts of Algeria are insignificant. It is worth noting the important share in the overall migration from outside the country, particularly from the neighbouring country of Tunisia (3.5 per cent), of which, however, 75.4 per cent of these migratory flows occurred during the 1962-66 period (returning freedom fighters and refugees).

It is also important to show that throughout the 1962-77 period, while the volume of migration from within the Wilaya decreased from 65 per cent to 51.4 per cent, there was a relative increase in the share of migration from other parts of the country toward the city (TABLE 7.14). As Gilbert (1974) pointed out, the gradual inclusion of more remote and poorer regions in migration to the major urban centres suggests that contemporary rural-urban migrations are selective processes.

Another feature, as far as these migrants are concerned, is the tendency of people to move in a pattern which can be labelled as a direct-migration movement. As TABLE (7.15) shows 81 per cent of the migrants are the result of a direct

TABLE 7.14 Distribution of the Migrant Population by Period of Arrival

Areas	1962-66		1967-69		1970-73		1974-77	
	N	%	N	%	N	%	N	%
Stora	321	3.6	62	2.3	74	1.5	59	1.2
Saf-Saf Valley	1915	21.4	506	18.5	909	17.8	735	15.2
Collo region	2629	29.4	633	23.1	1154	22.6	819	17.0
Azzaba	654	7.3	233	8.5	460	9.0	518	10.7
Daira Zighoud	292	3.3	131	4.8	391	7.7	350	7.3
Total Wilaya	5811	65.0	1565	57.2	2987	58.6	2481	51.4
Jijel	688	7.7	196	7.2	154	3.0	245	5.1
Constantine	523	5.8	251	9.2	485	9.5	601	12.4
Oum -El-Bouaghi	132	1.5	83	3.0	131	2.6	155	3.2
Guelma	208	2.3	179	6.5	251	4.9	282	5.8
Annaba	116	1.3	82	3.0	143	2.8	172	3.6
Tébessa	17	0.2	14	0.5	26	0.5	29	0.6
Sétif	152	1.7	36	1.3	117	2.3	99	2.1
Béjaia	77	0.9	28	1.0	44	0.9	70	1.4
M'sila	25	0.3	13	0.5	19	0.4	27	0.6
Batna	157	1.8	39	1.4	135	2.6	93	1.9
Total Eastern Algeria	2095	23.5	921	33.6	1505	29.5	1773	36.7
Total Central Algeria	77	0.9	70	2.6	232	4.5	247	5.1
Total Western Algeria	11	0.1	12	0.4	58	1.1	65	1.3
Total Southern Algeria	237	2.7	56	2.0	160	3.1	143	3.0
Maghreb countries	576	6.4	67	2.5	74	1.5	47	1.0
Other countries	127	1.4	46	1.7	85	1.7	72	1.5
Total Migration	8934	100.0	2737	100.0	5101	100.0	4828	100.0

SOURCE: 1977 Census (fiche ménage)

TABLE 7.15 Type of Migration Flows

Areas of Origin	Total Migration	Direct Migration	Percentage
Stora	516	467	90.5
Saf-Saf valley	4065	3378	83.1
Collo region	5234	4467	85.3
Azzaba	1865	1505	80.7
Daira Zighoud	1164	935	80.3
Total Wilaya	12844	10752	83.7
Jijel	1283	900	70.1
Constantine	1860	1561	83.9
Oum-El-Bouaghi	501	373	74.5
Guelma	920	679	73.8
Annaba	513	393	76.6
Tebessa	86	68	79.1
Setif	404	317	78.5
Bejaia	219	150	68.5
M'sila	84	50	59.5
Batna	424	336	79.2
Total Eastern Algeria	6294	4827	76.7
Total Central Algeria	626	499	79.7
Total Western Algeria	146	104	71.2
Total Southern Algeria	596	487	81.7
Maghreb countries	764	561	73.4
Other countries	330	274	83.0
Total migration	21600	17504	81.0

SOURCE: 1977 Census (Fiche ménage)

movement to Skikda. The average rate of direct migration from within the Wilaya is around 83 per cent, while that of those from outside the Wilaya is slightly lower, 75 per cent. Compared to other countries where stage migration has been seen as the typical pattern of migration (RAVENSTEIN, 1885; REDFORD, 1926; HERRICK, 1965; MORSE, 1971); as far as Skikda is concerned, overall direct migration is the predominant pattern. This, however, confirms Browning's point (1971) that stage migration is most likely to predominate where there is a well developed urban-size hierarchy. As we saw it in the first chapter, Algerian urban hierarchy is far from being established. In general, there are few under-developed countries in which there is, at present, a balanced urban growth based on a thriving regional network of small and medium-sized urban service, commercial and industrial centres (ROBERTS, 1978,p.107).

As far as the other characteristics are concerned, we can point to the age of these migrants, which is one of the characteristics that is important to describe (Fig.7.6,TABLE 7.16). The general age-group that has the highest rate is that of young adults over 15 and under 29 years. Although rates in these ages are high for both sexes, females tend to predominate. This predominance of female continues up to the age of 39 years, after that we notice a relatively important drop in favour of male. The old age-group category (over 60) is also dominated by females. Nevertheless, the proportion of male and female migrants has changed over time. As shown in TABLE(7.17) the excess of male in the rural-urban migration pattern, which characterised the 1962-66 period, has

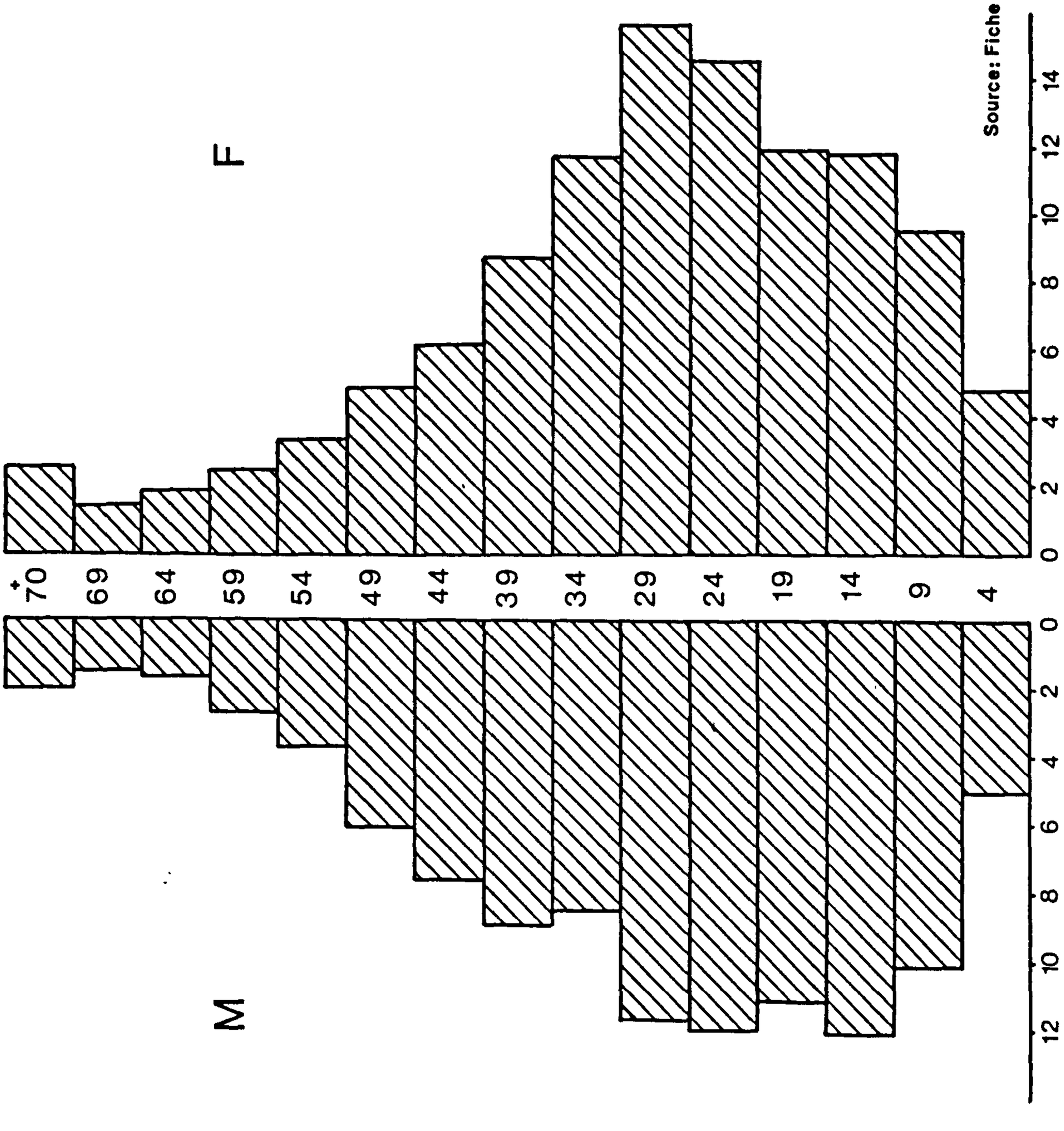

THE MIGRANT POPULATION
SKIKDA COMMUNE, 1977 (in 100s)
AGE AND SEX STRUCTURE OF T
F
M
+70
69
64
59
54
49
44
39
34
29
24
19
14
9
4
0
2
4
6
8
10
12
14
Source: Fic
Fiche ménage

Fig.7.6

TABLE 7.16 Distribution of the Migrant Population by Age and Sex

Age-groups	Males		Females		Total	
	N	%	N	%	N	%
Under 14	2751	51.3	2614	48.7	5365	24.8
15-19	1111	48.3	1190	51.7	2301	10.7
20-29	2368	44.1	3007	55.9	5375	24.9
30_39	1744	46.0	2044	54.0	3788	17.5
40-49	1372	55.6	1094	44.4	2466	11.4
50-59	643	53.1	569	46.9	1212	5.6
Over 60	528	48.3	565	51.7	1093	5.1
TOTAL	10517	48.7	11083	51.3	21600	100.0

SOURCE: 1977 Census (Fiche ménage)

TABLE 7.17 Distribution of the Migrants by Sex and date of Arrival

	1962-66		1967-69		1970-73		1974-77		TOTAL	
	N	%	N	%	N	%	N	%	N	%
MALE	4527	50.7	1279	46.7	2450	48.0	2261	46.8	10517	48.7
FEMALE	4407	49.3	1458	53.3	2651	52.0	2567	53.2	11083	51.3
TOTAL	8934	41.4	2737	12.7	5101	23.6	4828	22.3	21600	100.0

SOURCE: 1977 Census (Fiche ménage)

changed dramatically to a dominantly female movement to the city. Thus, on the one hand, in contrast to male predominance in some African migrations (CALDWELL, 1969), outmigrants to Skikda are prædominantly female. On the other hand, the dominantly male and then female rural-urban migration toward

Skikda is similar to the earlier phases which occurred during the industrial revolution in Europe. As McGEE (1971, p.108) put it "it has been noted that rural-urban migration during the industrial revolution went through a series of phases from dominantly male migration to an evenly balanced migration and finally to a largely female migration".

Furthermore, from TABLE (7.18), we see that 24.4 per cent of migrants are employed compared to just 16.8 per cent for the total population. This difference is explained by the important proportion in the total population of those under 14 years of age. As we know migration tends to involve young adults close to the beginning of their working life (SHAW, 1976,p.18). Consequently, we have a low share of the inactive group (16.4 per cent against 29.3 per cent) as far as the migrants are concerned. The other point worth noting is the unemployment rate among the migrants, which is as high as that of the total population: 18.1 per cent and 18.2 per cent respectively.

Moreover, the important share of wives and children in the migrant population (67.8 per cent) suggests that migration pattern is primarily a family movement rather than an individual one (TABLE 7.19).

In addition and confirming the findings of a considerable number of studies, migration is highly selective with respect to education. Regardless of age and sex, TABLE (7.20) shows that migrant population is better educated than the total population. People with no education in the latter group

TABLE 7.18 Characteristics of the Migrant Population compared to the Total Population

	Migrant Population		Total Population	
	N	%	N	%
Occupied labour	5281	24.4	17832	16.8
Unemployed	1167	5.4	3971	3.8
Active population	6448	29.9	21803	20.6
Students	4572	21.2	30186	28.5
Housewives	7045	32.6	22930	21.6
Other inactive*	3535	16.4	31085	29.3
Total	21600	100.0	106004	100.0

*includes population under 6 years of age, aged, disabled and retired people.

SOURCE: 1977 Census (Fiche ménage)

TABLE 7.19 Migrant Population by Kinship Status, Skikda Commune.

	Migrant Population	Percentage
Head of household	5885	27.3
Wives	5360	24.8
Children	9295	43.0
Others	1060	4.9
TOTAL	12600	100.0

SOURCE: 1977 Census (Fiche ménage)

TABLE 7.20 Differences in Educational Attainment between the Total and Migrant Population

	Migrant Population (a)		Total Population (b)	
	N	%	N	%
No education	10238	51.5	53402	63.6
Primary level	6004	30.2	22452	26.7
Intermediate	2264	11.4	4958	5.9
Secondary	997	5.0	2191	2.6
University	371	1.9	1032	1.2
TOTAL	19874	100.0	84035	100.0

SOURCE: a) 1977 Census (Fiche ménage)
b) 1977 Census returns

represent 63.6 per cent compared to 51.5 per cent in the former. More important, the share of migrants with intermediate and secondary levels is much higher than that of the total population. However, looking in detail into the educational attainments of those migrants, we see some important differences (TABLE 7.21). Overall, the wives are the less educated of them all, while the proportion of educated children is very high (more than 80 per cent). Primary education dominates the educational attainment of the migrants, followed by intermediate education. This confirms Shaw's analysis (1975,p.23-24) that "although empirical findings confirm that migration is selective with respect to education, generalisations about the impact of various levels of educational attainment on migration behaviour is another matter. Yet, it is likely that within the educational structure in the underdeveloped country a small

TABLE 7.21 Educational Attainments of the Migrant Population
(over 6 years of age)

	No education		Primary level		Intermediate		Secondary		University		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Head of household	3726	63.3	1094	18.6	509	8.6	363	6.2	193	3.3	5885	29.6
Wives	4256	79.4	673	12.6	280	5.2	134	2.5	17	0.3	5360	27.0
Children	1473	19.4	4083	53.8	1404	18.5	474	6.2	156	2.1	7590	38.2
Others	783	75.4	154	14.8	71	6.8	26	2.5	5	0.5	1039	5.2
TOTAL	10238	51.5	6004	30.2	2264	11.4	997	5.0	371	1.9	19874	100.0

SOURCE: 1977 Census (Fiche ménage)

increment in educational attainment at a seemingly low level (for instance, from late primary to early secondary school) may have a considerable impact on the propensity to migrate whereas in a developed country such an increment would likely have a negligeable effect".

b. Analytical perspective on migration.

Studies of the individual characteristics of migrants and the nature of their movements are numerous; but their findings are complex and often contradictory, as some writers have pointed out (ROBERTS, 1978,p.98). He added that migration is influenced by the particular stage and intensity of the industrial development through which a country is passing. Ravenstein (1885) and more recently Zelinsky (1971) stressed the importance of economic development in stimulating migration. "Migration occurs because migrants believe that they will be more satisfied in their needs and desires in the place that they move to than in the place from which they come. Thus, important within the analysis of why migration occurs is the perception of spatial differentiation of opportunities" (WHITE and WOODS, 1980, p.7). They added that as industrialisation takes place a great variety of spatial differences become manifest and increase in intensity. Brigg (1973), following an extensive examination of surveys, has concluded that the majority of independent migrants move to the city for reasons related to employment; while Mehmet (1978) suggested that migration is primarly the consequence of both the absolute and relative poverty of rural areas in comparison to the cities.

During the last decade or so, the empirical and theoritical contributions to the understanding of migration and its problems in developing countries have increased considerably, particularly from economists, geographers, and sociologists; and a full review would take us beyond the scope of this thesis. For instance, while the sociologists have been concerned more with the effects than with the causes of migration, the economists focused mainly on the determinants of migration (MERRICK and GRAHAM, 1979).

The best known attempts to date are that of Todaro (1969) and Harris and Todaro (1970) whose migration model can be seen as an extension of the Lewis-Fei-Ranis model. In the latter model, rural-urban migration was viewed as a desirable process. People migrate in response to assured jobs in the growing modern manufacturing sector. In the Harris-Todaro model, migration decision is determined by the income differential and the probability of finding a job. They, particularly, added a conceptual framework to the earlier income differential and selectivity models in explaining the changing patterns of migration in relation to the structure and functions of urban markets (MERRICK and GRAHAM, 1979). Thus, the decision to migrate is a function of the real wage of an urban employment weighted by the possibility of finding that job (SINCLAIR, 1978).

In Skikda, the most important fact on the nature of the recent rural-urban migration to the city, particularly since 1967 which coincides with the launching of the first development plan, is that it is mainly motivated by the "pull" of

industrial and employment opportunities in urban areas rather than the "push" factors of the countryside. This is, of course, similar to the experience of the European countries in the nineteenth century, where there was a clear connection between the demand for labour made by the growing industrial sector and the growth of cities. Todaro (1980) pointed to the problem by saying that "the overwhelming conclusion of almost all migration studies, both descriptive and econometric, is that people migrate primarily for economic reasons. The greater the difference in economic apportunities between urban and rural regions, the greater the flow of migrants from rural to urban areas". Moreover, given the incapacity of rural employment to keep pace with a growing rural population of working age, further migrants will be drawn to towns and cities. "The distribution of a country's population tends to correspond quite closely to the distribution of employment. Employment, in turn, tends to expand in areas where a great deal already exists, signifying the presence of both employment opportunities and diversified manpower" (SPENGLER and MYERS, 1977,p.23).

Also, migration necessarily changes the social structure of both rural and urban areas in terms of age and sex distribution, educational and occupation qualifications, creating a new situation for future migrants (ROBERTS, 1978). However, "redistribution of population through migration can have profound effects on the whole spatial patterning of human activity, the repercussions of which may be felt long after the migration events themselves has taken place. But migration is important not just because of the re-

distribution of population, it also leads to a redistribution of social groups, and to a restructuring of the spatial patterns of a multiplicity of demographic variables" (WHITE and WOODS, 1980,p.1-2).

Overall, the important volume of movement makes rural-urban migration one of the most evident of the "problems" of underdeveloped countries (ROBERTS, 1978,p.89). The problem is further aggravated, as some writers pointed out by the fact that rural-urban migration appears to be accelerating in spite of rising levels of urban unemployment and growing numbers of "urban surplus" workers. Consequently, such migration seems to be contributing little to expanded social welfare in destination areas (HARRIS and SABOT, 1976; TODARO, 1976). McGEE (1971,p.54) also, pointed out that "the frequently attributed causes of rural outmigration still exist, but the pull factors are increasingly becoming important. The city, even though, it does not always offer improved economic status, seems to exert some magical pull on the rural migrants." The other important point to keep in mind, as Roberts (1978,p.89) said, is that "one of the reasons for the preponderance of urban migration is that industrialisation begins to unify the internal market for underdeveloped countries, bringing even the more remote and less developed regions into direct economic dependence on the major urban centres". Such a process is being accelerated particularly by the improvement of internal communications within the country. In general, policies raising urban employment without undertaking comparable reforms in the rural areas do not lessen the rural-urban migratory flow.

On the contrary without labour absorbing changes in the rural sector, such policies would raise it (MERRICK and GRAHAM, 1979).

At this point, it may be useful to look at the increases of population expected to occur within the foreseeable future. Although, it would be unwise to prophesy too far ahead since population trends are unpredictable, it is, however, possible from the past and current trends to make reasonable estimates of population.

7.4 Future trends of Skikda's population

In general projections are a very useful tool for the planning of economic development. Besides indicating the path of growth in the total population, they provide important insights into future population composition which is a fundamental requirement for planning to meet demands on the economy (MERRICK and GRAHAM, 1979). We are not sure whether the population of Skikda commune will be 200,000 or 300,000 but it is certain that it will be several times the present total by the end of this century, and that planning for education, housing and employment is urgently needed. As far as future population is concerned CADAT (1975) and SONATRACH (1975) made projections based on the 1973 population estimates. Using the most probable estimate of 88,100 people, they yielded a future total population of 178,000 and 268,300 respectively in the year 1990. While the other projections, based on 100,000 inhabitants in 1973, gave a total of 251,000 and 304,000 in 1990. These rather different findings are related to

the fact that although both teams used the same natural increase rate, they used different rates of migration flows. The projections, predicting a level of population of 268,300 in 1990, is the one used in planning matters (TABLE 7.22). They suppose that a progressive decrease of 0.05 per cent a year in the natural increase rate and an overall decrease in the rate of migration from 4.30 to 2.00 would bring the total population increase from 7.65 in 1973 to 4.50 in 1990. Nevertheless, this level of projection appears to be unrealistic, since it presumes that Skikda's population would triple its size in a period of 17 years. This population total is more likely to be reached by the year 2000. Accordingly, we think that CADAT's projection of 178,000 people for 1990 is a more reasonable forecast; the more so since significant investments are being allocated to rural areas. Consequently, that would reduce the migration volume to Skikda, perhaps even more rapidly than projected by SONATRACH.

TABLE 7.22 Skikda's Demographic Projection, 1980-1990

Years	Population	Increase rates (%)		
		Natural	Migration	Total
1973	88 100	3.35	4.30	7.65
1980	145 900	3.00	4.10	7.10
1981	156 200	2.95	4.00	6.95
1982	167 100	2.90	4.00	6.90
1983	178 600	2.85	3.90	6.75
1984	190 700	2.80	3.80	6.60
1985	203 300	2.75	3.60	6.35
1986	216 200	2.70	3.40	6.10
1987	229 400	2.65	3.10	5.75
1988	242 600	2.60	2.80	5.40
1989	255 700	2.55	2.40	4.95
1990	268 300	2.50	2.00	4.50

SOURCE: SONATRACH, 1975

Furthermore, economic-demographic models incorporate age structure of the population, for it is an important factor in which changes are transmitted to socio-economic processes. Obviously, the important effects could be the ones that influence resource requirements in areas such as education, housing and employment. TABLE (7.23) shows that Skikda would still have a relatively young population by the year 1990. The share of the population between 0-19 years of age would be 59.2 per cent. Since it is possible to estim-

TABLE 7.23 Population structure of Skikda, 1990

Age-Group	Population	%
0-14	129 590	48.30
15-29	67 610	25 20
30-44	39 160	14.60
45-64	23 880	8.90
Over 65	8 060	3.00
TOTAL	268 300	100.00

SOURCE: SONATRACH, 1975.

ate future demands on the education system deriving from this population group (6-14) will more than double in 1990. Although 90 per cent of the present school-age population of Skikda is provided with schooling, compared to just 69.2 per cent throughout the Wilaya, the authorities would have to make substantial progress in investing to expand educational capacity in the next decade. In general, this expansion of education would be beneficial to the country, since it would make an important impact on the future population growth, through changing attitudes that are associated with

it. Overall projections are useful in determining needs and setting priorities in specific areas, particularly since limited resources may constrain the effort to achieve all social objectives at the same time (MERRICK and GRAHAM, 1979).

Concluding this chapter, we may say that the present population size with its rate of growth and the current migration flow imply that even if the growth rate is reduced in the near future, a large absolute number will continue to be added. The present crude birth rate is high enough to warrant taking action to limit it. It seems that the government's attitude has been that the birth rate could best be brought down by socio-economic changes, which in turn would alter attitudes and behaviour. It is, however, certain that such a passive approach could not bring useful results in a medium term. The authorities will have to initiate a well-designed, active programme that will motivate people to adopt family planning and provide access to the necessary facilities (IKRAM, 1980,p.68). Control of growth is not only desirable but essential, if the people are to enjoy increased standards of living. But to arrive at any kind of achievement, there is an urgent need to change traditional attitudes and social customs which could contribute substantially to a decrease in birth rates. It is traditional to have large families in Algeria which is reflected by the average family size per household of 6.66. Children are still perceived as ultimate providers of security for parents (CALDWELL, 1977). As Robinson (1981,p.134) said "Such changes are intimately linked with increased education and usually take a long time to effect. When people are

illeterate tradition and religion exert a very strong influence upon them. Natural methods of preventing conception are beyond the understanding of ignorant women."

Throughout this section, we saw that Skikda has grown physically, economically and demographically at very rapid rates. The city dominates the urban hierarchy of the Wilaya and accounts for nearly two-thirds of the total urbanised population in 1977. Furthermore, it contains 48 per cent of the region's entrepreneurs, 41 per cent of the medical doctors and pharmacists, at least 56 per cent of all skilled labour force, not to mention the important concentration of all television receivers and telephones. More recent data are not available, but there is a strong presumption that this concentration has intensified over the past 5 years or so, as Skikda has claimed a growing proportion of the total population. Like many other cities of the country, a number of changes in the structure of the labour force and employment have accompanied the rapid expansion of Skikda, and among them a major shift in population from rural to urban areas. Nevertheless, the employment generated by Skikda's rapid economic expansion has not kept pace with the increase in the working population. In this case, what can the authorities do to contain the expansion of Skikda, or at least slow down the concentration in it? In the future a coherent strategy for rural development is needed to promote more rapid growth in agriculture, improve the rural infrastructure and, develop employment opportunities. The implementation of such a strategy would help to slow down

migration to the city. Regional development, particularly of industry must emphasise areas away from Skikda. This would be done by consciously locating major public sector projects in the less developed areas. However, in urging a strategy for controlling and directing future urban growth, we are not arguing that all future projects must be channeled into the backward places. But continued rapid urban growth in Skikda is likely to exacerbate the problems of inequality. In articulating an urban strategy, the authorities have several options from developing the surrounding villages to expanding existing small towns within the Wilaya.

CONCLUSION

Assuming that Algeria's oil reserves may dry up by the end of the century, this dictates the necessity to accelerate economic growth to ensure that the socio-economic infrastructures are created for self-sustaining development. Therefore, the country is commited to a race against time, having to achieve in a generation what most industrialised countries have taken a century to attain. Thus, since the mid 1960s, Algeria has adopted a strategy of industrialisation as a measure for decolonisation and development. The impulse towards this process came from the fact that by becoming independent, the French market was no longer secured for Algeria's agricultural products such as wine and citrus fruits. Therefore, after a period of incertitude, the 1965 government felt rightly that unless drastic changes in the structure of the economy were made, the country would have difficulties to achieve a growth rate capable of sustaining the overall economy. Algeria's industrialisation policy was based on a limited number of growth poles; and behind this policy, it was expected that these "growing poles" would be so dynamic that they could act as a centrifugal force and spread some effects such as goods, capital and labour to the surrounding areas. But as Hicks (1959,p.163) put it "as industry and trade become concentrated in a particular centre, they themselves give to that centre an advantage for further development". In other words, the growth of these areas in Algeria acted as a centripetal force and, led to interregional inequalities in growth rates. "The problem with most growth-centres is that they fail to

perform the multiple functions with which they were entrusted. They failed normally because such aims were too ambitious given the resources made available or because the spatial strategy was not supported by complementary sectoral policies" (GILBERT and GUGLER, 1982, p.175).

Like certain other developing countries (FEI and RANIS, 1975), the import substitution policy was considered by the Algerian government as an important precondition to build up the necessary industrial capacity of the country. However, under conditions of modern technology, the role of manufacturing is not likely to be that of a major source of new employment (GALENSON, 1963). Rather it will tend to generate the effective demand leading to employment expansion in other sectors. This multiplier effect is apt to be much more significant than any direct contributions that the manufacturing sector can make to the allocation of mass employment. Nevertheless, this process of industrialisation has created a number of imbalances of a sectoral and regional nature such as that of industry versus agriculture, rural versus urban and an overall regional disequilibrium which could prejudice the further growth of the economy. There has been little investment in agriculture to increase its productivity, which has been stagnant and in most cases has even fallen. Little has been done to change the technique of agricultural production through more intensive use of the land, fertilizers and labour. For instance, in spite of the relatively low prices of fertilizers, the actual use never became a dominant feature in farming operations; particularly in the private sector, which is crippled by its

land holding structure. In general, the lagging of the agricultural sector was mainly due to its low priority in the whole process of development, which is reflected by the small share of investments during the three previous plans. To reduce the crippling burden of high food imports, an agricultural growth rate considerably above the current level, of less than 1 per cent a year,is required if the situation is not to deteriorate further. Even more is needed if agriculture is to contribute capital transfers to other sectors. It is recognised that if nothing is done to restore agricultural production, further industrial growth would be severely hampered, which would increase the difficulty of absorbing the rising labour force. To attain the needed growth rate, agriculture will need major changes in technology and policies. More fundamentally, agriculture will remain the foundation of Algeria's economy. However, if industrialisation has a role to play in the development of equalisation of growth, decisions must be made as to the most appropriate locations for new industries (CHAPMAN, 1969). The decision of where to locate a new project is as important as the decision to invest in it. The question of social justice in the distribution of the fruits of economic development are as important and as different in terms of regions (FRIEDMANN and ALONSO, 1964).

The problem confronting Algeria may be one of slow growth of the modern sector in the face of continuous growth of population, which is not providing a corresponding increase in employment opportunities. The technologies

adopted in that sector, particularly those applied to the processing of hydrocarbons were predominantly capital-intensive. Employment directly generated by these activities was therefore relatively small. The problem is that even a decline in fertility rate would have no substantial influence on the size of the labour force, in Algeria, for as long as twenty or even thirty years. It is only after that period that the effect will be gradual. "Therefore, each postponment of effective birth control measures increases the potential growth rates in later years, because as the larger cohorts of children grow up, it allows the continued rapid increase in the procreative age group, which is, after all, the basic determinant of the future size of population" (MYRDAL, 1973, p.87). A major objective of Algerian development is to provide work for the currently unemployed labour force and for those who will be seeking new jobs in the future as a result of demographic and socio-economic changes. The growth of demand for new jobs will be substantial, particularly so since the rate of population growth is high and it is likely that this rapid increase will continue for some time. The MPAT (1980) suggests that between 1977 and the year 2000, the active population of Algeria will increase by some 170 per cent or by 7.4 per cent a year over the 23 years period. Thus, more investment is needed, not only for development but also for employment creation. The achievement of full employment in Algeria must take some time, although an immediate increase is an urgent need in itself. Not only is employment expansion compatible with economic growth but the two of them can reinforce each other,

particularly once the level of investment becomes adequate for the maintenance of full employment.

A reorientation of development strategy and policy is urgently needed in order to solve these problems, particularly since the present modern sector can only employ a fraction of the total labour force, because of the relatively high level of investment per job. Many of the additional employment opportunities will have to come from agriculture. By supplying markets and surplus to the urban sector, agriculture would provide a healthy stimulus and produce more rapid growth of output and employment in the modern sector as well as outside it (STEWART, 1978,p.201). However, as has been noticed in other countries (DORVING, 1959; JOHNSTON, 1966; MELLOR, 1976), the lack of dynamism in the Algerian agricultural sector reduced considerably its potential for employment absorption. As emphasised by the ILO (1974) a sectoral imbalance between agriculture and industry is a source of employment problems which would lead to large income differentials and rural impoverishment. Furthermore, the relatively high growth rate achieved in Algeria might not be sustained in the long run because of sectoral imbalance in particular, and urban and rural sectors in general. Being an oil and gas producer, Algeria may be able to sustain for some time this growth rate without running into severe balance of payment problems. However, reliance on growth alone is likely to postpone the meeting of basic needs of the overall population (ILO, 1976). A strategy, with a pattern of production which is unable to meet basic needs, is unlikely to lead to an overall economic

integration or to a greater self-reliance. For instance, because of the stagnant agricultural sector, Algeria has become in recent years increasingly dependant on the import of cereals and other basic foods. Foodstuffs at present account for one quarter of the country's total imports bill.

A strategy based on labour-using agricultural growth would generate both employment opportunities and rural industry, and would have better income distribution effects, if the appropriate credit, technology, and infrastructure were available. The examples of both China and Taiwan can be cited as cases where rural development led to a labour-using pattern of growth (STEWART, 1978). Moreover, a wide range of productive activities can be undertaken to make use of the surplus unskilled labour, including construction projects to increase and regulate the water supply needed for agricultural production. Besides using this labour in irrigation and drainage projects, there are many other ways for using it on land improvement and, increasing the output per unit of land by introducing double or triple cropping systems. Other rural pursuits, such as poultry farming, and bee-keeping, may also be developed to raise the level of employment and income of the rural population. The existence of large disparities between wages paid to unskilled urban and rural workers has long been recognised as a crucial factor in the decision to move to the city. In 1975, in Skikda, the average income of an unskilled urban worker was at a level of one and half times the average income of an agricultural worker (AARDES, 1979 (a), p.168). Furthermore, the unemployed and under-

employed labour could be mobilised to improve rural infrastructure. Such rural works programmes have been extremely productive and successful in creating employment in several countries (THOMAS, 1971), but to achieve maximum results, the activities, mentioned above, will need to be co-ordinated and carried out according to an integrated and well-conceived local plan in accordance with regional or national development plans. The emphasis on developing agriculture on the one hand, and the emphasis on small or medium-scale industries, agro-based and oriented to the home market, accompanied by appropriate government measures to rectify the distorted incentive structure, on the other, will be critical in complementing the growth pole approach (SALIH et al, 1978, p.118). Another way of creating further employment is through the induced modern service activities which are, almost by definition, relatively labour-intensive. Expansion of this sector is therefore an important source of employment (BRUTON, 1974, p.75). Nevertheless, their growth depends on the overall growth of the economy, particularly that of the modern sector.

The adoption of modern technology in Algeria results from the fact it has been regarded as an important factor in development and modernisation. Particularly so, since historical studies in the industrialised countries showed the impact of technological progress on the level and structure of employment and incomes, and its substantial contribution to the rise in labour productivity and output (ILO, 1976). However, these contemporary developing countries find themselves at a distinct disadvantage since

they are forced to use mainly the advanced technology of the industrialised countries, which supposedly does not fit in efficiently with their factor endowments (BAER and HERVE, 1966). The few spectacular large-scale capital-intensive projects may be an essential part of development, but they cannot be the main source of progress. Overall, there are advantages in having access to advanced technology, but in one crucial respect the technology is inappropriate for poor countries; it is geared to the factor availability in highly modernised countries (GILBERT and GOULER, 1982, p.65).

While the main effect of capital biased technical progress in industrialised countries is to offset a tendency for the return to capital to fall as accumulation proceeds; in developing countries when capital is anyway scarce and labour supplies growing rapidly, it rather intensifies a tendency toward inequality in income distribution between capital and labour (TURNHAM, 1971,p.13). He added that "these are, in principle, two kinds of constructive response to this situation, adaptation of the technology to fit the endowment or changing the endowment to fit the technology. Less developed countries, in general, have overwhelmingly favoured the second rather than the first, not least through human capital augmentation using educational programmes designed to develop the vocational skills needed for 'modern' activities. While probably no one would question the wisdom of heavy investment in education, more should almost certainly be spent than is now the case on the search of intermediate technologies and the like". "

Further stress was put forward by Marsden (1971) when he said that "modernisation must be seen as a continuous process, in which there is a widespread improvement in methods which use more equipment or more expensive materials than has been traditional, but far less than is currently the practice in the advanced countries", nevertheless, these developing countries do not have original technology of their own or the resources to experiment widely with different types of production methods (SINGER, 1964,p.60).

It has been said that since modern technology originates in developed nations whose needs are very different from those existing in developing countries in terms of factor endowment, size of market, skill levels, structure of distribution and transport facilities, therefore the most desirable technologies for developing countries are those which are available materials, and require little skilled labour and can be easily serviced and repaired (ILO, 1976). The advocates of capital-intensive technologies claimed that their adoption would allow the development gap to be closed more quickly. Others such as Hirshman (1958) stressed that due to the shortage of skilled labour, a capital-intensive technology would enable industry to economise these very scarce factors of production. Nevertheless, the high capital-intensity of these advanced technologies would mean that only a very small proportion of the labour would benefit from this kind of technological progress, while the majority could be condemned to stagnation and underemployment (ILO, 1976). The provision of jobs for the unemployed is a necessary, but by no means sufficient,

condition for achieving a more satisfactory distribution of income in Algeria. The seriousness of unemployment in Skikda or in Algeria, and the complex range of causes underlying it show the scale of the effort that should be made in the near future if full employment is to be achieved, and if the standards of the mass of the population is to improve in a rapid and balanced fashion (JOLLY, 1973, p.25).

The other important problem is that during the early stages of development, few cities have undergone a tremendous increase and, because of the existing infrastructure in these urbanised areas, have attracted a large share of investments and activities. The most obvious and immediate result of this process of population growth and concentration is the rapid deterioration of the human environment caused by the increasing gap between economic growth on the other. It is, also, hampering growth since social costs and investments on the expansion of the urban infrastructure are becoming too high, particularly, when one knows that urban problems in Algeria are relegated to the level of local authorities, which are less equipped to devise solutions. In general, if cities are to play a role in the development process and form an integrative factor in the national economy, it is recommended that urban and regional development should be integrated in a national strategy for development, particularly since Algeria has a planned economy. So far, the accelerated growth of cities in Algeria has brought into sharper focus a series of imbalances, mainly between supply and demand of housing and urban services, which led to the

spread of slums and shanty towns on the outskirts of cities, overcrowded houses, schools and hospitals, and a continuous increase in unemployment. It has been argued that there is an absence of towns at the base of the urban system in Algeria. As a result of a distorted development process, new central places are required to service the rural areas and to reinvigorate agricultural development (GILBERT and GUGLER, 1982, p.167). Urban development operations should no longer be considered as isolated; in fact, they should be used for the planning of a coherent pattern of settlement in terms of distribution of population and location of economic activities. The transfer of economic activities from rich regions to poor ones in seen to serve several functions, such as reducing the problems of the centre, reactivating the provincial cities and helping lower-income groups in the provinces (GILBERT and GUGLER, 1982, p.173). So far, the settlement pattern is generally assuming the form of a growing metropolitan region with a primate urban core surrounded by a tributary hinterland. The resulting severe demographic, social and economic imbalances between urban and rural threaten effective overall development. High migration rates from rural to urban areas make policy requirements pressing for the protection of the welfare of migrants and city dwellers, as well as for the design of a settlement pattern conductive to rapid and sound development of the region and the country (UN, 1968b,p.46). As Wellisz (1971,p.52-53) put it, attempts to improve the urban environment at general expense are bound to be largely self defeating, for any increase in the discrepancy between rural and urban living conditions is likely to accelerate the

inflow of rural migrants into urban areas. A shift in the proportion of new jobs creation in favour of the country-side will automatically reduce the migration to urban areas. The strain on these is reflected in highly dualistic urban system, where islands of modernity coexist with shanty towns and slums. Attempts to keep the population on the land and slow down rural-urban migration are seen as unpromising. The result is that the phenomenon of squalid squatter settlements have become a distinctive feature of the Algerian cities. Like in most developing countries, these forms of urban development have not received adequate attention. Turner (1969) argues that the existence of these squatter settlements does not constitute a problem, except that they are uncontrolled, and that they are both the product of the vehicule for activities which are essential with process of modernisation. This rapid growth of the urban centres in Algeria, has brought to the fore various problems which are manifested not only in the physical forms of the cities but also the way they function.

If in the past, the strategy of economic growth through accelerated industrialisation based on capital-intensive technology as the optimum choice of technique, and centralised planning; lately, however, a changing mode of thought appears to be emerging. This reorientation includes new concepts such as the complementary if not primary goal of distribution, in addition to growth, as one of the basic objectives of economic development; agricultural development as the parallel requisite if not the prerequisite to accelerated industrialisation; labour-intensive technology

and the role of small and medium industries; and the complementarity of rural and urban development. For instance, unlike the large-scale industries, which usually need to be in close proximity to the markets and services found only in cities, small units can be viable in the small towns and villages, thus leading to the harmonious development of towns and country (SINGER, 1964; STANLEY and MORSE, 1967). In addition, these small-scale firms using labour-intensive methods have several advantages, for, they can be managed successfully without the need for sophisticated control procedures and, at the same time, act as a seed-bed for management personnel for the future (MARSDEN, 1971). In general, the economy at which Algeria is aiming will be more complex than at present. In addition to public investment, which can easily be directed into designated channels, the country is trying to make room for a private sector whose investment decisions are more amenable to incentives and desincentives than to prescriptions. In other words, although the authorities can always stop private enterprise from doing something, they might find it impossible to make it take certain actions (IKRAM, 1980,p.67). Thus planning will have to incorporate a new dimension, namely, indicating targets for the private sector; and will have to take account of the difference between negative and positive injunctions. There are signs that Algeria is now moving in this direction. This involves re-evaluating political options, administrative institutions, the decision making process and the allocation of priorities and resources.

Appendix

Appendix A

Rank size of chef-lieux categorised as urban in 1977

	1966 Population	1977 Population
Algiers	884 200	1 473 835
Oran	321 046	490 788
Constantine	245 621	334 656
Annaba	152 423	222 607
Sidi Bel Abbès	88 514	112 994
Sétif	88 212	129 044
Blida	85 823	136 033
Tlemcen	71 872	88 505
Mostaganem	63 744	85 059
Skikda	59 605	91 935
Batna	55 571	102 756
Biskra	53 154	76 988
Béjaia	50 467	73 960
El Asnam	49 776	75 864
Béchar	45 535	56 563
Tebessa	41 094	61 073
Relizane	39 399	55 450
Tiaret	37 990	53 277
Médéa	37 848	57 828
Mascara	36 803	49 370
Guelma	36 308	56 106
Souk Ahras	34 922	52 144
Saida	33 593	55 855
Bordj Bou Arreridj	33 505	54 505
Ain Temouchent	30 683	29 844
Ain Beida	29 719	42 578
Ghardaia	29 533	57 153
Khenchela	28 606	44 223
Tizi-Ouzou	26 643	38 979
Laghouat	26 565	40 156
Sig	26 289	30 104
Jijel	25 737	35 065

El Eulma	25 667	42 756
Djelfa	25 628	47 435
Bou Saada	24 322	46 849
Touggourt	24 298	42 467
Maghnia	24 271	35 053
Boufarik	24 242	33 561
Khemis Miliana	23 903	37 252
Mohammadia	23 321	30 119
Ain Taya	22 212	6 040
Bordj El Kiffan	19 719	46 590
M'Sila	19 657	29 512
Ouargla	19 511	42 098
Douera	19 386	7 283
Beni Saf	18 547	23 764
Ain Benian	16 954	28 572
Miliana	16 975	22 528
Ksar el Boukhari	16 216	25 412
Birkhadem	16 535	17 034
Kolea	16 145	23 838
Bouira	16 119	22 412
El Bayadh	15 308	28 176
Chelghoum Laid	15 111	21 376
Bordj Menaiel	14 530	20 562
Sedrata	14 144	22 732
Hadjout	13 635	18 582
Sougueur	12 848	23 285
Ain M'Lila	13 956	19 452
Mila	12 484	17 267
Frenda	12 478	18 044
Bou Ismail	12 370	24 770
Nedroma	12 155	13 489
Cherchell	11 943	14 685
Ténès	11 929	13 852
Mecheria	11 781	21 295
Arzew	11 700	18 357
Ghazaouet	11 644	10 117
Tissemilt	11 359	17 207

Collo	10 828	12 408
El Affroun	10 655	15 462
Lakhdaria	10 347	18 066
Dellys	10 180	12 085
Oued Zenati	9 791	12 565
El Khroub	9 561	14 962
Oued Rhiou	9 494	15 471
Ain Bessem	9 126	13 022
Sour El Ghozlane	9 101	13 767
Azzaba	9 034	12 063
Boudouaou	8 743	15 527
Aflou	8 585	16 320
Es Senia	8 484	14 347
Ain Sefra	8 426	14 786
Cheraga	8 395	13 729
Draria	8 321	1 499
Staoueli	8 291	14 462
Thenia	8 241	10 386
Dar El Beida	6 866	8 778
Berrouaghia	6 585	11 511
Saoula	6 374	2 806
Rouiba	5 699	13 239
Mers el Kebir	5 626	7 455
Zeralda	5 364	8 569
Sidi Aich	5 001	5 930
El Oued	(11 576)	47 173
Ouenza	(18 061)	30 281
A.S. Boukhalfa *	(?)	29 180
A.S. Sidi Salem *	(?)	26 746
Barika	(19 376)	26 315
L'Arba	(14 704)	24 568
El Golea	(13 351)	22 394
Messaad	(18 368)	19 885
Hamma Bouziane	(12 380	19 252
Ouled Djellal	(13 875)	19 192
Guerrara	(12 854)	18 026
A.S. Blida*	(?)	17 739

Ain Oussera	(6 907)	17 173
Sidi Aissa	(9 247)	16 898
Tighinef	(11 851)	16 406
Ain Delfa	(9 566)	15 288
El Meghaier	(11 293)	15 285
Ksar Chellala	(9 275)	15 152
Oum-el-Bouaghi	(9 282)	15 123
Régaia	(1 741)	14 959
Sfisef	(11 362)	14 922
Akbou	(10 052)	14 903
Ras el Oued	(9 616)	14 834
Bougara	(13 382)	14 833
Ain Touta	(6 133)	14 693
Hammam Bouhadjar	(11 307)	14 084
Meftah	(7 045)	13 753
El Milia	(7 642)	13 392
Remchi	(9 325)	13 153
El Arrouch	(9 532)	12 920
Tolga	(8 405)	12 607
Mahdia	(7 761)	12 588
Hassi Behbeh	(5 665)	12 322
Draa Ben Khedda	(4 869)	12 310
Dréan	(8 530)	12 170
A.S.Beni Isguen*	(?)	11 328
Metlili	(9 889)	10 880
Ouled Mimoum	(7 472)	10 766
Mouzaia	(6 903)	10 627
Oued Fodda	(7 084)	10 487
Chéria	(5 844)	10 434
El Kseur	(7 423)	10 411
Téniet el Had	(7 532)	10 385
El Kala	(8 357)	10 179
Telagh	(6 885)	9 794
Sebdou	(6 268)	9 740
Khemis el Khechna	(6 991	9 713
Sidi Okba	(7 480)	9 632
Abadla	(4 666)	9 633
Bougaa	(6 379)	9 564

N'Gaous	(6 443)	9 284
Ain Oulmène	(5 496)	9 077
Gydel	(4 927)	9 073
In Salah	(6 319)	8 806
Telerghma	(5 120)	8 684
Zighout Youcef	(6 999)	8 612
El Amria	(7 069)	8 382
Kais	(5 329)	8 328
Taher	(1 944)	8 311
Lambèse	(5 654)	8 210
Azazga	(5 855)	8 116
Hennaya	(6 618)	7 913
Arris	(5 283)	7 790
Isser	(5 517)	7 710
Timimoum	(4 859)	7 588
Mazouna	(6 039)	7 324
Ben Badis	(5 418)	7 323
Adrar	(4 462)	7 057
El Abiod Sidi Cheikh	(4 118)	6 998
Boghni	(4 715)	6 751
Ain Tédèles	(5 224)	6 606
Sidi Ali	(4 641)	6 518
El Attaf	(4 214)	6 346
Tamanrasset	(2 087)	6 242
Draa el Mizan	(4 571)	6 210
Ferdjioua	(3 840)	6 168
Ain el Melah	(1 225)	6 093
El Hadjar	(6 074)	6 074
Tindouf	(3 323)	6 044
Mérouana	(4 212)	5 895
Chaabet el Leham	(4 594)	5 809
Dahmouni	(3 540)	5 443
Boukadir	(2 895)	5 065
A.S.Cité Messaad*	(?)	5 029
Bir el Ater	(2 006)	4 916
Zahana	(3 318)	4 885
Oued Tlelat	(3 395)	4 868
Bethioua	(3 135)	4 867

Larbaa N.I.	(2 709)	4 826
Douaouda	(2 022)	4 662
Tablat	(3 047)	4 429
Bou Hanifia	(2 899)	4 390
El Karimia	(2 643)	4 387
Amizour	(3 180)	4 192
Bouhadjar	(1 646)	3 989
Ghriss	(2 912)	3 986
Beni Abbès	(2 339)	3 874
El Aouinet	(2 329)	3 655
Ain Boucif	(2 336)	3 589
Ain Kébira	(2 009)	3 369
Bouchegouf	(1 646)	3 206
Stora	(614)	1 845
Birtouta	(1 073)	1 693
Tigzirt	(1 206)	1 585
Beni Slimane	(431)	1 431
Cherchar	(812)	1 364
El Hassasna	(-)	1 162
Réggane	(706)	1 142
Fouka	(9 724)	1 091
Bir el Djir	(513)	806
Djebel Onk	(3 184)	211
In Aménas	(548)	202

(-) Non urban in 1966

* : Secondary agglomerations

SOURCE: 1966 and 1977 census returns

APPENDIX B

Example of a 'Fiche Ménage'

التعداد العام للسكان و السكنى

Recensement Général de la Population et de l'Habitat

1976

IMPRIME N° 1

MENAGE ORDINAIRE OU COLLECTIF

1 Wilaya 3 Daïra 4 Commune 6 District 9 Ilot — N° d'ordre du logement dans le district 12 — N° d'ordre du ménage dans le logement 15

كتابة الدولة للتخطيط

SECRETARIAT D'ETAT AU PLAN

– N° de construction : (lettre) | Ménage : – Nombre de feuilles utilisées : | – N° de feuille utilisée :

– Adresse de la construction : ....

– Localisation du logement : ....

– Date de passage : ....

(16) LA CONSTRUCTION EST-ELLE SITUEE EN ZONE :

– 1 ☐ Agglomérée chef lieu de commune – 2 ☐ Agglomérée secondaire – 3 ☐ de Hameau – 4 ☐ Eparse

CONSTRUCTION

(18) Avez-vous déjà inscrit les caractéristiques de cette construction sur un questionnaire identique ? 1 ☐ OUI 2 ☐ NON

(19) DATE D'ACHEVEMENT DE LA CONSTRUCTION :
1 - Avant 1966 ☐ 2 - Après 1966 ☐

(20) TYPE DE CONSTRUCTION :
A – ORDINAIRE :
1 ☐ immeuble d'habitation
2 ☐ immeuble à usage professionnel exclusivement
3 ☐ maison individuelle
4 ☐ maison traditionnelle comprenant plusieurs logements
5 ☐ hôtel et assimilé
6 ☐ autre, à préciser ....
B – SOMMAIRE :
7 ☐ gourbi, baraque
8 ☐ autre, à préciser : ....

SI C'EST UNE CONSTRUCTION ORDINAIRE :

(21) ETAT DE LA CONSTRUCTION :
1 ☐ bon état
2 ☐ mal entretenue
3 ☐ délabrée, impropre à l'habitation

(22) NOMBRE D'ETAGES →

(24) MURS :
1 ☐ dur cimenté
2 ☐ pierres sèches
3 ☐ toub ou terre séchée
4 ☐ autre, à préciser

(25) TOIT :
1 ☐ dur en terrasse
2 ☐ dur en tuiles
3 ☐ chaume

LOGEMENT ET MENAGE

(26) Avez-vous déjà inscrit les caractéristiques de ce logement sur un questionnaire identique ? 1 ☐ OUI 2 ☐ NON

(27) UTILISATION ACTUELLE DU LOGEMENT
1 ☐ habité
2 ☐ inhabité
3 ☐ à usage professionnel exclusivement

(28) COUR INTERIEURE :
1 ☐ le logement a une cour indépendante
2 ☐ le logement a une cour commune à la constr.
3 ☐ n'existe pas

(29) CUISINE DANS LE LOGEMENT :
1 ☐ réservée seulement à la préparation des repas
2 ☐ réservée à d'autres usages
3 ☐ n'existe pas

(30) SALLE DE BAIN UTILISEE :
1 ☐ OUI 2 ☐ NON

NOMBRE DE PIECES AUTRES QUE LA CUISINE ET LA SALLE DE BAIN...

(31) RESERVEES A L'HABITATION →

(33) A D'AUTRES USAGES →

(34) CABINET D'AISANCE ET EVACUATION DES DECHETS :
1 ☐ rattaché à un égout
2 ☐ rattaché à une fosse
3 ☐ cabinet d'aisance hors de la construction
4 ☐ n'existe pas

(35) ALIMENTATION EN EAU :
1 ☐ rattaché au réseau de distribution
2 ☐ n'est pas rattaché mais il y a un puits
3 ☐ l'eau provient d'une source ou d'une citerne
4 ☐ autre provenance à préciser : ....

(36) ELECTRICITE : 1 ☐ OUI 2 ☐ NON

(37) GAZ :
1 ☐ utilisation du gaz de ville
2 ☐ utilisation du gaz en bouteille seulement
3 ☐ le gaz n'est pas utilisé

(38) PROPRIETAIRE DU LOGEMENT :
1 ☐ H.L.M., et organismes publics d'habitation
2 ☐ entreprise publique (sté nationale, office...)
3 ☐ administration
4 ☐ biens de l'Etat (ex. biens vacants)
5 ☐ personne ou société privée (logement privé)

(39) STATUT D'OCCUPATION DU MENAGE :
1 ☐ locataire
2 ☐ propriétaire ou copropriétaire
3 ☐ logé gratuitement

(40) AIDE EN ARGENT AU MENAGE :
1 ☐ de fils ou autres parents résidant en Algérie et n'habitant pas avec le ménage
2 ☐ de fils ou autres parents résidant à l'étranger
3 ☐ de l'Etat (pension de retraite ou autres...)
4 ☐ aucune aide

RECAPITULATION DU MENAGE

R.P. → (41) R.A.T. → (43) R.P.+R.A.T. → (44)

EMIG. → VIS. → Nombre de familles →

16 17 18 19 20 21 22 24 25 26 27 28 29 30 31 33 34 35 36 37 38 39 40

41 43 44 46 47 48

ATTENTION !

N'OUBLIEZ PAS :

– De recenser les bébés et les jeunes –

– De recenser les personnes âgées –

– De recenser les visiteurs (VIS) les résidents absents temporairement (R.A.T.) et les émigrés (EMIG.) –

– De recenser les domestiques habitant dans le logement –

– De lire les instructions –

"Ne rien écrire dans la partie grisée"

Nom et prénom(s) du recenseur :
....

Nom et prénom(s) du contrôleur :
....

Visa du contrôleur :

Visa statistique N° 75-08

APPENDIX B (Continued)

NUMERO D'ORDRE	NOM ET PRENOM(S)	LIEN DE PARENTE	SEXE	DATE DE NAISSANCE	LIEU DE NAISSANCE	Situation matrimoniale	Situation de résidence	Lieu de séjour pour les "RAT" et "EMIG" Lieu de résidence pour les "VIS"	OÙ HABITIEZ-VOUS EN AVRIL 1966 ?	Année d'installation dans cette commune	OÙ HABITIEZ-VOUS AVANT D'HABITER DANS CETTE COMMUNE ?	Nationalité
	Inscrire : 1. Personnes R.P. ou R.A.T. ou EMIG. dans le logement dans cet ordre : — C.M. (chef de ménage) — Famille du C.M. — Autres Familles (cf. instructions) — Domestiques logés 2. "VIS" "Hôtes" "Ne rien écrire dans la partie grisée"	Ex (1) C.M. (2) EPOUSE de (1) (3) Fils ou Fille (1) ou (2) (4) C.F. Frère du C.M. (5) EPOUSE de (4) (6) Fils ou Fille (4) ou (5) (7) Mère du C.M (1) (8) Pers. Isol.	M ou F	Inscrire le jour, le mois et l'année de naissance ex : 12-10-1940 Si la date de naissance est présumée Inscrire l'année présumée de naissance ex . 1934	Indiquer la commune et la Wilaya dans leur nouvelle dénomination. Eviter d'écrire le nom du douar ou du quartier	Ecrire 1. "CEL" célibataire 2. "MAR" marié(e) 3. "VEU" veuf(ve) 4. "SEP" séparé(e) 5. "DIV" divorcé(e)	Ecrire 1. "R P" résidant présent 2. "R.A.T" résidant absent de plus moins de 6 mois 3. "EMIG" émigré à l'étranger 4. "VIS" visiteur de plus moins de 6 mois	Pour les "R.A.T" préciser la Commune et la Wilaya de séjour. — Pour les "EMIG" préciser le pays de séjour. — Pour les "VIS" indiquer la Commune et la Wilaya ou éventuellement le pays de résidence	— Cette question doit être posée à tous les membres du ménage tout sexe nés après AVRIL 1966. — Si c'est la même Commune, écrire M. COM. — Si la personne a changé de commune depuis, indiquer la Commune et la Wilaya ou le pays.	— Si la personne a résidé dans cette commune depuis la naissance écrire : "M.COM" même commune — Si la personne n'est installée à cette année donnée, écrire l'année d'installation	— Si c'est la même commune écrire : "M.COM" — Si avant d'habiter dans cette commune la personne résidait dans une autre commune ou pays étranger, écrire le nom de la commune et de la wilaya ou du pays.	Ecrire "ALG." algérien "MAR." marocain "TUN" Tunisien "FRA." français ...etc...
	18	19	20	21	25	28	29	30	33	36	38	41
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

APPENDIX B (Continued)

INSTRUCTION			SITUATION INDIVIDUELLE	Pour les STR			(Pour les retraites et les sans travail mettre leur derniere situation)					
Langue(s) lue(s) et écrite(s)	Dernière classe suivie	Diplôme le plus élevé obtenu		Occupation précédente	Durée de chomage	PROFESSION PRINCIPALE	Qualification	Situation dans la profession	Occupation pour les "OCC"	NATURE DE L'ACTIVITE PRINCIPALE DE L'ETABLISSEMENT	LIEU de TRAVAIL	Secteur Juridique
1. "ARA" arabe 2. "FRA" français 3. "ARA-FRA" arabe et français 4. "RIEN" ne sait ni lire ni ecrire	– Dans le Primaire, Secondaire, Superieur ou Technique. Ex. 2e annee Second. [illegible] et de 1ère – Sans instruction, inscrire "RIEN"	Inscrire le diplome le plus eleve que possede la personne Ex. Si la personne a le BEM et BAC inscrire "BAC" – Sans diplôme inscrire. "RIEN"	"OCC" occupe "STR" sans travail et en cherche "ETU" etudiant ou ecolier "FEM" femme au foyer "FEMAID" femme au foyer partiellement occupee "RET" retraite "INF" infirme "AUT" autre [illegible]	La personne "STR" a deja travaille ? inscrire : "OUI" ou "NON"	- Si la pers. a deja travaille inscrire la duree de chomage depuis qu'elle a abandonne son emploi. - Si la pers. n'a jamais travaille precedem. inscrire la duree de temps depuis qu'elle cherche du travail ex : 2 ans	DECRIRE AVEC PRECISION LE METIER OU LA PROFESSION DE L'INTERESSE Ex : Plombier; Mecanicien autos. Dactylographe; Expert comptable. Ouvrier agricole de; Vendeur legumes en detail; Eleveur de moutons Grossiste en tissus:	1. "F.S." formation scolaire 2. "EXP" formation par experience 3. "S.A.F" sans aucune formation	1. "EMP" employeur (nbre de salaries) 2. "IND" independant 3. "COOP" cooperateur 4. "SAL-PER" salarie perman. 5. "SAL-SAI" salarie saison. ou occasionn. 6. "APP" apprenti 7. "AF" aide fam	Ecrire le nombre de jour ou de mois au [illegible] pendant lesquels l'interessé a travaillé sans perdre son emploi y compris les conges	Decrire de façon précise : – Les produits principaux fabriques – Les produits principaux commercialises, (vente en gros ou au detail de...) – Les produits extraits du sous-sol (extraction de...) – Le service fourni : (Service administratif; [illegible] transport, par quel moyen?...) – Les prod. agricoles cultivés de l'etablissement où l'enquete est employe, ou de l'etablis. de l'employeur ou de l'independant s'il se declare tel.	Inscrire : – Le nom de la commune et la wilaya ou l'interessé travaille. – Pour les grandes villes (ALGER, ORAN,...) mettre nom du quartier et de la commune où il travaille. – Si l'interessé travaille dans la commune ou quartier où il habite, ecrire; "M.COM" même commune, Même quartier. – S'il trav. à l'etranger, le nom du pays	Ecrire 1. "ADM" administration 2. "PUB" public 3. "AUTOG" autogere 4. "COOP" cooperatives 5. "PRIV" prive
43	44	46	48	49	50	51	54	55	56	57	60	63

Appendix C.

Distribution of the 1962-77 migrant population
by origin and type of settlement

Chef-lieu	Secondary Agglomeration	Scattered Settlement	Total
El-Hadaiek	303	2	60	365
El-Arrouch	1488	26	161	1675
Collo	2943	95	432	3470
Oum Toub	645	8	126	779
Tamalous	516	3	101	620
Ramdane Djamel	884	96	71	1051
Zighoud Youcef	1014	19	131	1164
Stora	457	1	58	516
Sidi Mezghiche	152	3	12	167
Salah Bouchaour	465	12	70	547
Azzaba	1580	61	224	1865
Emjez-Ed-Chich	590	11	25	625
Total Wilaya	11036	337	1471	12844
Oum-El-Bouaghi	399	16	86	501
Batna	364	24	36	424
Béjaia	203	13	3	219
Tébessa	77	5	4	86
Jijel	1193	18	72	1283
Sétif	340	13	51	404
Annaba	466	13	34	513
Guelma	835	38	47	920
Constantine	1699	48	113	1860
M'Sila	31	6	47	84
Central Algeria	576	41	9	626
Western Algeria	141	5	-	146
Southern Algeria	569	14	13	596
Maghreb	676	45	43	764
Other Countries	314	10	6	330
TOTAL	18919	646	2035	21600

SOURCE: Extracted from the 'fiches ménages' (1977 census).

Appendix D

Types and pattern of migration flows to Skikda Commune.

Total migrant	DIRECT MOVE			
	Chef-lieu	Secondary Agglomeration	Scattered Settlement	Total
El-Hadaiek	365	261	2	51	314
El-Arrouch	1675	1197	14	147	1358
Collo	3470	2532	87	372	2991
Oum Toub	779	506	6	96	608
Tamalous	620	465	2	87	554
Ramdane Djamel	1051	799	94	65	958
Zighoud Youcef	1164	799	17	119	935
Stora	516	412	1	54	467
Sidi Mezghiche	167	137	1	12	150
Salah Bouchaour	547	349	10	63	422
Azzaba	1865	1238	54	213	1505
Emjez-Ed-Chich	625	463	11	16	490
Total Wilaya	12844	9158	299	1295	10752
Oum-El-Bouaghi	501	288	13	72	373
Batna	424	294	13	29	336
Béjaia	219	145	4	1	150
Tébessa	86	60	4	4	68
Jijel	1283	840	13	47	900
Sétif	404	271	4	42	317
Annaba	513	352	7	34	393
Guelma	920	607	32	40	679
Constantine	1860	1429	40	92	1561
M'Sila	84	17	4	29	50
Central Algeria	626	465	29	5	499
Western Algeria	146	102	2	-	104
Southern Algeria	596	470	8	9	487
Maghreb	764	516	10	35	561
Other Countries	330	266	4	4	274
TOTAL	21600	15280	486	1738	17504

SOURCE: Extracted from the 'fiches ménages' (1977 census).

Appendix E

Distribution of the 1962-77 migrant population by area of origin and period of arrival

	1962-66	1967-69	1970-73	1974-77	1962-77
El-Hadaiek	161	42	101	61	365
El-Arrouch	689	225	374	387	1675
Collo	1738	437	764	531	3470
Oum Toub	445	94	138	102	779
Tamalous	285	60	150	125	620
Ramdane Djamel	579	120	212	140	1051
Zighoud Youcef	292	131	391	350	1164
Stora	321	62	74	59	516
Sidi Mezghiche	61	24	53	29	167
Salah Bouchaour	261	62	130	94	547
Azzaba	654	233	460	518	1865
Emjez-Ed-Chich	325	75	140	85	625
Total Wilaya	5811	1565	2987	2481	12844
Oum-El-Bouaghi	132	83	131	155	501
Batna	157	39	135	93	424
Béjaia	77	28	44	70	219
Tébessa	17	14	26	29	86
Jijel	688	196	154	245	1283
Sétif	152	36	117	99	404
Annaba	116	82	143	172	513
Guelma	208	179	251	282	920
Constantine	523	251	485	601	1860
M'Sila	25	13	19	27	84
Central Algeria	77	70	232	247	626
Western Algeria	11	12	58	65	146
Southern Algeria	237	56	160	143	596
Maghreb	576	67	74	47	764
Other Countries	127	46	85	72	330
TOTAL	8934	2737	5101	4828	21600

SOURCE: Extracted from the 'fiches ménages' (1977 census)

Appendix F.

Distribution of the migrant population by area of residence and by period of arrival.

Area of residence \ Period of arrival	1962-1966	1967-1969	1970-1973	1974-1977	Total 1962-1977
Centre ville	1911	425	659	529	3524
Beni Melek	515	175	245	206	1141
Souk-Musée	198	29	79	63	369
Quartier Est	454	188	242	236	1120
Cité de l'Espérance	86	24	314	271	695
Cité Montplaisant	171	42	35	32	280
Quartier Sud	429	192	270	210	1101
Cité des Oliviers	491	76	101	67	735
Cité Namous	255	42	106	116	519
Citernes-Bel-Air	389	103	154	69	715
Cité CIA-Ballot	836	147	83	67	1133
Cité Frères Saker	1105	379	519	471	2474
Zéramna	181	98	135	574	988
Cité Boulkeroua	471	180	627	364	1642
Bouabaz	494	257	858	874	2483
Total chef-lieu	7986	2357	4427	4149	18919
Hamrouche Hamoudi	23	29	116	62	230
Larbi Ben M'hidi	11	17	79	105	212
Hamadi Krouma	84	33	56	31	204
Total Secondary agglomerations	118	79	251	198	646
Scattered Settlement	830	301	423	481	2035
Total Commune	8934	2737	5101	4828	21600

SOURCE: Extracted from the'fiches ménages'(1977 census).

Appendix G

Distribution of the 1962-1977 migrant population
by origin and by area of residence

Place of birth / Areas of residence	El Hadjiek	El Arrouch	Collo	Oum Toub	Tamalous	Ramdane Djamel	Zighoud Youcef	Skora	Sidi Mezghiche	Salah Bouchaour	Azzaba	Ain Jez ed chich	Total-Skikda Wilaya	Oum el Bouaghi	Batna	Béjaia	Tébessa	Jijel	Sétif	Annaba	Guelma	Constantine	M'Sila	Central Algeria	Western Algeria	Southern Algeria
1. Centre ville	49	194	474	92	63	301	53	175	27	112	236	167	1943	87	82	64	-	242	52	123	96	346	3	104	34	226
2. Beni Malek	15	80	199	18	52	57	11	89	7	25	72	31	656	37	10	19	-	48	31	27	53	139	1	60	13	16
3. Souk-Musée	2	16	42	4	4	15	9	11	1	20	14	20	158	5	21	2	-	19	5	16	16	20	2	10	1	78
4.Quartier Est	6	101	91	29	39	32	29	15	15	32	92	65	546	44	29	20	30	63	36	36	65	118	1	29	4	47
5. Cité de l'Espérance	3	43	74	10	-	3	10	16	-	8	37	23	227	15	24	10	5	68	7	37	45	139	1	70	16	12
6. Cité Montplaisant	4	15	49	13	10	8	14	-	2	5	12	11	143	1	-	-	-	24	8	6	16	55	1	15	6	14
7. Quartier Sud	6	64	159	60	8	51	49	10	12	45	101	35	600	22	28	11	16	74	25	23	55	107	2	31	9	39
8. Cité des Oliviers	10	49	168	34	23	42	27	4	4	24	65	17	467	2	5	2	5	123	5	5	12	46	-	9	1	16
9. Cité Namous	34	61	80	14	19	23	76	2	8	20	38	8	383	13	14	1	-	11	1	2	36	20	2	6	1	5
10. Citernes-Bel-Air	41	38	169	34	44	50	54	48	2	23	20	24	547	3	7	3	-	47	6	11	13	38	1	16	2	6
11. Cité CIA-Ballot	11	87	186	31	7	43	33	3	4	17	82	35	539	6	3	2	-	117	5	8	26	75	-	24	-	28
12. Cité des Frères Saker	28	143	368	100	35	63	61	18	20	38	144	43	1061	85	49	38	-	240	88	109	167	275	-	117	31	41
13. Zéramna	4	41	102	49	21	31	62	14	7	30	56	13	430	24	21	19	21	59	27	25	55	166	1	56	20	21
14. Cité Boulkeroua	43	138	489	133	27	47	221	14	14	20	217	64	1427	20	8	1	-	23	13	5	52	49	-	5	-	13
15. Boubaz	47	418	293	24	164	118	305	38	29	46	394	33	1909	35	63	11	-	35	31	33	128	126	17	24	3	7
Total chef-lieu	303	1488	2943	645	516	884	1014	457	152	465	1580	590	11036	339	364	203	17	1193	340	466	835	1699	31	576	141	569
16. Secondary agglomerations	2	26	95	8	3	96	19	1	3	12	61	11	337	16	24	13	5	18	13	13	38	48	6	41	5	14
17. Scattered Settlement	60	161	432	126	101	71	131	58	12	70	224	25	1471	86	36	3	4	72	51	34	47	113	47	9	-	13
Total Commune	365	1675	3470	779	620	1051	1164	516	167	547	1865	625	12844	501	424	219	86	1283	404	513	920	1860	84	626	146	596

SOURCE: Extracted from the 'fiches ménages' (1977 census).

Appendix H

Age and Sex distribution of the 1962-77 migrant population 1977

Age group	Sex: Male	Female	Total
0-4	525	481	1006
5-9	1014	947	1961
10-14	1212	1186	2398
15-19	1111	1190	2301
20-24	1200	1455	2655
25-29	1168	1552	2720
30-34	854	1174	2028
35-39	890	870	1760
40-44	764	611	1375
45-49	608	483	1091
50-54	369	331	700
55-59	274	238	512
60-64	168	186	354
65-69	154	140	294
70 and over	206	239	445
TOTAL	10517	11083	21600

SOURCE: Extracted from the 'fiches ménages' (1977 census).

Appendix 1.

Distribution of the occupied migrant population by juridical sector

	Labour Force	Percentage
Public sector	2819	53.4
Private sector	1015	19.2
Administration	1233	23.4
State owned agricultural sector	176	3.3
Private owned agricultural sector	38	0.7
TOTAL	5281	100.0

SOURCE: Extracted from the 'fiches ménages' (1977 census)

Bibliography

B I B L I O G R A P H Y

AARDES (1979a) Elément sur l'Emploi et les Revenus dans les Principales Villes d'Algérie (Alger)

AARDES (1979b) Pôle de Développement et Arrière Pays: le Cas de Annaba-El-Hadjar, Vol. II: les Effets sur l'Emploi (Alger)

ABU-LUGHOD, J. (1976) 'Developments of North African urbanism', in Berry, B.J.L.(ed), Urbanisation and Counterurbanisation (London)

AFRICA RESEARCH BULLETIN (1980) 'Algeria: Development Plans', Vol.17, 6,pp.5590-91

ALGERIA (1944) Geographical Handbook Series, Vol.I and II.

ALQUIER,P. (1927) Recueil Officiel des Actes de la Préfécture de Constantine

AMIN,S. (1966) L'Economie du Maghreb (Paris: Edition de Minuit)

AMIN, S. (1970) Le Maghreb Moderne (Paris: Edition de Minuit)

ANDREFF, W. and HAYAB, A. (1978) 'Les priorités industrielles de la planification Algériennes sont-elles vraiment industrialisantes? Tiers Monde, 76,pp.867-92

ANTOINE, S. and WEILL, G. (1968) 'les métropoles et leur région', in Boudeville, J.R. (ed), L'Espace et les Pôles de Croissance" (Paris: PUF)

ARRIAGA, E. and DAVIS, K. (1969) 'The pattern of mortality change in Latin America', Demography, 6, pp. 223-42.

ARTHUR, W.B. and McNICHOLL, G. (1975) 'Large-scale models in population and development: What use to planners,' Population and Development Review, 1,pp.251-66.

BAER, W. and HERVE, M. (1966) ' Employment and industrialisation in developing countries', Quarterly Journal of Economics, Vol.80, 1,pp.88-107.

BAKOUR, B. (1972) 'les programmes spéciaux en Algérie ou la lutte contre les disparités et déséquilibres régionaux,' Syrie et Monde Arabe, 227, pp.14-21

BARDINET, C. and PRENANT, A. (1969) L'Armature urbaine de L'Algerie au Recensement de 1966 (Alger).

BARDINET, C. (1972) 'Problèmes démographiques de l'urbanisation en Algérie dans la période 1962-72', Bulletin de la Société Languedocienne de Géographie, Vol.6, 1, pp. 11-33

BARDINET, C. and CABOT, J. (1973) 'Population active et critère d'urbanisation en Algérie à la veille du plan quadriennal 1970-73', Tiers Monde, 14, pp.615-30

BARDINET, C. (1974) 'la répartition géographique de la population Algérienne', in CICRED (ed), La Population de L'Algérie.

BENACHENOU, A. (1976) Formation du sous-développement en Algérie (Alger: OPU).

BENDJELID, A. (1976) 'Implantations et Emploi Industriels dans le Triangle Skikda-Constantine-Annaba', Thèse de Doctorat 3e Cycle, Paris I.

BENDJELID, A. (1978) 'la contribution de l'industrie à la construction régionale en Algérie', CNERAT, I,pp.67-78.

BENNAMANE, A. (1980) 'The Algerian Development Strategy and Employment Policy,' Centre for Development Studies, University College, Swansea.

BENNOUNE, M. (1980) 'Causes and consequences of urbanisation in Algeria', in Rivin, H.A.B. and Helmer, K.(eds), Changing Middle Eastern City, (Center for Social Analysis, State University of New York at Binghamton).

BERRY, B.J.L. (1961) 'City size distribution and economic development,' Economic Development and Cultural Change, 9,pp.573-88.

BOGNAR, J. (1968) Economic Policy and Planning in Developing Countries (Budapest).

BORTS, G.H. (1960) 'The Equalisation of returns and regional economic growth,' American Economic Review, 50, pp.319-47.

BOS, H.C. (1965) The Spatial Dispersion of Economic Activity, (Amesterdam).

BOUDEVILLE, J.R. (1957) 'Contribution à l'etude des pôles de croissance brésiliennes: une industrie motrice, la sidérurgie du Minas Gerais', Cahiers de L'I.S.E.A., F,10.

BOUDEVILLE, J.R. (1961) Les Espaces Economiques (Paris: PUF)

BOUDEVILLE, J.R. (1966) Problems of Regional Economic Planning (Edinburgh: Edinburgh University Press).

BOUDEVILLE, J.R. (1968) 'les notions d'espace et d'intégration, "in Boudeville, J.R.(ed), L'Espace et les Pôles de Croissance (Paris: PUF).

BOUKHEMIS, A. (1979) 'Problems of Rural Settlement in El-Arrouch Commune, Eastern Algeria', M.Sc. Thesis, Glasgow University.

BOUKHEMIS, K. (1979) 'Problems of Agrarian Development in Salah Bouchaour, Eastern Algeria', M.Sc. Thesis, Glasgow University.

BOUMAZA, B. (1980) 'Le développement industriel décentralisé en Algérie', Cahiers Géographiques de l'Ouest, 4, pp.30-45.

BRAND, R. (1972) 'The spatial organisation of residential areas in Accra, Ghana, with particular reference to aspects of modernisation', Economic Geography, 4,pp.284-98.

BREESE, G. (1966) Urbanisation in Newly Developing Countries (Englewood Cliffs, N.J.).

BRIGG , P. (1973) 'Some economic interpretations of case studies of urban migration in Developing Countries', IBRD, 151, Urban and regional Economics Division, Development Economics Department (Washington D.C.).

BROOKFIELD, H. (1975) Interdependent Development (London : Methuen & Co. Ltd).

BROWNING, H. (1971) 'Migrant selectivity and the growth of large cities in Developing Societies', in National Academy of Sciences (ed), Rapid Population Growth, Vol.2, pp.273-314 (Baltimore. The Johns Hopkins University Press).

BRULE, J.C. and MUTIN, G. (1982) 'Industrialisation et urbanisation en Algérie', Maghreb-Machrek, 96,pp.41-66.

BRUTON, H.J. (1974) 'Economic development and labour use: a review', in Edwards, E.O.(ed), Employment in Developing Nations (Columbia University Press).

CADAT (1975) PUD Skikda. Phase B

CADAT (1981) Etude de Projection Urbaine Régionale de la Wilaya de Skikda. Analyse de la Situation, Phase I.

CALDWELL, J.C. (1969) African Rural-Urban Migration: the Movement to Ghana's Towns (Camberra).

CALDWELL, J.C.(1976) 'Toward a restatement of demographic transition theory', Population and Development Review, Vol.2,3-4, pp.321-66.

CALDWELL, J.C. (1977) 'The economic rationality of high fertility: An investigation illustrated with Nigerian survey data', Population Studies, Vol. 31, 1,pp.5-28.

CASADIO, G.P. (1976) The Economic Challenge of the Arabs (Saxon House).

CHAPMAN, M. (1969) 'Geography and the study of development', Journal of Developing Areas, 3, pp.319-338.

CHRISTALLER, W. (1966) Central Places in Southern Germany (Prentice-Hall).

CICRED (1974) La Population de L'Algérie.

CLEGG, I. (1971) Workers' Self-Management in Algeria (London: Penguin Press).

COALE, A.J. and HOOVER, E.M. (1959) Population Growth and Economic Development in Low-Income Countries (Oxford University Press).

COALE, A.J. (1974) 'The history of the human population', Scientific American, Vol.231, 3,pp.41-51.

CORNATON, P. (1967) Les Regroupements de la Décolonisation en Algérie (Paris).

COTE, M. (1978) 'Alger et sa place dans la hiérarchie urbaine', Revue Française d'Etudes Politiques Méditerranéennes, 30-31, pp.7-17.

COUDERC, R. and DESIRE, G. (1975) 'La désorganisation de l'agriculture autogérée entre Oran-Arzew', Espace Géographique, 1,pp.17-30.

CUKOR, G. (1974) Strategies for Industrialisation in Developing Countries (London).

DARWENT, D.F. (1969) 'Growth poles and growth centres in regional planning. A review', Environment and Planning, 1, pp.5-32.

DAVIS, K. (1963) 'The theory of change and response in modern demographic history', Population Index, 29,pp. 345-366.

DAVIS, K.(1972) 'World urbanisation, 1950-70', Population Monograph Series 9 University of California, Berkeley.

DE BERNIS, G.D. (1966) 'Industries industrialisantes et contenu d'une politique d'intégration régionale', Economie Appliquée, Tome XIX, 3-4.

DE BERNIS, G.D. (1968) 'les industries industrialisantes et l'intégration économique agricole', Economie Appliquée', Tome XXl, I.

DE BERNIS, G.D. (1971) '2 stratégies pour l'industrialisation du Tiers Monde, les industries industrialisantes et les options Algériennes', Tiers Monde, Vol.X11, 47,pp.545-563.

DEMENY, P. (1965) 'Investment allocation and population growth', Demography, 2, pp.203-232.

DEScLOITRES, R.et al (1961) L'Algérie des Bidonvilles (Paris: Mouton).

DESMOND, G.M. (1971) 'The impact of national and regional development policies on urbanisation', in Jakobson, L. and Prakash, V. (eds), Urbanisation and National Development, pp.57-79 (Sage Publications).

DOMAR, E. (1946) 'Capital expansion and growth', reprinted in Sen, A. (ed), Growth Economics, 1970 (Penguin).

DONGES, J.B. (1976) 'A comparative survey of industrialisation policies in fifteen semi-industrial countries', Weltwirtschaftliches Archiv, 4.

DORVING, F. (1959) 'The share of agriculture in a growing population', Monthly Bulletin of Agricultural Economics and Statistics.

DRAKAKIS-SMITH, D. (1981) Urbanisation, Housing and the Development Process (Croom Helm).

DUMONT, R. (1973) Socialisms and Development (London).

DURAND, J.D. (1975) The Labour Force in Economic Development (Princeton: Princeton University Press).

DU TOIT, B.M. (1975) 'Migration and population mobility', in Du Toit, B.M. and Safa, H.I. (eds), Migration and Urbanisation. Models and Adaptive Strategies (Mouton Publishers).

DWYER, D.J. (1975) People and Housing in Third World Cities (London).

EASTERLIN, R.A. (1968) 'Overview on economic growth', in Sills, D.L. (ed), International Encyclopedia of the Social Sciences, Vol.4.

EDWARDS, E.O. (1974) 'Employment in developing countries', in Edwards, E.O.(ed), Employment in Developing Nations (Columbia University Press).

EHRLICH, P.R. and EHRLICH, A.H. (1972) Population, Resources, Environment: issues in human ecology (San Fransisco and Reading).

EUROPA PUBLICATIONS LIMITED (1981) 'The Middle East and North Africa, 1981-82 (London).

FAISSOL, S. (1976) 'Urban growth and economic development in Brazil in the 1960s', in Brian, S.L. (ed), Urbanisation and Counter-Urbanisation (Sage Publications).

FEI, J.H.C. and RANIS, G. (1964) Development of the Labour Surplus Economy: Theory and Policy (Irwin).

FEI, J.C.H. and RANIS, G. (1975) 'A model of growth and employment in the open dualistic economy: the cases of Korea and Taiwan', in Stewart, F. (ed), Employment, Income Distribution and Development (Frank Cases).

FRANCHET, J. (1972) 'La formulation de l'espace Algérien', Annuaire de L' Afrique du Nord, pp. 39-54.

FRIEDLANDER, D. (1969) 'Demographic Responses and Population Change', Demography, 6, pp.359-381.

FRIEDMANN, J. and ALONSO, W. (1964) Regional Development and Planning: A Reader (Cambridge: MIT Press).

FRIEDMANN, J. (1966) Regional Development Policy: A Case Study of Venezuela (Cambridge: MIT Press).

FRIEDMANN, J. and SULLIVAN, F. (1974) 'The absorption of labour in the urban economy: The case of developing economies', Economic Development and Cultural Change, Vol.22,3,pp.385-413.

FRIEDMANN, J. and WULFF, R. (1974) The Urban Transition: Comparative Studies of Newly Industrialising Societies (Los Angeles: UCLA Comparative Urbanisation Studies).

FRYER, D.W. (1953) 'The million city in Southeast Asia', Geographical Review, Vol. 43.

FRYER, D.W. (1965) World Economic Development (London).

GALENSON, W. (1963) 'Economic development and the sectoral expansion of employment', International Labour Review, Vol. 87,pp.505-519.

GARNER, B.J. (1967) 'Models of urban geography and settlement location', in Chorley R.J. and Haggett, P.(eds), Models of Geography.

GAUTHIER,A. 1976 L'Algérie: Décolonisation, Socialisme, Industrialisation (Bréal).

GILBERT, A. (1974) Latin American Development: A geographical perspective (Penguin).

GILBERT, A. and GUGLER, J. (1982) Cities, Poverty, and Development: Urbanisation in the Third World (Oxford University Press).

GRAHAM, D. (1970) 'Divergent and convergent regional economic growth and internal migration in Brazil', Economic Development and Cultural Change, 18,pp.362-382.

HAMAN, G. (1972) 'Capitals of the new Africa', in Breese, G. (ed), The City in Newly Developing Countries: Reading on Urbanism and Urbanisation (Englewood Cliffs, N.J.).

HANCE, W.A. (1970) Population, Migration, and Urbanisation in Africa (Columbia University Press).

HANSEN, N.M. (1967) 'Development pole theory in a regional context, Kyklos, 20,pp.709-725.

HARRIS, C.D. (1943) 'A functional classification of cities in the United States', Geographical Review Vol. XXXIII, 1,pp.86-99.

HARRIS, J.R. and TODARO, M.P. (1970) 'Migration, unemployment and development: A two sector analysis', American Economic Review, Vol.60,1,pp.126-142.

HARRIS, J. and SABOT, R. (1976) 'Urban unemployment in LDC's: Towards a more general search model', International Bank for Reconstruction and Development (Washington D.C.).

HARROD, R.F. (1939) 'Dynamic theory' reprinted in Sen, A. (ed), Growth Economics, 1970 (Penguin).

HARTLEY, S.F. (1972) Population: Quantity Vs Quality (Englewood Cliffs).

HERRICK, B.H. (1965) Urban Migration and Economic Development in Chili (MIT Press).

HERSHLAG, Z.Y. (1979) 'Industrialisation in Arab countries: Patterns, options and strategies', in Aliboni, R.(ed), Arab Industrialisation and Economic Integration (London: Croom Helm).

HICKS, J.R. (1959) Essays in World Economics (Oxford).

HIRSHMAN, A.O. (1958) The Strategy of Economic Development (New Haven: Yale University Press).

HODDER, B.W. (1978) Africa Today (London).

HODGE, G. (1968) 'Urban structure and regional development', Papers and proceedings of the regional Science Association, 21, pp. 101-123.

HOSELITZ, B.D. (1955) 'Generative and parasitic cities', Economic Development and Cultural Change, Vol. III, 3,pp.278-294

HOUSTON, J.M. (1964) The Western Mediterranean World: An introduction to its regional landscapes.

HOYLE, B.S. (1974) 'Spatial analysis and the less-developed countries', in Hoyle B.S. (ed), Spatial Aspects of Development (London).

IKRAM, K. (1980) Egypt: Economic Management in a Period of Transition (The Johns Hopkins University Press).

ILO (1974) Sharing in Development: A Programme of Employment, Equity and Growth for the Phillipines (Geneva).

ILO (1976) Employment, Growth and Basic Needs (Geneva).

ISNARD, H. (1950) 'La répartition saisonnière des pluies en Algérie' Annales de Géographie, 59,pp.354-361.

ISNARD, H. (1958) 'Structures de la colonisation agricole en Algérie à la veille de l'insurrection', Bulletin de géorgraphie d'Aix-Marseille, 4,pp.85-118.

JACQUEMOT, P. and NANCY, M. (1973) 'Chronique économique - Algérie', Annuaire de L'Afrique du Nord, XII, pp. 535-558.

JARRETT, H.R. (1969) A Geography of Manufacturing (London).

JEFFERSON, M. (1939) 'The law of the primate city', Geographical Review, 29,pp. 226-232.

JOHNSON, E.A. (1970) The Organisation of Space in Developing Countries (Cambridge: Mass).

JOHNSTON, B.F. (1966) Agriculture and Economic Development: The Relevance of the Japanese Experience (Food Research Institute Studies, Stanford University).

JOLLY, R. et al (1973) Third World Employment: Problems and Strategy (Penguin).

JONES, E. (1976) Towns and Cities (Oxford University Press).

KALDOR, N. (1970) 'The case of regional policies' Scottish Journal of Political Economy, 17,pp.337-347

KAMARCK, A.M. (1967) The Economics of African Development (London: Pall Mall).

KANSKY, K. (1963) The Structure of Transportation Networks (Chicago: University of Chicago Press).

KNAPP, W. (1977) North West Africa: A Political and Economic Survey (Oxford University Press).

KOENIGSBERGER, O.H. (1976) 'The absorption of newcomers in the cities of the Third World', ODI Review, I.

KOUADRI, M.E.A. (1969) 'Place et rôle du secteur pétrolier dans le développement de l'économie Algérienne', Tiers Monde, 39,pp.629-658 .

KURIAN, G.T. (1982) Encyclopedia of the Third World, Vol.I (London: Mansell Publishing Limited).

KUZNETS, S. (1955) 'Economic growth and income inequality', American Economic Review, 49,pp.1-28

LAWLESS, R. (1981) 'Algeria: decolonisation, rapid urbanisation, and the functional and social transformation of a colonial urban system under a planned economy', Orient, Vol.22, 4,pp.557-573.

LE COZ, J. (1972) 'De l'urbanisation `sauvage' à l'urbanisation intégrée', Bulletin de la Société Languedocienne de Géographie, Vol.6, 1,pp.5-9.

LEBRET, R.P. (1961) 'Agglomérations et pôles de développement', Cahiers d'Urbanisme, 33.

LERNER, D. (1968) 'Social aspects of modernisation', in Sills, D.L. (ed), International Encyclopedia of the Social Sciences, Vol.10 (New York).

LEWIS, W.A. (1954) 'Economic development with unlimited supplies of labour', Manchester School of Economic and Social Studies, May,pp.139-191.

LEWIS, W.A. (1955) The Theory of Economic Growth (London).

LÖSCH, A. (1954) The Economics of Location (Yale University Press).

MABOGUNJE, A.L. (1968) Urbanisation in Nigeria (New York: Africana).

MABOGUNJE, A.L. (1969) 'Urbanisation patterns in Africa', in Paden, J. and Soja, E.(eds), The African Experience, Vol.1,pp.383-420 (Evanston).

MABOGUNJE, A.L. (1980) The Development Process: A Spatial Perspective (Huchinson University Library).

MCGEE, T.G. (1967) The Southeast Asian City (London: Bell).

MCGEE, T.G. (1971) The Urbanisation Process in the Third World. Explorations in Search of a Theory (London: Bell).

MCNULTY, M.L. (1976) 'West African urbanisation', in Berry, B.J.C. (ed), Urbanisation and Counter-Urbanisation, pp.213-232 (London).

MARSDEN, K. (1971) 'Progressive technologies for developing countries', in Galenson, W. (ed), Essays on Employment (Geneva: ILO)

MARTENS, J.M. (1973) Le Modèle Algérien de Développement: Bilan d'une Décennie 1962-1972 (Alger: SNED).

MAYER, H.M. (1969) 'Making a living in cities: the urban economic base', Journal of Geography, LXVIII, 2,pp.70-87.

MEHMET, O. (1978) Economic Planning and Social Justice in Developing Countries (London: Croom Helm).

MELLOR, J.W. (1976) The New Economics of Growth (Cornell University Press).

MERRICK, T.M. and GRAHAM, D.H. (1979) Population and Economic Development in Brazil (The Johns Hopkins University Press).

MESKALDJI, G. (1979) 'les Quartiers spontanés de Constantine', Urbanisation, Réseaux Urbains, Régionalisation au Maghreb, Fascicule 4, pp.12-112 (Tours: ERA 706 CNRS).

MIGNON, J.M. (1974) 'le plan communal Algérien: l'expérience des programmes spéciaux de Constantine et d' Annaba', Tiers Monde, Vol.XV, 58,pp.389-396

MORAWETZ, D. (1974) 'Employment implications of industrialisation in developing countries: A survey', Economic Journal, 84,pp.491-542.

MORAWETZ, D. (1978) 'Basic needs policies and population growth', World Development, Vol.6, 11-12, pp. 1251-1260.

MORSE, R.M. (1971) 'Trends and issues in Latin American urban research, 1965-1970', Latin American Research Review, Vol. 6,21 pp. 19-75.

MOUNTJOY, A.B. (1971) Developing the Underdeveloped Countries (MacMillan).

MOUNTJOY, A.B. (1978) Industrialisation and Developing Countries (Hutchinson of London).

MPAT (1979a) L'Algérie en Quelques Chiffres (Alger).

MPAT (1979b) Répartition de la Population par Commune et Dispersion, Evolution 1966-1977 (Alger).

MPAT (1980) Population Active Algérienne Résidente (Prévisions provisoires de 1977 à 2008) (Alger).

MUTIN, G. (1975) La Mitidja : Décolonisation et Espace Géographique (Alger).

MYRDAL, G. (1957) Economic Theory and Under-Developed Regions (London : Duckworth).

MYRDAL, G. (1968) Asian Drama, an Enquiry into The Poverty of Nations (New York: Pantheon).

MYRDAL, G. (1973) 'Population trends and population policies', in Jolly, R. et al (eds), Third World Employment: Problems and Strategy (Penguin).

NACER, M. (1979) 'Regional disparities and development in Algeria: A case study in a transitional and a central-planned economy', M.A. Thesis, Department of Town and Regional Planning, Sheffield University.

NELSON, H.D. (1979) Algeria : A Country Study (The American University, Washington D.C.).

NETTLE, J.P. (1969) 'Strategies in the study of political development', in Leys, C. (ed), Politics and Change in developing Countries (Cambridge : Cambridge University Press).

NORBYE, O. (1969) 'The economy of Algeria', in Robson, P. and Lury D.A. (eds), The Economies of Africa (London).

PERROUX, F. (1950) 'Economic space : Theory and application', Quarterly Journal of Economics Vol. LXIV, 1, pp. 89-104

PERROUX, F. (1955) 'Note sur la notion de pôle de croissance', Economie Appliquée, 1-2.

PRENANT, A. (1976) Essai d' Evaluation et d' Interprétation de la Croissance Urbaine en Algérie de 1966 à 1974 (Alger: CNRS).

PRENANT, A. (1978) 'Centralisation de la décision à Alger. Décentralisation de l'execution en Algérie, la mutation des fonctions capitales d'Alger', Revue Française d'Etudes Politiques Méditerranéennes, Vol.3, 30-31,pp.128-150.

PRENANT, A. and SEMMOUD, B.(1979) 'Introduction aux incidences géographiques de l'industrialisation en Algérie', Cahiers Géographiques de L'Ouest,2-3, pp.3-20.

PRESTON, S.H. (1975) 'The changing relation between mortality and level of economic development', Population Studies, 29,pp.231-248.

PYE, L.W. et al (1966) Aspects of Political Change (Boston: Little Brown).

RAVENSTEIN, E.G. (1885) 'The laws of migration', Journal, Statistical Society, 48,pp.167-235.

RAYFIELD, J.R. (1974) 'Theories of urbanisation and the colonial city in West Africa', Africa, 44,pp.163-185.

REDFORD, A. (1926) Labour Migration in England, 1800-1850 (Manchester University Press).

REPUBLIQUE ALGERIENNE DEMOCRATIQUE et POPULAIRE (1974) II plan Quadriennal 1974-77. Rapport Général (Alger).

RICHARDSON, H.W. (1973) Regional Growth Theory (Macmillan).

RICHARDSON, H.W. (1975) Regional Development Policy and Planning in Spain (Saxon House).

ROBERTS, B. (1978) Cities of Peasants (Edward Arnold).

ROBINSON, H. (1981) Population and Resources (Macmillan).

ROSENSTEIN-RODAN, P.N. (1943) 'Problems of industrialisation of Eastern and Southern Europe', Economic Journal, 53,pp.202-211

ROSTOW, W.W. (1956) 'The take-off into self-sustained growth', Economic Journal, 66,pp.25-48.

SALIH, K. et al (1978) 'Decentralisation policy, growth pole approach, and resource frontier development: A synthesis of the response in four Southeast Asian countries', in LO, F.C. and Salih,K.(eds), Growth Pole Strategy and Regional Development Policy. Asian experience and Alternative Approaches (Pergamon Press).

SARDAR, Z. (1977) Science Technology and Development in the Muslim World (London: Croom Helm).

SAYIGH, Y.A. (1978a) The Economies of the Arab World (London : Croom Helm).

SAYIGH, Y.A. (1978b) The Determinants of Arab Economic development (London: Croom Helm).

SCHNETZLER, J. (1981) Le Développement Algérien (Paris : Masson).

SECRETARIAT d'ETAT auPLAN (1976) L'Algérie en Quelques Chiffres (Alger).

SECRETARIAT d'ETAT au PLAN (1978a) Données Abrégées par Wilaya (Alger).

SECRETARIAT d'ETAT au PLAN (1978b) 2eRGPH (1977) ; Quelques Indicateurs par Wilaya (Alger).

SEERS, D. (1969) 'The meaning of development', International Development Review, 4.

SEERS, D. (1977) 'The new meaning of development', International Development Review, 3, pp.2-7.

SELTZER, P. (1946) Le Climat de L'Algérie (Alger).

SHAW, P. (1975) Migration Theory and Fact. A Review and Bibliography of Current Literature (United Nations).

SIEBERT, H. (1969) Regional Economic Growth: Theory and policy (International Textbook Co., Scranton, Pennsylvania).

SINCLAIR, S.W. (1978) Urbanisation and Labour Markets in Developing Countries (London)

SINGER, H.W. (1964) International Development: Growth and Change (McGraw-Hill).

SMITH, T.C. (1959) Agrarian Origins of Modern Japan (Stanford).

SONATRACH (1975) Plan masse pour le développement industriel de Skikda. Vol.I .

SPENGLER, J.J. and MYERS, G.C. (1977) 'Migration and Socio-economic development: Todays and Yesterdays', in Brown, A.A. and NEUBERGER, E. (eds), Internal Migration. A Comparative Perspective (Academic Press).

STAMBOULI, F. (1980) 'Aspects of urban immigrant society in the Maghreb', in Rivin H.A.B. and Helmer, K. (eds)' Changing Middle Eastern City, pp.17-33. (centres for Social Analysis. Programme in Southwest Asian and North African Studies. State University of New York at Binghamton).

STANLEY, E. and MORSE, R. (1967) Modern Small Industry for Developing Countries (McGraw-Hill).

STEWART, F. (1978) 'Employment and policies', in Cassen, R. and Wolfson, M. (eds), Planning for Growing Populations (Organisation for Economic Co-operation and Development).

STEWART, J.Q. (1947) 'Empirical mathematical rules concerning the distribution and equilibrium of population', Geographical Review, 37,pp. 461-485.

SUTTON, K. (1976) 'Industrialisation and regional development in a centrally planned economy. The case of Algeria', Tijdschrift voor Economische en Sociale Geografie, Vol. LXVII, 2, pp.83-95.

SUTTON, K. (1981a) 'Algeria: centre-down development, state capitalism, and emergent decentralisation', in Stöhr, W.B. and Fraser Taylor, D.R. (eds), Development from Above or Below (John Wiley & Sons Ltd).

SUTTON, K. (1981b) 'Household census data from Algeria : its context and potentiality', Maghreb-Review, Vol.6, 3-4, pp.45-48.

THOMAS, J. (1971) 'Rural public works and East Pakistan's development', in Falcon, W. and Papanek, G. (eds), Development Policy II: the Pakistan Experiece (Cambridge, Mass : Harvard University Press).

THOMPSON, I.B. (1982) 'The Commercial centre of Oran', Occasional Papers Series, 9, Geography Department, Glasgow University.

TIDAFI, T. (1969) L'Agriculture Algérienne et ses Perspectives d'un Dévelop-pement Réel (Paris : Maspero).

TODARO, M.P. (1969) 'A model of labour migration and urban development in less developed countries', American Economic Review, Vol.59,1, pp.138-148.

TODARO, M.P. (1976) Internal Migration in Developing Countries : A Review of Theory, Evidence, Methodology and Research Priorities (Geneva : ILO).

TODARO, M.P. (1980) 'Internal migration in developing Countries', in Easterlin, R.A. (ed), Population and Economic Change in Developing Countries (Chicago : The University of Chicago Press).

TURNER, J.F.C. (1969) 'Uncontrolled Urban Settlement : Problems and Policies', in Breese, G. (ed), The City in Newly Developing Countries (Prentice-Hall).

TURNHAM, D. (1971) The Employment Problem in Developing Countries : A Review of Evidence (Organisation for economic Co-operation and Development).

United Nations (1968a) Methods of Analysing Census Data on Economic Activities of the Population (New York : United Nations).

United Nations (1968b) 'Urbanisation : development policies and planning', International Social Development Review, I.

UNESOB (1973a) The Cement Industry in Arab Countries of the Middle East.

UNESOB (1973b) Review and Appraisal of Progress in Housing, Building and Urban Planning.

WALKER, D.S. (1964) The Mediterranean Lands (Methlien).

WELLISZ, S.H. (1971) 'Economic development and urbanisation', in Jakobson, L. and Prakash, V. (eds), Urbanisation and National Development (Sage Publications).

WHITE, P. and WOODS, R. (1980) 'The foundations of migration study', in White, P. and Woods, R. (eds), The Geographical Impact of Migration (Longman).

WILLIAMSON, J.G. (1965) 'Regional inequality and the process of national development', Economic Development and Cultural Change, 13,pp.3-45.

WORLD DEVELOPMENT REPORT (1978, August).

ZELINSKY, W.S. (1971) 'The hypothesis of the mobility transition', Geographical Review, 61, pp.219-249.

ZIPF, G.K. (1941) National Unity and Disunity (Bloomington).

ZIPF, G.K. (1949) Human Behaviour and the Principal of Least Effort (Reading, Mass : Addison-Wesley).