

Egyptian Environmental Affairs Agency  
SEAM Programme  
**South Sinai Governorate Environmental Action Plan**

**SOUTH SINAI DEVELOPMENT PROFILE**

Final Draft

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submitted by

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## Draft South Sinai Development Profile

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Census of 1986 and 1996 for South Sinai Governorate: Detailed Results by Enumeration District

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## **SOUTH SINAI DEVELOPMENT PROFILE**

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### **1. BACKGROUND**

#### **1.1 Introduction**

The Governorate of South Sinai is an area with considerable environmental assets and a traditional Bedouin population which until recently was almost untouched by development. Over the last 20 years it has been facing extremely rapid investment and growth, and such development is expected to continue and even accelerate. Many environmental issues revolve around this expected development.

The aim of this Development Profile for South Sinai is to present an overview of the main elements of South Sinai's rapid physical, economic and social growth. This will provide a base point of reference for the work of the South Sinai GEAP, as it will allow environmental issues to be discussed analyzed in the light of commonly-understood development trends and indicators. In particular, the South Sinai Development Profile will be useful in the consultations of the environmental working groups.

#### **1.2 Development History**

Up until the 1960's South Sinai was remote and extremely sparsely settled. Bedouin tribes (eight main tribes) were practically the only inhabitants, with the exception of workers in the Abu Rudeis oil fields (first developed in the 1940's) and in the ferromanganese mines, factory, and port at Abu Zenima (set up by a British company in the 1920's). There were also a small number of monks at the St. Catherine Monastery as well as a small Egyptian military presence overlooking the Straits of Tiran. The 1960 Census recorded a total of 4,355 inhabitants in South Sinai (then the district of El Tour), and a total population of the entire Sinai Peninsula of 49,769, of which most were settled in El Arish and Qantara Sharq..

The Arab-Israeli War in June 1967 led to the occupation of all of Sinai by Israeli forces. The Israeli's exploited the Abu Rudeis oil fields and carried out limited resort development along the Gulf of Aqaba coast. Small recreational communities were built in Sharm, Dahab, and Nuweiba, and a tarmac highway was constructed on the Eilat – Sharm axis. Local Bedouin began to enjoy certain economic benefits from the resulting tourism.

Negotiations following the 1973 Arab-Israeli War led to the 1979 Camp David accords, which called for the staged withdrawal of remaining Israeli forces from all of Sinai. By 1981 all of South Sinai had been returned to Egyptian sovereignty, with the exception of a sliver of land in Taba (which finally was returned to Egypt in 1994).

In 1980 the Egyptian Government launched plans and studies for the rapid integrated development of all of Sinai, and in parallel the first large infrastructure projects were begun. South Sinai coastal settlements were developed as core towns, and almost immediately the first resort tourism establishments were set up, mostly by private Egyptian investors. Exploitation of the off-shore oil fields in the Gulf of Suez began in parallel. In 1982 the Sinai

Peninsula was split into north and south governorates, with the capital of South Sinai Governorate located at El Tour.

The Census of 1986 recorded a total population in South Sinai of 28,576 inhabitants. The population at the time of the 1996 Census was 54,826 inhabitants, representing an extremely rapid demographic build up of over 6.7% per year over the inter-census period. These population figures reflect only partially the tremendous investments, both public and private, which occurred over the period and which, by all indicators, are continuing and even accelerating.

### **1.3 Government Development Policies and Plans**

The first comprehensive plan for Sinai's development was sponsored by the Ministry of Reconstruction in 1980 and was carried out by Dames and Moore with financing from USAID.<sup>1</sup> The plan investigated the multi-sectoral potentials of the Peninsula and resulted in a very optimistic strategy for settling a total of 5 million inhabitants in Sinai within twenty five years.

In 1994 the Ministry of Planning produced "the National Plan for Sinai Development 1994-2017", which again laid down an ambitious plan for developing and populating the Sinai Peninsula. A total investment of US\$ 21 billion was estimated for the 1994-2017 period, divided into three phases. By 2017 it is envisaged that there would be a work force of 800,000 and a resident population of 3 million inhabitants in Sinai (the actual target for South Sinai was not specified).<sup>2</sup> According to plans prepared by the GOPP Ismailia Regional Center, there is a target population for South Sinai of 700,000 inhabitants by the year 2017.<sup>3</sup>

Besides these integrated plans, several government ministries and agencies have developed sectoral plans for investments in South Sinai.

Underlying these plans for South Sinai and other desert regions is a fundamental policy of the Egyptian Government to extend settlement out of the crowded Nile valley. A national development map was produced in 1997 which called for the settlement and habitation of 20% of Egypt's surface area by 2017, up from the current 4%. For example, Sinai is seen as "a model of national pioneer development" in the "building of new societies ... in a bid to solve key problems atop of which are overpopulation in the Nile Valley and unemployment".<sup>4</sup>

Reinforcing this general desert development policy is the Egyptian Government's strategic concern to defend the Sinai Peninsula. Having already been occupied twice, it is seen as a national imperative to develop and populate the Peninsula so that Egyptian sovereignty can never again be challenged.

### **1.4 Government Administration for Development**

As elsewhere in Egypt, the main administrative responsibility for local development lies with the Governorate of South Sinai. The Governorate is headed by a Governor appointed by the President, and is administered by the Governorate Executive Council, the members of which are the heads of the sectoral directorates, the local administrative units, and the Governorate Diwan. The sectoral directorates (e.g. education, health, housing, social affairs, roads and bridges, etc.) are semi-autonomous. That is, they are technically under the control of their relevant national ministry, but administratively are part of the Governorate structure, each with budgets which are nominally allocated to the Governorate. The Governorate Diwan is headed by the Secretary General and undertakes general administrative tasks (e.g. budgeting

<sup>1</sup> USAID, Dames and Moore Inc., Sinai Development Study, Phase I, Vols I – VII, 1983

<sup>2</sup> Information on the National Project for the Development of Sinai is taken from Programme Concept, South Sinai Regional Development Programme (SSRDP), Governorate of South Sinai and Task Force, 2001, pp 15-16.

<sup>3</sup> GOPP Ismailia Regional Center, "Achievements of the Physical Planning Center for the Suez and South Sinai Region", in Arabic, undated.

<sup>4</sup> SSRDP, p. 15.

and follow up, personnel, legal affairs, etc.). In practical terms executive power in the Governorate is concentrated in the Office of the Governor.

Administratively the Governorate of South Sinai is divided into 8 "markaz" or districts, each with a town designated as the administrative capital and a number of associated "villages". Some of these villages are within the administrative boundaries of the towns. Others have the status of "village units" with a small administration, but most villages are scattered Bedouin settlements. Each of the eight towns is headed by the Chairman of the City Council, who doubles as the Chairman of the surrounding Markaz. There are also Vice-Chairmen. Each town has an executive council made up of local representatives of the directorates and each has supporting technical and administrative units. Each has an information center which reports to the Governorate information center in El Tour.

The personnel of the Governorate and its local units are all civil service employees or, in a few cases, are under temporary contracts. At the same time there is a parallel Local Popular Council system, where local resident members are elected by popular vote for a period of five years. Each town/markaz has a Local Popular Council, and from each of these there are 2 to 3 members who sit on the Local Popular Council at the Governorate level. Basically local popular councils have two functions: (1) a representative function where citizens can gain representation to the Government for particular concerns through their Local Council representatives, and (2) an oversight function where the local councils monitor the performance of the Governorate's executive responsibilities and the flow of investment funds.

Apart from the Governorate, there are a number of national agencies with particularly important development roles in South Sinai:

### South Sinai Development Authority (SDA)

A sub-regional unit of the regional (Sinai) office of the national Development Authority headquartered in Ismailia, affiliated to the Ministry of Housing, Utilities, and New Communities. The SDA is the main technical agency for infrastructure provision, focusing on roads, water and wastewater trunk lines, etc. It contracts out design and execution, usually to public sector contractors. The main office is located in El Tour and the SDA has roughly 150 employees.

### Tourist Development Authority (TDA)

The TDA, an agency of the Ministry of Tourism, has been assigned the responsibility for planning, developing, and managing coastal areas of South Sinai which are not (1) within municipal boundaries, (2) designated as natural protected areas and (3) allocated for petroleum exploitation or the military. In practical terms this means that between 40 to 50% of the Governorate's coastal areas are under the TDA's control. Typically TDA plans coastal areas, accepts and screens private investor proposals for individual sites, allocates land and imposes development standards, and monitors construction and operation of tourist establishments. TDA promotes the "integrated resort" approach, where a prime resort manager undertakes the infrastructure provision and organization of a large resort area and then sells locations for individual tourist villages and hotels within the larger complex (examples include Taba Heights, el Nabq, and, on the Red Sea, Ras Abu Soma, Sahel Hashish, and Marsa Allam).

The TDA, in association with the Ministry of Tourism, also undertakes tourist promotion campaigns and operates a tourism data base. The TDA is located in Cairo, with a small office for South Sinai located in Sharm el Sheikh.

### EEAA and the Department of National Protectorates (DNP)

The Egyptian Environmental Affairs Agency is responsible for environmental protection and management throughout Egypt, and it is very active in South Sinai. Under its Department of National Protectorates (DNP) four protected areas have

been created, Ras Mohammed National Park, St. Catherine Protected Area, and Nabq and Abu Gallum Managed Resource Protected Areas.

### General Organization for Physical Planning (GOPP)

GOPP is a national agency (affiliated to the Ministry of Housing, Utilities, and Urban Communities) which is responsible for preparing urban and regional physical development plans, and through its regional office in Ismailia it has prepared master plans and structure plans for most of the towns of South Sinai.



## **2. ECONOMIC BASE AND ECONOMIC GROWTH**

Even though there are no regional economic accounts, it is safe to say that the economic base South Sinai is currently dominated by tourism and that tourism will be the main engine of the area's future rapid growth. The second most important basic economic activity is petroleum and mineral extraction, followed by the relatively small sectors of animal husbandry, agriculture, and fishing (all pursued in large part by the indigenous Bedouin population).

Derivative or tertiary economic activities are dominated by public administration, followed by commerce, trade and petty services. Due to the importance the Government places on South Sinai as a frontier province (especially for security reasons), the large public administration sector is in some respects "exogenous" and in this sense it could be said to be at least partially a "basic" economic activity.

Statistics on the economically active population in South Sinai from the 1996 Census are given in Table 2.1. These figures reflect the main economic activities in South Sinai. For example, the largest single economic activity is "hotels and restaurants", which account for 15.9% of the economically active population (a total of 25881 persons in 1996 in South Sinai). Agriculture and fishing account for 10.7%, and mining 7.3%. Inferences of a large civil service sector can be made from the fact that education and health services (practically all of which are government-run) account for 7.3%, transportation and communication account for 9.6%, etc.

In the following subsections the scope and trends of the main economic sectors in South Sinai are discussed.

### **2.1 Tourism**

#### **2.1.1 The Structure of Tourism in Egypt and South Sinai**

Tourism in Egypt occupies an important place in the national economy, accounting for over 11 of GDP, directly employing 1.2 million persons and, perhaps most importantly, supplying Egypt with a substantial portion of its foreign exchange needs (current account).<sup>5</sup> The Egyptian Government has strong policy of promoting tourism in all its aspects.

To gain an idea of the extent and structure of tourism in South Sinai as it compares to tourism at the national level, Table 2.2 has been constructed from CAPMAS statistics on tourist establishments for the fiscal year 2000/2001, the latest year for which complete information is available.<sup>6</sup> As can be seen, in 2000/2001 South Sinai had 101 tourist establishments, 18180 rooms, and a total of 1813000 guest nights. This gives South Sinai 7.1% of all establishments in Egypt, 15.7% of rooms, and 17.2% of guest nights. (This last figure rises to 19.8% if only foreign tourists are considered.) In addition, South Sinai accounted for 17.4% of workers in tourist establishments and 19.1% of total revenues.

The above shares of national tourism are considerably higher if only five star and four star establishments are considered. For example, South Sinai's share of total rooms would rise to 21% and share of total guest nights to 23%. This reflects the more up market nature of tourism in South Sinai, where 77% of establishments are classified three, four, or five stars, whereas the same ratio for all Egypt is 33%.

<sup>5</sup> SSRDP, Programme Concept, 2001, p. 9.

<sup>6</sup> CAPMAS, Economic Census of 2000/2001, Statistics on the Elements of Activities of Hotels, Tourist Villages, and Pensions in the Public and Private Sectors, April 2003.

Other structural differences are evident. Whereas overall occupancy rates were roughly similar (40.8% for South Sinai versus 37.4% nationally), the average nights per guest was much higher at 4.69 versus 2.78 nationally. Also, establishments in South Sinai tended to be much larger than the national average (180 rooms per establishment versus 81 rooms per establishment nationally). Five star hotels and tourist villages in South Sinai averaged 436 rooms per establishment versus 208 rooms per establishment nationally.

### **2.1.2 The Nature of Tourism in South Sinai**

To make the obvious generalization: tourism in South Sinai is overwhelmingly resort tourism (sun, sand and surf) and overwhelmingly mass (or package) tourism which is very price sensitive. It is also overwhelmingly international in character: In 2000/2001 86% of tourist nights were foreign and only 14% Egyptian. Individual and small group tourists are a small and diminishing segment of the market.

The typical tourist establishment in South Sinai is either a tourist village or resort hotel, with 4 to 5 star classification. It will have 200 to 400 rooms (400 to 800 beds), 3-5 restaurants, two swimming pools, beach-side activities, a sports/fitness center, souvenir shops and convenience stores. It may also have a dive center and special recreational facilities, and it might also have a gambling casino. It will likely have its own source of power generation (at least as back up) and its own water desalination and sewerage treatment plants. Ample trees and greenery will be irrigated from treated effluent.

The typical tourist establishment will be, on average, half full. With few exceptions guests will be on organized package tours (20-50 persons) which have been arranged from their countries of origin. Guests are most likely to be Italians, British, Germans, or Russians. Egyptians appear in large numbers only at local holiday peak times.

The strategy of the hotel owners and managers will be to offer guests everything they need (and everything they purchase) within the resort itself. Half and even full board accommodation is very common.

Obviously there are many exceptions to this typical sketch. For example, in Sharm el Sheikh there is a vibrant commercial and recreational life outside the hotels proper. Smaller hotels and resorts are common in Dahab and Nuweiba. And in Ras Sudr resorts tend to be aimed at the holiday home Egyptian market.

The resort nature of tourism in South Sinai has remained dominant since tourism took off in the 1980's. The aim of tourists remains to enjoy the sun and beaches and partake of sea-based activities. Scuba diving in South Sinai has an international reputation, and the rapid growth in South Sinai can be partly attributed to this diving reputation as a "leading niche" market. There is a very small amount of cultural tourism (St. Katherine's monastery and Mount Sinai) and desert safaris and other nature or ethnic adventures are being promoted. Yet in numbers terms such non-resort tourism activities remain insignificant.

### **2.1.3 Main Players in South Sinai Tourism**

From a marketing point of view, the most important player in South Sinai tourism is the large European **tour operator company** which puts together and promotes packages, selling them either direct or through travel agencies and airlines. These tour companies will offer a wide range of resort holiday schemes to any number of countries, and their pricing will be very carefully pegged to the highly competitive nature of the market. That is, the single most important determinant in the choice of package will be, simply, the price. The industry standard today is \$450-500 for 6-7 days in a beach resort at half board including air travel and transfers. This pegged standard cannot be easily raised because of the stiff competition. Special attractions and cultural side trips are often added, but they cannot allow significant price variations.

From an investment point of view, the most important player in South Sinai tourism is the **Egyptian resort developer**. The developer may be an individual or an incorporated firm, but with few exceptions he will be Egyptian. Typically he invests his equity to acquire the land from the Government and will try to finance as much of the development as possible through Egyptian currency denominated bank loans from Egyptian public or private banks. In South Sinai there are a few Gulf Arab investment companies who operate as developers, but most resort establishments, whatever the size or category, rely on native capital.

A key player in South Sinai tourism is the **resort management company**. These are almost without exception multi-national management companies such as Hilton, Sheraton, Marriott, Sonesta, etc., at least for the three, four, and five stars. Typically an Egyptian resort developer enters into agreement with one of these management companies before beginning to develop a site, so that the design requirements of the management can be incorporated (although switching management companies after completion also occurs). The manager agrees to pay either a set annual fee to the developer for use of the resort or some formula based on occupancy and/or net revenues. It is up to the management company to market the rooms with international tour operators and to negotiate room rates for groups. Because of the normally excess room capacity in the resort sector, and because management companies are faced with considerable fixed operating costs, room rates must be quite competitive. Twenty to twenty five dollars per room per night is currently prevalent for off-peak five star establishments (where the walk-in individual rate may exceed \$100). The hope is that guests will spend a lot in food, beverages, and special attractions and services offered inside the resort.

Another player in South Sinai tourism is the local tour affiliate or "**local handler**". These are Egyptian travel agencies which arrange transportation, transfers, and cultural side trips (including to Cairo and to Upper Egypt). It is said that these local handlers are gaining more importance in the game, as they can sometimes negotiate better deals with individual hotels and resorts. It is even not uncommon for the local handler to switch resorts after a package tour has been advertised.

Of course such a list only touches on the main actors, and there are a number of other secondary partners, including the airlines, the ground transport companies, local travel agents, car rentals, etc. To these must be added the dive center operators, tourism industry associations, and a host of taxi drivers, restaurant and café operators, tourist shop operators, etc.

#### **2.1.4 Current Geographical Distribution of Tourist Establishments: Dominance of Sharm el Sheikh**

Table 2.3 presents the latest figures (month of September 2003) on operating tourist establishments in South Sinai, by category of establishment and location. There are a total of 274 establishments, almost all of which are tourist villages or tourist hotels, with a total capacity of 37,223 rooms and 71,985 beds.<sup>7</sup> Of the total, over 45% of rooms are in five star establishments, 25% or in four star establishments, 10% in three star establishments, less than 1% in each of one and two star establishments, and 17% in establishments which are still "under classification". Average number of rooms per establishment varies from 377 in five star establishments, 207 in four star establishments, 85 in three star establishments, 38 in two star establishments, 30 in one star establishments, and 52 in establishments "under classification".

The geographical distribution of these establishments shown in Table 2.3 underlines the overwhelming dominance of Sharm el Sheikh in the tourism sector in South Sinai. A full 73% of all tourist rooms in South Sinai are found in Sharm el Sheikh, with this percentage rising to 88% for five star establishments. Conversely, other locations have only small shares of the South Sinai total. Of total rooms, 8.3% are found in Taba, 7.9% are found in Dahab, 5.6% in Ras Sudr, and other locations have shares of less than 3%.

<sup>7</sup> The only other significant category is "camping establishments", which make up less than 1% of the total tourist establishments in South Sinai.

The dominance of Sharm El Sheikh in South Sinai's tourism can be seen in other ways. Not only does Sharm have the only functioning international airport in the Governorate, it has reached the critical mass required to support a large range of secondary tourist activities and services. For example, a tourism guide produced in 2001<sup>8</sup> lists 28 tour agencies in Sharm, 2 in Dahab, and none anywhere else. Similarly, 11 of the 12 car rental agencies in South Sinai are found in Sharm, as are 8 of the 9 banks. The guide lists 21 dive centers in Sharm, 12 in Dahab, and none elsewhere. All medical and emergency services catering to tourists are found in Sharm. Also, special recreational establishments (safari trips, watersports, amusement parks, horse riding centers, golf centers, sports and fitness centers, cinemas, etc.) are almost exclusively located in and around Sharm.

Another phenomenon has made Sharm unique in South Sinai. This is the large and rapidly growing number of "tourist housing" complexes. Foreigners, expatriates resident in Egypt, and Egyptians themselves are occupying apartments and small villas located within well landscaped enclaves in many parts of Sharm.<sup>9</sup> These enclaves are developed by Egyptian entrepreneurs and either sold to Egyptians and foreigners or rented either directly or under time-share arrangements. The existence and rapid growth of this phenomenon is proof that Sharm has reached the "critical mass" of a large resort town, one which can offer enough leisure, sport, beach, and recreational amusements to attract individuals who are not part of the typical package tourist system.

### **2.1.5 Historical Trends in Tourist Establishments**

Table 2.4 presents figures on operating tourist establishments in South Sinai for each year from 1996 through 2003, broken down by category of establishment.<sup>10</sup> The overall image these statistics produce is one of extremely strong and consistent annual increase in the number of establishments and their capacities. The total number of establishments grew from 88 in 1996 to 221 in 2003, and the number of rooms from 6,979 in 1996 to 35,782 in 2003. The average increase in number of rooms was 27.3% per year and the imputed annual increase in rooms 1996-2003 was 26.3%. Five star room capacities increased the fastest, at an imputed annual increase of 40.7%, followed by four star room capacities at 30.4% per year. For unknown reasons there was on average a small annual decrease in the number of two star rooms. Overall growth in number of establishments and number of rooms over the entire eight year period was relatively smooth, although the year 2002 was an anomaly, recording only a 4.4% annual increase of total rooms over the preceding year.

It is interesting to note that there is a consistent trend towards larger tourist establishments in South Sinai. Whereas in 1996 the overall average size of establishment was 79.3 rooms, this had increased to 161.9 rooms by 2003. The greatest increase in size was with five star establishments (from 309 to 376 rooms per establishment), four star establishments (from 147 to 204 rooms per establishment) and "under classification" (from 48 to 88 rooms per establishment.)

### **2.1.6 Types of Tourists, Tourist Seasons, and Occupancy Rates**

Tourists visiting South Sinai can be broken down by nationality for the year 2001.<sup>11</sup> Table 2.5 presents this breakdown by nationality group both for South Sinai and for the nation, by both total guests and total guest nights. As can be seen, Western Europeans dominate with 50% of both total guests and total guest nights. Egyptians account for 23.5%, and East Europeans with 11.9%. It is understood that Eastern European visitors, mainly Russians, are becoming a much more important share of total guests in South Sinai. (To illustrate, the number of tourist nights from Russians visiting Egypt in 2001 was recorded at 49% greater than in 2000.)

<sup>8</sup> "Sinai-Oggi, prima edizione", published by Egypt Today, 2001

<sup>9</sup> As of the time of writing, no figures had become available on the numbers and growth of the "tourist housing" phenomenon.

<sup>10</sup> From information provided by the Governorate's Information Center, El Tour.

<sup>11</sup> From Ministry of Tourism, *Tourism in Figures, 2001*, pp 81-82.

Although some tourist destinations in Egypt are extremely irregular, with significant peaks and troughs throughout the year (e.g. Luxor), the situation in South Sinai is much smoother. Table 2.6 presents the number of hotel residents and hotel nights for 2001 by month. As can be seen, there is a reasonably even distribution throughout the year, with two identifiable peaks: one is in March-April and the other is in August-September. Conversely, the lowest month is November followed by October. However, both the number of tourists and the number of tourist nights in any one month does not deviate from the monthly norm of 8.3% by more than 35%.

According to statistics for the years 1998 through 2001, room occupancy rates in South Sinai ranged from 61% to 81% over the years 1998-2001. As can be seen from Table 2.7, these rates compared quite favorably to the national average of room occupancy over the same years. Note that 2001 was low due to the events of September 2001.

**Table 2.7  
Hotel Occupancy Rates**

Year	South Sinai	National Average
1998	61%	45%
1999	81%	67%
2000	80%	73%
2001	65%	61%

Source: Ministry of Tourism, Egypt 2001  
– Tourism in Figures, pp 90-91

Within South Sinai room occupancy rates can vary quite dramatically. For the calendar year 2002 (a bad year for world tourism), Sharm el Sheikh registered room occupancies of 63.4%, whereas Dahab had 22.0%, Nuweiba 21.4%, St. Katherine 10.1%, and Taba 22.9%.<sup>12</sup> This demonstrates, in another way, the overwhelming dominance which Sharm el Sheikh enjoys in South Sinai as a tourist attraction.

**2.1.7 Projecting the Growth of the Tourist Economy in South Sinai**

There are two ways to project expected tourism development in South Sinai, both overall and by geographic location and type. The first is to look at actual historical growth of the sector, using mostly statistics on tourist establishments and tourist rooms over the 1996-2003 period. This gives time series growth rates which can be projected with some confidence over a five year period. The second is to look at tourist sites which are as yet un-allocated or un-built and also at tourism plans for virgin area development. This allows a longer run view of potential tourism capacity and also gives an idea of future geographic distribution of tourist activities, including possible environmental impacts.

Extrapolating from Table 2.4 for all of South Sinai over the years 1996-2003, one sees a relatively consistent average annual increase in the number of tourist rooms of between 26.3% to 27.3%, with an even higher percentage increase for five star and four star accommodation. Taking conservatively an overall annual increase in rooms of 20% up to 2008, then 15% up to 2013, and finally 10% up to 2017 (to reflect a diminishing rate increase as the room stock increases), results can be presented as in Table 2.8.

Even under this conservative scenario, by 2013 there would be 187000 rooms in South Sinai or a five-fold increase over the present, and Sharm would have 136000 rooms. Even in 2008 there would be 93000 rooms in South Sinai, representing an annual addition of 11000 rooms per year. Under this scenario, by 2011 the number of rooms in Sharm el Sheikh alone would surpass the total number of tourist establishment rooms found in all of Egypt in 2000/2001!

<sup>12</sup> Source: Information Center, South Sinai Governorate

**Table 2.8  
South Sinai Projections of Tourist Rooms**

<b>Year</b>	<b>2003</b>	<b>2008</b>	<b>2013</b>	<b>2017</b>
Sharm El Sheikh	27267	67849	136469	199804
Ras Sudr	2085	5188	10435	15278
Abou Zenima	12	30	60	88
El Tour	194	483	971	1422
St Catherine	775	1928	3879	5679
Taba	3104	7724	15535	22745
Nuweiba	1057	2630	5290	7745
Dahab	2935	7303	14689	21507
<b>TOTAL</b>	<b>37429</b>	<b>93135</b>	<b>187328</b>	<b>274268</b>
implied annual increase		20%	15%	10%

While such projections may have logic in recent history, the question must be asked, is there the physical capacity in South Sinai locations to accept such continued dramatic increases? Are there enough virgin site schemes, underdeveloped zones and as yet un-built sites to accommodate such increases, assuming the private investment funds are available and the tourism market continues to produce excessive demand? As of the time of writing, such overall information has not yet been forthcoming. However, there are a number of indications that there is considerable potential for huge increases in tourism capacity:

- First of all, GOPP and the TDA are planning to open up the whole coast from El Tour to Ras Mohammed Protectorate (75 km.) for tourist resort development, creating three integrated resort complexes at Ras El Sabil, Shamal Ras El Kenisa, and Ras El Kenisa on a total of 9200 feddans. Using GOPP planning norms, such virgin site developments would allow the construction of 39 tourist villages or, roughly, 11700 rooms.
- In the Ras Sudr Sector, TDA maps show that there are 17 tourist villages under operation, another 72 sites allocated or under construction, and 7 sites still unassigned. Assuming full capacity, this would allow, roughly, the construction of an additional 10500 rooms.
- Within the Sharm el Sheikh town boundaries, current satellite imagery shows that there are still huge tracts of land which are unbuilt or under construction, both along the coast and, in particular, inland. And the Nabq area (north of the airport and under TDA control), is practically new with only 6 tourist villages currently in operation, but another 25 under construction, not to mention considerable as yet unbuilt parcels. GOPP plans designate 2400 feddans for tourist development in Nabq, which could hold a staggering 30,000 rooms.

### **2.1.8 Coefficients of Tourist Employment**

Tourism generates considerable employment. In South Sinai there is already a sizable tourism workforce, and given expected growth in the sector a huge future workforce can be anticipated. Statistics from the 1996 Census are of no use as a basis for projections in tourist employment, and it is important to come up with the best estimates of the direct and indirect employment generated by tourist establishments. The main such coefficient of tourist employment is based on the number of rooms.

From Table 2.2 it is seen that in 2000/2001 CAPMAS recorded an average of 0.72 workers in tourist establishments per guest room in South Sinai. The national average was 0.652.

These averages do not include temporary or seasonal employees in tourist establishments, and they seem low compared to anecdotal information from the industry, which in Egypt averages 1.5 employees per room for 5 and 4 star hotels.

In addition, most government agencies use higher coefficients for estimating tourist-related employment generation. For example, GOPP use on average one staff per guest room, and an additional 0.75 jobs per guest room in secondary tourist activities, plus a further 1.5 service jobs in the general economy per guest room. Obviously the derived secondary and service jobs will only occur in large resort centers where there are agglomeration economies or "tourist and urban externalities". Another example is from a Ministry of Tourism study in 1991, which suggests that 5 star hotels have on average 2 staff per guest room, while 3 star hotels have an average of 1.4 staff per room, and the multiplier for additional service jobs is 1.00.

### **2.1.9 Planning and Control of Tourism in South Sinai**

In South Sinai (and also on the Red Sea Coast) the responsibility for planning, land allocation, and control of tourist establishments divided between TDA and the Governorate. The Governorate is responsible for all lands inside municipal limits and TDA is responsible for all coastal areas which are outside municipal limits. This means that roughly 70% of South Sinai's coast which is developable for tourism (i.e. not inside protectorates or not reserved for the oil industry or the armed forces) is under the TDA.

The Ministry of Tourism and TDA sets maximum standards for tourist establishments. There is a maximum density of 30 tourists per feddan (72 per hectare). One tourist per 0.75 linear meter of beach is the capacity of beach frontage. No permanent structures are to be built within 50 meters of the water line, although this requirement is often ignored. A project cannot have more than 50% of its units as holiday villas or apartments for sale or timeshare (a rising phenomenon, one which can greatly help the cash-strapped developer), and the core resort hotel must be built first.

TDA land is sold at a price of US\$ 1.00 per m<sup>2</sup>, a standard price set in 1989, which is considerably less than market prices. Thus there is a "queuing" phenomenon of investors for empty land parcels. TDA sets a number of requirements for these investors to screen out the non-serious and the speculators (financial feasibility studies, legal incorporation, detailed designs, minimum paid up capital, and bank guarantees), and also stipulates non-transfer to third parties, yet in practice there is considerable land speculation.

Land inside municipalities is controlled and sold by the Governorate (not the municipalities), at prices which are nearer market values.

Tourist hotels and holiday villages cannot begin operation before being issued a license from the Ministry of Tourism, which normally will set the star classification and standard room rates. However, having a license itself does mean that an establishment is ready for operation, and conversely it is not uncommon for a new establishment to begin with a "soft opening" before obtaining a license. This grey area surrounding when a hotel or resort comes on stream partly explains why statistics on tourist establishments collected by different authorities are sometimes contradictory.

## **2.2 Petroleum and Natural Gas**

Before 1967 most of Egypt's crude oil production came from the Abou Rudeis onshore fields. These are now largely depleted but, starting in the 1970s, exploration and production concession blocks were let to foreign consortiums offshore in the Gulf of Suez, and now there are a number of platform wells which produce significant quantities of crude oil. The largest producer in the Gulf of Suez is the Gulf of Suez Petroleum Company (GUPCO), a joint venture between British Petroleum and the Egyptian General Petroleum Company (EGPC). Its offshore concession operations are mostly on the western and southern parts of the Gulf of

Suez (Morgan and October fields), and oil field support as well as crude oil conveyance is mostly through Ras Shukair in the Red Sea Governorate. Production has fallen in recent years and GUPCO is attempting to slow the decline in its fields through significant investments in enhanced oil recovery as well as in increased exploration. It is in the middle of a US\$ 450 million investment program.

The second largest producer in the Gulf of Suez is Petrobel, a joint venture of Agip Italy and EGPC. It operates the Belayim Offshore fields as well as Belayim Onshore fields. Its support and conveyance operations are located at Belayim just south of Abou Rudeis. Crude oil is stored there and pumped through an onshore pipeline to Suez to feed the El Nasr Refinery (capacity 146,000 bbl/d). As with GUPCO, Petrobel is faced with declining production and is trying to enhance recovery.

There are no known plans to exploit natural gas deposits in the northern part of the Gulf of Suez. There is one existing natural gas operation at East Zeit (north of Hurghada on the Red Sea), but most of Egypt's considerable natural gas reserves are found offshore the Nile Delta and in the Western Desert.

While significant in terms of economic value, crude oil production along the Gulf of Suez does generate little direct employment in South Sinai nor does it have a significant impact on the local economy, as the Belayim oil center is of the typical enclave type.

Environmental issues relate mainly to the threat of oil spills and the consequent damage to the coral reefs and Gulf of Suez fish stocks. As currents in the Gulf of Suez are predominantly north-south, spills in northern waters could cause damage along most of the 250 kilometers of Sinai coast fronting the Gulf of Suez. From an environmental point of view the declining crude oil production from offshore operations in the Gulf of Suez is a definite plus.

Besides the oil production mentioned above, there is one small oil refinery in South Sinai, the Wadi Firan Refinery with a capacity of 8500 bbl/d.

### **2.3 Mineral Extraction and Industry**

Ferro-manganese is mined inland from Abu Zenima at Um Nagma and processed at the Ferro Manganese General Company's compound at Abu Zenima, from whence it is shipped through its own port facilities. This mining and processing operation was established in the 1920s by the British. The large compound is self-contained, with worker housing, administration, and dedicated power and other infrastructure. The General Company for Ferro Manganese is a public sector company which is being considered for privatization. There are no known plans for expansion.

There is one small gypsum mining and processing operation in South Sinai.

GOPP's strategic planning for South Sinai (see Map 1, Annex One) indicates potentials for mining and industry:

- Ras Sudr (in proposed industrial zone): establishing industries for cleaning chemicals, fish refrigeration, fertilizer factory
- Abou Zenima (in new industrial zone): establishing industries for pottery, china, ceramics, fire-resistant bricks; white cement factory, stone processing
- Abou Rudeis / Siramit El Khadim: extraction of kaline
- Wadi Firan / St. Katherine: extraction of granite and other building stone

There are no details available about the feasibility or financing of these proposals



## **2.4 Agriculture, Animal Husbandry, and Fishing**

Statistics provided by the Information Center of the South Sinai Governorate show that in 2001/2002 there were a total of 12840 feddans under cultivation in South Sinai, a two-fold increase from 1996/97. The most important agricultural product is olives (on 4443 feddans in 2002), followed by wheat (on 333 feddans in 2002). The acreage of olive trees shows a steady and strong growth, rising by a factor of 2.7 since 1997.

Statistics are not broken down by location, but it is known that the prime agricultural area of South Sinai is in Ras Sudr District, especially east of the coastal road north of Ras Sudr city up to the boundary with Suez Governorate (34 km distance). Mostly small farmers use underground water sources and drip irrigation. Similar small irrigated agricultural operations can be found in pockets in South Sinai wherever there are groundwater sources. Two such areas are Wadi Firan (Abu Rudeis District) and Wadi El Tour (north of El Tour city).

Governorate statistics record a total of 173,465 feddans in South Sinai which are "capable of agricultural reclamation". (This figure has remained more or less constant since 1997.) It is not known upon what criteria such potential lands are judged. However, any agricultural potential in South Sinai is tied strictly to water availability, and given the expected strong demand for water from urban and tourism sectors, it would seem that the economic potential of agriculture in South Sinai is extremely limited. It is worth noting that there is a very large land reclamation scheme (some 65,000 feddans, designed for traditional canal and drain irrigation) which has begun just north of the South Sinai Governorate boundary in Suez Governorate. Any excess water available for irrigation coming south from the Suez Sweetwater Canal and under the Suez Canal will probably all be consumed by this project.

Animal husbandry is an important economic activity in South Sinai, especially in terms of providing livelihood for the indigenous Bedouin. In 2001/2002 the Governorate Information Center recorded a total of 46,965 head of goats, 23,448 head of sheep, and 4,314 head of camels. The growth of these herds has been substantial: The goat population increased by 2.0 times since 1996/97, that of sheep by 1.7 times, and that of camels by 1.8 times.

Fish production in the Gulf of Aqaba and the Gulf of Suez is stated by the Governorate Information Center to be 4,385 tons in 2002. Although there is considerable anecdotal information which points to difficulties with the local fishing industry, Governorate figures show a strong increase in fish production, rising 3.6 times since 1997. The size of reef-associated fish production for all of the Red Sea and the Gulf of Aqaba is reported to be around 22,000 tons annually from over 700 licensed fishing vessels.

Overfishing of coastal areas of South Sinai is not considered a big problem, since much of the coast lies in protected zones, but there is always a certain amount of illegal fishing (poaching of fish in no fish zones, heavy trawling, spear fishing, and use of closed mesh nets), and fishing boats themselves can cause damage to coral reefs (groundings, dragging anchors).<sup>13</sup>

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<sup>13</sup> Cesar et al, p. 7.

### **3. INVESTMENTS IN SOUTH SINAI DEVELOPMENT**

#### **3.1 Local and Regional Development Funding in Egypt**

Egypt is an extremely centralized State and this certainly applies to government revenues and expenditures. On the revenue side practically all tax and non-tax receipts are collected by central agencies and immediately remitted to the national Treasury. Minor revenues may be collected by local administration, but these too are all remitted to the Center. Thus locally generated revenues, whether from sales taxes, fees, duties, fines or even the sale of government assets, are all transferred directly to the concerned central government ministries and with few exceptions are considered general revenues of the State. It is extremely rare for any of these revenue flows to be earmarked *a priori* for special expenditures, and similarly neither local administrations nor ministries have much leeway to retain revenues. (Revenue sharing between local and central authorities is not possible.) Instead, the Ministry of Planning and the Ministry of Finance prepare five year and annual State budgets which apportion out general State revenues by sector, governorate, and national authority. Budgets for these entities are organized according to four categories or “chapters”: Chapter One is for salaries, bonuses and pensions, Chapter Two is for recurrent costs (operations and maintenance, consumables), Chapter Three is for development expenditures (investments) and Chapter Four is for carrying over the funding of projects and activities from the preceding year. The annual budget preparation cycle starts with budget requests from local units and ministries which are passed up the line, thus theoretically allowing for local needs to be incorporated, but in practice budget requests are little more than wish lists and the Ministry of Finance performs what could be called a rationing of funds function between competing requests and interests.

This centralization of budget decisions has several implications for South Sinai’s development. Although South Sinai’s economy may generate significant revenues for the State, mainly through taxes on tourist establishments and the sale of State land, there is no formulaic link between these revenues and investment needs. This fact needs to be recognized in the design of any future systems for financing the sustainable development of South Sinai. In particular, while in theory it would be logical that environmental improvements and protection measures in South Sinai be financed from the revenues generated by development itself, in practice this is not administratively possible, and the link can only be made at the central level by those who perform the budget allocation function.

Under the laws governing local administration, two local funds have been established at the governorate level which allow a small measure of local fiscal autonomy. These are the Local Development Fund and the Economic Housing Fund, and each has a number of smaller earmarked sources of funds. In practice these funds tend to be used as backups for completing the financing infrastructure and housing investments for which allocations have come from the central government. Thus it is rare that they operate as separate, sustainable “funds”, and it is common for them to be annually drawn down to near zero.

#### **3.2 Planning and Budgeting Public Investments in South Sinai**

Each ministry and agency operating in South Sinai is financed from allocations made in the national five year plan and its annual plans. Each will have its own investment budget. Thus main roads will be financed from the budget of the Ministry of Transport, SDA investments from its allocations from the Ministry of Housing, Utilities, and Urban Communities, etc. In addition, the Governorate of South Sinai has its own investments under its “diwan” budget, which is either disbursed directly by the Governorate departments or is allocated to the towns and districts.

The Governorate’s Planning and Follow Up Department has prepared five year and annual investment proposals for the diwan budget, and these are summarized in Table 3.1 to give an idea of the scope of activities which are the responsibility of the Governorate. The plan calls

for a total of LE 1218 million over the five years 2002-2007 (the current five year plan) and LE 1385 million for the five years 2007/2012.

The South Sinai diwan budget is considered the normal annual investment budget for local administration. There is also something called the “emergency budget” (*el khita el aagila*) which can be used to complete the financing of priority projects. And, in addition, some investments are financed from an accounting line which is called “outside the budget plan” (*kharg el khita*). In effect, the five year and annual allocations are rarely followed rigidly, and actual disbursements are likely to be more *ad hoc* and dependent on actual available cash released by the Ministry of Finance in any sector or governorate. The impression is that due to its importance as a strategic region, South Sinai is looked upon with favor in both the allocation of State budget funds and, more importantly, in the actual release of these funds.

### 3.3 Sinai Development Agency: Sunk Infrastructure investments

As has been mentioned above, the Sinai Development Agency is a key player in the provision of infrastructure in South Sinai. The Agency’s office in El Tour has provided a statement of its completed investments up through the fiscal year 2001/2002, which shows the scope of its activities, as shown in Table 3.2.

**Table 3.2**  
**SDA Investments in South Sinai up to 2002**  
(in million LE)

Sector	Main types of investments	Total Costs
Water	Networks, treatment plants, transmission lines	636.7
Sanitary Drainage	Networks, lift stations, purification plants	326.2
Roads	Main roads and associated bridges	70.2
Housing	Bedouin and low cost housing units	34.0
Special infrastructure	Dahab and Taba under preparation	170.0
Power	Street lighting Bedouin settlements	3.0
Total		1240.0

As expected, the water sector dominated SDA investments with over half the total, and water and sanitary drainage together represented 78% of total investments. Table 3.3 gives a breakdown of SDA projects by location in South Sinai. Sharm comes out as the most favored location with 26% of the total, and Dahab is a surprisingly strong second with 23%.

**Table 3.3**  
**Geographic Distribution of SDA Investments up to 2002**  
(in million LE)

City/Location	Investment	Percentage
Ras Sudr	76.5	7.9
Abou Zenima	51.8	5.3
Abou Rudeis	44.2	4.5
El Tour	70.5	7.2
St. Katherine	34.3	3.5
Sharm el Sheikh	257.8	26.5
Dahab	220.0	22.6
Nuweiba	45.0	4.6
Taba	45.0	4.6
Water pipeline Tunnel to Abou Rudeis (completed 1987)	55.0	5.6
Water pipeline Abou Rudeis to El Tour (completed 1998)	73.0	7.5
Total	973.1	99.8

### **3.4 Magnitude of Private Sector Investments**

There is no known information on private sector investments in South Sinai. However it is obvious that by far the largest private investments are in tourism, and in tourist establishments in particular, all of which are privately funded. Using the Ministry of Tourism's rule of thumb of US\$ 100,000 per room for 3 to 5 star accommodation, sunk private tourist investment to date in South Sinai is on the order of US\$ 5 billion, with annual investments currently running at roughly \$US 400 million per year.

#### **4. DEMOGRAPHIC COMPOSITION AND TRENDS**

##### **4.1 Population Information**

By far the most important source of information on South Sinai is the Census of Egypt. The Census was conducted in 1986 and 1996 in all of South Sinai. It breaks the governorate down into 8 qisms, each of which contain one "city" and several "villages". These cities and villages are the Census enumeration districts. The Census of Egypt is considered fairly accurate (although there are known to be some boundary problems, and some consider there to be undercounting in certain areas, especially informal urban areas). It is important to note that the Census is a *de facto* census, that is, it counts all those physically residing on a certain date of the Census year. Thus if inhabitants normally resident in a place are absent for whatever reason, they are not counted.<sup>14</sup> Also, the Census counts all persons Egyptian and foreign, including those in institutions such as prisons, hotels, and hostels (but not military and security personnel). Thus Census figures should include tourists physically present at the time of the census.

A check on the validity of the 1996 Census figures for South Sinai was carried out by looking at the population breakdown into two types of dwelling unit, "residential" and "institutional". (See Table 4.1) Institutional units include dormitories, hotels, hostels, etc. Overall over 80% of the population was enumerated in residential units, but in Sharm el Sheikh (an area with a concentration of hotels and worker housing) this portion declined to 40%. Also, in Sharm the average population per institutional unit was 41 persons, and Sharm's urban M/F sex ratio was a remarkable 6.30. By comparing these indicators to those for residential units, it is clear that the 1996 Census included tourist workers and most tourists in its enumeration of the population.

##### **4.2 Historical Overview**

The Census of 1960 listed a total population of Sinai Governorate (then composed of both north and south Sinai) of 49,769 inhabitants. South Sinai, at the time all considered the qism of El Tour, had a population of 4,355, of which 3,562 were males (yielding a male-female sex ratio of

The partial Census of 1966 is not available for Sinai. And in 1967 all of Sinai was occupied by Israeli forces, and South Sinai was returned to Egypt only in 1979-81. Thus there were no population figures for Sinai resulting from the Census of 1976.

Whereas most Bedouin of South Sinai continued to live there under Israeli occupation, Egyptians only began to re-settle in the 1980s, both to staff government institutions (including the petroleum sector) and to seek employment in the nascent tourism industry. The Census of 1986 can thus be considered the first picture of settlement patterns following the disruptions of war and occupation.

In 1986 there were a total of 28,576 persons recorded in South Sinai Governorate, of which 40% were "urban", living in 8 towns. The largest town was El Tour with 4,338 inhabitants, followed by Abu Rudeis with 2,515 inhabitants. Of the 60% of South Sinai's population which were "rural", the largest concentration was found in Ras Sudr qism (rural pop. 4063) followed by St. Catherine, Abu Rudeis, Abu Zenima, El Tour qisms, all with rural populations in the 2000 to 3000 range. The Gulf of Aqaba qisms (Sharm el Sheikh, Nuweiba, and Dahab), had significantly smaller rural populations.

<sup>14</sup> The only exceptions are absent family members who, at the time of the Census, were traveling or in military service. These are counted as part of the family.

### 4.3 Population Growth 1986 to 1996

Although starting from a very low population base, the growth in population of South Sinai over the intercensal period was, by Egyptian terms, phenomenal, as can be seen from Table 4.2. Overall annual increase over the period was 6.7%, with urban areas increasing by 9.1% annually and rural areas by 4.8%. (Over the same period the population of Egypt grew at 2.3% annually.)

Perhaps just as striking was the increase in the male/female population ratio. Already in 1986 it was very high at 1.56, reflecting the "dormitory" nature of most of South Sinai's settlement, where men were working without their families. By 1996 this ratio had increased to 1.62, indicating that the economy was attracting even more single men, and that such skewed population had not yet begun to revert towards more normal, family demographics.

The fastest growing qism was Sharm el Sheikh, with 16.9% annual increase (doubling every 4 years!), followed by Nuweiba (10% annual), Dahab (8.9% annual), and El Tur (8.4% annual). Abu Zenima recorded an average growth (6.4% annual), whereas the remaining three qisms showed relatively slow growth (2% to 3% annual). This produced a shift in population ranking of qisms. El Tour Qism remained the largest (26% of total governorate population in 1996), but Ras Sudr dropped from 2<sup>nd</sup> to 4<sup>th</sup> over the period, and St. Katherine dropped from 4<sup>th</sup> to 7<sup>th</sup>. Conversely, Sharm el Sheikh went from 8<sup>th</sup> to 3<sup>rd</sup> in rank. Other qisms held or only slightly changed their population rankings.

The fastest growing town was Sharm el Sheikh (17.4% annual), and its associated villages were also the fastest growing (16.3% annual). El Dahab was the second fastest growing city, followed by Abu Zenima, and Nuweiba, all growing in excess of 10% annually. However, El Tour City maintained its rank as the largest urban area, with a 1996 population of 10,500. By 1996 Sharm el Sheikh had become the second largest urban area, particularly if one considers that one of the "villages" of Sharm is Naama Bay. Together Sharm and Naama Bay had a population of 6,200 inhabitants in 1996.

Table 4.3 shows the share distribution of the 1996 population by the different areas of South Sinai.

Annex 1 to this report gives detailed 1986 and 1996 Census results for each of South Sinai's 107 enumeration districts, as well as imputed annual changes over the intercensal period.

### 4.4 Large Villages and Small Towns

Besides the eight towns which are classified as cities, there are a number of "villages" whose relatively large populations should be noted:

Abu Suweira, Ras Sudr qism, 1996 pop 2545, annual growth 9.9%, M/F ratio 1.16

A growing town on the main highway, much larger than Ras Sudr town itself. At least half Bedouin.

Al Haswa, Abu Rudis qism, 1996 pop 1172, annual growth 1.2%, M/F ratio 1.45

Location unknown, presumably mostly Bedouin

Wadi Firan, Abu Rudis qism, 1996 pop 996, annual growth 4.6%, M/F ratio 1.3

Well known oasis, almost all Bedouin

Al Gubil (qariyat el sayyadiin), El Tur qism, 1996 pop 1502, annual growth 5.9%, M/F ratio 1.3

Located just south of El Tur City, part of the urban agglomeration, primarily fishing community as the name implies.

Wadi el Tur, El Tur qism, 1996 pop 1356, annual growth 6.4%, M/F ratio 1.15

The oasis area just north of El Tur City, primarily Bedouin

Al Asla, Dahab qism, 1996 pop 1954, annual growth 7.9%, M/F ratio 1.2  
Adjacent to Dahab City, mostly Bedouin

Nuwayba el Masina, Nuwayba qism, pop 1124, annual growth 4.3%, M/F ratio 1.36  
Adjacent to Nuwayba city, mostly Bedouin.

#### **4.5 Bedouin Population**

The Census figures allow some preliminary observations on the Bedouin population and its trends, which need to be confirmed or modified during field visits.

First, it is not possible to extract from the Census a good idea of the total number of Bedouin (original inhabitants) in South Sinai. This can be done quite easily after field reconnaissance.

If you take from the Census the "rural" population in 1996 and assume it is all Bedouin, you have 27000 persons. Certainly there are "villages" which are more properly parts of an adjacent city and show high concentrations of Egyptians, but conversely there are important Bedouin inhabitants of "cities". The two probably don't cancel out, but at least allow one to say that today the Bedouin population is in the range of 20000 to 24000 inhabitants.

Is the Bedouin population growing? The rural population of South Sinai grew at 4.8% annually 1986-1996. However, this rural population likely includes significant new arrivals from Egypt proper. A look at particular villages which are understood to be exclusively Bedouin (especially those villages in the qisms of Abu Zenima, Ras Sudr, Abu Rudeis, and St. Katherine) show annual growth rates of between 1.2% and 3.1%. Given that natural increase of Bedouin populations is roughly 2.5% annually, it can be *provisionally* said that the Bedouin population of South Sinai is stable (with little migration out or into South Sinai) and expanding slowly.

What can be said of internal migration of Bedouin within South Sinai? Looking at population changes of specific areas over the 1986-96 period, it appears that there is a clear of movement towards the towns, especially from more remote rural settlements. For example, there was a decrease in the population of seven of the 14 villages of St. Catherine, likewise in four of the 11 villages of Nuweiba, likewise in four of the 9 villages of Ras Sudr. At the same time, there has been rapid growth of small towns which are thought to be primarily Bedouin settlements (see Section 4 above).

#### **4.6 Inferences**

Whereas observed demographic change over a single 10 year period cannot establish firm trends, in South Sinai there are no other figures to go by, and the following tentative inferences are advanced:

Overall, there is a very rapid population growth, which is presumably continuing in the post 1996 period. This growth is concentrated in the towns of South Sinai, and thus it can be assumed that currently well over 50% of the population is urban.

There is a clear demographic pattern in South Sinai of increasing importance of the "tourist" cities of Nuweiba, Dahab, and especially Sharm. However, El Tour, the "administrative" city, maintains its dominance. The "petroleum" cities of the Gulf of Suez are decreasing in importance, with the unexplained exception of Abu Zenima.

Rural populations of the eight qisms tend to be growing slowly, with an observable movement of Bedouin away from small and remote settlements towards towns and larger villages.

#### **4.7 Population Projections**

If the 1986-96 Census population changes in urban and rural areas of South Sinai are used to project the 1996 population of South Sinai, one obtains a current ( November 2003) population for the Governorate of 97,420 persons, and this population is 53% urban. El Tour is the most important town with a population of 20,000, followed by Sharm el Sheikh with 13,000.

The Governorate of South Sinai has made its own projections of populations to January 2003. These show a slightly lower total than the projections done here, i.e. 81,472 inhabitants versus 97,420.<sup>15</sup>

Projecting populations beyond 2003 is extremely difficult. If the same 1986-96 rates were to apply in each urban and rural qism, by 2013 (the ten year time horizon for a GEAP) the population of South Sinai would reach 266,000, and this population would be 64% urban. Population projections are shown in Table 4.4.

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<sup>15</sup> Produced by the South Sinai Governorate's Information Center



## **5. INFRASTRUCTURE NEEDS AND INFRASTRUCTURE PROGRAMMES**

### **5.1 Water**

Fresh water resources in South Sinai are extremely limited. Groundwater from shallow wells has been the traditional source, and it remains important, both for rural and isolated settlements and as part of urban water supply. However, such a source is extremely constrained by the low and erratic rainfall in the region. A preliminary study of water resources carried out for this Project by Iwaco concludes that, while there is potential for rainfall harvesting and surface runoff harvesting as well as further development of fresh groundwater sources, such potential is limited and cannot begin to meet the demands for new economic activities.<sup>16</sup>

As pointed out in the Iwaco report, meeting the water demands in South Sinai will require relying mainly on the desalination of sea water and brackish water, plus the conveyance of Nile water from the Suez Sweetwater Canal. Already Government-owned seawater desalination plants produce 9,900 m<sup>3</sup>/day and private plants produce not less than 29,500 m<sup>3</sup>/day, all of which are located in the Gulf of Aqaba towns (and not counting desalination plants directly serving tourist villages). And the conveyance of Nile water has been operational for some time, utilizing a 170 km pipeline running from the Ahmed Hamdi Tunnel near Suez to Abou Rudeis, with a capacity of 22,000 m<sup>3</sup>/day. This pipeline is currently being doubled.

#### **5.1.1 Institutional Set Up for Water Supplies**

Overall responsibility for water resources in South Sinai lie with Ministry of Water Resources and Irrigation (MWRI). In 1999 the Ministry established a Groundwater Sector, and one of its three central directorates (eastern desert) has a general directorate for South Sinai.

In terms of water distribution, overall responsibility is with the Water Administration in the Governorate of South Sinai, which oversees the infrastructure engineers in each city.

However, major investment projects in the sector are undertaken by Sinai Development Authority (SDA). To date these investments in South Sinai amount to LE 637 million for water projects. It is SDA which is executing the doubling of the Nile water pipeline.

Municipal O&M for water systems (and also wastewater systems) is contracted out to a private company. In all Aqaba Gulf towns (Nuweiba, Dahab, Sharm) O&M for water and wastewater systems have been, for some years, contracted out to Care Services Egypt. This system has recently been extended to Suez Gulf towns (El Tour, Ras Sudr, Abou Rudeis, Abu Zenima.) The arrangement is understood to work as follows: Care Services provides technical personnel and vehicles and equipment. Spare parts and chemicals are provided by the municipalities. (Although if these inputs are not available, the contractor can provide them and charge for them.) The personnel and equipments are specified in the contract. Supervision is by the municipality's infrastructure engineer(s), who monitor performance and can levy fines. These contractual arrangements with Care Service are considered by city officials to be beneficial, since it relieves them of the O&M burden, and Care Service can concentrate on meeting input requirements from its more flexible and better endowed company structure.

Private tourist establishments are responsible for their own-source water supplies (usually by reverse osmosis desalination of sea water or brackish well water).

<sup>16</sup> Iwaco Egypt, Seam Programme, "Water Resources Assessment for the South Sinai Environmental Profile and Action Plan, Phase I: Overview of Water Resources in South Sinai, Draft Final Report, October 2003.

### 5.1.2 Local Water Supplies

In general, Suez Gulf towns (El Tour, Ras Sudr, Abou Rudeis, Abou Zenima) enjoy better supplies, either from transmission lines of Nile water from Suez (Ras Sudr to Abou Rudeis) or from relatively plentiful ground water (El Tour.) In contrast, Aqaba Gulf towns have to rely much more on desalinization plants, since well sources are limited and transmission of Nile water not practical due to distances. St. Catherine has only well sources (130 wells), and these have been drawn down over the last few years, due to a combination of wasteful use and drought. Sharm el Sheikh continues to rely partly on the trucking of fresh water 90 kms from wells in El Tour. In terms of water volumes, most water is produced in the Gulf of Aqaba towns by private tourist establishments.

### 5.1.3 Water Costs and Pricing

There is a somewhat confused picture of water supply costs and the various pricing regimes in South Sinai. Municipalities are required to conform to national water consumption tariffs. (which are set by consumption brackets, starting at 18 piastres per m<sup>3</sup>.) However, the "market" value of water in Aqaba Gulf towns can reach LE 10-12 per m<sup>3</sup>, and even more if delivered by truck. Also, Sharm municipality at least sells some of its water at LE 6. A more detailed look at the logic of water supplies and pricing is required, especially since market prices are currently as much as 70 times those of the official price, and this could easily lead to distortions.

Nile water conveyance, assuming there is sufficient excess supply from the Suez Sweetwater Canal (which is doubtful), is relatively economic. A transmission cost of LE 0.62 per m<sup>3</sup> was estimated by SDA in 1990.<sup>17</sup> The costs of extracting ground water vary enormously from locale to locale, and again this assumes that there are sufficient groundwater supplies. The cost of desalination of seawater is currently reported to vary from 6 to 11 LE per m<sup>3</sup>, although the technology (primarily using reverse osmosis methods) is improving.<sup>18</sup>

### 5.1.4 Water Consumption Standards

The National Organization for Potable Water and Sanitary Drainage (NOPWASD) sets consumption standards at 60 to 100 liters per day per capita in general urban areas. However, experience in Cairo and other Egyptian cities point to average consumption rates of up to 200 l/d/c. Also, these consumption standards hide the fact that production must usually be considerably higher due to network system losses.

For tourist establishments, NOPWASD sets 500 l/d/c for five star hotels, 400 l/d/c for four star hotels and 300 l/d/c for all other hotels. Hotel consumption rates include water for hotel staff who are usually accommodated by the hotel.<sup>19</sup>

### 5.1.5 Main Types of Urban Consumers of Water

It is important to assess the water consumption situation (supplies, distribution, prices, management, etc.) for each major type of consumer. Here are listed what are the main types of consumers:

Public housing is managed by municipalities, and they must carry the water bill burden, not the inhabitants. The same applies for most public buildings and municipal green areas. Note that public housing makes up a considerable portion of all housing in most SS towns, and there are plans to build many more units.

<sup>17</sup> See Iwaco, p 15.

<sup>18</sup> See Iwaco, p 14.

<sup>19</sup> From Pollock, p 14.

Tourist hotels and villages, at least the large ones, must generate their own water through desalinization (either on-site or as part of an integrated private producer scheme). Smaller, less up-scale tourist establishments must rely on local supplies articulated through the local water market.

Tourist restaurants, dive shops, and other associated tourist activities also have water needs. These are also dependent on the local water market.

Tourist housing, meaning villa and apartment real estate developments (most common in Sharm), are a substantial water consumer and many more are under construction or planned.

Traditional urban settlements exist in or around all South Sinai towns except Sharm. Most of these settlements are served by distribution networks and are reported to be metered. Note that in some cases these settlements are mixed with small scale tourism activities (e.g. Nuweiba and Dahab).

Sharm El Sheikh special areas, such as the Souq el Qadim, hotel workers housing complex, and the new Ruweisat area east of the circular road.

Government consumers include port authorities (Sharm and Nuweiba), coast guard, army and security, plus municipal buildings. Also public sector companies such as the Sinai Company for Ferromanganese in Abou Zenima and the petroleum sector.

Non-tourist commercial premises such as hotels, restaurants, shops, and workshops, especially in the Suez Gulf towns.

Construction operations in South Sinai, especially along the coasts, are extensive and will be a feature on the landscape for years to come. Water needed for construction (especially for mixing and curing cement) is usually purchased by the truckload. Construction workers, who normally reside on-site, also use this source.

### 5.1.6 Rural Water Supplies

Most rural settlements are “tugamaat bedawia” which are disbursed and usually quite small (populations from from 50 to 500). Water is used for domestic purposes, for garden/orchard cultivation, and for animal husbandry. Traditionally they relied on local (mostly shallow) wells. Government schemes have been introduced in some (mostly larger) settlements by the municipalities these settlements belong to (*tawabaa*). These schemes usually involve deep wells, motors, and elevated storage tanks, with operations carried out by appointed employees.

### 5.2 Sanitation Systems

Due to considerable recent investments by SDA, most general urban areas are already served by standard reticulated sewerage systems or such networks are currently being installed. However, a number of areas remain unserved, and the Governorate Information Center estimates that there are 9 major village settlements (mostly near to towns) which are still unserved (2 in each of Nuweiba, Ras Sudr, and Abou Zenima, and one in each of El Tour, Abou Rudeis, and St. Katherine.) There are also a total of 84 Bedouin settlements which are unserved. In these areas traditional pit latrines and soakaways are used.

Conversely tourist hotels and villages must provide their own on-site collection and treatment, usually by activated sludge systems. This applies both to establishments in TDA areas and those inside municipal boundaries.

Sewerage is collected from networks by central pump stations which then use force mains to transport effluent to treatment plants, usually at considerable distance. Either mechanical

treatment plants or oxidation ponds are used to treat effluent. It is common for treated effluent to be used for tree planting and gardens. Since such irrigation water has a value (in Sharm it sells for LE 2 per m<sup>3</sup>), the irrigation side of the equation is important.

House connections are said to be made under standard arrangements, where the property owner pays for the connecting line and inspection chamber according to individual estimates made by the municipalities. These can be quite expensive (at least going by practices in other cities in Egypt), and there may be an affordability problem, especially relating to traditional urban settlements (mostly Bedouin).

For government-provided sewerage services, a surcharge on the consumer's water bill (25%) is normally added. As with water systems, the O&M of sewerage systems in all towns is contracted out to Care Services.

### **5.3 Electricity<sup>20</sup>**

In Egypt the Ministry of Electricity is responsible for power generation and high voltage transmission (66 kV and above). Power distribution to consumers is the responsibility of regional public sector companies (including medium tension lines and connections). In South Sinai the distribution company is CANAL, headquartered in El Ismailia.

At present power in South Sinai is generated by small thermal power stations located in each of the eight main towns. These were originally diesel driven but have for the most part been converted to gas turbines, with the diesels as standby. In 1997 the total installed capacity in South Sinai was 154 MW, of which 80 MW was in Sharm el Sheikh, but the loading at the time was only about 40 MW.

Work is almost finished to connect South Sinai to the national grid. A 400 kV line from Suez to Taba is complete, and it is designed to feed four undersea power lines which transmit power to Aqaba for power sharing with Jordan. A 220 kV transmission line runs from Aqaba down the Gulf of Aqaba coast to feed Nuweiba, Dahab and Sharm, with plans to complete a loop running along the Gulf of Suez coast north to Suez. When this gridding of South Sinai is completed, power capacities should be sufficient for at least the medium term in South Sinai.

From an environmental point of view the main issue concerns the unsightliness of overhead transmission lines. Underground cables have been installed in parts of Sharm el Sheikh.

### **5.4 Solid Waste Management**

Solid waste collection and disposal is the responsibility of the individual municipalities of South Sinai. Up until now the towns have handled their modest generation of solid waste (modest in comparison with most Egyptian cities) by using their municipal vehicle fleet (loaders and trucks) and by hiring street cleaners. Dumping is at out-of-town desert locations which are only nominally operated as landfills. In no town is solid waste management separated organizationally or financially from normal municipal services, thus it is difficult to assess the full cost implications and, consequently, the viability of privatization of solid waste services. More information on solid waste management in South Sinai is being prepared for the Project.

### **5.5 Roads and Land Transport**

There are 1650 kms of main roads in South Sinai, which are currently all two lane single carriageway highways: the two coastal roads Suez – El Tour and El Tour – Taba, plus the Suez – Taba east-west link and the Abou Rudeis – Nuweiba road which runs through St. Catherine and the South Sinai mountains. These roads have been progressively improved

<sup>20</sup> Much of the information in this section comes from Pollock, B., Gulf of Aqaba Environmental Action Plan, Annex One Infrastructure Assessment, draft, July 1997.

and are mainly of good surface and alignment. They are maintained by the Roads and Bridges Department of the Ministry of Transport in combination with the Governorate's roads section. However, it is understood that, because of their better capacities, it is often the SDA which undertakes major road maintenance through its headquarters in Ismailia.

There are no known plans for constructing new trunk roads or main highways in South Sinai.

Internal or secondary roads are the responsibility of the individual municipalities. The Governorate Information Department (2003) records a total of 655 kms of paved roads and 383 kilometers of dirt roads which are deemed "internal" roads. Two-thirds of the secondary paved roads are found in the two towns of El Tour and Ras Sudr.

There are about 300 kilometers of roads which officially fall under the jurisdiction of municipalities but which are maintained by the SDA.

Inter-city public bus transport in South Sinai is cheap and relatively frequent, linking all towns with El Tour and also with Suez and Cairo. There are no other forms of public transport.

GOPP urban development plans for the Gulf of Suez towns (Ras Sudr, Abou Zenima, Abou Rudeis, and El Tour) indicate a right of way for a proposed railway which is to parallel the main north south highway. There is no information about the feasibility or funding of such a rail line, which would presumably come from Suez and extend to Sharm el Sheikh.

**5.6 Airports**

There are currently five designated airports in South Sinai. The Sharm el Sheikh International Airport is really the only functioning passenger airport. It recorded 22413 flights in 2000 (61 per day) and 2.1 million passengers. This is roughly the level of air traffic registered by Egypt's other main regional airports – Hurghada, Luxor, and Aswan.

There are also airports in Taba, El Tour, St. Catherine, and Abou Rudeis, but they are not currently used for any scheduled flights. GOPP has incorporated in its physical plans an airport at Ras Sudr and the expansion of the airport in El Tour. Flights and passenger traffic at South Sinai airports are given in Table 5.1.

**Table 5.1  
Flights and Passenger Traffic at South Sinai Airports, 2000 and 2001**

	Flights		Passengers	
	2001	2000	2001	2000
Sharm el Sheikh	19406	22413	2.07 million	2.10 million
Taba	450	323	10821	2731
El Tour	198	107	6163	1323
St. Katherine	78	80	842	1627

Source: Min Tourism, Egypt: Tourism in Figures, p 102

There is a plan for a new airport between Dahab and Nuweiba, 20 kms. inland. The status of this project is unknown.

Realistically, air access to South Sinai will continue for the foreseeable future to rely primarily on the Sharm el Sheikh airport. It is understood that recently a World Bank project was signed for the expansion and upgrading of this airport as part of a \$350 million loan that includes improvements to Cairo airport.

## 5.7 Ports and Maritime Navigation

The largest port in South Sinai is located at Nuweiba, serving mainly the passenger and car ferries which ply between Nuweiba and Aqaba. The port comes under the Ministry of Transportation, and includes a secure separate port compound. The port averages 1.25-1.5 million passengers per year.

There were two small ports in Sharm el Sheikh, one the naval port and the second the yacht and small boat harbor called Sharm El Moya. In 2000 the yacht moorings were moved to the naval port, which now functions as the only port in the Sharm area.<sup>21</sup> This port now serves a multiple of purposes, but its primary role is as the mooring and supplying port for the hundreds of dive boats which operate in the Sharm area.<sup>22</sup> Yet the port also functions as the main naval port,<sup>23</sup> and it also receives passenger ships from time to time and services the fast ferry from Hurghada. Thus overcrowding is a problem, one which can only increase over time. In addition, the port itself is exposed to southern gales, and storm damage to boats has occurred more than once in the last couple years. No information was found on port improvement plans.

There is a deepwater port inside the Abou Zenima ferromanganese complex which serves bulk carrier ships. There are also other small ports or moorings along the South Sinai coast which serve mostly fishermen.

It should be noted that there is considerable international maritime traffic off the coasts of South Sinai. The Gulf of Suez carries the enormous traffic of the Suez Canal, and the Gulf of Aqaba is Jordan's only sea outlet. Ship groundings on the coral reefs have occurred in the past and can be expected to occur again, in spite of navigational aids and stiff penalties imposed by Egyptian authorities on shipping companies. Of even more concern is the danger of catastrophic oil spills. Over 100 million tons of crude oil pass through the Gulf of Suez each year, and there have been 20 recorded minor spills in the Red Sea since 1982.<sup>24</sup> Spilt oil smothers live corals and poisons them through hydrocarbon absorption, and oil spills can turn a profitable resort season into a disaster.

## 5.8 Telecommunications

South Sinai's are well served with telephone land lines, all of which are linked to the El Tour central exchange by microwave stations. In 2003 there were 19 local telephone exchanges: four exchanges in Taba, three in Sharm, three in Ras Sudr, two in Nuweiba, and one in each of Abou Zenima, Abou Rudeis, Wadi Firan, St. Catherine, El Tour, and Dahab. Together there were a total of 14,542 subscribers for a total installed capacity of 47,504 lines. In Sharm, where one would expect the greatest demand, there were 9,526 subscribers for 15,000 lines. In addition, the land line system supported a total of 1163 international line subscribers, of which 910 were in Sharm.

In addition to land lines, the main towns of South Sinai are covered by both of Egypt's commercial mobile phone systems. Cellular phone use is extremely common, both by Bedouin and other residents of South Sinai, and by those in the tourist business.

<sup>21</sup> Sharm el Moya, now relieved of boat mooring and traffic, is being utilized for swimming and beach activities by the surrounding tourist establishments.

<sup>22</sup> The number of dive boats in Sharm rose from 26 in 1988 to 320 in 2000 (Cesar et al, p.6.)

<sup>23</sup> There are secondary naval facilities at both Naama and Sharks Bays further north.

<sup>24</sup> Cesar et al, p. 8.

**6. GOVERNMENT SERVICES**

**6.1 Public Housing**

South Sinai, as a sparsely populated “frontier” governorate, enjoys considerable State investment in housing, part of the Government’s policy of promoting growth and population shifts into these new areas. Public housing probably houses roughly half of the urban family population in South Sinai.

**6.1.1 Public Housing Types**

The overwhelming majority of housing units constructed by the Government in South Sinai are apartment units in walk-up building blocks. These are found in all of the urban centers. The first of these buildings were constructed in the 1980s and were “economic” units averaging 60 to 70 m2 per unit, in 2 and 3 storey blocks, mainly for housing government administrative personnel. In the 1990s more of these units were built, but the housing blocks tended to be four and five floors in height. From the mid 1990s “Mubarak youth housing” units began to be added to the mix, and these are slightly larger (70 to 90 m2) with better finishing.

In addition to apartment blocks some towns have had “village” units of single floors (with small courtyards) built to house or relocate local inhabitants. Examples include the Qaria el Sayediin in El Tour and El Asla in Dahab.

In and next to more remote Bedouin settlements a few model Bedouin housing units (single floor, large courtyards) have been constructed, and more are being planned. These units seem to be unpopular, and many are uninhabited.

**6.1.2 Public Housing Investments**

The GoE has made significant investments in public housing in various locations of South Sinai, and available statistics show that these investments are continuing and even increasing. Information supplied from the Directorate for Housing and Utilities, South Sinai Governorate, show that during the First Five Year Plan (FY 1997/98 to FY 2001/2002) an average of 2000 units per year were constructed in South Sinai. Similarly, during the Second Five Year Plan (FY 2002/2003 to FY 2006/2007) an average of 2100 units per year are planned, and 2200 units per year are planned for the Third Five Year Plan. These refer to units in public housing blocks and exclude “village” and “Bedouin” units.

While all towns in South Sinai have been and are being allocated public housing units, there is a strong bias for El Tour. In the last fiscal year (2002-2003) the number of units contracted for construction are distributed as shown in Table 6.1.

**Table 6.1  
Contracted Public Housing Units 2002/2003**

<b>City</b>	<b>Number of Units</b>
El Tour	1200
Ras Sudr	204
Abu Zenima	96
Abu Rudeis	96
St. Katherine	96
Sharm el Sheikh	120
Dahab	60
Nuweiba	128
TOTAL	2000

It should be mentioned that the actual rate of completion of housing units may be considerably less than what is planned. For example, during FY 2002-2003, of a total of 1576 units in the housing program slated for completion in South Sinai, only 608 had been completed and 1112 were still under construction.

The average cost of construction of public housing units during 2002/2003 was LE 27740 per unit. This is understood to include associated infrastructure within the housing site but not trunk or feeder lines nor associated public facilities. Also, there is no cost associated with land acquisition (land for housing is always State land).

Given the costs of construction and the system of payment (see below), public housing units in South Sinai are heavily subsidized.

### **6.1.3 Distribution of Public Housing Units**

Public housing units are distributed to beneficiaries by the Governorate's Housing Directorate, after approval of the Governor. In each town there is a waiting list of valid applications. These applications come from permanent residents, especially government employees, but also local inhabitants and tourism workers. Units are distributed according to historic location on the waiting list (oldest first), and these units are "purchased" with a down payment and then monthly installments for 30 to 40 years. Currently the down payment is said to be LE 10000. The monthly installment was formerly LE 216 per month, but this was considered too burdensome and was reduced to LE 60 per month, then raised to the present level of LE 73 per month (which is common for public housing all over Egypt.)

A certain number of units in each town are reserved for "administrative housing" intended for temporary assignment to government officials, who pay nominal rents. Commonly these officials pay 50% of the nominal rents (which average LE 60 per month).

### **6.1.4 Issues Related to Public Housing Units**

Most issues related to public housing units in South Sinai are the same as can be applied to all of Egypt. Vacancies are high, maintenance is poor, and the public housing programmes are heavily subsidized. In South Sinai, initial reconnaissance suggests that the state of the public housing stock is slightly better than that in Egypt in general. However, vacancy rates (i.e. units which have not been distributed, or have been distributed but remain unoccupied) appears to be higher than the Egyptian average. Because of the almost limitless supply of desert land, public housing estates tend to be of lower densities, and the "opportunity cost" of the land used for public housing is consequently very low.

## **6.2 Social Services**

### **6.2.1 Education Services**

The Governorate Information Center in 2003 recorded a total of 217 schools in South Sinai (both public and Al Azhar schools), made up of 899 classes, 1507 teachers, and 14,507 students. ( Al Azhar religious institutes make up 55 of the schools but only 1754 of total students.) The Information Center also produces a comparison of student-teacher ratios in South Sinai compared to the nation as a whole:

<b>Education Stage</b>	<b>Student/Teacher Ratio in South Sinai</b>	<b>Student/Teacher Ratio for all Egypt</b>
Primary	14.6	23.9
Preparatory	9.3	21.8
Secondary	6.8	14.9



These figures underline a fact common in South Sinai, that social services in general and education services in particular are of a higher standard (at least in terms of capacities) than are found elsewhere in Egypt.

In geographic terms, the city and markaz of El Tour has the largest concentration of education services, with 23% of schools, 35% of teachers, and 42% of students. In fact, the Gulf of Suez towns and marakaz (Ras Sudr, Abou Zenima, Abou Rudeis, and El Tour) contain over 75% of the total student population in South Sinai. Conversely Sharm el Sheikh, the most important town economically in South Sinai, only contains 6% of all public school students.

There is no university or institutes or higher education in South Sinai. Students pursuing a university education will normally enroll in the Suez Canal University located in El Ismailia.

### **6.2.2 Health Services**

The Governorate Information Center in 2003 lists 5 general hospitals, 4 village hospitals, 1 military hospital, 1 emergency hospital, and 1 "international" (i.e. private) hospital in South Sinai, giving a total of 12 hospitals. In 1997 there were 10 hospitals.

Information on health units is not available. However, there is an active family planning programme which is reported to reach 24% of women of child bearing age.

The Governorate Information Center lists the number of settlements and population which are not currently covered by health services (hospitals, health units, or both). All cities are covered, and all but one of the large villages associated to the cities are covered. (The one not covered is located in Ras Sudr Markaz.) However, a total of 76 Bedouin settlement clusters are recorded as not being covered by any health services, representing a total population of 20,000 in 2003.

### **6.2.3 Other Public Services**

Each town in South Sinai is endowed with a range of various public services. These are the same as found in urban centers elsewhere in Egypt, i.e. youth centers, culture centers, post and telegraph offices, police stations, markets, etc. There are also a number of services which are run out of government offices, such as vocational training, illiteracy eradication and adult education, etc.

## **7. URBAN AND REGIONAL DEVELOPMENT PATTERNS, PLANS AND ISSUES**

### **7.1 Sub-regional Development Patterns**

As can be understood from the discussion of South Sinai's demography in Section 5, South Sinai remains, even after considerable growth in the 1980s and 1990s, an extremely under-populated area. "Rural" settlement is limited to Bedouin villages. And as pointed out in Section 2, agricultural, animal husbandry, and fishing activities are very small scale and widely dispersed. Thus there is practically no "economic hinterland". Barren mountains and wadis, and enormous tracts of desert remain the predominant landscape.

A number of generalizations about the geographical patterns of development can be made by classifying South Sinai into four sub-regions:

Gulf of Suez sub-region (the coastal plain from Ras Sudr to Ras Mohammed) This area contains little in the way of tourism activities but has four significant towns and most of South Sinai's agriculture. (Groundwater is more abundant in this zone than elsewhere in South Sinai.) It is also the sub-region where mineral and petroleum exploitation takes place. Its relative proximity to Suez and Egypt proper gives it a character which is somewhat different from other areas of South Sinai. For example, what tourist establishments exist are resort villages which mainly cater to Egyptians seeking holiday homes or summer timeshares (the Ras Sudr sector is less than a two hour drive from Cairo). Also the towns of Ras Sudr and El Suweira and Abou Zenima have more petty commercial, workshop, and small manufacturing establishments than are normally found in South Sinai.

Gulf of Agaba sub-region (the coastal plain from Ras Mohammed to Ras Sudr) This area is South Sinai's prime tourism locale, with roughly 90% of all tourist room capacity. It has the towns of Sharm el Sheikh, Nuweiba, and Dahab, plus the tourist settlement of Taba. It has less groundwater sources than the Gulf of Suez Region, and thus very little agriculture.

Central Mountain sub-region This area is primarily mountainous and very dry. Except for St. Katherine (population 1000) it has no towns. The population of the subregion is almost exclusively Bedouin. The only significant agricultural activities in the sub-region are found in Wadi Firan. Other than the cultural and ethnic attractions around St. Katherine, the area has no tourism activities.

Northern Desert sub-region This area, which stretches from Ras Sudr to Taba through Sinai's central desert region, is the largest sub-region in South Sinai, but it has almost no settlements, no agriculture, no tourism and no other attractions. The geography is entirely flat desert unrelieved by prominent features. The main highway from Suez to Taba passes through this desert. The Iwaco report mentions that there is some untapped deep groundwater potential.

### **7.2 Urban Development Context**

There are four factors which set South Sinai's urbanization completely apart from the urban development experience in Egypt and make for a unique urban context.

First, the towns of South Sinai are extremely small in terms of population, even considering the very rapid urban growth expected over the next decades. The largest town in South Sinai, El Tour, currently has a population of 11,000, the size of a small village in the Nile Valley. Even considering the optimistic growth scenarios for South Sinai towns as reflected in GOPP plans (see below), the largest town in 2017 (Ras Sudr) will have a population of 100,000 inhabitants. In the Nile Valley there are rural villages with higher populations, and towns in the order of 100,000 inhabitants are little more than rural market towns.

Secondly, all of the South Sinai towns are located on relatively flat desert with huge tracts of vacant land available for projects and general urban expansion. In effect, the towns are "land

rich", and all of this land is owned by the State. Thus unlike most of Egypt, there is around South Sinai towns virtually an inexhaustible supply of land which can be used for public and private development at no land acquisition cost.

Thirdly, unlike most cities in Egypt, South Sinai towns have little in the way of private housing developments and virtually none have informal residential settlements (informal or extra-legal settlements in Greater Cairo, for example, make up over 50% of the urbanized area and house over 60% of the metropolitan population). In Sharm and other areas there is a recent phenomenon of private villa and apartment enclave development.

Fourthly, all towns in South Sinai have constrained sources of water supplies. Conversely, most cities in Egypt, and all those in the Nile Valley, have ample fresh water supplies to support urban development.

As with all desert areas in Egypt, in South Sinai urban development can be constrained by dry wadi beds which infrequently become channels for flash floods. There are also sometimes areas which are low lying and wet and, although they do not flood, are subject to salt extrusion which makes building construction difficult and expensive.

### 7.3 Existing Urban Plans

The GOPP regional center in El Ismailia has prepared physical development plans for most of the towns of South Sinai. Either master plans or structure plans have been prepared and approved for Sharm El Sheikh (1993), El Tour (1997), Dahab (2000), Nuweiba, St. Katherine (currently being approved), and Ras Sudr. In addition GOPP has prepared a sub-regional development plan for the coast between El Tour and Ras Mohammed. Also, following the incorporation of the El Nabq area into the city of Sharm el Sheikh according to Prime Ministerial Decree 1424 of 2000, GOPP prepared a structure plan for the area. Until now plans for Abou Zenima and Abou Rudeis. have not been prepared, but preparatory studies are underway.

Table 7.1 presents a summary of the main features of the plans prepared so far. Annex Two presents copies of the plans which have been prepared, along with GOPP base maps which show the existing situation in each town.

It is important to understand that GOPP plans are no more than physical land use plans. They apportion land uses for major classifications such as tourism areas, general housing areas, service areas, flood-prone areas, industrial areas, open and green areas, and transport and circulation areas. All GOPP plans use the same time horizon of 2017. There is no phasing plan which would guide land take up over the 15 to 20 years leading up to the ultimate physical plan. GOPP delivers its approved plans to the relevant executive local and national authorities, and GOPP has no role in land allocations, land management, infrastructure provision, or other implementation aspects of urban development.<sup>25</sup>

As can be seen from Table 7.1, each of GOPP's town plans estimates a design population and workforce for the target year 2017, as well as the total planned area. This allows calculations of overall gross densities, which, as can be seen, are extremely low. (The gross urban densities for the towns of Sharm el Sheikh and Ras Sudr range from 6 to 9 persons per feddan, which is *lower* than average rural densities in the Nile Valley!) The highest gross density is for El Tour with 27 persons per feddan and 84 persons per net residential feddan. (The Planning Law of 1982 allows gross densities of 150 persons per feddan, and actual net residential densities in parts of Cairo can exceed 1500 persons per feddan.) In other words, GOPP's physical plans for South Sinai towns are extremely generous in terms of space, both for residential as well as non-residential use.

<sup>25</sup> During visits to seven of the eight municipalities in South Sinai it was interesting to note that in none were copies of the relevant GOPP plans available or in use. On the other hand, copies were available at the Governorate's Physical Planning Department in El Tour.

The plans are also very optimistic about employment generation and associated dependent populations. In all towns GOPP assumes that year 2017 population dependency ratios are between 2.26 to 2.94 (total population divided by labor force) with the average 2.66. These ratios are similar to those found for cities in the Nile Valley, and they reflect GOPP's considerable optimism that South Sinai development will attract the families of migrants as well as the working migrants themselves.

#### **7.4 Urban Planning and Urban Management Issues**

Given the relatively small populations of existing and future urban settlements in South Sinai, and also given the almost limitless land available for urban expansion, urban planning and development will face few major constraints or obstacles. The problem in fact lies with these two factors: planning and development authorities will tend to be very generous in the allocation of land for urban uses, and the result will be very sparse and sprawling development, with housing and projects dispersed and "leap frogged" throughout the enormous spaces designated by GOPP for future development. Such sprawl is already noticeable in all towns. It is hard to see how South Sinai towns will adopt patterns of physical development which allow phased expansion of more tight and rational land use. Not only will this mean that there are added intra-city transport costs. Even more serious, it will mean that water, wastewater, and road infrastructure networks will also be costly, both to install and, especially, to maintain. The same can be said for the very ample areas designated in city plans for open and green areas and the very generous road right of ways.

## **8. SOUTH SINAI DEVELOPMENT ISSUES**

### **8.1 Sustaining Rapid Growth in Tourism**

In terms of economic development, South Sinai is a definite success story. In less than twenty years activities in the region have gone from practically nil to represent over 20% of national tourism capacity and at least 25% of tourism's contribution to the GDP. Tens of thousands of jobs have been created and, even more than the average, South Sinai tourism receipts contribute significantly to Egypt's balanced of payments as an "invisible export". To this must be added petroleum and other economic activities. And this growth has been fueled overwhelmingly by Egyptian private sector investments. Furthermore, South Sinai represents one of the rare examples of successful regional development outside the Nile Valley, one where Egyptian Government resources have complemented private investment and where such State funding is largely recouped through normal tax and non-tax revenues.

Tourism in Egypt is only 1% of the world's total, and tourism is the fastest growing sector in the global economy. Thus there is a vast potential for Egypt to increase its tourist-based economy, and South Sinai should be able to play a significant role. All indications point to a continuation of tourism-led growth, even an acceleration, and it is envisioned that South Sinai could represent at least 40% of national tourism by the year 2013.

The first question is: Can this success continue and reach its full economic potential? The answer is a qualified yes, which depends on a number of issues:

#### Exogenous risks

Tourism in Egypt has been very sensitive to world and regional events, with overall tourist arrivals plummeting by more than half in 1990/91, 1997/98 and 2001/02. It is inevitable that there will be more such events, and there is little Egypt can do to reduce its vulnerability. This having been said, tourism in South Sinai (or more specifically, Sharm el Sheikh) seems less affected by these negative events than other destinations in Egypt. Yet one can posit a worse case scenario where protracted regional violence or instability will severely affect the industry and cause a long slump in South Sinai tourism, leading to a number of tourist establishments in South Sinai to fail.<sup>26</sup>

#### Environmental deterioration

Many observers and industry experts point to deterioration of the environment, and in particular the coral reef systems and marine life, as the single largest threat to long run growth of tourism in South Sinai. The ecosystem of the coastal waters is delicate, and there are indications that there has already been deterioration and loss of coral habitat due to:

- ocean pollution from oil spills and ship wrecks
- indiscriminate and unsustainable fishing
- tourist related activities themselves (diving and snorkeling, dive boat anchoring, landfill and other alterations of the coastline, inadequate disposal of wastewater and brine)

<sup>26</sup> Banks and the government have shown during these events to be accommodating, allowing deferment of loan repayments, thus mitigating the negative impact and threats of bankruptcies.

How much each is a contributing factor is not clear, nor is the degree of deterioration over time. In the Egyptian coastal areas it is reported that there has been a 20 to 30% loss in live coral cover over 1987-96,<sup>27</sup> and there are numerous anecdotal reports of similar deterioration around some of the main dive locations in South Sinai (but as far as is known, no time-series investigations).

The crucial question is: To what extent will deterioration reduce the overall attractiveness of South Sinai as a tourist destination and put a brake on the growth of the sector? The region's corals and marine life are world famous and dominate promotional material, and scuba diving has been South Sinai's "niche leader". One report estimates that in Sharm el Sheikh 30% of foreigners state scuba diving as the main reason for their visit and another 16% state snorkeling as the main reason, with the remainder giving priority to more leisurely seaside pursuits and secondary resort attractions.<sup>28</sup> But to what extent deterioration of the coral reefs will translate into lost clientele over time is not clear. Yet since tourism is the only engine of growth in South Sinai, it would be prudent to make every effort to mitigate the causes of coral reef and marine life destruction, to protect "the goose that lays the golden egg". Several measures have already been put in place in South Sinai to control damaging activities, and awareness of the problem is being promoted. Yet given the huge increases in tourist visits expected in the area, more needs to be done in a systematic way and as an absolute priority.

#### Undiversified tourist economy

Conventional economic wisdom strongly discourages reliance on a single industry for regional growth. However, this is a fact in South Sinai. Neither petroleum and mineral extraction and industry nor agriculture and animal husbandry have a hope of providing the kind of dynamic economic base which is enjoyed by resort tourism. Rather, the issue to be addressed is stimulating diversity within the tourist sector so that it can better weather vagaries in the international business and attract alternative segments of the tourist market. According to the same report cited above, in the year 2000 only 3% of foreigners to Sharm el Sheikh mentioned "desert" as a prime reason for their visits, with "walking" at 1% and "culture" and "business" at 0%. Efforts are underway to provide a greater diversity of tourist attractions in South Sinai (such as promoting cultural tourism at St. Katherine and other sites, developing desert destinations and nature walks, plus encouraging eco-lodges), but considerably more could be done to promote attractions as alternates to resort and sea tourism.

Diversity is also important for secondary tourist pursuits. That is, more diverse activities should be available for the bulk of tourists who come primarily for resort and sea purposes. In this way they stay longer and spend more money, plus the quality of their stay is enhanced (and thus, by word of mouth, South Sinai tourism is promoted). In this Sharm el Sheikh is the leader, as it has already reached the "critical mass" or "resort maturity" to offer a mix of complementary experiences, and is developing more. And Sharm is the main springboard for for excursions aimed at non-resort pursuits such as cultural-religious (St. Katherine's), nature (desert walks and camping) and cultural-adventure (camel trips, Bedouin encampments). The St. Katherine's Protectorate has taken the lead in promoting such forms of eco-tourism, having established nature trails and eco-lodges. There is considerable potential to increase these secondary tourist pursuits, both with added destinations and more variety. For example, Sharm is emerging as an important center for national and international conference tourism and for large cultural events.

More diversity can also be encouraged within the tourism resort sector. There is currently a predominance of four and five star resort establishments, and lower scale, smaller, and cheaper establishments need to be a more prominent part of the mix.

<sup>27</sup> EEPP, Economic Valuation of Egyptian Reefs, Cesar et al -p, v ageMVE.

<sup>28</sup> Hegazy, 2002, cited in Cesar et al, p. 21.

### Cut-throat competition

In hard times (see exogenous risks above) there is a tendency for hotel and resort operators to sell rooms at considerable discounts. In 2002 this tendency reached such a level that the Governor of South Sinai appealed to hotel managers to stop the cut-throat competition, which was threatening the financial viability of many establishments. In South Sinai the resort tourism market is more buoyant than in Hurgada, but even so such under-cutting of market price structures could be a serious threat to sustained growth in South Sinai, especially since it could discourage potential investors.

### Water as a limit to growth

Does the very limited water availability in South Sinai represent an absolute limit to economic growth in South Sinai? Whereas even 10 or 15 years ago the answer might have been yes, advances in water desalination technologies means that, for tourism at least, water is not a limiting factor. The capital and running costs of desalination systems have been reduced to level that makes it financially feasible to recover the costs of high water consumption associated with resort tourism (up to 800 lpd per tourist) through room charges. This does not mean that water is not a crucial issue in South Sinai's general development (see Sections 8.2 and 8.3 below), and also that there are not technical problems with increased reliance on water desalination for tourism. But as an absolute limiting factor, water availability is not crucial.

If the above endogenous issues can be addressed and the negative aspects mitigated, and if public funds for basic infrastructure and services continue to complement private investments, then the way should be clear for South Sinai's continued success.

## **8.2 Settling South Sinai**

Whereas economic development can be considered an unqualified success, the same can not be said, yet, for the Government's strategic goal of rapidly settling South Sinai with a large permanent resident population. This policy is enshrined in all development plans for the area, is reflected in urban physical plans, and has been endorsed as a major objective of the European Commission's support for sustainable development of South Sinai.<sup>29</sup>

This strategy, part of Egypt's national project of relieving the overcrowding in the Nile Valley and of populating the desert, runs up against a fundamental contradiction: the average Egyptian is extremely reluctant to relocate with his or her family outside the Nile Valley. A closer look at this contradiction and its causes is necessary.

### Egypt's Desert Settlement Project

Since the 1952 Revolution successive governments have carried out a multitude of programmes for desert exploitation and settlement and have made huge investments to create new agricultural communities, dozens of new towns, new industrial areas, and massive land reclamation schemes. The record, in population resettlement terms, is, with few exceptions, disappointing. This is true even with the new towns and settlements created in the desert around Greater Cairo, where a move of even 20 kms out of the crowded existing city is reluctantly made.

The main cause is economic. Today the average worker, earning today between LE 300 to 700 per month, simply cannot afford the family housing and high consumption and service costs related to new areas. And opportunities in these areas for supplementary household

<sup>29</sup> The South Sinai Regional Development Programme of the EC has adopted the following as its overall objective: "Sustainable development of South Sinai is achieved and a contribution made to reduce population pressure in other parts of Egypt" (SSRDP Programme Concept, Final Draft, August 2001).

income, so common and important in the large popular areas of the Nile Valley, are extremely limited. The Egyptian wage workers, faced with this reality, make what is a rational economic decision to keep their families in their established homes where costs are considerably lower, preferring to work as individuals in the new desert areas, keeping personal costs to a minimum, and remitting their savings directly to their families. Such a system has been operating on a massive scale, with the millions of average Egyptians who found work in the oil-rich Arab countries in the 1970' and 1980s.<sup>30</sup>

There are social causes as well as economic. An Egyptian family in a "frontier" location will be uprooted from its social context, whether in terms of extended family, associative life, or the all important social safety nets. Although the government may make every effort to provide public facilities in remote locations, these frequently offer poor quality of services, and there is not the parallel private sector which more and more is relied on in the Nile Valley to complement health and education services. Finally, the varied cultural attractions of the older Nile Valley towns are simply not found in desert settlements.

The upshot of all of this is that attracting significant population movements out of the Nile Valley is extremely difficult. Better-off Egyptian families are not constrained financially, but they are relatively few and they too have shown a reluctance to make the "pioneer" move.

#### Attracting Settlers to South Sinai

If it is so difficult to stimulate significant population movements out of the Nile Valley, can South Sinai prove an exception? The record to date is not encouraging, except in locations like El Tour which is an administrative town with government employees enjoying subsidized housing and other benefits.

There is one factor that makes populating South Sinai even more difficult than in other locations outside the Nile Valley: Water availability. Water is not a limiting factor to tourism growth due to recent developments in sea and brackish water desalination technology. But the cost of this desalinated water is expensive for average Egyptian households whose breadwinner works in the tourism sector. As explained in Section 5.1, in South Sinai water for general urban residential use depends largely on either limited groundwater or, along the Gulf of Suez, on conveyance of Nile water, both of which are delivered at low or zero cost to consumers. Such sources cannot meet anywhere near the water demands of the expected increase in the general population, and in any event they require subsidies both in investment and in operation costs.

The water needs of individual workers in tourist establishments, almost all of whom have left their families in the Nile Valley, are now met by desalination production of the establishments themselves, with the costs subsumed into general operations. But were these workers (and the tens of thousands of new direct and indirect tourism workers expected in the next decade) to settle in the general urban areas with their families, most will be facing an unupportable water bill unless this water is heavily subsidized.<sup>31</sup>

The water question highlights and complicates the already problematic population shift scenario for South Sinai. It should bring the issue into focus, so that realistic strategies for South Sinai's development and settlement can be evolved.

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<sup>30</sup> One could even say that migrant work by the main bread earner is a cultural feature of modern Egyptian society. It appears that Egyptian families have evolved means of accepting the phenomenon of migrant work and of coping with the absence of the head of household for long periods. It may not be an ideal situation, but one which is grounded in economic reality. A check of social studies in Egypt should be made to see whether the phenomenon might cause the kinds of family instability and other social ills which are common in other countries where workers are absent from home for long periods (e.g. South Africa, Philippines, Sri Lanka, etc.).

<sup>31</sup> A simple calculation is illustrative. Assuming an un-subsidized cost of desalinated water at \$1.5 per m3 (amortized investment cost, operating costs, plus loss factor), and an average family consumption of 875 liters per day (175 liters per day per capita for a family of five), there would be a daily water bill of at least LE 5.00 per family, or LE 150 per month, which would consume between 25% and 50% of average monthly salaries.



### **8.3 Geographical Patterns of Development**

As mentioned in Section 2.1.4 above, Sharm el Sheikh completely dominates the tourism map of South Sinai, and trends point to such dominance continuing and even increasing. Such unbalanced regional development is, in theory, discouraged. Yet classical regional development plans look at underdeveloped (mainly rural) areas and aim to at a geographic spread of economic growth so that the whole resident population can benefit. South Sinai is an anomaly, in that, except for a very small and disbursed number of Bedouin inhabitants, there is no hinterland population. Thus more balanced geographic growth should be a priority only if it can be justified on economic exploitation grounds.

There are many opportunities to develop other areas of South Sinai for tourism, due to the many natural attractions of specific sites, and this is already underway in many areas.<sup>32</sup> Part of the reason should be to provide more diversity within the sector (see Section 8.1 above). But such attempts should not be made at the expense of Sharm's development, since Sharm has reached a level of tourism maturity and diversity that makes it the sectoral engine that pulls the rest of South Sinai's tourism along with it. It is important that looming bottlenecks to Sharm's growth be addressed, such as the water issue, the capacity of the airport, and the crowdedness of its existing port facilities.

In the long run South Sinai could benefit from another one or two Sharm-like prime tourism centers. One candidate is Dahab, since at only 70 kms from Sharm el Sheikh it will not need a new airport. Other locales could be Nuweiba or Taba, or even one of the Gulf of Suez towns. But it must be stressed that tourism in South Sinai is driven by private investments, and at best government policies can only guide such investments.

### **8.4 Bedouin Share of Future Development**

Many observers have raised the issue of the Bedouin communities in South Sinai and the need to (1) improve their living conditions and (2) allow them to share in the expanding tourist economy. Although the Government has various programmes to improve Bedouin infrastructure and services, and although some Bedouin entrepreneurs have set up tourist businesses (transport, desert treks, handicrafts, small hotels, etc.), many Bedouin are still disadvantaged (particularly women), and anecdotal information points to certain barriers to more Bedouin entering into the tourism sector.

Certainly there is considerable scope for more support to South Sinai Bedouin and for better Bedouin inclusion in tourism. As pointed out above, there is a need for more diversity of tourist attractions in South Sinai, and the Bedouin should be seen as an opportunity to achieve this. But perhaps Bedouin marginalization and exclusion is not as large an issue as some may believe. Given the expected huge expansion of tourism in South Sinai, it is difficult to see how the relatively small numbers of Bedouin cannot gain an expanded role, one which will improve their livelihoods and spread benefits throughout their community.

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<sup>32</sup> In fact, the nature of resort tourism development along Egyptian coasts and the policies of TDA, GOPP, and others guarantee a constant centrifugal tendency to develop virgin sites.

## South Sinai Development Profile

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Table 2.1

## Distribution of Population Age 15+ by Economic Activities

		Agro+ Fishing	Mining	Manufacturing	Utilities	Construction	Commerce & repair	Hotels + Restaurants	Transport + Communications	Financial Services	Real Estate + Business Services	Education	Health	Community Services + Other Personal Services	Unclassified Activities	SUB-TOTAL	Not Active	TOTAL
urban	M	309	1676	345	497	1469	744	2425	1209	728	2482	578	246	348	291	13347	960	14307
	F	15	2	34	15	7	38	42	74	56	686	399	136	64	183	1751	3466	5217
	T	324	1678	379	512	1476	782	2467	1283	784	3168	977	382	412	474	15098	4426	19524
Rural	M	2335	206	67	37	475	306	1002	1183	66	544	360	91	893	1357	8922	941	9873
	F	102		19		1	5	27	8	12	60	57	26	6	907	1230	5637	6867
	T	2437	206	86	37	476	311	1029	1191	78	604	417	117	899	2264	10152	6578	16740
Total	M	2644	1882	412	534	1944	1050	3427	2392	794	3036	938	337	1241	1648	22279	1901	24180
	F	117	2	53	15	8	43	690	82	68	746	456	162	70	1090	3602	9103	12084
	T	2761	1884	465	549	1952	1093	4117	2474	862	3782	1394	499	1311	2738	25881	11004	36264
urban	<b>M</b>	<b>2.3%</b>	<b>12.6%</b>	<b>2.6%</b>	<b>3.7%</b>	<b>11.0%</b>	<b>5.6%</b>	<b>18.2%</b>	<b>9.1%</b>	<b>5.5%</b>	<b>18.6%</b>	<b>4.3%</b>	<b>1.8%</b>	<b>2.6%</b>	<b>2.2%</b>	<b>100.0%</b>		
	F	0.9%	0.1%	1.9%	0.9%	0.4%	2.2%	2.4%	4.2%	3.2%	39.2%	22.8%	7.8%	3.7%	10.5%	100.0%		
	T	2.1%	11.1%	2.5%	3.4%	9.8%	5.2%	16.3%	8.5%	5.2%	21.0%	6.5%	2.5%	2.7%	3.1%	100.0%		
Rural	<b>M</b>	<b>26.2%</b>	<b>2.3%</b>	<b>0.8%</b>	<b>0.4%</b>	<b>5.3%</b>	<b>3.4%</b>	<b>11.2%</b>	<b>13.3%</b>	<b>0.7%</b>	<b>6.1%</b>	<b>4.0%</b>	<b>1.0%</b>	<b>10.0%</b>	<b>15.2%</b>	<b>100.0%</b>		
	F	8.3%	0.0%	1.5%	0.0%	0.1%	0.4%	2.2%	0.7%	1.0%	4.9%	4.6%	2.1%	0.5%	73.7%	100.0%		
	T	24.0%	2.0%	0.8%	0.4%	4.7%	3.1%	10.1%	11.7%	0.8%	5.9%	4.1%	1.2%	8.9%	22.3%	100.0%		
Total	<b>M</b>	<b>11.9%</b>	<b>8.4%</b>	<b>1.8%</b>	<b>2.4%</b>	<b>8.7%</b>	<b>4.7%</b>	<b>15.4%</b>	<b>10.7%</b>	<b>3.6%</b>	<b>13.6%</b>	<b>4.2%</b>	<b>1.5%</b>	<b>5.6%</b>	<b>7.4%</b>	<b>100.0%</b>		
	F	3.2%	0.1%	1.5%	0.4%	0.2%	1.2%	19.2%	2.3%	1.9%	20.7%	12.7%	4.5%	1.9%	30.3%	100.0%		
	T	10.7%	7.3%	1.8%	2.1%	7.5%	4.2%	15.9%	9.6%	3.3%	14.6%	5.4%	1.9%	5.1%	10.6%	100.0%		

**Table 2.2**  
**Comparison between Tourist Establishments in South Sinai and All Egypt Year 2000/2001**

	Establishments		Rooms			No. of Guests			No. of Guest Nights			No of Workers	Total Wage Bill (LE 000)	Total Revenues (LE 000)
	Number	%age	Number	Av per Est	%age	Egyptian	Foreign	Total	Egyptian	Foreign	Total			
<b>South Sinai</b>														
Five Stars	20	19.8%	8721	436.1	48.0%	62001	300163	362164	215000	1598000	1813000	6537	38514	681961
Four Stars	39	38.6%	6859	175.9	37.7%	97113	354711	451824	280000	1846000	2126000	4978	49874	377303
Three Stars	18	17.8%	1534	85.2	8.4%	30001	72455	102456	93000	296000	389000	1148	8732	285727
Two Stars	2	2.0%	94	47.0	0.5%	1914	1381	3295	5000	5000	10000	39	502	1386
One Star	3	3.0%	94	31.3	0.5%	923	1431	2354	2000	5000	7000	34	91	852
Under Classification	19	18.8%	878	46.2	4.8%	13788	12886	26674	46000	58000	104000	391	1226	37886
<b>Total</b>	<b>101</b>	<b>100.0%</b>	<b>18180</b>	<b>180.0</b>	<b>100.0%</b>	<b>205740</b>	<b>743027</b>	<b>948767</b>	<b>641000</b>	<b>3808000</b>	<b>4449000</b>	<b>13127</b>	<b>98939</b>	<b>1385115</b>

<b>All Egypt</b>														
Five Stars	175	12.3%	36405	208.0	31.5%	568468	3386684	3955152	1240000	8666000	9906000	36368	279518	2867491
Four Stars	141	9.9%	39359	279.1	34.1%	399778	1747898	2147676	1023000	6624000	7647000	18451	190332	3481906
Three Stars	164	11.5%	14513	88.5	12.6%	359970	635435	995405	973000	2909000	3882000	11884	56484	676727
Two Stars	111	7.8%	6039	54.4	5.2%	216240	149989	366229	388000	505000	893000	2772	12196	87683
One Star	96	6.8%	2972	31.0	2.6%	183761	48769	232530	320000	105000	425000	1023	15606	14787
Under Classification	735	51.7%	16220	22.1	14.0%	1474938	136186	1611124	2768000	383000	3151000	4820	10350	131347
<b>Total</b>	<b>1422</b>	<b>100.0%</b>	<b>115508</b>	<b>81.2</b>	<b>100.0%</b>	<b>3203155</b>	<b>6104961</b>	<b>9308116</b>	<b>6712000</b>	<b>19192000</b>	<b>25904000</b>	<b>75318</b>	<b>564486</b>	<b>7259941</b>

	Occupancy Rates*	Ave Nights per Guest	% guest nights foreign	No. of workers per establishment	No. of workers per room	Ave Wage Bill per Worker (LE)	Ave Revenue per Room (LE)	Ave Revenue per guest night (LE)
<b>South Sinai</b>								
Five Stars	34.6%	5.01	88.1%	326.9	0.750	5892	78198	376
Four Stars	51.7%	4.71	86.8%	127.6	0.726	10019	55008	177
Three Stars	42.3%	3.80	76.1%	63.8	0.748	7606	186263	735
Two Stars	17.7%	3.03	50.0%	19.5	0.415	12872	14745	139
One Star	12.4%	2.97	71.4%	11.3	0.362	2676	9064	122
Under Classification	19.7%	3.90	55.8%	20.6	0.445	3136	43150	364
<b>Total</b>	<b>40.8%</b>	<b>4.69</b>	<b>85.6%</b>	<b>130.0</b>	<b>0.722</b>	<b>7537</b>	<b>76189</b>	<b>311</b>
<b>All Egypt</b>								
Five Stars	45.4%	2.50	87.5%	207.8	0.999	7686	78766	289
Four Stars	32.4%	3.56	86.6%	130.9	0.469	10316	88465	455
Three Stars	44.6%	3.90	74.9%	72.5	0.819	4753	46629	174
Two Stars	24.6%	2.44	56.6%	25.0	0.459	4400	14519	98
One Star	23.8%	1.83	24.7%	10.7	0.344	15255	4975	35
Under Classification	32.4%	1.96	12.2%	6.6	0.297	2147	8098	42
<b>Total</b>	<b>37.4%</b>	<b>2.78</b>	<b>74.1%</b>	<b>53.0</b>	<b>0.652</b>	<b>7495</b>	<b>62852</b>	<b>280</b>

\* assuming 300 days per year and 2 persons per room

	No. of establishments	No. of rooms	Number of Guests	Number of Foreign Guests	Number of guest nights	Number of foreign guest nights	Number of Workers	Revenues (LE)
<b>South Sinai Share of Nation</b>								
Five Stars	11.4%	24.0%	9.2%	8.9%	18.3%	18.4%	18.0%	23.8%
Four Stars	27.7%	17.4%	21.0%	20.3%	27.8%	27.9%	27.0%	10.8%
Three Stars	11.0%	10.6%	10.3%	11.4%	10.0%	10.2%	9.7%	42.2%
Two Stars	1.8%	1.6%	0.9%	0.9%	1.1%	1.0%	1.4%	1.6%
One Star	3.1%	3.2%	1.0%	2.9%	1.6%	4.8%	3.3%	5.8%
Under Classification	2.6%	5.4%	1.7%	9.5%	3.3%	15.1%	8.1%	28.8%
<b>Total</b>	<b>7.1%</b>	<b>15.7%</b>	<b>10.2%</b>	<b>12.2%</b>	<b>17.2%</b>	<b>19.8%</b>	<b>17.4%</b>	<b>19.1%</b>

**Table 2.3**  
**Inventory of Tourist Establishments in South Sinai -- September 2003**

<b>1- Ras Sudr</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	
5 stars	0	0	0	0.0%	
4 stars	4	979	1370	10.3%	
3 stars	3	414	716	10.8%	
2 stars	2	54	136	16.0%	
1 star	0	0	0	0.0%	
under classification	7	638	722	9.5%	
Sub total	16	2085	2944	5.6%	
<b>2- Abou Zeneima</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	
under classification	1	12	34	0.2%	
Sub total	1	12	34	0.0%	
<b>3- Tor Sinai</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	
under classification	4	194	402	2.9%	
Sub total	4	194	402	0.5%	
<b>4- St. Cathrine</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	
5 stars	0	0	0	0.0%	
4 stars	1	118	236	1.2%	
3 stars	4	490	1016	12.8%	
2 stars	0	0	0	0.0%	
1 star	0	0	0	0.0%	
under classification	7	167	700	2.5%	
Sub total	12	775	1952	2.1%	
<b>5- Taba</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	
5 stars	4	1400	2800	8.3%	
4 stars	1	340	680	3.6%	
3 stars	6	633	1268	16.5%	
2 stars	0	0	0	0.0%	
1 star	0	0	0	0.0%	
under classification	8	731	1462	10.9%	
Sub total	19	3104	6210	8.3%	
<b>6- Nuweiba</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	
5 stars	3	489	978	2.9%	
4 stars	1	404	802	4.2%	
3 stars	4	164	328	4.3%	
2 stars	0	0	0	0.0%	
1 star	0	0	0	0.0%	
under classification	0	0	0	0.0%	
Sub total	8	1057	2108	2.8%	
<b>7- Dahab</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	
5 stars	1	167	334	1.0%	
4 stars	3	468	972	4.9%	
3 stars	2	82	146	2.1%	
2 stars	3	119	229	35.2%	
1 star	2	60	170	66.7%	
under classification	86	2039	3654	30.4%	
Sub total	97	2935	5505	7.8%	
<b>8- Sharm El Sheikh</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	
5 stars	37	14891	28297	87.9%	
4 stars	36	7207	14690	75.7%	
3 stars	26	2058	4298	53.6%	
2 stars	4	165	379	48.8%	
1 star	1	30	60	33.3%	
under classification	18	2916	5542	43.5%	
Sub total	122	27267	53266	72.8%	
<b>TOTAL</b>	<b>No. of establishment</b>	<b>No. of rooms</b>	<b>No. of Beds</b>	<b>% of SS rooms</b>	<b>rooms per est</b>
5 stars	45	16947	32409	45.3%	376.6
4 stars	46	9516	18750	25.4%	206.9
3 stars	45	3841	7772	10.3%	85.4
2 stars	9	338	744	0.9%	37.6
1 star	3	90	230	0.2%	30.0
under classification	131	6697	12516	17.9%	51.1
<b>TOTAL</b>	<b>279</b>	<b>37429</b>	<b>72421</b>	<b>100.0%</b>	<b>134.2</b>

source: Governorate Information Center

**Table 2.4**  
**Growth of Tourist Establishments in South Sinai 1996-2003**

	1996	1997	1998	1999	2000	2001	2002	2003*
<b>5 stars</b>								
No. of establishments	5	9	12	18	26	28	38	45
No. of rooms	1549	3196	4037	6355	10093	10923	10937	16947
No. of Beds	3209	6170	7593	11877	19099	18658	18666	32359
<b>4 stars</b>								
No. of establishments	10	14	23	24	37	38	39	46
No. of rooms	1466	1985	3198	3409	5748	6379	6459	9384
No. of Beds	2933	3935	6308	6730	11305	12540	12564	18636
<b>3 stars</b>								
No. of establishments	17	22	27	27	29	32	34	45
No. of rooms	1230	1676	1674	1620	1837	2190	2378	2689
No. of Beds	2577	3433	3597	3484	3883	4997	5458	7428
<b>2 stars</b>								
No. of establishments	14	13	21	18	16	16	14	9
No. of rooms	728	682	1080	981	877	845	740	228
No. of Beds	1837	1708	2552	2345	3055	1964	1515	694
<b>1 star</b>								
No. of establishments	1	0	1	4	1	8	4	3
No. of rooms	29	0	23	122	23	334	191	90
No. of Beds	77	0	46	254	46	591	305	200
<b>Under classification</b>								
No. of establishments	41	46	30	42	46	43	74	73
No. of rooms	1977	2718	1610	2562	3085	3624	4651	6444
No. of Beds	4630	6131	2484	5374	3536	7282	9391	11940
<b>TOTAL</b>								
No. of establishments	88	104	114	133	155	165	203	221
No. of rooms	6979	10257	11622	15049	21663	24295	25356	35782
No. of Beds	15263	21377	22580	30064	40924	46032	47899	71257

**Ave Size of Est. (rooms)**

Five Stars	309.8	355.1	336.4	353.1	388.2	390.1	287.8	376.6
Four Stars	146.6	141.8	139.0	142.0	155.4	167.9	165.6	204.0
Three Stars	72.4	76.2	62.0	60.0	63.3	68.4	69.9	59.8
Two Stars	52.0	52.5	51.4	54.5	54.8	52.8	52.9	25.3
One Star	29.0	#DIV/0!	23.0	30.5	23.0	41.8	47.8	30.0
Under Classification	48.2	59.1	53.7	61.0	67.1	84.3	62.9	88.3
Total	79.3	98.6	101.9	113.2	139.8	147.2	124.9	161.9

**Annual % growth of rooms**

Five Stars	106.3%	26.3%	57.4%	58.8%	8.2%	0.1%	55.0%
Four Stars	35.4%	61.1%	6.6%	68.6%	11.0%	1.3%	45.3%
Three Stars	36.3%	-0.1%	-3.2%	13.4%	19.2%	8.6%	13.1%
Two Stars	-6.3%	58.4%	-9.2%	-10.6%	-3.6%	-12.4%	-69.2%
One Star	-100.0%	0.0%	430.4%	-81.1%	1352.2%	-42.8%	-52.9%
Under Classification	37.5%	-40.8%	59.1%	20.4%	17.5%	28.3%	38.6%
<b>Total</b>	<b>47.0%</b>	<b>13.3%</b>	<b>29.5%</b>	<b>43.9%</b>	<b>12.1%</b>	<b>4.4%</b>	<b>41.1%</b>

% Annual Growth over 1996-2003	Annual Average	Imputed Annual Increase
Five Stars	44.6%	40.7%
Four Stars	32.7%	30.4%
Three Stars	12.5%	11.8%
Two Stars	-7.6%	-15.3%
One Star	215.1%	17.6%
Under Classification	22.9%	11.9%
<b>Total</b>	<b>27.3%</b>	<b>26.3%</b>

source: Governorate Information Department

**Table 2.5**  
**South Sinai Tourists by National Origin, 2001**

National Origin	Hotel Residents		Hotel Nights		Average Stay (nights)
	Number	%	Number	%	
Egyptians	324491	23.5%	1536169	23.5%	4.73
Arabs	55002	4.0%	259717	4.0%	4.72
East Europeans	164420	11.9%	782801	12.0%	4.76
West Europeans	686211	49.8%	3265782	49.9%	4.76
North Americans	81521	5.9%	384926	5.9%	4.72
South Americans	22671	1.6%	107654	1.6%	4.75
Africans	26175	1.9%	124820	1.9%	4.77
Asians & Austr	18198	1.3%	86421	1.3%	4.75
<b>TOTAL</b>	<b>1378689</b>	<b>100.0%</b>	<b>6548290</b>	<b>100.0%</b>	<b>4.75</b>

source: Ministry of Tourism, Egypt 2001-- Tourism in Figures, pp81-82

**Table 2.6**  
**Seasonal Flow of South Sinai Tourists, Year 2001**

Month	Hotel Residents		Hotel Nights		Average Stay (nights)
	Number	%	Number	%	
January	120981	8.8%	551886	8.4%	4.56
February	105458	7.6%	491772	7.5%	4.66
March	144070	10.4%	670269	10.2%	4.65
April	151962	11.0%	757534	11.6%	4.99
May	106793	7.7%	487150	7.4%	4.56
June	90356	6.6%	419569	6.4%	4.64
July	119994	8.7%	580379	8.9%	4.84
August	173139	12.6%	797867	12.2%	4.61
September	120537	8.7%	601846	9.2%	4.99
October	78450	5.7%	373072	5.7%	4.76
November	63982	4.6%	333932	5.1%	5.22
December	102967	7.5%	483014	7.4%	4.69
<b>TOTAL</b>	<b>1378689</b>	<b>100.0%</b>	<b>6548290</b>	<b>100.0%</b>	<b>4.75</b>

source: Ministry of Tourism, Egypt 2001-- Tourism in Figures, pp81-82

### Hotel Occupancy Rates

Year	South Sinai	National Average
1998	61%	45%
1999	81%	67%
2000	80%	73%
2001	65%	61%



**South Sinai Projections of Tourist Rooms**

Year	2003	2008	2013	2017
Sharm El Sheikh	27267	67849	136469	199804
Ras Sudr	2085	5188	10435	15278
Abou Zenima	12	30	60	88
El Tour	194	483	971	1422
St Catherine	775	1928	3879	5679
Taba	3104	7724	15535	22745
Nuweiba	1057	2630	5290	7745
Dahab	2935	7303	14689	21507
<b>TOTAL</b>	<b>37429</b>	<b>93135</b>	<b>187328</b>	<b>274268</b>
implied annual increase		20%	15%	10%

37429      93135      187328      274268

**Table 3.1**  
**South Sinai Governorate Diwan Aam Budget Proposals**  
(in LE million)

Sector	Projects	2002/2007 Five Yr Plan						2007/2012 Five Yr Plan					
		2002/03	2003/04	2004/05	2005/06	2006/07	Plan Total	2007/08	2008/09	2009/10	2010/11	2011/12	Plan Total
Industry	8 garbage to fertilizer factories	5.0	10.0	5.0	5.0	5.0	30.0	7.0	14.0	7.0	7.0	7.0	42.0
	subtotal	5.0	10.0	5.0	5.0	5.0	30.0	7.0	14.0	7.0	7.0	7.0	42.0
Power	extension of city networks	22.5	22.5	17.0	16.0	18.0	96.0	20.0	20.0	21.0	23.0	23.0	107.0
	lighting of industrial zone	2.0	2.0	2.0	2.0	2.0	10.0	3.0	3.0	3.0	4.0	4.0	17.0
	lighting equipment	3.8	4.5	3.8	4.0	4.0	20.1	5.0	5.0	6.0	4.0	5.0	25.0
	subtotal	28.3	29.0	22.8	22.0	24.0	126.1	28.0	28.0	30.0	31.0	32.0	149.0
Transport	paving local roads 231 km	15.0	15.0	15.0	15.0	15.0	75.0	16.0	16.0	17.0	17.0	17.0	83.0
	paving internal city roads 632 km	31.8	26.0	34.3	34.6	35.3	162.0	36.0	36.0	37.0	37.0	38.0	184.0
	flood protection	5.0	5.0	5.0	5.0	5.0	25.0	12.0	12.0	12.0	12.0	12.0	60.0
	subtotal	51.8	46.0	54.3	54.6	55.3	262.0	64.0	64.0	66.0	66.0	67.0	327.0
Utilities	Public cleaning (vehicles & equipment)	9.2	7.9	4.3	7.7	5.6	34.7	8.5	8.5	9.0	9.5	10.0	45.5
	Public spaces (parks, streets, etc.)	22.2	23.0	25.4	28.6	33.2	132.4	35.0	35.0	35.0	40.0	40.0	185.0
	Water networks + 4 purification plants	17.9	16.5	19.0	19.5	28.0	100.9	28.0	70.0	40.0	50.0	60.0	248.0
	Water networks for industrial zones	3.0	3.0	3.0	3.0	3.0	15.0	4.0	5.0	4.0	5.0	7.0	25.0
	Wastewater networks + treatment plants	13.6	12.4	14.2	15.8	11.8	67.8	12.2	13.0	14.0	15.0	18.0	72.2
	Wastewater networks for industrial zones	3.0	3.0	3.0	3.0	3.0	15.0	8.0	8.0	8.0	9.0	10.0	43.0
subtotal	68.9	65.8	68.9	77.6	84.6	365.8	95.7	139.5	110.0	128.5	145.0	618.7	
Services	Security + fire + traffic	15.2	17.2	16.8	14.4	13.6	77.2	14.0	15.0	18.0	18.0	16.0	81.0
	Improving performance	12.1	12.1	12.1	12.1	12.1	60.5	13.0	15.0	12.0	14.0	15.0	69.0
	subtotal	27.3	29.3	28.9	26.5	25.7	137.7	27.0	30.0	30.0	32.0	31.0	150.0
Municipal Establishments	19 village council buildings + 5 bakeries + 10 markets + 10 taxi stations + 50 public toilets + conference center in Sharm	53.5	53.5	68.5	38.0	3.0	216.5	5.0	6.0	8.0	4.0	5.0	28.0
	subtotal	53.5	53.5	68.5	38.0	3.0	216.5	5.0	6.0	8.0	4.0	5.0	28.0
Shorouk Project	Rural infrastructure projects	15.2	15.2	15.2	15.2	15.2	76.0	13.2	13.2	13.2	13.2	13.2	66.0
	Rural human development projects	0.8	0.8	0.8	0.8	0.8	4.0	0.8	0.8	0.8	0.8	0.8	4.0
	subtotal	16.0	16.0	16.0	16.0	16.0	80.0	14.0	14.0	14.0	14.0	14.0	70.0
<b>TOTAL</b>		<b>250.8</b>	<b>249.6</b>	<b>264.4</b>	<b>239.7</b>	<b>213.6</b>	<b>1218.1</b>	<b>240.7</b>	<b>295.5</b>	<b>265.0</b>	<b>282.5</b>	<b>301.0</b>	<b>1384.7</b>

source: South Sinai Governorate, General Administration for Planning and Followup

**Table 4.1**  
**1996 Census South Sinai: Population and Households by Type of Dwelling Unit**

Qism/Governorate	Sharm el Sheikh			El Tour			All South Sinai		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
<b>Residential Units</b>									
No of Households	759	186	945	2241	759	3000	5117	5152	10269
No of Males	1984	355	2339	5082	1759	6841	12012	12269	24281
No of Females	593	379	972	4450	1602	6052	8643	10930	19573
Total Population	2577	734	3311	9532	3361	12893	20655	23199	43854
Average HH Size	3.40	3.95	3.50	4.25	4.43	4.30	4.04	4.50	4.27
M/F Sex Ratio	3.35	0.94	2.41	1.14	1.10	1.13	1.39	1.12	1.24
<b>Institutional Units</b>									
No of Households	79	22	101	281	36	317	724	244	968
No of Males	1492	1464	2956	938	224	1162	6365	3248	9613
No of Females	237	915	1152	93	0	93	380	979	1359
Total Population	1729	2379	4108	1031	224	1255	6745	4227	10972
Average HH Size	21.89	108.14	40.67	3.67	6.22	3.96	9.32	17.32	11.33
M/F Sex Ratio	6.30	1.60	2.57	10.09		12.49	16.75	3.32	7.07
<b>Total Units</b>									
No of Households	838	208	1046	2522	795	3317	5841	5396	11237
No of Males	3476	1819	5295	6020	1983	8003	18377	15517	33894
No of Females	830	1294	2124	4543	1602	6145	9023	11909	20932
Total Population	4306	3113	7419	10563	3585	14148	27400	27426	54826
Average HH Size	5.14	14.97	7.09	4.19	4.51	4.27	4.69	5.08	4.88
M/F Sex Ratio	4.19	1.41	2.49	1.33	1.24	1.30	2.04	1.30	1.62

source: CAPMAS 1996 Census of Population

**Table 7.1**  
**Summary of GOPP Urban and Regional Plans for South Sinai**

Town/ Locale	Type of Plan	Main Economic Activities	Year 1996		Year 2017			Implied Densities		Implied Dependency Ratio 2017
			Population	Area (feddans)	Design Population	Area (feddans)	Work Force	1996	2017	
El Tour	Master Plan	Services, tourism, industry, fishing	11200	1900	82000	3031	28000	5.89	27.05	2.93
Sharm el Sheikh	Master Plan	Tourism, tourist services	4300	3000	85000	9770	35000	1.43	8.70	2.43
Dahab	Master Plan	Tourism, tourist services	3600	600	46000	3597	18000	6.00	12.79	2.56
Ras Sudr	Master Plan	Tourism, industry, minerals	1419	3400	100000	16600	35000	0.42	6.02	2.86
Nuweiba	Structure Plan	Industry, port activities, tourism, services	2443	1627	50000	2584	17000	1.50	19.35	2.94
St. Catherine	Master Plan	Tourism, tourist services	1900	200	6000	360	2650	9.50	16.67	2.26
El Tour -- Ras Mohammed	Master Plan	Tourism, tourist services				9236	3162			
<b>Totals</b>			<b>24862</b>	<b>10727</b>	<b>369000</b>	<b>45178</b>	<b>138812</b>	<b>2.317703</b>	<b>0.02907</b>	<b>2.66</b>

source: GOPP Third Planning Region Center, El Ismailia