ESTIMATES OF TOURISM DEMAND, AND POTENTIAL SUPPLY AND DEMAND FOR HOTEL ACCOMMODATION

By

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Introduction :

Last decade witnessed a substantial change in Egypt's development strategy. The new economic policy (the Infitah) which was adopted since 1974, has greatly emphasized foreign investment and investment by local private sector as the two most important forces in stimulating economic growth.

Sectoral priorities have consequently changed, with top priority given to those sectors which are considered most attractive to domestic and foreign investors. Tourism is considered as a priority sector in this context, because it is believed that it can be developed into a major source of foreign exchange for the Egyptian economy. On the other hand, tourism is a sector where foreign investment and domestic private investment have a potentially important role to play.

Several concessions are made in the foreign and Arab investment law number 43 of 1974, to induce foreign capital to be invested in different investment projects. The comfortable treatment of tourist projects in law 43 attracted a relatively large number of investors to the extent that tourist projects came on the top of the list of non-industrial projects approved by the Investment Authority.

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Most notable however is the remarkable expansion in hotel projects which has taken place since 1974. Further expansion is also expected in the future due to the existance of several hotel projects under construction.

It is critical therefore for planning purposes to examine the demand prospects for tourism in Egypt in the light of the expected increase in supply of hotel accommodation. The general objective of this study accordingly is to determine which of the following alternatives is likely to face the Egyptian hotel industry.

(i) A growth in tourism demand compatible with the anticipated growth in supply of hotel accommodation.

(ii) A growth in demand at a relatively slower rate than supply expansion, which would result in a situation of excess supply of hotel accommodation.

(iii) A growth in demand at a higher rate than supply which would lead to a situation of excess demand for hotel accommodation.

Demand and supply expectations will be confined to the period 1985-1990. They are performed on a regional and hotel category basis simultantion.

The study is divided into 9 sections. In the first and second respectively, travel to Egypt as part of world tourism movement, and historical and structure of tourism demand are discussed. Forecast of tourism demand until the end of the decade is undertaken in section (3), which includes estimation of number of visitors, average period of stay and number of tourist nights. Sections (4) and (5) are devoted to the analysis of supply and demand for hotel accommodation respectively. Section (4) includes an estimation of future supply of accommodation until 1990, and in section (5) a full analysis of all components of demand for hotel accommodation is presented. The transformation of tourism demand forecasted in section (3) into demand for hotel accommodation is performed in section (6).

Results related to the estimation of supply and demand for hotel accommodation are combined in section (7) where the matching between supply and demand is made for different hotel categories in different regions. In the eighth section sensitivity analysis is carried out to test the relationship between different levels of feasible hotel occupancy rates and each of the following variables : number of visitors, number of visitor nights, average period of stay and proportion of hotel tourist nights/total tourist nights. In the last section of the study some concluding remarks are made.

1. TRAVEL TO EGYPT AS PART OF THE INTERNATIONAL MARKET :

1.1) Egypt's in World Tourism Market :

The development of Egypt's share in world Tourism market over the period 1974-1981 is given in Table (1).

TABLE (1) Share of Egypt in International Travel

	1974	1975	1976	1977	1978	1979	1980	1981
International arrivals (million)	197.8	215.1	221.6	239.9	258.1	270.4	278.6	290.5
Arrivals in Egypt (thousands)	676	292	984	1004	1051	1064	1253	1376
Egypt's share	0.34	0.37	0.44	0.42	0.41	0.39	0.45	0.47

Source : World Tourism Organization, Tourism Forecast, W.T.O., Madrid, 1982.

It is obvious that Egypt captures an insignificant proportion of international travel. Its share did not exceed 0.47 % all over the period. A slight increase in Egypt's share can be observed however over the period, which indicates the rather limited effect of the Infitah policy on tourism promotion.

When compared with competitive markets Egypt's portion trends to be weak. For instance, in 1980 Tunisian share was 0.60 %, Morocco 0.54 % and Greece 1.9 %.

(1.2) World Tourism Trends until 1990 :

Since number of visitors to Egypt is part of the international tourism movement, trends in international arrivals until the end of the decade are of particular importance to the future of tourism in Egypt.

According to World Tourism Organization (WTO), international Tourist arrivals in 1990 would range between a minimum of 450 million tourists (low assunption), to a maximum of 470 million (high assumption). The relative share of different regions in world market and its expect development from 1980 to 1990 is given in Table (2).

TABLE (2)
International Tourism Arrivals
(in millions of arrivals)

Region	1980		1990 (High assumption)			
	Arrivals	%	Arrivals	%	Average growth 1980–1985	Average growth 1980–1990
Africa	5.5	2.0	12.7	2.7	7.4	8.7
America	51.1	18.4	77.5	16.5	3.6	4.3
East Asia and the Pacific	14.5	5.2	34.3	7.3	8.0	7.0
Europe	202.7	72.4	337.5	71.8	4.9	5.2
Middle East	2.8	1.0	4.2	0.9	3.6	4.1
South Asia	1.4	0.5	2.8	0.8	8.3	10.5
World Total	278	100.0	470.0	100.0	4.9	5.4

Source : WTO, 1982, Op. cit.

Note: Figures are adjusted to take account of actual numbers of arrivals in 1980.

Although the share of Europe and Americas together is expected to fall slightly by 1990, these two regions still dominate the market with 88 percent of total arrivals. The share of the Middle East although very low, is expected to fall from 1.0 percent to 0.9 percent. This is due to the levelling off of growth which on average falls below 4 %, compared with an average growth of 5.8 percent over the period 1974-1980.

It is worth noting however that international Tourist forecasts until 1985 are more pessimistic than the forecasts for the second half of the decade. An average annual growth rate of 4.5 percent is expected from 1980 to 1985, which is lower than the average rate of growth for the whole decade (5.4 %).

2. STRUCTURE AND HISTORICAL DEVELOPMENT OF DEMAND :

(2.1) Demand Structure :

Significant changes in the structure of tourist demand became appearant during the 1970's and early 1980's. Most important is the change in the relative weight of Western and Arab Tourists. The relative share of Arab visitors in the tourist market decreased from 61 percent in 1971 to 43 percent in 1982, whereas the relative share of western travellers increased from 27 percent to 46 percent over the same period.

The following factors may be responsible for the high rate of growth in western tourists realized in the 1970's :

(i) The improved political relationship between Egypt and the Western world which encouraged tour operators in the west to include Egypt in their travel programmes.

(ii) The Tutankhamun Exhibition which toured western markets in the mid 1970's, served to increase "top of the mind awareness" and provided a considerable boast to the number of Egypt holiday sales by the leading tour operators.

(iii) The Open door economic policy (Infitah) greatly encouraged foreign investment, and led to a significant increase in business western arrivals.

(iv) The expansion in hotel accommodation capacity over the second half of the 1970's. New hotels, mostly with foreign management, helped in attracting western travellers.

Number of Arab visitors, on the other hand, was greatly influenced by changes in the political relationship between Egypt and the Arab Countries. Three phases can be distinguished. The first, a normal phase, lasted from 1970-1976, where number of visitors was increasing. The second, a declining phase, continued over the three-year period following the peace initiative and the deterioration of Arab-Egyptian relationship (1977-1979). The sharp drop in number of Libyan travellers was particulary responsible for the negative growth in Arab visitors during the declining years. Thus, until 1975, Libya was the biggest generator of Arab visitors to Egypt. Number of Libyan visitors however dropped from 142 thousand in 1974 to 5 thousand in 1978.

In 1981 and 1982 number of Arab visitors greatly increased and exceeded the level prevailed in 1976, the year preceding the decline. Arabs, nevertheless, remained to occupy a second position after Western visitors in the tourism market.

(2.2) Average Stay Period :

Inspite of the annual fluctuation in average stay period for Arab visitors, a declining trend can easily be identified. Arab average stay sharply decreased from 15.8 nights over the period 1970-1973 to 7.8 nights from 1979 to 1982.

A decline in average stay for Europeans is also obvious but far less remarkable. It declined from 8.5 nights on average to 6.2 nights over the same period. American average stay remained constant all over the period, with the exception of some annual fluctuations. This is probably due to the fact that American visitors constitute mainly of business visitors whose average stay does not change much over time.

The fall in average stay for tourists in general can be explained by the following factors :

(i) Shortage of reasonably priced accommodation particularly flats, induced Arab visitors to stay for a shorter period.

(ii) The growing international tending towards package tourism which include several country visits in the same tour.

(iii) The continuous increase in number of package tours organized by Israel, in which only a short visit to Egypt is included as part of the tour.

(iv) The increaing flow of businessmen visitors particulary since 1974.

(v) The considerable increase in hotel prices.

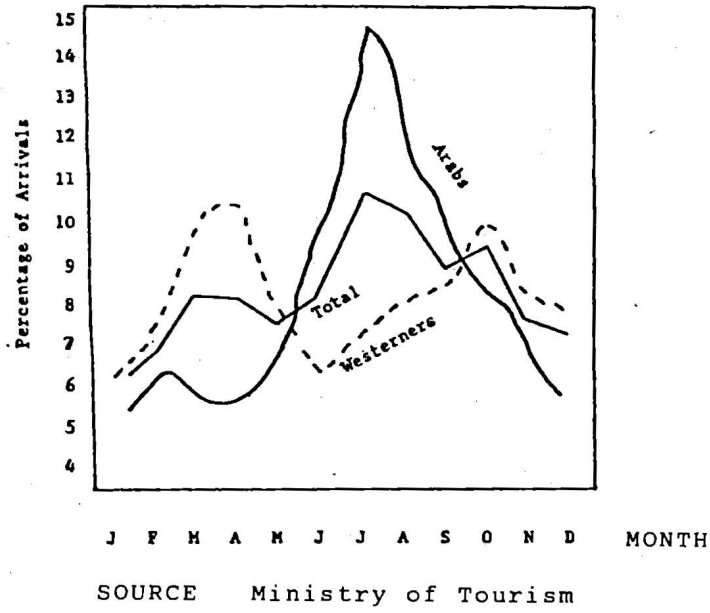
(2.3) Number of Tourists and Tourist Nights :

The combined effect of the fluctuation in number of Arab visitors and the high rate of growth in number of Western visitors resulted in a steady growth in total number of tourists. The falling trend in average stay however led to a rather moderate growth in number of tourist nights. Table (3) demonstrates the relationship between growth in number of visitors, number of visitors nights, and average stay.

The indices (1970-100) given in Table (3) reveal the moderate and rather unstable pattern of growth in number of tourist nights (1982=203), compared to the high and more stable growth in number of tourists (1982=397). They reveal also the remarkable decline in average stay (1987=51) which together with the change is Arab visitors share in the tourism market may explain the behaviour of tourist nights.

(2.4) Seasonabits :

In general, it can be maintained that Egypt enjoys a fairly regular tourist supply all over the year. This is due to the large varieties of tourist nationality with wide variation in tasts and holiday timing. Arabs prefer summer visits, whereas Europeans arrive mostly during winter months. Informations obtained from the Ministry of Tourism reveal that while 48 percent of Arab visitors arrive in the summer season (June-Sept.) 30 percent only of Western Europeans and 25 percent of visitors from socialist countries arrive in summer season. With respect to total arrivals, 38 percent of the visitors arrive in summer, which indicates the weak seasonability (Figure 1).



SOURCE Ministry of Tourism

Figure 1. Seasonality pattern

Seasonality is evident nonetheless in some important tourist-regions of Egypt such as Luxor and Aswan. The very hot weather in Summer months discourages European and American visitors from visiting these historic places.

3. FORECAST OF TOURIST DEMAND :

Several statistical methods or econometric analysis can be used to project tourist numbers. Mathematical trends and regression analysis are the most common methods.

(3.1) Regression Analysis :

An attempt to use multiple regression analysis in estimating number of visitors (from 1985-1990) has been made. Two alternative dependent variables were considered, namely number of tourists and tourist nights. In addition, each of these two variables was subdivided into the major nationality groups : Arabs, Europeans, Americans and others.

The two most important independent variables considered in the analysis are income and prices. Income is represented by

per capita income in the major tourist generating countries. Due to lack of data on price of tourist services in Egypt and competitive countries, the index number of retail prices was used for the price variable. Two price indices were measured against the price index of Egypt, namely, the price index of Greece and Tunisia, the two most important competing countries.

The validity of the above relationships in forecasting number of visitors depends to a large extent on the statistical significance of the results obtained. T-test was applied and the results proved to be insignificant for most variables in all equation forms at the 5 percent level. This means that unless substantial changes are introduced to the regression model related to the definition of variables and to the quality of data, this type of analysis cannot safely be used in demand forecasting. Scarcity of data made it difficult to perform the necessary adjustments in the model. Moreover, as it will be seen in the following section, trend analysis was applied and produced quite satisfactory results.

(3.2) **Trend Analysis :**

This method is quite simple and does not require a great deal of mathematical sophistication. It has the advantage also of needing very basic and simple data, namely, a time series on visitor arrivals. Trend analysis however, suffers two serious disadvantages :

(i) It does not explain the influence of different factors on demand, and therefore it cannot explain why demand changes.

(ii) The extrapolation from a linear trend is subject to the assumption that past growth trends will continue in the future without change; which is a rather tentative assumption.

Nonetheless, for the purpose of the present study, demand prediction rather than demand interpretation, is the most ultimate objective. In addition, number of arrivals usually follows past trends unless some unexpected political or economic events have occurred. Such events cannot be taken into consideration even in the most sophisticated models.

Total arrivals are therefore extrapolated by fitting a series of mathematical trend curves to the historical data to identify the best prediction of these trends. The following linear trend proved to be the most satisfactory fit :

$$T = 498.5 + 93.7\ t$$

where T = number of arrivals in thousands.

t = time, 1973 = 1.

Expected number of arrivals and rates of growth until 1990 derived from the above equation, are given in table (4).

TABLE (4)

Forecast of Tourist Arrivals (in thousands)

Arrivals 1980	Arrival 1985	% growth 1980-85	Arrivals 1990	% growth 1985-90	% growth 1980-90
1253 (Actual)	1717	6.5	2181	4.9	5.7

(3.1.3.) Demand By Generating Regions :

The breakdown of total tourist demand (tourist arrivals) into demand by generating regions is undertaken according to the following factors :

(i) The continuing growth of Arab visitors to Egypt. As noted earlier, number of arrivals from Arab countries greatly increased since 1980. The growth is expected to continue at a relatively high rate over the next few years, and at a naromal rate afterwards due to the improvement in Egypt's relationship with Arab countries.

(ii) The recession in the West which is expected to remain until 1985. It was already reflected in the levelling off of growth of Western visitors over the past two years. A questionnaire was made to inquire about the prospects of Western arrivals from the point of view of the tour operating companies in Cairo (17 Companies). The majority of them noted the decline in Western arrivals which

took place over the last two years, they also expected such unfavourable trend to persist for some years to come.

(iii) The recent contraction in foreign investement. Such contraction implies a decline in number of visitors coming to Egypt for business purposes. Information obtained from the Ministry of Economy indicates that, number of investment projects with foreign participation decreased from 297 projects in 1981 to 100 projects in 1982. Discussion with one of the Ministry officials revealed that such tendency may prevail for some future years.

(iv) The expected upturn in the economies of developed Western countries post 1985. This accords with WTO expectation that the rate of growth of world tourist arrivals during the second half of this decade is going to be higher than the rate expected during the first half.

TABLE (5)

Forecast of Tourist Arrivals by Generating Regions (in Thousands)

Years	Arabs		Europeans		Americans		Others	
	Number	%	Number	%	Number	%	Number	%
1985	830	48.3	520	30.2	210	12.2	160	9.3
1990	970	44.3	470	33.8	270	12.3	210	10.6

From Table (5) the following conclusions can be made :

(i) Until 1985 the rate of growth of Arab visitors is the highest. Then market share increases from 43.4% in 1982 to 48.3 % in 1985.

(ii) After 1985 Arab growth rate is expected to decline whereas European and American visitors' growth rates are expected to increase considerably. This reduces the share of Arabs in the market by 1990 to 44.3 % and increases western share to 45.7 %.

(iii) Since the group of "others" constitutes a great variety of tourist nationalities, no assumption could be made concerning their expected development. This category is therefore calculated as a residual of the total.

(3.2) Average Stay and Tourist Nights :

In view of the observed fluctuation in average stay over the period 1975, to 1982, the 1985 and 1990 average stay estimated as the median of the Interquartile Range. Taking into consideration the long run falling tendency of average stay, its estimation is made assuming a reduction of 0.3 of a night in the Interquartile Range. A summary of the calculation is given in Table (6).

TABLE (6)
Expected Averages Stay

	Arabs	Europeans	Americans	Others
IQ Range	7.15-8.17	5.81-6.52	5.65-5.85	4.78-5.75
1985				
Median	7.82	6.04	5.77	5.31
IQ Range	7.21-7.87	5.51-6.22	5.35-5.55	4.48-5.45
1990				
Median	7.52	5.74	5.47	5.01

Expected number of tourist nights based on the formerly estimated tourist arrivals and average stay, are given in Table (7).

TABLE (7)
Expected Number of Tourist Nights
(In Thousands)

	1985	1986	1987	1988	1989	1990
Number of nights	11676	11562	12127	12724	13347	14002

4. Supply of Hotel Accommodation :

(4.1) Historical Trend :

One of the important futures of the tourism sector in the 1960's and early 1970's, was the limited capacity of hotel accommodation and its very slow rate of growth. Since the adoption of the Infitah policy investment in the hotel industry was greatly emphasized. Few years later the effect of this investment began to materialize and hotel accommodation expanded very rapidly. Table (8) indicates the development in hotel capacity over the period.

TABLE (8)
Development in Hotel capacity 1965/66-1980

	65-66	66-67	67-68	68-69	69-70	70-71	71-72	1973
Number of rooms	22051	22550	22161	22110	21430	22283	22595	22722
Index	100	102	110	100	97	101	102	103
	1974	1975	1976	1977	1978	1979	1980	
No. of rooms	21367	21568	21769	22423	24309	28428	30231	
Index	100	101	102	105	114	133	141	

Source : Satistical year book, CAPMAS, ... different issues.

(4.2.) Expected hotel capacity :

Although popular hotels represents a fairly large proportion of total hotel capacity (about 67 % in 1979), the present analysis is confined only to 1-5 star hotels, which are the categories demanded by most international travellers. In addition, supply analysis covers only the four main touristic regions. Namely Greater Cairo (Cairo & Giza), Alexandria, Kena and Aswan. Hotel capacity in these four regions represents about 96% of total hotel capacity (1-5 star categories).

Given the above definition of hotel capacity, its estimation is undertaken for the years 1983, 1984, 1985 and the period afterwards until 1990. Data on hotel capacity are obtained from two sources :

(i) Existing statistics available from the Ministry of Tourism, which are modified to take into consideration new hotels already operating but not included in the Ministry's statistics.

(ii) A comprehensive survey of all hotels under construction in different regions except those with less than 20 rooms.

Supply by region and hotel category obtained from these two sources is given in Table (9), for the period 1978-1990.

It is quite obvious that the forthcoming expansion in hotel capacity is not distributed equally between hotel categories within different regions. Actually a substantial part of hotel accommodation expansion is expected to take place in 3 and 5 star hotels, particularly in the Greater Cairo region. Expansion in hotel capacity for these two categories in G. Cairo amounts to 12.7 thousand rooms, which represents about 47% of total additional capacity between 1978 and 1990.

Besides, supply expansion pattern is such that a rapid expansion is hotel over the period 1978-1983, while a gradual slow down in the rate of growth is expected afterwards. For instance, between 1978-1983, the rate of growth in supply is 61% and 47 % annually in G. Cairo 3 and 5 star hotels, respectively. These are exceptionally high particularly when compared with a rate of growth of 7 percent and 2 percent respectively over the period 1985-1990. The same pattern applies also to other hotels in other regions.

The period 1978-1983 may be considered therefore a recovery period in hotel construction. Such recovery is a direct result of the open Door policy, which provided several incentives for foreign and local private investment in general, and for investment in the tourism sector in particular.

Few exceptions of this overall expansion pattern should however be mentioned. In Luxor 5-star hotels. For instance, capacity remains stagnant until 1985, whereas a large expansion is expected afterwards.

Table (9)

Supply of Hotel Accommodation (Number of Rooms) by Region and Hotel Category

1978 -1990

	Greater Cairo				Alexandria				Luxor				Aswan				Total *			
	1978	1983	1985	1990	1978	1983	1985	1990	1978	1983	1985	1990	1978	1983	1985	1990	1978	1983	1985	1990
5-star	1792	6007	7447	8172	208	598	598	598	260	260	260	880	144	294	294	294	2104	7159	8599	9944
4-star	1305	2400	3752	5061	460	614	664	664	246	451	451	451	226	256	519	519	2320	4178	5968	7822
3-star	923	3755	5451	7245	280	774	1009	1185	158	128	360	360	-	-	-	-	1373	5057	7574	9544
2-star	1070	1740	1924	1924	348	801	827	927	-	428	428	184	368	515	557	557	1850	4068	4915	5746
1-star	443	342	408	426	375	519	519	519	-	153	153	153	-	166	166	166	875	2545	2641	2695
Total	5533	14244	18982	22828	1671	3306	3617	3893	664	1420	1652	2272	554	1084	1494	1536	8522	23007	29697	35751

* Total is slightly greater than summation for the 4 regions due to the exclusion of minor regions.

SOURCE: 1978 from CAPMAS is Annual Publication Op.Cit., 1983, 1985 and 1990 derived from the comprehensive Hotel Survey.

5. HISTORICAL PATTERN OF DEMAND FOR HOTEL ACCOMMODATION :

(5.1.) Statistical Data :

The most reliable statistics related to hotel demand are those published by CAPMAS based on comprehensive surveys of all hotels and pensions in Egypt. CAPMAS produces two different publications containing hotel statistics. The first is annual publication, where data on number of visitors using hotel accommodation and number of nights spent in hotels by these visitors, are given in aggregate form. That is no distinction is made between groups of nationalities for different visitors, nor between international and Egyptian hotel visitors. The annual statistics however have a great advantage of being classified by region and hotel category simultaneously. The second is a quarterly publication, where hotel statistics are classified in detail by visitor nationality. Number of hoted visitors and number of hotel nights nevertheless are given either by region or by hotel category.

The two kinds of information are utilized to provide a complete picture of hotel demand.

It should be noted however that demand will be considered in terms of number of nights spent in hotels by hotel visitors (hotel tourist nights), rather than in terms of number of hotel visitors. The reason is that number of hotel visitors is overestimated in CAPMAS statistics, where the same person is considered as different visitor each time he visits a different hotel or each time he visits the same hotel during his continuous stay in Egypt.

Three different classifications of hotel tourist nights are considered below :

(i) Hotel tourist nights by tourist nationality and hotel category.

(ii) Hotel tourist nights by tourist nationality and region.

(iii) Hotel tourist nights by region and hotel category.

In all three classifications hotel tourist nights are given in percentage form, that is by dividing number of hotel tourist nights by number of total tourist nights.

(5.2.) Hotel tourist nights by tourist Nationality and Hotel Category

Proportions of hotel tourist nights to total tourist nights given in Table (10) reveal the following useful information :

TABLE (10)
Proportion of hotel tourist nights/total tourist nights by hotel category and nationality (1978)

Nationality / Category	Arabs	Europeans	Americans	Others	Hotel
5- Star	2.7	18.2	29.6	9.7	10.9
4- Star	1.8	22.5	13.9	7.5	9.7
3- Star	2.4	10.6	4.7	7.6	5.4
2- Star	3.7	4.1	3.3	5.2	3.9
1- Star	1.1	1.6	1.0	1.9	1.3
Popular Hotels	11.1	8.8	7.0	36.7	11.7
All Hotels	22.8	65.8	59.5	68.4	42.9

Source : Number of hotel tourist nights, CAPMAS, Hotel and Pension Activity Statistics 1982.
Number of Tourist nights, Ministry of Tourism.

(i) Proportion of hotel tourist nights spent in popular hotels is the highest proportion among all hotel categories. This is due to the fact that almost half hotel nights for Arab visitors are spent in popular hotels. Also, proportions of European and American hotel nights spent in popular hotels are not small, they are greater than the proportion of nights in 1 and 2 star hotels taken together. Nonetheless, as mentioned earlier, popular hotels are excluded from our analysis.

(ii) Excluding popular hotels, Europeans have the highest demand for hotel accommodation. Their nights in hotels represent 57 percent of their tourist nights spent in Egypt. Americans come in the second place. With 52.5 percent, they, however, have the highest demand for 5- and 4 star hotels (43.5% compared with 40.7% for Europeans). The Arabs with a fairly low proportion (12.7 percent) occupy the last position. This reflects the fact that furnished flats is the most popular accommodation among Arab visitors.

(iii) With respect to total demand (excluding popular hotels), the highest demand is for 5 star hotels. The lower the hotel category, the smaller is the proportion of hotel tourist night spent. This applies also to individual group nationalities except Arabs where the largest demand is for 2 star hotels. This means that the pattern of demand for hotel accommodation in Egypt is such that Europeans, Americans and rich Arab visitors prefer to stay in 5 and 4 star hotels, whereas Arabs from low income countries stay mainly in 2 star hotels.

(5.3.) Hotel Tourist Nights By Nationality And Hotel Categories :

Proportions of hotel tourist nights/total tourist nights are calculated and given in Table (11). Clearly, the great majority of visitors spend their holiday in G. Cairo, the centre for entertainment, business and medical treatment, as well as culture and history. G. Cairo absorbs about 30 % of all tourist nights, and almost 70 % of all hotel tourist nights. Arab hotel visitors enjoy the highest demand for G. Cairo hotels, where 83 percent of their hotel tourist nights are spent in G. Cairo. The rate decreases to 63 % in the case and European visitors, whereas American visitors spend 75 % of their hotel tourist nights in G. Cairo.

TABLE (11)

Percentage of hotel tourist nights/total tourist nights by nationality and region (1978)

Nationality / Region	Arabs	Europeans	Americans	Others	Total
Cairo & Giza	19.0	41.4	44.7	35.7	29.7
Alexandria	2.4	4.8	2.7	3.6	3.2
Canal Zone	0.4	1.8	0.2	25.1	2.5
Kena	0.07	10.3	9.4	2.3	4.٤
Aswan	0.2	6.2	1.9	1.0	2.2
Other regions	0.73	1.3	0.58	0.2	1.0
Total	22.8	65.8	59.5	68.4	42.9

Source : See Table (10).

Second to G. Cairo Western visitors prefer a visit to Kena where they go for world famous antiques and art treasures. Arab visitors on the other hand spend the tourist proportion of their hotel nights in Kena and Aswan. Alexandria occupies a second position after G. Cairo for them.

Finally the remarkably high proportion of hotel nights spent by "others" in the Canal Zone is due to the large number of Japanese working in the canal expansion projects during this period.

(5.4.) Hotel Tourist Nights by Region and Hotel Category :

A direct relationship between the category of hotel and the proportion of hotel nights is quite evident from Table (12). As indicated earlier the higher the hotel category the larger is the proportion of hotel nights allocated to this category. However, G. Cairo 5- and 4- star hotels dominate the market with a fairly high proportion of hotel nights compared to the same hotel category in other regions. For instance, 25 percent of all hotel nights are spent in G. Cairo 5 star hotels, whereas 73 percent

of hotel nights in the 5- star category are spent in G. Cairo 5 star hotels. This means that there is a great gap between Cairo and other regions with respect to tourist attraction & development.

TABLE (12)

Proportion of hotel nights to total tourist nights (Average 1978 and 1979) by region/category

Region / Category	G. Cairo	Alex.	Kena	Aswan	Others	Total
5 Star	10 57	1.10	1.62	1.13	0.01	14.43
4 Star	7.61	2.26	1.13	0.86	0.30	12.16
3 Star	5.06	1.02	0.75	-	0.01	6.84
2 Star	4.63	0.55	.07	0.86	0.39	6.50
1 Star	2.79	1.24	-	-	0.12	4.24
Total	30.66	6.16	3.57	2.85	0.92	44.16

Source : Calculated from pension and Hotel Activity Statistics, Annual publication, CAPMAS, 1982 and 1983.

6. TRANSFORMING EXPECTED TOURIST DEMAND INTO HOTEL DEMAND :

Estimation of hotel demand means the determination of number of rooms demanded by different visitors. The following formula is used to transform expected tourist demand given in section (3) into demand for hotel accommodation :

$$R = \frac{T \times L \times P}{365 \times \Theta Xd}$$

R = rooms required annually (hotel demand)

T = number of visitors per year.

L = length of stay (number of nights per visitor).

P = Proportion of visitors staying in hotels.

O = rooms occupancy rate.

d = room density (average number of visitors per room).

The different components should be determined and the formula applied to estimate hotel demand by hotel category and region simultaneously over the period 1985-1990.

(6.1.) Tourist Nights (T X L) :

Since TXL in the above formula produces tourist nights, the number of tourist nights estimated in section (3) for 1985 and 1990 can be substituted directly for TXL.

(6.2.) Proportion of Tourists using Hotels (P) :

As mentioned earlier proportion of tourists using hotels (P) can be replaced by proportion of hotel nights to total tourist nights.

Only recently more up to date data on number of hotel nights became available, which permits an estimation of this parameter taking into account its historical trend. It should be noted however that the newly published statistics are given by CAPMAS quarterly publication, where hotel nights are classified either by region or by hotel category. As we shall see below, a certain procedure is followed to adjust these data to take account of region and hotel category simultaneously.

A small time series on the number of hotel nights over the period 1976-1981 is given in Table (13), together with the proportion of hotel nights to total tourist nights.

TABLE (13)

Proportion of hotel nights to total tourist nights 1976 - 1981

Year	(1) Number of Hotel nights*	(2) Number of Tourist nights	Proportion of hot-nights (1) % (2) %
1976	2439387	6796000	34.6
1977	2422837	6339000	38.2
1978	2649016	7136000	37.1
1979	2882661	7104000	40.6
1980	3313188**	8084000	41.0
1981	4230928	9806000	43.0

* Tourist plus Egyptian hotel nights.

** Data available for the period Jan.-June 1980 only. Hotel nights for this period is multiplied by 2 to get hotel nights for the whole year.

Source : (1) CAPMAS, Quarterly publication, different issues.

(2) Ministry of Tourism.

According to the information given in Table (13), a variable increasing proportion rather than a constant proportion seems more plausible for the estimation of future hotel demand.

Variable proportions of hotel tourist nights by region and hotel category are therefore estimated for the period 1982-1990 according to the following assumptions.

(i) The average annual rate of growth of proportion of hotel nights calculated from Table (18) over the period 1977-1981 (3%), is assumed to prevail from 1982 to 1990*.

(ii) The relative share of each hotel category in the total number of hotel nights realized over the period 1977-1981 is also assumed to continue until 1990.

Table (14)

Proportion of hotel nights to total tourist nights

1985 and 1990

	5 Star		4 Star		3 Star		2 Star		1 Star		Total	
	1985	1990	1985	1990	1985	1990	1985	1990	1985	1990	1985	1990
Greater Cairo	12.27	14.22	7.40	8.57	5.99	6.95	4.48	5.19	3.58	4.15	33.72	39.08
Alex.	1.28	1.48	2.20	2.55	1.21	1.40	0.53	0.62	1.59	1.84	6.81	7.89
Kena	1.88	2.18	1.10	1.27	0.89	1.03	0.07	0.08	-	-	3.94	4.56
Aswan	1.31	1.52	0.84	0.97	-	-	0.83	0.96	-	-	2.98	3.45
Total All Regions	16.75	19.42	11.84	13.70	8.10	9.39	6.29	7.29	5.44	6.30	48.40	56.1

* 1976 was excluded because its inclusion yeilds a fairly high rate of growth.

** See Appendix for details of calculations.

(iii) The proportions estimated according to hotel category are classified also according to region using the information given in Table (12)**.

The results of the calculations are given in Table (14). It can be seen that the total proportion, for all regions and hotel categories increases from 43 percent in 1981 (base year) to 48.4 percent in 1985, and to 56.1 percent in 1990. Proportions of hotel tourist nights for different hotel categories within different regions also show a significant increase. For instance, the proportion for Cairo 5 star hotels reaches 12.27 percent in 1985 and 14.22 percent in 1990.

(6.3.) Occupancy Rates (0) and Room Density (d) :

No data on number of rooms occupied by region and hotel category are available directly. Occupancy rates are calculated therefore indirectly from data on number of hotel nights and room density, as follows :

Number of rooms occupied = Number of hotel nights ÷ room density. Occupancy rate = rooms occupied ÷ room available.

Occupancy rates obtained for 1978 are given in Table (15). They vary directly with hotel category. The rates are fairly high for Cairo and Aswan 5 Star hotels and very low for Alexandria and Aswan 3 and 4 Star hotels respectively. The overall average occupancy is 62 percent. G. Cairo is the only region with above average occupancy (71%), and Kena approaches the average (61%).

TABLE (15)

Occupancy Rates by Region/Hotel category 1978

Region Category	Cairo	Alex	Kena	Aswan	Total
5 Star	87	68	70	90	83
4 Star	70	59	52	43	62
3 Star	67	42	57	–	60
2 Star	59	22	35	55	46
1 Star	55	38	–	–	47
Total	71	45	61	59	62

Source : Calculated from : number of hotel nights and room density, CAPMAS annual publication, 1982.

The above occupancy rates can be substituted for Θ in the formula. This means that number of rooms demanded is estimated assuming that hotels are occupied at the above rates.

Room density (d) is calculated as follows :

$$d = \frac{\text{Number of occupied beds}}{\text{Number of occupied rooms}}$$

Average room density found to be 1.60 person per room in 3-5 star hotels, and 1.75 person per room in 1 and 2 star hotels.

7. MATCHING DEMAND AND SUPPLY :

(7.1.) The Expected Gap :

Demand, supply and expected gap of hotel accommodation are given in Table (16) in terms of number of rooms, for 1985 and 1990. Most categories in different regions indicate a large excess capacity of hotel accommodation. Room surplus is particularly evident in G. Cairo 5 and 3 star hotels. Where excess accommodation capacity in 1985 represents 62 percent and 67 percent of expected supply respectively. The large surplus is explained by the fact that supply expansion (over the period 1978-1983) for these two categories has been substantial, in the meantine, demand expanded at a relationly slow rate.

Some hotel categories in some regions nevertheless demonstrate shortage of supply, or very small excess capacity. These are : Alexandria 4 star hotels, Luxor 4 star hotels and Aswan 5 star hotels. Obviously, these are the categories with very limited supply expansion over the period.

Negative gap for most 1 star hotels (i.e. supply shortage), is due to the practice followed by the Ministry of Tourism of transfering some of the 1 star hotels to popular hotels. This causes artificial supply reduction in this category and hence excess demand. Transfer from 2 to 1 star hotels is also possible. It is reasonable therefore to exclude these two categories from the analysis.

Between 1985 and 1990 some marked changes are recorded. Most bovious is the reduction in excess capacity which occurred over the period for several hotel categories.

For instance, the gap in Alexandria 5 star hotels decreased from 222 rooms in 1985 to 76 rooms in 1990. Also, the small excess capacity in Kena 4 star hotels in 1985 is expected to turn into supply shortage which amounts to 135 rooms in 1990. The following reasons explain this change :

(i) The rate of increase in room supply from 1985 to 1990 is rather low for several hotel categories. Actually room supply for some hotel categories remains constant during this period (see Table 9).

(ii) The rate of growth assumed in the estimation of number of tourist arrivals is high in the second half of the decade compared to the first half.

(iii) The use of an increasing proportion of hotel nights over time results in or higher rate of hotel demand in later years.

Nonetheless, for some hotel categories gap between supply and demand shows a certain increase over the period. For instance, in G. Cairo 4 and 3 star hotels, room surplus is greater in 1990 than in 1985. Room shortage in Kena 5 star hotels

Table (16)

Demand, Supply and Expected Gap in Hotel Accommodation

1985, 1990

		CAIRO			ALEXANDRIA			LUXOR			ASWAN			TOTAL		
		D	S	Gap	D	S	Gap	D	S	Gap	D	S	Gap	D	S	Gap
1985	5-star	2820	7447	4627	376	598	222	537	260	-277	291	294	3	4035	8599	4564
	4-star	2114	3752	1638	746	664	-82	423	451	28	391	519	128	3812	5968	2156
	3-star	1787	5451	3664	576	1009	433	312	360	48	-	-	-	2699	7574	4875
	2-star	1388	1924	536	440	827	387	37	428	391	276	515	239	2734	4915	2181
	1-star	1190	408	-782	765	519	-246	-	-	-	-	-	-	2314	2641	327
	Total	9299	18982	9683	2903	3617	714	1304	1499	195	958	1328	370	15594	29697	14103
1990	5-star	3919	8172	4253	522	598	76	747	880	133	405	294	-111	5610	9944	4334
	4-star	2935	5061	2126	1036	664	-372	586	451	-135	541	519	- 22	5298	7822	2524
	3-star	2358	7245	4887	799	1185	386	433	360	73	-	-	-	3752	9544	5792
	2-star	1928	1924	- 4	618	927	309	55	428	373	383	557	174	3800	5746	1946
	1-star	1654	426	-1228	1061	519	-542	-	-	-	-	-	-	3214	2659	-555
	Total	12794	22828	10034	4036	3893	-143	2311	2219	444	1329	1370	41	21674	35715	14041

which amounts to 277 in 1985, is expected to change into surplus of 133 rooms in 1990. This is due to the significant increase in hotel capacity expected between 1985 and 1990 for those particular hotel categories.

(7.2.) Expected Occupancy :

Demand for hotel accommodation is estimated for each hotel category in each region assuming a certain occupancy rate, as indicated above. The resulting gap between demand and supply, therefore, reflects the difference between supply and demand, not in absolute terms but in terms of the assumed occupancy. The gap could be represented in another way, simply by estimating the rate of occupancy resulting from the expected room supply and the number of hotel nights demanded. In other words, occupancy rate becomes the unkown in the demand equation given above expected occupancy rates are calculated and given in Table (17).

TABLE (17)

Expected Occupancy Rates by Region and Hotel Category

1985 - 1990

Region	G. Cairo		Alex.		Kena		Aswan		Total	
Category	1985	1990	1985	1990	1985	1990	1985	1990	1985	1990
5 Star	32.9	41.7	42.8	59.3	144.0	59.4	89.0	124.0	39.0	47.0
4 Star	39.4	40.6	66.2	92.0	48.8	67.5	32.4	45.0	40.0	42.0
3 Star	22.0	21.8	24.0	28.3	49.4	68.6	-	-	21.0	24.0
Total	30.8	34.8	41.3	53.2	72.2	60.8	52.9	73	33.0	37.3

Expected occupancy rates in 1985 and 1990 tend generally to be low, except 4 star hotels in Alexandria and 5 star hotels in Aswan, where occupancy rate in 1990 amounts to 92 percent and 124 percent respectively. Looking back at number of rooms supplied (Table 9) for these two hotel categories, it can be seen that supply is almost constant from 1983 to 1990.

The lowest rates of occupancy are realized in the case of 3 star hotels in general (34%) and G. Cairo 3 star hotels in particular, where the rate reaches 22.0 percent in 1985 and 21.8 percent in 1990.

Table (17) reveals however a significant improvement in occupancy rates to be achieved over the period by several hotel categories. For instance, occupancy rate for G. Cairo 5 star hotels increases from 32.9 percent in 1985 to 41.7 percent in 1990. The reasons are the same as those given above to explain the reduction in excess capacity over the period. Some hotel categories, on the other hand, show only slight improvement, or small deterioration in occupancy rates. These are G. Cairo 4 and 3 star hotels.

The sharp contrast between occupancy rates in Kena 5 star hotels over the period should be noted. In 1985 occupancy rate greatly exceeds 100 percent, it then decreases to 57.4 percent in 1990. This is explained by the constant room supply in Kena 5 star hotels until 1985. After 1985. an expansion amounting to 800 room is expected to take place.

(7.3.) Over-Time Change in Rate of Occupancy :

In spite of the moderate improvement in occupancy rates realized over the period 1985-1990, yet expected occupancy rates in 1990 are very low when compared with the those achieved at the end of the 1970's. In Table (18) a comparison between the 1978 and the 1990 rate of occupancy is made.

TABLE (18)
Occupancy rates, 1978 and 1990

Region	G. Cairo		Alex		Kena		Aswan		Total	
Categy	1978	1990	1978	1990	1978	1990	1978	1990	1978	1990
5 Star	87	41.7	68	59.3	70	59.4	90	124.0	83	47.0
4 Star	70	40.6	59	92.0	52	67.5	43	45.0	92	42.0
3 Star	67	21.8	42	28.3	57	60.6	-	-	60	24.0
Total*	71*	34.8	45*	53.2	61*	60.8	59	73.0	62	37.3

* Total for 1978 includes all hotel categories i.e. 1-5 star hotels.

The deterioration in the rate of occupancy for G. Cairo region is quite obvious. It includes all hotel categories. The rate in 1990 is less than half its level in 1978 for 5 star hotels, and it is one-third its level in 1978 for 3 star hotels. In contrast a marked improvement can be observed for Aswan region, where the over all rate increases from 59 percent to 73 percent. In Alexandria region, the notable decline in 3 star occupancy and the rather moderate decline in 5 star occupancy, is being offset by a large improvement in 4 star hotels rate of occupancy. Kena region is expected to witness two opposite changes, an improvement in the rate of occupancy in 4 and 3 star hotels, and a decline in the 5 star hotels occupancy.

The overall rate for all regions and hotel categories, indicates a sharp decline over the period. This is due to the fact that hotel activity is concentrated in G. Cairo region. The very low occupancy expected for this region tends to have an overwhelming effect on total occupancy rate.

8. SENSITIVITY ANALYSIS :

The overall occupancy rate expected in 1990 for 3 to 5 star hotels is 37.3%. This is obviously a rather low rate of occupancy which involves a large excess capacity for the hotel sector. Perhaps the immediate consequence of such large excess capacity is that several hotels will fail to achieve the break even point, and may have to withdraw from the market.

The objective now is to find out to what extent should the different components of demand change in order to achieve certain feasible occupancy rates in the hotel sector. That is, to determine the changes required on the demand side to improve the overall rate of occupancy to the level sufficient to keep hotels in the market making break even profits.

Since break even, or feasible occupancy may vary from hotel to another according to hotel category, time and cost of hotel construction, type of management and ownership... etc., it may be convenient to determine a certain range of occupancy rates within which feasible occupancy for most hotels should lie. This range is considered to be between 50 percent and 65

percent for 3 - 5 star hotels. Note that the lower limit for the proposed feasible occupancy (50%) is significantly higher than the rate exepected in 1990 for 3 - 5 star hotels (37.3 %).

The sensitivity analysis is conducted to fulfil this objective in terms of the main components of demand :

(i) Number of tourists and tourist nights.

(ii) Average period of stay.

(iii) Proportion of hotel nights/total tourist nights.

Changes in each of these components are likely to have an appreciable influence on demand for hotel accommodation, which in turn would affect the gap between supply and demand, and the occupancy rate.

In the following the relationship between the different feasible rates of occupancy and each of these components will be established.

(8.1.) **Number of Tourists and Tourist Nights :**

Number of tourists and tourist nights needed to achieve the feasible occupancy rates are calculated from the demand formula :

$$R = \frac{T \times L \, P}{365 \times O \times d}$$

which is substituted as follows for 3-5 star hotels :

$$27310 = \frac{T \times 6.4 \times 0.4251}{365 \times [0.05\text{-}0.65] \times 1.6}$$

Where* R = number of hotel rooms available in 1990 L = length of stay- P = proportion of hotel nights/ total tourist nights in 1990, d = room density, O = rate of occupancy [4 alternative rates : 50%, 55%, 60% and 65%] and T = the only unknown is number of tourists required to achieve the given occupancy.

TABLE (19)

Feasible occupancy rates and corresponding number of tourist and tourist nights (3 - 5 star hotels 1990)

Occupancy, rate %	50	55	60	65	Expected 37.3
Number of tourists	3101394	3411533	3751832	4031812	2,181000
Number of tourist nights	19848921	21833811	24011724	25803596	14,002,000

It is fairly clear from Table (19) that at all levels of occupancy, the gap between number of tourists and tourist nights required to reach the feasible occupancy and the numbers expected in 1990, is quite large. For instance, to achieve the 65 percent occupancy rate, Egypt should receive four million visitors, whereas the number expected by this study is slightly over 2 million. Number of tourist nights should be 25.8 million, while the number expected is 14 million. Even at the lowest feasible rate of occupancy (50%), about 1 million extra visitors and 5.8 million extra tourist nights are required to achieve such occupancy.

(8.2.) **Average Period of Stay :**

If number of tourists remains as expected in 1990, the feasible occupancy rates could be achieved through the increase in average period of stay. Table (20) demonstrates the magnitude of change in the length of stay necessary to achieve the given occupancy rates*.

* The figures are obtained from the same demand formula with average stay being the unknown.

TABLE (20)

Feasible occupancy rates and corresponding average period of stay (1990)

Occupancy rates (%)	50	55	60	65	37.3*
Average stay	8.6	9.5	10.3	11.2	6.4*

* Expected occupancy and stay.

Given the expected average stay period in 1990, the length of stay has to be extended by 2.2 days to achieve the 50 percent occupancy, or by 4.8 days to achieve the 65 percent occupancy rate.

It is worth noting that extending the length of stay to some of the levels given in Table (20), may be a much less difficult task than increasing number of visitors in the manner described in (8.1) above. For instance, the 50 percent occupancy rate is easier to achieve through extending the average stay by 2.2 days, than through increasing number of visitors by about 1 million. This is true considering the following facts :

(i) Until 1973 average stay was higher than 11.2 days, the stay corresponding to the highest feasible occupancy.

(ii) Average stay for other tourists receiving countries in almost the same stage of development as Egypt is rather long. For instance in 1980 average stay in Tunis was 7.6 days, Cyprus 10.75, Turkey 9.0, Morocco 10.4 (1979), Greece 12.7, and Egypt 6.4 days.

(iii) Severe competition in the World Tourism market would make it almost impossible for Egypt to increase number of visitors during the next 5 years by at least 1 million visitors.

(8.3.) Proportion of Hotel Nights :

Suppose it is neither possible to increase number of visitors, nor to extend the length of stay as proposed in sections (8.1)

and (8.2) respectively. The other alternative to achieve the feasible occupancy rates would be to increase the proportion of nights spent in hotels. That is, to induce visitors to spend more of their tourist nights in hotels.

Applying the same demand formula, with P becoming the unknown, different values of P and determinated corresponding to the given feasible occupancy rates.

The results are given in Table (21).

TABLE (21)

Feasible occupancy rates and corresponding proportions hotel tourist nights 3-5 star hotels 1990

Occupancy Rate	50	55	60	65	37.3*
Proportions	57	60	68	74	42.5*

* Expected.

The achievement of the 65 percent occupancy rate in 1990 is not, by no mean, an easily task. Proportion of hotel tourist nights has to increase from 42.5 percent to 74 percent. On the other hand, the gap between the expected proportion (42.5%) and the proportion required to reach the 50 percent occupancy (57 %) is not a small one. This means that even in the case of the lowest feasible occupancy, a great effort has to be made to persuade more visitors to spend their tourist nights in hotels.

Transforming part of the tourist nights from accommodation outside the hotel sector to hotel accommodation should be attempted however in the case of Arab visitors. As demonstrated earlier a very large proportion (77 % in 1978) of Arab visitors nights are spent outside the hotel sector. This may be accepted when the average stay for Arabs was very long to the extent that they could not afford spending such a long stay in hotels. But recently, in view of the sharp decline in average stay by Arab visitors, it becomes more plausible for them to spend more tourist nights in hotels.

9. CONCLUDING REMARKS :

Demand and supply analysis provide us with a major conclusion, namely, that excess capacity is going to dominate the Egyptian hotel market until 1990. Occupancy rates expected until the end of the decade therefore are likely to be very low. The reason behind such phenomenon is quite obvious : a very high rate of expansion in hotel accommodation capacity, and a correspondingly very moderate growth in tourist numbers and tourist nights. Thus, over the period 1977-1983. The rate of opening of hotel capacity was 208 percent, whereas the rate of growth of number of visitors was 45 % and that for number of visitors nights was 37 percent over the period 1976-1982.

The validity of this general conclusion however depends to a large extent on the accuracy of demand and supply estimation. Supply was estimated directly through a comprehensive survey covering all regions considered in the study. Errors on the supply side are therefore less likely, unless the opening of some hotels which were expected to start operation during the period was postponed. Errors are more likely to occur in demand estimation where number of visitors was forecasted using a linear trend equation. In fact there are some indications that tourist demand forecasted by this study is likely to be overestimated. The first and most obvious evidence can be derived from a comparison between number of tourists and tourist nights forecasted by the study and actual numbers realized in 1983.

TABLE (22)

Actual and estimated number of tourists and tourist nights 1983 (000)

	1983	
	Tourist	Tourist nights
Actual*	1497	8857
Forecast	1514	10295

Source : Ministry of Tourism

From table (22) overestimation is evident particularly in terms of tourist nights. This study's estimation for 1983 exceeds the actual number of tourist nights by 1.4 million night. Two reasons my explain such unexpected behaviour. The first is a decline by 3.2 percent occurred in number of Arab visitors between 1982 and 1983. This contradicts our expectation that number of Arab visitors will continue to increase at a fairly high rate until 1985. The second is a sharp fall by 9.2 percent in average stay period for all groups of visitors. The two changes result in a drop in number of tourist nights from 130/thousand in 1982 to 8857 thousand in 1983.

In addition, demand for hotel accommodation may be exaggerated as a result of applying the variable proportion of hotel tourist nights. It was assumed that the proportion expected to prevail from 1985 to 1990 increases at the same rate of growth that happened over the period 1978-1982. This particular period however was characterized by a fairly fast growth in hotel capacity, besides it followed a long period (1968-1976) of almost stagnant hotel capacity. Hence it is most likely that demand for hotel accommodation was increasing over this period at unusually fast rates.

Another type of hotel accommodation which was not considered in this study in spite of its increasing importance, is floating hotels. The capacity of these hotels increased rapidly over a short period of time from 955 beds in 1978 to 4871 beds in 1982. In addition, there are several of these hotels under construction, which means that their capacity will continue to increase until the end of this decade. The great majority of these floating hotels are running between Luxor and Aswan. In view of the popularity of such type of accommodation amongst European and American tourists, they represent a serious source of competition to land based hotels situated in these two regions. In fact, complaints began to arise from managers of land based hotels in Luxor and Aswan, that floating hotels attract their customers, and offer a great threat to their occupancy rates. Occupancy rates estimated for Luxor and Aswan hotels may therefore be adversely affected in the future as a result of severe competition from floating hotels.

It can be concluded therefore that the results obtained from the demand and supply analysis are not subject to any significant degree of under estimation. On the contrary, actual occupancy rates are likely to be lower than estimated by this study, if divergence between actual and forecasted number of tourist nights continues to be large as it is the case in 1983.

As a matter of fact, decline in the rate of occupancy has already began to be visible. Available data indicate that average occupancy rate for all hotels has teadily decreased from 81.1 percent in 1978 to 68.9 percent in 1982*. The rate of decline was highest for Cairo region. Aswan region on the other hand witnessed a certain increase in occupancy rate over the same period. This confirms our expectations for different regions which are given in Table (17) above.

Having accepted the overall conclusion that low rates of occupancy are to be expected particulary in G. Cairo region and in 3 and 5 star hotels, measures should be taken on both the demand and the supply side to improve the deteriorating situation. On the demand side attempt should be made to influence simultaneously the main demand components, namely, number of visitors, average stay period and proportion of nights spent in hotels. The different desirable levels for each of these components are presented in section (8) above. In this respect, greater attention should be given to improving tourism services in general, and hotel services in particular. Pricing policy for hotel services should also be reconsidered in the light of the level of prices prevailing for similar services in other tourist receiving countries. Trips organized by Israeli tourism companies, which is considered as one of the important reasons behind the recent fall in average stay period, should be terminated. On the other hand extra support should be devoted to Egyptian private and public sector tourism-companies.

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* Source of data is Ministry of Tourism.

Note that actual rates of occupancy recorded for different hotels in the published statistics tend to be exaggerated. This is because the practice followed by hotels is to calculate occupancy rates on the basis of ready for use capacity and not all existing capacities. While the rates given in this study are calculated for all existing capacity.

On the supply side some adjustments have to be introduced to the investment policy in hotel accommodation to avoid any future disequilibrium between supply and demand. Thus suitable action should be taken to terminate, or at least greatly slow down, expansion in 3 and 5 star hotels in G. Cairo, and 3 star hotels in Alexandria.

In contrast, more investment should be directed towards the area which are expected to enjoy a high rate of occupancy. These are Aswan 5 star hotels and Alexandria 4 star, hotels. Any further investment in Luxor and Aswan region however should take into consideration the size of investment in floating hotels which are serious competitors to land based hotels.