THE CONCENTRATION OF POPULATION IN KUWAIT

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1. Introduction

Kuwait is located in West Asia between the three major powers of the Gulf region: Saudi Arabia, Iraq and Iran. It is very small in area (7,780 square miles), extreme in wealth (1985 GNB U.S.$ 22,800 per capita), and a microstate in population (1.7 million in 1985).

In Kuwait, oil was discovered in 1930s but its export was taken up only after the end of the Second World War. As the oil revenues started to flow in, the Government of Kuwait took up the development of the country in a big way. Massive plans were drawn up to build highways and roads, schools and hospitals, residential commercial and industrial complexes, oil refineries and other infrastructures (El-Shalakani, 1989). As a result of these developmental activities, the country has experienced very rapid economic development, large scale immigration and high population growth.

Since the year of independence, the population of Kuwait has increased by more than five times - from 321,621 to 1,697,301 in 1985. Between the 1961-65 and 1965-70 intercensal periods, the growth rate of the population was around 9 per cent per annum. It declined to around 6 per cent over the next two intercensal periods, and to 4.5 per cent in the 1980-85 period.

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Table 1

Population of Kuwait in Census Years 1957-1985 and Average Annual Growth Rates

Year of Population Census	Enumerad Population	Average Annual Rate (Percentage)
	Total Population	
1957	206,373	—
1961	321,621	11.1
1965	467,339	10.0
1970	738,662	9.6
1975	994,837	6.1
1980	1,367,952	6.4
1985	1,697,301	4.6
	Kuwaiti Population	
1957	113,622	—
1961	161,909	8.7
1965	220,059	8.1
1970	347,396	9.6
1975	472,088	6.3
1980	565,613	3.7
1985	681,288	3.8
	Non Kuwaiti Population	
1957	92,861	—
1961	159,712	13.7
1965	247,280	11.8
1970	391,266	9.6
1975	522,749	6.0
1980	792,749	8.7
1985	1,016,013	5.1

Source: Ministry of Planning, Central Statistical Office, Population Census of Kuwait, 1975, 1980 and 1985.

It will be observed from Table 1 that both the Kuwaiti and the non-Kuwaiti population increased dramatically after 1957. The Kuwaiti population increased by six times between 1957 and 1985 while the number of non-Kuwaitis increased nearly by eleven times. This remarkably rapid increase was a result of two main factors; natural increase and international migration.

In the case of the Kuwaiti population, natural increase as a component of population growth is quite significant. High birth rates and low mortality rates can explain the high growth rates listed in Table 1. In addition to natural increase, the Kuwaiti population was expanded as a result of the inclusion of Bedouins from the desert among the Kuwaitis and to a small extent through naturalization. The Bedouins are generally granted Kuwaiti citizenship following a period of government service, usually in the police force or the army. Statistics show that nearly 30,000 Kuwaiti naturalization permits were issued during the 1970-75 period, most of them to Bedouins (Hill, 1977). However, the annual number of naturalization permits were reported to have increased annually, from 6,174 in 1975 to 10,171 in 1980 and 13,046 in 1984 (CSO, 1986).

On the other hand, the non-Kuwaiti population increased to a small degree through natural increase, but much more through the migration of expatriates. The expatriate population has increased from 92,851 in 1957 to 391,266 in 1970 and to 1,016,013 in 1985. During the fifteen year- period of 1970-1985, the net increase in the expatriate population has been 624,727, an increase of 160 per cent. Furthermore, there have been more expatriates than national Kuwaitis since 1965, and as per the 1985 census figures, the expatriates constituted 59.9 per cent of the total population (CSO, 1986).

In 1975, the Palestinians and Jordanians formed the largest nationality group, and comprised about 39 per cent of the non-Kuwaiti population. Egyptians were the second largest group followed by Iraqis. Over the 1975-85 decade, several notable changes seem to have occurred in the ethnic composition of expatriates. The most striking among these is the increase in the percentage of Asians, particularly in the labour force. Asians constituted about 19 per cent of the expatriate population in 1975; their proportion increased to 35 per cent in 1985. Similarly, 29 per cent of the expatriate labour force was Asians in 1975 but this percentage jumped to 52 in 1985. Thus the Asian workers out-numbered the Arab workers for the first time in Kuwait's history in 1985. The percentage of expatriate from Africa, Europe, the Americas, and Australia has remained consistently around 2 per cent over the last two decades, 1965-85 (Shah & Al-Omaim, 1988).

In recent years, there has been a decline in the average annual rates of population growth, although these rates are among the highest rates of population growth in the world. The estimated midyear population for 1987 was 1,872,569. By 1990, the population is estimated to reach 2.14 million (CSO, 1986). If an annual growth rate of 3.2 is assumed, the population of Kuwait is expected to reach 2.7 million by the year 2000.

2. Population Distribution

Judged by available indications, Kuwait has a relatively high total population concentration. In a previous study of the degree and extent of population distribution in Kuwait, the density of population based on 1970, 1975, 1980 and 1985 census results was analysed (Al-Sabah, 1988). The pattern of densities was traced through a series of maps which show the distribution and population of the country in each year. It was shown that the density has increased from 44 persons per square kilometre in 1970 to about 59 in 1975, 80 in 1980 and to 100 persons in 1985.

In broad comparisons with other states in the Gulf Co-operation Council (GCC) countries (Table 2), Kuwait ranks second after Bahrain. The density of Bahrain in 1986 was estimated at 629 inhabitants per square kilometer, which is comparable to the most densely populated countries of Europe. Furthermore, much of Bahrain's population is concentrated in the urban areas because there is no widespread agricultural activity in the rural areas. In other states, the density is far lower. For example, the highest density after Kuwait was 34 in Qatar; 21.5 in the United Arab Emirates (UAE); 4.5 in Saudi Arabia; and 4.4 in Oman.

Table 2

Population Density in GCC Countries - 1986

Country	Total Population a/	Area (Sq. kms.) b/	Population Density
Bahrain	395,168	691	629.1
Kuwait	1,822,762	17,818	102.3
Oman	1,310,000	300,000	4.4
Qatar	389,252	11,427	34.1
Saudi Arabia	10,163,730	2,159,829	4.5
UAE	1,673,653	77,700	21.5

Source:

a) United Nations, Economic and Social Commission For Western Asia, Demographic and Re-l lated Data Sheets, No. 5, Baghdad, Iraq, 1986. pp. 2, 102, 142, 621, 182 and 222.

b) Bahrain, 1988, p. 25; Kuwait, 1986a, p. 1; Oman, 1987, p. 3; Qatar, 1988, p. 11; Saudi Arabia, 1986, p. 15; UAE, 1987, p. 13.

Administratively, Kuwait is divided into four governorates; the Capital, Hawalli, Ahmadi and Jahra. These governorates are subdivided into a number of localities ranging from 5 in Jahra to 25 in Hawalli. The total number of localities according to the 1985 census in 58.

In 1985, the density of population in the Capital and Hawalli governorates was 1,707 and 2,638 per square kilometre, respectively, while that in the Ahmadi governorate was 50 and in the Jahra governorate only 25. The localities vary in population size and the density in some was as high as 15,000 to 20,000 persons per square kilometre as shown in the following table:

Table 3

Number of Localities in the Four Governorates by Population Density, 1980 and 1985 Census Years

Governorate	Density of Population					
	0 - 4,999		5,000 - 9,999		10,000 & over	
	1980	1985	1980	1985	1980	1985
Capital	8	8	5	5	1	1
Hawalli	20	16	3	5	4	4
Ahmadi	11	12	3	2	—	—
Jahra	5	4	8	1	—	—
Total	**44**	**40**	**11**	**13**	**5**	**5**

From the above table it is easy to note that some of the low-density localities in 1980 has been shifted by larger ones in 1985. A major reason was the removal of Al-Ashish dwelling area (two main localities, namely Al-shedadiah and Sahiad al-awazim) and redistribution of their inhabitants into new planned areas in the Hawalli and Jahra governorates. These two localities contain temporary dwellings and it is possible that some of them were formerly inhabited by Bedouins who moved into government housing. However, since social and economic development had to take place in certain spatial nodes, and required settled population, nomadism was considered as a negative component in the ecological structure, and therefore had to be abolished. In this connection several actions were taken by the authorities, all of which had a direct impact on the urban pattern and urban structure.

In terms of nationality distribution within localities, considerable variation is present. Some localities had only a negligible percentage of Kuwaitis (Murqap, Qibla, Rai and Scrap area each had less than 1 per cent), or none at all (Shuwaikh industrial area and Shuwaikh & coast south strip). In some others, the percentage of Kuwaitis was as high as 80 to 90 per cent (Firdous, Reqa & Hadiya, Um Al-Himan, Jahra common dwelling and Sulaibiya common dwelling). Such a pattern of nationality distribution is the result of

the housing policies of the government whereby economically subsidized housing is being developed for the Kuwaiti nationals in the especially-designated localities.

Table 4 displays the total numbers of Kuwaiti and non-Kuwaiti populations by governorate and their percentage distribution during the period from 1980 to 1985.

Table 4

Population of Kuwait by Nationality
1980 and 1985 Census Years

Gover-norate	1980				1985			
	K	N.K	T	% K	K	N.K	T	% K
Capital	71815	110451	182266	39.4	60538	107230	167768	36.1
Hawalli	205968	546255	752223	27.4	258918	685521	944439	27.4
Ahmadi	136555	96088	232643	58.7	147829	157233	305062	48.5
Jahra	151275	39545	190820	79.3	214003	66029	280032	76.4
Total	**565613**	**792339**	**1357952**	**41.7**	**681288**	**1016013**	**1697301**	**40.1**
	Relative Distribution							
Capital	12.7	13.9	13.4		8.9	10.6	9.9	
Hawalli	36.4	69.0	55.4		38.0	67.5	55.6	
Ahmadi	24.1	12.1	17.1		21.7	15.5	18.0	
Jahra	26.8	5.0	14.1		31.5	6.4	16.5	
Total	**100.0**	**100.0**	**100.0**		**100.0**	**100.0**	**100.0**	

K = Kuwaitis
N.K.= Non-Kuwaitis
T = Total Population

Non Kuwaitis are now the dominant group in all governorates except Jahra. From the table in question, it can be seen that more than half of the population of Kuwait (56 per cent) is concentrated in Hawalli and nearly three-quarters (73.6 per cent) of that population were non-Kuwaitis. During the period 1980-85, these two percentages remain unchanged.

The introduction of industries on a large scale in most of the major localities in the Ahmadi governorate together with the provision of a wide range of urban services and amenities created more opportunities for employment, and made these localities attractive to migrant labour. During the 1980-85 period, the Ahmadi's population rose from 17.1 per cent in 1980 to 18.0 per cent in 1985. Most of this increase has happened in favour of non-Kuwaitis as their share in the total population of the governorate increased from 41.3 in 1980 to 51.5 in 1985.

As mentioned before, several government projects for settling the nomads were implemented in Jahra and were successful in attracting nomadic groups to accept the idea of permanent settlement and work in occupations which were once considered as undesirable by nomads, such as agriculture. High percentage of Kuwaitis among Jahra population (79 per cent in 1980 and 76 per cent in 1985) clearly illustrate the above fact, which helped the total population of the governorate to rise from 14.1 per cent in 1980 to 16,5 per cent in 1985.

As is the case with the Hawalli and Ahmadi governorates, non-Kuwaitis in the Capital are the dominant group. They moved into the houses vacated by the Kuwaiti citizens who were able to buy property in the suburbs. Over the period 1950 to 1970/1, land purchases represented 21 per cent of the total oil revenue allocations. Land purchase schemes became an important mechanism in the 1950's whereby prosperous Kuwaiti families (mainly government officials) inhabiting the old town of Kuwait were encouraged by high compensation rates to move to the new low density suburbs. As a result, a sharp decrease in the total Capital's population from 13.4 per cent in 1980 to only 9.9 per cent occurred in 1985. In fact, land prices in the capital rose 32 times between 1952 and 1960 and this type of oil revenue allocation was instrumental, in creating social and spatial segregation in the city as well as increased urbanization (Grill, 1984).

These examples of Kuwaiti governorates make it clear that migration represents an important factor in the population distribution and that the places which are growing fastest by migration are within the development "axis" across the country.

Population concentration is a necessary byproduct of the redistribution of population and underlies the entire process of migration. Given the very significant role of migration in the growth and redistribution of population in the region and sub-region of the country, a study of the pattern, level and

degree of population concentration is necessary. Urbanization in all its forms and manifestations all over the world represents just one aspect of the process of population concentration. Consequently, both total and urban concentration will be dealt with in this analysis as complementary parts of a common phenomenon.

3. Total Population Concentration

Invariably, the pattern and level of concentration have been changing since 1980. Aspects of this tendency have been given in the analysis of redistribution of population between subregions of Kuwait.

For the state as a whole, the concentration of population is measured in terms of the clustering of population within the boundaries of each district. The difference between two administrative units of a state can be explained by the relative size of their territories and population, instead of population densities alone. In the present paper, some conventional measures of population concentration have been applied to the 1980 and 1985 census results. Three indices, the Lorenz Curve of Concentration, the Gini Concentration Ratio and the Duncan Index of Concentration were employed.

The Lorenz Curve, first expounded in 1905, has long been used to measure inequalities in the distribution in wealth or income. It has also been used to depict the state of concentration of population and of other demographic aggregates (Shryock et al, 1975).

The result of applying the Lorenz Curve of Concentration to census data for 1980 and 1985 is depicted in figure 1. In the graph, the cumulative per cent distribution of population in 58 districts is plotted against the cumulative per cent distribution of the area of these districts. The theoretical expectation is that the curve should follow the diagonal, if there was an even distribution of population. Conversely, the degree of uneven distribution would be depicted by the deviation of the curve from the diagonal. The implicit assumption in drawing the curve is that population density varies positively with the size of subareal units. Consequently, the size of the major area between the curve and the diagonal indicates the density level. This area for the two censuses appears relatively large and therefore indicates the prevalence of high concentration of population. it can be seen that 99.1 per cent of the total population in 1985 was living in 6.0 per cent of the total land area. But the fact that the area defined by the 1985 curve is smaller than that delimited by the curve for 1980 shows a growing tendency towards achieving decreasing levels of concentration.

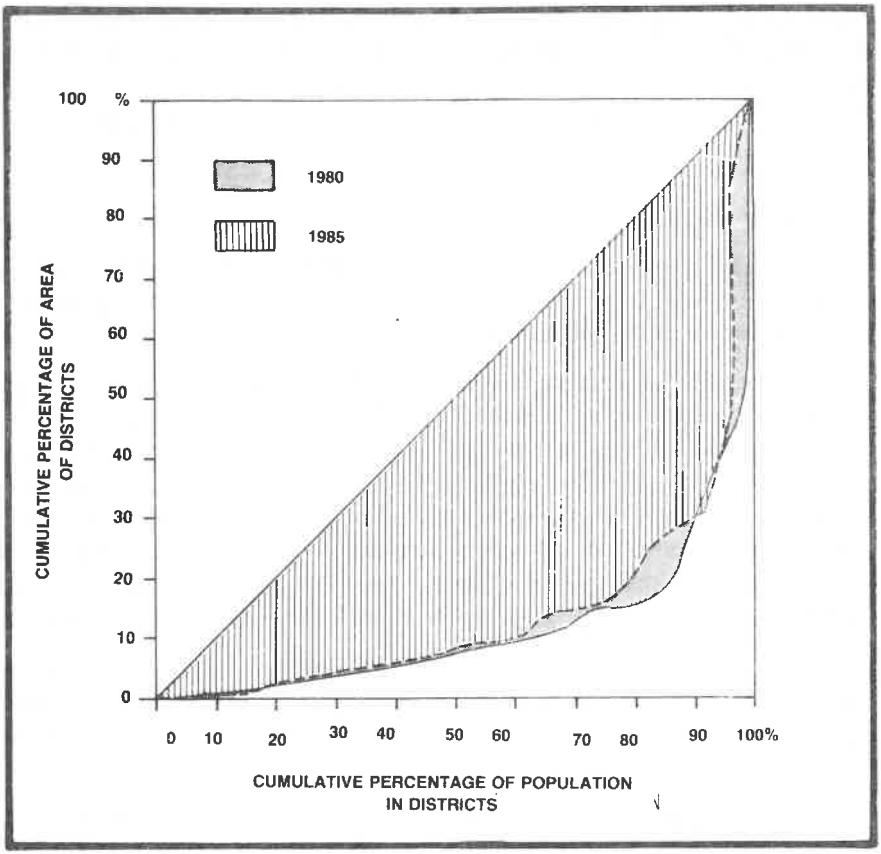

Fig-1 The Lorenz Curve of Population Concentration for Kuwait 1980 and 1985

The same trend of population concentration over the period 1980 to 1985 as depicted in figure 2, indicates the same trend regarding the spread of population by nationality.

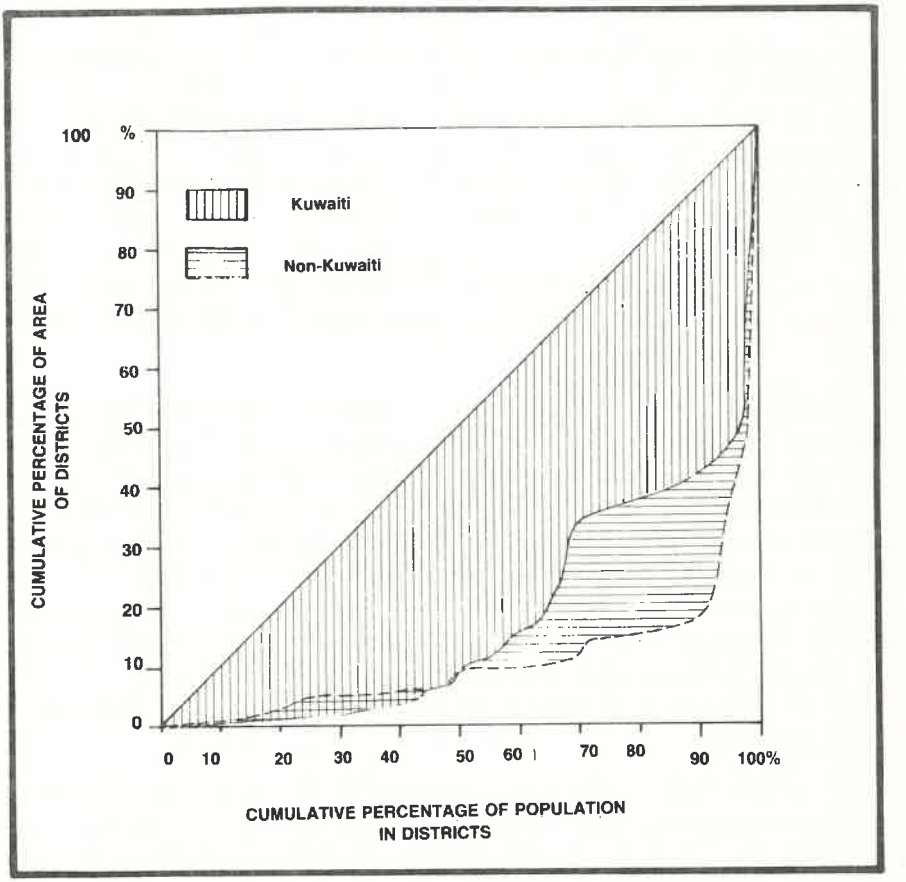

Fig-2 The Lorenz Curve of Kuwaiti and Non-Kuwaiti Population 1985

The trend is a bit surprising but is consistent with the government policy towards creation of more new urban settlements. There are two principal kinds: settlements created for oil industry activities and those built to alleviate congestion in rapidly growing areas. Examples of the former type can be found in Ahmadi, Um Al-Himan and Doha. These localities were created to fulfill the demand for residential areas near the industrial zone and their designation as such was not dictated by the availability of any natural advantages.

Government regulations concerning zoning, and the development of subsidized housing for Kuwaitis is another factor towards achieving decreasing level of concentration. Since 1953, the government has built and distributed 34,214 housing units, the majority of them for limited income families. During the 1975-85 period, the government built and distributed 14,340 dwellings for limited income, and 2,795 units for medium income Kuwaiti families. Thus, in 1985, the housing needs of about 40 per cent of the Kuwaiti households were being met directly by the government, either through total subsidy or long term, interest-free loans (Shah & Al-Omaim, 1988).

Expansions in the establishment of new settlements are expected to continue in the near future in view of the expected increase in population. Planners have identified the need for the two major urban centres. Subiya, located at the eastern end of the Zoor Ridge and reaching into the Kuwait Bay, would have a population of 250,000. A second city, Al-Khiran[1], is also planned, west of the national highway between Kuwait City and Saudi Arabia, to accommodate 125,000. The new town would expand development in the south and involve relocation of central government agencies from Kuwait City. An estimated 34,000 jobs would need to be created in order to attract new residents to the proposed urban site (Conway & Anderson, 1986).

The Gini Concentration Ratio (or Gini Coefficient) provides a measure of absolute population concentration. It measures the proportion of the total area under the diagonal and the Lorenz Curve. The computational values for Kuwait in 1980 and 1985 are 0.543 and 0.491 respectively, which are also supported by the rather high concentration of population in Kuwait (Table 5). These figures also show that there is a spread in the population over the 1980-85 period but the amount is negligible. Those values also conform with findings from the Lorenz Curve. A high level of socio-economic development and outward migration to the country, may be some of the reasons behind the new trend of the concentration of population over the last five-year period.

Table 5

Some Indices of Population Concentration in Kuwait, 1980 and 1985 Censuses

Type of index	1980	1985
Concentration Ratio		
Kuwaiti	0.543	0.491
Non-Kuwaiti	0.866	0.836
Total	0.732	0.697
Index of Concentration		
Kuwaiti	0.464	0.442
Non-Kuwaiti	0.802	0.754
Total	0.661	0.628
Urban Concentration Index		
Localities with 10,000+ Person	12.5	9.9
Localities with 20,000+ Person	27.4	27.4

Considering GCC countries as one group, the Gini Coefficient comes out to be 0.23, which is much less than half of the above value recorded for Kuwait.

With regard to nationality distribution within localities, the concentration ratio for Kuwaitis was higher than for non-Kuwaitis, but as a result of the subsequent establishment of new localities all over the country, this ratio tends to decrease almost at the same rate for the two groups. For Kuwaitis, it decreased from 0.866 in 1980 to 0.836 in 1985 whereas for non-Kuwaitis it decreased from 0.732 to 0.697 during the same period (Table 5).

An alternative measure of the degree of population concentration is the index of concentration, sometimes called the index of dissimilarity (ID). This measure can be interpreted as the proportion of the population that would have to be redistributed in order to attain a completely uniform distribution of residents over the area. In terms of the Lorenz Curve, ID measures the maximum distance between the diagonal and the curve.

Applying the above formula yields an index equivalent to 0.661 for 1980 and 0.628 for 1985. As a result, not only the areas but also the maximum vertical distances from the Lorenz Curve to the diagonal depicted in figures 1 and 2 attest to the growing level toward low concentration. The index shows

that concentration was higher for non-Kuwaitis than for Kuwaitis and nearly two times as high in 1980 as in 1985 for both of them. Though not quite as spectacular, the Duncan Index also illustrates the same tendency between the two dates.

Redistribution of Population

The effects of geographic differentials in growth rates are reflected in the changing proportionate distribution of the population among the component districts (areas). We may study the overall distribution of population among the districts by the Inter-District Redistribution Index (IDRI). It is calculated by subtracting the percentage distribution of the population by area at one point in time from the percentage distribution of the population by area at another point in time n years later, summing over the absolute differences and dividing the result by two.

This measure may be interpreted as the proportion at the second point in time that would have to be relocated to attain the original spatial distribution. In other words, the index reflects the percentage of the state's population at the end of the period that would have to be reshuffled among the district in order to have the distribution at the beginning of the period. Theoretically, the lower limit of this index is zero and the upper limit is 100.

The value of IDRI for the 1980-85 period has been computed at 0.035. For non-Kuwaitis it was higher than for Kuwaitis in all governorates except Jahra (Table 6). It may, however, be noted that this index measures only the net redistribution of the population and a heavy shift of the population into district countered by an equally heavy outward shift would have no effect upon its value.

Table 6

Inter-District Redistribution Index in Kuwait, by Nationality 1980-85

GovernorateKuwaiti	Non-Kuwaiti	Total	
Capital	0.066	0.110	0.068
Hawalli	0.250	0.150	0.296
Ahmadi	0.080	0.164	0.074
Jahra	0.100	0.163	0.109

Furthermore the index of redistribution can be analysed to find the proportion of redistribution that resulted from increase or decrease in the shares of individual districts or group of districts during 1980-85. It can be seen that Hawalli is the only governorate in Kuwait where change in shares of state population during 1980-85 is about 0.3 per cent and the governorate has been the gainer. In the other governorates this share is quite less.

3. Urban Concentration

Kuwait is practically a city state, with a significant percentage of the population living in areas that may be termed as truly rural. Urban amenities such as electricity and potable water are available in even the remote desert areas. The economic activities of only 1.9 per cent of the labour force are classified as agricultural, hunting and fishing. Such pursuits, however, do not usually involve rural living in the cae of Kuwait. As data in table 7 indicate, about 90 per cent of the population of Kuwait lived in agglomerations of 10,000 and over, 82 per cent in agglomerations of 20,000 and over, and nearly 28 per cent of these were residents of the capital agglomeration of Kuwait.

Table 7

Percentage Urban Population, Percentage Living in Agglomerations of 100,000 and over and Percentage Living in Agglomerations of 20,000 and over in the GCC Countries, 1986.

Country	Percentage urban a/	Percentage in agglomerations 10,000 and over	Percentage in agglomerations 20,000 and over
Bahrain	82.7	76.5	72.2
Kuwait	—	90.1	82.0
Oman	9.2	—	—
Qatar	88.3	—	—
Saudi Arabia	21.0	—	—
UAR	86.6	88.5	65.8

a/ Urban as defined by country

Source:
United Nations, Economic And Social Commission For Western Asia, Demographic and Related Soci-economic Data Sheets, Baghdad, Iraq, 1986, pp. 7, 107, 147, 167, 187, and 227.

According to ESCWA (1987), if all localities with a population of less than 10,000 persons were considered as rural, the total urban population of Kuwait would be 90.1 per cent in 1986. Another estimate was given by Shah and Al-Omaim (1988) as 98 per cent urban population in 1985. It defines the Capital and Hawalli governorates as completely urban and adds to this the population of localities having 10,000 or more persons in the Ahmadi and Jahra governorates.

Kuwait's lead in urban development was maintained throughout the oil-period so that by 1986, urban growth (measurement in terms of the concentration of the population in urban places) had reached present-day level. At that time, no other state among the GCC countries approximated the level of urban growth of Kuwait. For example, the highest proportions of urban growth close to those of Kuwait were 88.3 per cent in Qatar[2], 86.6 per cent in UAE[3] and 82.7 in Bahrain[4]. In Oman[5] and Saudi Arabia[6], the proportions were far lower, as they were only 9.2 per cent and 21.0 per cent for the two countries respectively (Table 7).

Because population concentration in Kuwait appears to be highly correlated with urbanization, measures of concentration employing data for designated or administratively defined urban localities have also been computed. This paper does not attempt to review or contrast the different measures of urbanization; this can be found in Arriaga (1979). The application of different measures to world data over time and cross-sectionally can also be found in Davis (1969) and most recently in UN (1979). Here, only one dimension of the urbanization process is presented: namely, urban concentration[7].

The degree of concentration within urban localities with 10,000 residents or more and those with 20,000 residents or more has been measured by the following index.

$$CI = \left(\frac{P_i}{P} (100) \frac{100}{N} \right) \qquad (1)$$

where P_i is the population of the urban area on the census date, P is the population of Kuwait on the same date, and N the number of urban localities in Kuwait. The theoretical expectation is that the value of this index would be zero if population were equally spread or shared among the urban areas; it would attain a maximum value equal to $(100 - \frac{100}{N})$, if the entire

population were concentrated in one urban locality. In practice, the index lies almost always between the two extremes, and the higher the value, the greater the degree of concentration in selected localities as against an even spread among them (Ohadike & Tesfaghiorghis, 1975).

From the values of this index as given in Table 5, concentration appears to be high but definitely decreasing with time. The decrease is more apparent in the case of urban localities th 10,000 or more residents whereas the index decreases from 12.5 in 1980 to 9.9 in 1985. This decline corresponds to that already shown for the total population of Kuwait. The correspondence together with the closeness of the urban indices to those for the total population, further strengthen the observation that the pattern of urban concentration is indeed positively related to that of the total population of Kuwait.

In the world scale, urban growth is increasing rapidly. In the Gulf countries, including Kuwait, it is taking place at a far more rapid pace, and for different reasons, than it does in the West. Most localities experience rapid expansion in area and population growth. Suburbs have been added, shanty-towns are incorporated into growing cities to become part of their area. In addition, population growth of cities, especially large ones and capitals, is even more striking (Hammouda, 1982). Natural increase and massive migration are primary factors in this process, oil industries and employment opportunities associated with them are another cause.

What is most characteristic of the urban growth in Kuwait is the rapidity of change. This phenomenon has been noted by Shiber (1968) when he concludes that "old and new in Kuwait are very close to each other in spatial terms, and what took Europe 150 years to accomplish took Kuwait 10 years on account of rapidly rising oil revenues". Stephens (1976) describes the growth and change of Kuwait in the following way: "Although there was little historic sentiment of architectural merit attached to the old city, its destruction and replacement by a new motorized city covering twenty times the former area meant also a blow at the traditional way of life of a closeknit community which had been like that of a medieval town".

This tremendous urban explosion is a clear expression of urbanization as, prior to 1950, the majority of Kuwait's population lived within limited number of houses bounded by the mud wall built defence purposes in 1918. The principal urban features were the dhow harbour, the main market place and souk, and the larger houses on the seafront inhabited by the pearling merchants. However, in the early 1950s Kuwait city became a focus of increasing population, government and commercial activity.

Kuwait has developed rapidly in recent years, Among other projects, the government has invested in the construction of three large industrial zones, at Shuwaikh, Ahmadi and Shuwaiba; a new port at Failaka, a major reconstruction of Kuwait city and its environs and the construction of a new town south of Kuwait City (United Nations, 1983).

4. Primacy Index of Concentration

Studies of the primacy of the first city have also been used to delineate trends in urban population concentration. Primacy defines a situation where in a country the first or principal city is simply the largest city in the country (Jefferson, 1939) Examples, include: Riyadh in Saudi Arabia (18 per cent in 1974), Manama in Bahrain (35 per cent in 1981), Abu-Dhabi in UAE (41 per cent in 1985), and Doha in Qatar (59 per cent in 1986).

In the area of international comparison, attempts have been made to coin an adequate primacy index. Davis and his associates (1969), developed and used a formula which directly computes the population of the largest city in a country at a percentage of the total population of the next four largest cities. Briefly the formula for the four city index is:

$$PR = \frac{P_1}{P_2 + P_3 + P_4 + P_5} \qquad (5)$$

where PR is the index, and P_1, P_2, ...P_5 are the respective populations of the first, second...and fifth city in the country. By applying the above formula to Kuwait, a primacy rate of 0.32 was obtained. By standards prevailing in other GCC countries, the index for Kuwait is relatively low. For example, Qatar had an index of 1.60; UAE, 0.55 and Saudi Arabia, 0.55.

Kuwait is more or less a "nation-city" state, where a significant part of the population reside in its primate city. It was noted that the contribution of rural-urban migration to the growth of the primate city has no significance at all and that international migration is responsible for the major part of the growth, although the natural increase, especially of the natives, has also played a very important role. However, Saad El-Din (1974) found that in most Arab countries the size and growth rate of the primate cities are exceptionally disproportionate in relation to other urban settlements.

In many countries, population distribution policies have been synonymous with measures to control the growth of the primate city. In Kuwait the growth of the primate city has slowed down, but the forces responsible have

often been spontaneous rather than the result of explicit policies. In some other countries, especially where levels of urbanization are still very low, policies to slow down the growth of the primate city may still be premature, since the cities still may be too small to maximize the country's capacity to diffuse innovations and development. These considerations suggest that the criterion of slowing down the primate-city growth probably should not be the sole test of success for population distribution policies. Perhaps a more useful criterion would stress raising the levels of living of all the national population, regardless of whether they live in the primate city, other cities and towns or rural areas.

Theories of urban growth seek to identify the forces which permit and encourage large numbers of people to concentrate in comparatively small areas in space. Two broadly contrasting viewpoints are prevalent in the literature, one underlying the importance of the economic prerequisites and imperatives for urban growth, the other emphasizing the roles of social bonds. (Clerk, 1982).

As far as non-Kuwaitis with their different norms of life-style constitute the significant part of the population of Kuwait, there is strong evidence to assume that both economic and social forces will act together towards urban growth development and an even bigger population concentration in Kuwait. The most important geographical implication is the possibility that the urban population could relocate on a massive scale. A comparatively low percentage of the labour force, notably those employed in extractive activities and in oil-oriented manufacturing, are tied by their jobs to a particular location, and the majority already enjoy a great deal of geographical flexibility.

5. Discussions and conclusion

Many facets of population concentration in Kuwait have been examined in this paper, with the aim of determining how serious this phenomenon could become if current trends continue. The need exists to offer solutions within a long term development strategy aimed at improving the geographical dispersion of the population in order to resolve problems of overcrowding in the state. The small size of the country, the scarcity of arable land, the difficulties of living in desert areas and the oil economy have contributed to a heavy concentration of the population in a few selected areas. The inhabited areas constitute only about 6 per cent of the total area of the country.

The analysis has shown that the physical expansion of Kuwait is a reflection of the urbanization process, and that oil has provided prosperity for the Kuwaitis and employment for non-Kuwaitis, both of which have induced large-scale population movement to, and within, the city. Kuwait was a traditional city that became an economic core in the Arabian Peninsula and the analysis of segregation here has indicated that distinct coreperiphery relationships also occur within the city.

Kuwait has a high concentration ratio but it is expecxted to decrease in the future as establishment of new areas will keep rising. The factors that are believed to have a direct impact on the distribution of population in Kuwait are three-fold, namely, demographic change, socio-economic progress, and infrastructural development. These factors are likely to remain effective at it present level.

In terms of nationality distribution, non-Kuwaitis are dominant in the majority of the residential suburban blocks except for Jahra governorate, in which there are approximately 79 per cent Kuwaitis. The non-Kuwaitis tend to be concentrated around the major industrial complexes and commercial centres.

At the present time, the government has taken a number of steps to reduce excessive population concentration such as the establishment of low cost housing to replace squatter settlement and providing social amenities like transport, shopping centres and hospitals in less densely-populated areas. Several suburbs have been identified for development and growth (Kholi, 1988).

Notes

(1) Politically, development of such a city would demonstrate Kuwaiti commitment to the north and to Bobiyan Island.

(2) With respect to internal migration, the population of Qatar is highly urbanized and is concentrated in and around the capital. Of the total population, 75 per cent were living in Doha in 1970 and among non-Qataris the proportion was 85 per cent (Qatar, 1988).

(3) According to 1975 census figures, there were approximately 340 localities in the UAE, of which 70 per cent were small villages of under 200 inhabitants. However, much of the population was urban and concentrated in the emirates of Abu Dhabi (38 per cent) and Dubai (32.8 per cent). The only emirates that had substantial proportions of their populations in rural areas were Ras al-Khaimah (47.7 per cent) and Fujiera (82.5 per cent), where there is a relatively widespread agricultural activity (U.A.E. 1987).

(4) Approximately 80 per cent of the population live in urban areas, with 75 per cent of them residing in the towns of Manama and Muharraq (ECWA, 1981).

(5) About half of the people reside along the coastline. The population in the capital area of Muscat-Mutrah is about 8 pr cent of the total population. Most of the buildings do not exceed a few stories (Oman, 1987).

(6) According to census results, thirty-eight per cent of the total population of Saudi Arabia in 1974 resided in cities with populations of 30,000 or more. With regard to internal migration, the government believes that the urban areas are growing rapidly due to the influx of both expatriates and internal migrants.

(7) In the demographic and statistical study of urbanization, four dimensions are usually considered: level of or degree of urbanization, changes in the degree of urbanization (the tempo), distribution and concentration of urban population among city size categories, and the components of urban growth. The level and tempo of urbanization constitute the minimum and basic dimensions that must be quantified

for any meaningful study of the phenomenon. The other aspects are alternatively treated as causes, effects, and dimensions of urbanization. For more details see Seifelnasr (1980).

(8) In the literature, it has been shown that the principal city can be identified by applying G.K. Zipf's formula of rank-size rule. This rule supports the existence of a non- linear relation between city size and number of cities. More precisely, the sixe of the first city is held to be equal to the size of any other city in the country times its rank.

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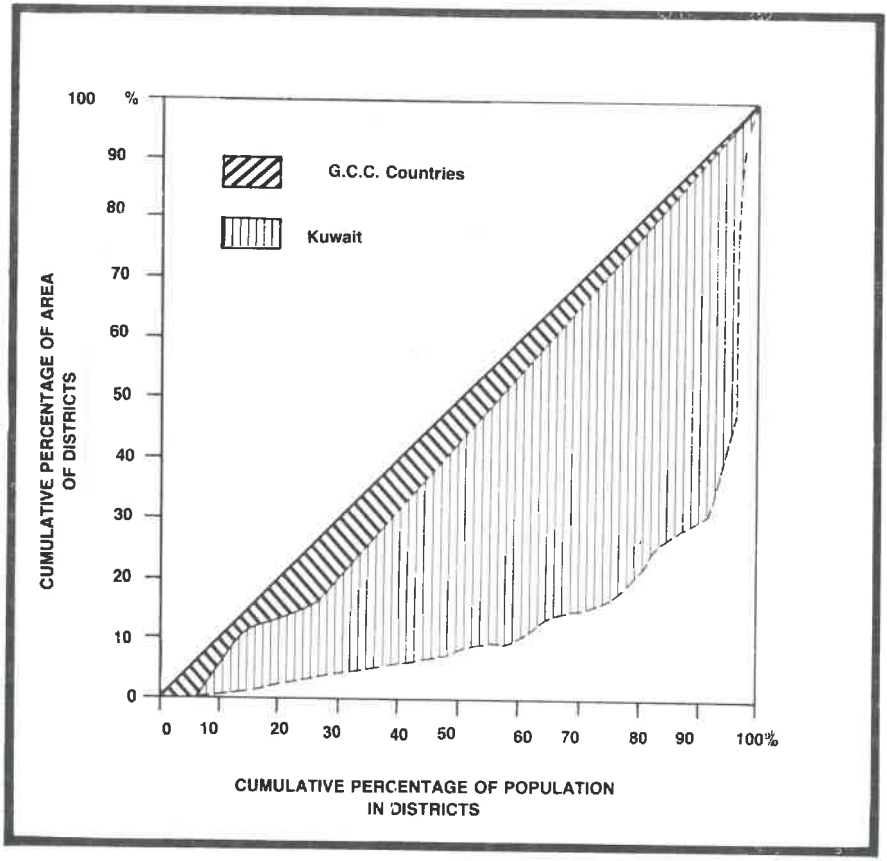

Concentration Ratio of Population in Kuwait and the G.C.C. Countries