

OPTIONAL WORKING PAPER NO. 7

PRELIMINARY SUMMARY OF FINDINGS ON  
POPULATION IN SINAI -- PART I

POPULATION TRENDS AND CHARACTERISTICS  
OF CURRENT INHABITANTS

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## EXECUTIVE SUMMARY

This is the first working paper on population, Task 7 of the Sinai Development Study, Phase I. Other working papers on the same subject will be numbered sequentially (i.e., Part II, Part III).

This paper discusses population trends and characteristics of the current inhabitants of Sinai. Population data for Sinai are limited, but all available information is summarized, including historical trends, census data by age and sex, and occupational distributions. Interesting data are presented on the Sinai families who were relocated to the Nile Delta and Nile Valley--namely, a high percentage of people with educational certificates (22.8 percent compared to 18.4 percent for all of Egypt) and an overwhelming majority (93 percent of those studied) who want to return to Sinai. Additionally, preliminary data are presented on projections of Sinai's population growth.

The second half of this paper describes the structural, economic, and social context of the local inhabitants and Bedouin communities. The various modes of settlement are discussed, and statistics are presented on the four primary occupations, particularly for the Bedouins--livestock raising, cultivation, trade, and manufacturing and handicrafts. The discussion of social systems within Sinai includes a summary of the political and legal system, the educational system, the health system, and the social welfare system.

**PRELIMINARY SUMMARY OF FINDINGS ON  
POPULATION IN SINAI--PART I  
POPULATION TRENDS AND CHARACTERISTICS  
OF CURRENT INHABITANTS**

**1.0 INTRODUCTION**

This optional working paper is presented as a preliminary summary of findings for Task 7, Population, of the Sinai Development Study, Phase I. The analysis of alternative scenarios for population growth is the overall objective of Task 7; this paper documents our initial investigation of socioeconomic-demographic factors in Sinai and describes the local communities.

From a socioeconomic-demographic point of view, we know very little about Sinai and its population; the limited information available is not accurate or complete, largely due to Sinai's long isolation from the rest of Egypt. In fact, the isolation and occupation of Sinai are two major factors which have exerted considerable influence on the socioeconomic-demographic situation in the area. This problem becomes more acute if we consider that, at present, Sinai and its people occupy a central position in Egypt's developmental efforts. Reliable and firsthand information is needed to understand social, economic, and cultural changes in the patterns of family and community life.

## 2.0 THE POPULATION OF SINAI

### 2.1 POPULATION SIZE

According to various population censuses, Sinai's population statistics are as follows:

●	1907	7,407
●	1917	5,430
●	1927	15,059
●	1937	18,011
●	1947	37,670
●	1960	49,769
●	1966	130,849
●	1976	10,104.

The 1966 figure (130,849) includes border troops. According to a study by the Ministry of Social Affairs, the 1966 population, excluding border troops, was 78,113. The 1976 figure (10,104) reflects population size in the liberated territory. Of this number, 6,543 were in north Sinai and 3,561 were in south Sinai. According to the Ministry of Social Affairs, it is estimated that the population in the occupied territory was 147,000. Thus, the total population in Sinai, in 1976, was estimated to be 157,000.

We understand that a population census in Sinai will be undertaken in the summer of 1981, and we would like to urge that this census be completed and published as soon as possible. It must be emphasized, however, that the people of Sinai are presently located in three distinct geographical areas--the liberated territory of Sinai, the still-occupied territory of Sinai, and the governorates of the Nile Delta and the Nile Valley. This latter area is mentioned because many people from Sinai relocated there in 1967. The 1981 census will cover only the first group of inhabitants; this restriction, of course, imposes certain limitations on the utility of the census. Nevertheless, its results will be of value in planning Sinai's future.

### 2.2 POPULATION CHARACTERISTICS

Information on population characteristics is also limited. The 1976 census described general characteristics of the 10,104 people enumerated, but we do not know what segment of the population these people represent or to what extent their characteristics are typical of the other inhabitants of Sinai. On the basis of

the age-sex composition of the people enumerated in 1976, it would appear that the group has characteristics which are different from those of the population of Egypt as a whole (Table 2-1); the people enumerated in Sinai were overwhelmingly males and in adult age groups.

Another source of information that provides data about a segment of the Sinai population is a survey conducted by the Ministry of Social Affairs in December 1976. This survey describes a group of 1,620 families (representing 7,087 individuals) located in the territory liberated after the second disengagement agreement (November 16, 1975). The age-sex composition of this group indicates characteristics very different from the 1976 census information on Sinai or Egypt's population as a whole. The survey data are summarized in Table 2-2.

The data from this survey, while revealing some indications of the socioeconomic-demographic situation of the studied population, do not provide accurate information or a reliable basis for projections about the Sinai population as a whole.

The survey data show that the studied population is characterized by prevalence of marriages at an early age, a high proportion of ever-married women (86.6 percent), a high percentage of polygamous marriages (20 percent), a high divorce rate (12 percent), a high illiteracy rate among males (79.6 percent), and almost universal illiteracy among females (99.2 percent).

The occupational composition of the studied population may also reveal some indicators of the economic situation. Of the total population studied, 68.4 percent were reported as having no occupation, including people below and above the labor force age (under 15 and over 65 years of age). The occupations stated by those with some kind of job are as follows:

•	Agriculture	10.2%
•	Grazing	7.0%
•	Fishing	6.1%
•	Transportation	2.3%
•	Oil and mining	1.8%
•	Trade	1.5%
•	Personal services	1.5%
•	Construction	1.1%
•	Loading/unloading	0.1%.

TABLE 2-1

Comparison of Population Data for  
Sinai and the Rest of Egypt

<u>Age-Sex</u>	<u>Sinai--1976 (percent)</u>	<u>Egypt--1976 (percent)</u>
Under 12 years	28.6	31.6
12 to 64 years	68.5	65.5
65 years and older	2.9	2.9
Males	64.4	50.9
Females	35.6	49.1

---

SOURCE: 1976 population census, Ministry of Social Affairs.

TABLE 2-2

Selected Sinai Population Survey Results (1976)

<u>Age-Sex</u>	<u>Population Percentage</u>
Under 12 years	38.1
12 to 64 years	56.7
65 years and older	5.2
Males	49.0
Females	51.0

---

SOURCE: December 1976 survey of 1,620 families located in the territory liberated in November 1975, Ministry of Social Affairs.

The occupational distribution of household heads reveals a similar situation:

• Agriculture	19.8%
• Grazing	13.7%
• Fishing	12.9%
• Transportation	2.2%
• Oil and mining	3.0%
• Trade	3.5%
• Personal services	2.1%
• Construction	2.0%
• Loading/unloading	4.9%
• Other	0.4%

Both patterns of occupational distribution--for the studied population and for household heads--indicate that agriculture, grazing, and fishing are the three major occupations in the areas studied. Both patterns also reveal a high proportion of unoccupied people.

The survey data also provide information on the economic status of the studied families during the occupation and after liberation, especially with respect to ownership of assets, such as agricultural land, livestock, agricultural machinery, palm trees, buildings, transport vehicles, and fishing boats and equipment. This information is shown in Table 2-3.

The survey data also summarized the income levels of the studied population, as shown in Table 2-4. According to the survey, their economic status was more favorable during the occupation period than at the time of the survey. To the extent that such information is accurate, it could have important implications on the psychological status and attitudes of the Sinai inhabitants in general.

### 2.3 THE SINAI PEOPLE IN THE NILE DELTA AND THE NILE VALLEY

As a result of the 1967 war, many families from Sinai and the Gaza Strip were relocated to the Nile Delta and the Nile Valley. During December 1976 and March 1977, the Ministry of Social Affairs conducted a survey covering all of the relocated families in Egypt's governorates. This survey included 14,098 families, which included 13,483 families representing 53,192 individuals from Sinai and 1,615 families representing 7,012 individuals from the Gaza Strip. Among the Sinai group, the data indicated at the time of the survey that 49.5 percent were males and 50.5 percent were females. About 34.7 percent were under the age of 12

TABLE 2-3

## Ownership Assets Among Families Before and After November 1975

<u>Item</u>	<u>During Occupation (percent)</u>	<u>After Liberation (percent)</u>
Agricultural land	57.3	53.3
Goats	90.3	78.2
Sheep	75.6	71.2
Camels	59.5	54.0
Donkeys	12.7	12.4
Horses	2.7	2.8
Agricultural machinery	2.0	1.0
Palm trees	74.1	65.6
Buildings	8.0	8.0
Transport vehicles	3.0	3.0
Fishing boats and equipment	6.0	5.0

---

SOURCE: December 1976 survey of 1,620 families, Ministry of Social Affairs.

TABLE 2-4

## Annual Income Among Families Before and After November 1975

<u>Annual Income</u>	<u>During Occupation (percent)</u>	<u>After Liberation (percent)</u>
Less than LE 200	40.4	34.6
LE 200 - 300	20.4	21.3
LE 300 - 500	18.3	30.1
LE 500 - 1,000	15.7	12.0
LE 1,000 and over	5.2	2.0

---

SOURCE: December 1976 survey of 1,620 families, Ministry of Social Affairs.

years, 62.3 percent were 12 to 64 years old, and 3.0 percent were 65 years old and over. In the studied population, it is noted that the proportion of males and adults (12 to 64 years) was lower and the proportion of females and children (under 12 years) was higher than in Egypt's total population,

Table 2-5 compares the sex and age composition of different segments of the Sinai population as reported in various censuses.

The data on the marital status of the relocated population indicate that among the males of marriageable age (18 and over), 34.8 percent were never married, 58.8 percent were currently married, and 6.4 percent were divorced or widowers. Among the females of marriageable age (16 and over), 23.9 percent were never married, 56.4 percent were currently married, and 19.7 percent were divorced or widowed. It is noted that of those relocated, the proportions of currently married and of ever-married people are considerably lower than the corresponding proportions reported for the population in Sinai and for the total population of Egypt.

As to the educational status of the studied population, the data indicate that 42.5 percent of the males and 73.2 percent of the females were illiterate. These figures compare favorably with corresponding figures among Egypt's total population. According to the 1976 census, the percentage of illiterate Egyptian males was 43.2; females, 71; and total population, 56.9. It is also noteworthy that illiteracy in the liberated territories in Sinai (79.6 percent among males, 99.2 percent among females) was considerably higher than among the population relocated in the Nile Delta and Nile Valley.

The survey of the relocated population indicates that large numbers of the people had obtained educational certificates and degrees. About 8.2 percent obtained primary school certificates; 6.8 percent, preparatory certificates; and 1.3 percent, university or higher degrees. Thus, a total of 22.8 percent had educational certificates as compared to 18.4 percent of Egypt's total population, and only 2.9 percent of the population in the liberated territories of Sinai.

With respect to the occupational composition of the relocated population, 86 percent of those surveyed reported that they did not have any occupation. This proportion, however, included people under 15 years of age and over 65. The 14 percent who reported having an occupation were mainly working in agriculture (26.8 percent), grazing (9.6 percent), trade (9.4 percent), transportation (8.6

percent), personal services (7.6 percent), construction (5.7 percent), fishing (3.7 percent), and oil and mining (2.0 percent).

The data on income levels provided by the survey report economic status before moving out of Sinai and after relocation, as shown in Table 2-6. These figures indicate that annual income levels after relocation in 1976 were considerably lower than incomes before moving out of Sinai in 1967. Moreover, the decline in real income was even greater, since the survey does not reflect the depreciation in real income values resulting from high inflation rates from 1967 to 1976. To the extent that this observation is valid, the social and psychological implications of such a decline in real income must be carefully considered.

Finally, one of the most significant findings reported by the survey is that 93 percent of those studied indicated a desire to return to Sinai, and only 7 percent indicated that they wanted to remain in their relocated places. If this expressed desire to return to Sinai by the overwhelming majority of the studied population is valid, then they can be considered the major source of the human resources needed for the future development of Sinai. The fact that these people have lived among the inhabitants of the Nile Delta and the Nile Valley since 1967 is likely to have influenced their customs, traditions, values, and culture and to have changed their world view regarding their mode of life and the environment. These people have experienced a settled mode of life in villages or in towns and cities. They have observed and participated in new ways of doing things; new habits related to food, clothing, housing, education, and work; new styles of dealing with friends, neighbors, relatives, and strangers; and new relations within the family, the community, and the society at large. Should the characteristics and experiences which these people acquired during their relocation be favorable to development, their return to Sinai would make a significant contribution to future growth and change.

#### 2.4 THE SINAI PEOPLE IN THE STILL-OCCUPIED TERRITORIES

At present, it is estimated that 50,000 people are living in the still-occupied Sinai territories. However, no information is available on the socioeconomic-demographic characteristics of these people. It is expected that this area will be returned to the Egyptian authorities by April 1982, at which time a population census can be undertaken. In the interim, however, contacts should be made to

TABLE 2-5

Comparative Sex and Age Data for Sinai and  
the Rest of Egypt (percent)

<u>Sex Composition</u>	<u>Sinai</u> <sup>a</sup>	<u>Sinai</u> <sup>b</sup>	<u>Egypt</u> <sup>c</sup>	<u>Egypt</u> <sup>d</sup>
Male	64.4	49.0	49.5	50.9
Female	35.6	51.0	50.5	49.1
 <u>Age Composition</u>				
Under 12 years	28.6	38.1	34.7	31.6
12 to 64 years	68.5	56.7	62.3	65.5
65 years and older	2.9	5.2	3.0	2.9

<sup>a</sup>1976 census of the population in the liberated territory of Sinai.

<sup>b</sup>December 1976 survey conducted by the Ministry of Social Affairs of the population located in the Sinai territory, liberated after the second disengagement agreement.

<sup>c</sup>December 1976 to March 1977 survey conducted by the Ministry of Social Affairs of the population relocated from Sinai to the Nile Delta and the Nile Valley.

<sup>d</sup>1976 population census of Egypt; data pertaining to Egypt's total population for comparative purposes.

TABLE 2-6

Annual Income Among Families Before and After  
Relocation to the Nile Delta and Nile Valley

<u>Annual Income</u>	<u>Before Moving (1967)</u> (percent)	<u>After Moving (1976)</u> (percent)
Less than LE 200	37.8	67.8
LE 200 - 300	15.5	16.9
LE 300 - 500	23.0	11.7
LE 500 - 1,000	16.7	3.1
LE 1,000 and over	7.0	0.5

SOURCE: December 1976 to March 1977 survey of 14,098 families relocated to the Nile Delta and Nile Valley, Ministry of Social Affairs.

obtain from the Israeli authorities any data they have about the size and socioeconomic-demographic characteristics of the inhabitants.

## 2.5 GROWTH AND PROJECTION OF SINAI POPULATION

Since we do not have accurate census data on the population size in Sinai, accurate vital statistics on birth and death rates, or accurate information about migration into and out of the area, we cannot estimate the rate of Sinai population growth or calculate any realistic population projections.

The Planning Department of the North Sinai Governorate has calculated population projections for Sinai up to the year 1985 on the basis of a population size amounting to 114,158 people in 1960 and an annual natural increase rate of 3.2 percent. At best, the results of these calculations are subject to many questions. First, the 1960 census reported the population in Sinai as 49,769 people, not 114,158. Second, a rate of natural increase of 3.2 percent assumes a very high birth rate and a very low death rate. A high birth rate of 40 to 42 per 1,000 population is possible for Sinai in view of the prevalence of early marriages and high proportions of married women, and the limited application of family planning practices and contraception. However, pregnancy wastage, lactation, temporary and permanent infertility, and early menopause are factors that usually control high fertility levels in underdeveloped and developing societies. If these factors prevail among Sinai people, they would tend to lower the birth rate.

If we accept an estimate of the birth rate as 40 to 42 live births per 1,000 population, then we must assume a death rate of 8 to 10 per 1,000 to project a rate of natural increase of 3.2 percent. In view of the prevailing health, sanitary, medical, and nutrition conditions in Sinai, it is very unlikely that the death rate is that low. One of the major components in determining the level of the general death rate in developing countries is the proportion of infants who survive less than their first year and the proportion of children who die between the ages of 1 and 5 years. If these proportions are high, the general death rate remains high; if reduced, the death rate declines. In developing countries, infant and child mortality are sensitive to changes in health, sanitary, medical, and nutrition conditions and are not likely to decline unless these conditions are considerably improved. In the absence of considerable improvement in these conditions, infant and child mortality continues to remain high, resulting in a high death rate in general.

There may be some truth in the argument that the climate and isolation of Sinai contribute to a naturally healthy environment, which is relatively free from many of the factors and conditions commonly known to initiate and spread human diseases. But the severe shortage of health and medical facilities and the prevalence of inadequate nutrition and sanitation, especially in the central and southern parts of Sinai and among the nomadic and seminomadic Bedouins, must contribute to high infant and child mortality rates, high maternity death rates, and high mortality figures among the aged.

Under these conditions, it is most unlikely that the death rate in Sinai is lower than 15 per 1,000 population, and it may be more realistically estimated at 18 per 1,000. The birth rate is most likely to be about 40 per 1,000 population. Accordingly, the rate of natural increase in Sinai can be estimated at 2.2 percent.

### 3.0 THE LOCAL COMMUNITIES OF SINAI

The present state of knowledge about the local communities of Sinai--their composition and characteristics, social organizations and institutions, patterns and mode of life, interrelationships and interactions, traditions and values, and historical and cultural evolution--is extremely limited. However, all aspects of local community life in Sinai must be understood to successfully design and implement socioeconomic-demographic schemes for the development and expansion of the already existing communities and the establishment and settlement of new communities.

Since available data are scarce, it is necessary to immediately undertake sample surveys and studies to investigate the conditions and characteristics of the local communities and their inhabitants. The following factors have had a major influence on the socioeconomic-demographic context of Sinai communities:

- Traditionally, the population has been greatly influenced by the Bedouin culture.
- Before 1967, the communities were relatively isolated from the Egyptian culture and were mostly neglected by Egyptian authorities and institutions.
- After 1967, the communities were under Israeli occupation for periods of 10 years or more.
- Since the Israeli withdrawal, the people of Sinai have been subject to sudden attention and concern from Egyptian authorities and institutions (including some supported by funding from international agencies) interested in planning the development of the area and expanding its population and resources.

There is no doubt that these four factors (individually and collectively) have exerted considerable impact on the structure and function and on the values and attitudes of the inhabitants of Sinai.

#### 3.1 STRUCTURAL CONTEXT

From a geographical point of view, the Sinai Peninsula has a triangular shape, with its base stretching along the Mediterranean Sea over a distance of 220 kilometers from Port Fuad in the west to Rafah in the east. In the west, its border

on the Suez Canal and the Gulf of Suez covers a distance of 510 kilometers. In the east, its border of 455 kilometers runs from Rafah on the Mediterranean via Ras Taba on the Gulf of Aqaba to Ras Mohammed in the deepest southern point of the peninsula.

The total area of Sinai covers about 61,000 square kilometers, or three times the size of the Nile Delta. With an estimated current population of 170,000, the average population density is only 2.8 persons per square kilometer. (This very low density is characteristic of all underdeveloped desert areas.)

As may be expected, the population distribution in Sinai is very uneven, and most of the inhabitants are concentrated in the northern and western edges of the peninsula. It is estimated that 65 percent of the population occupies the northern coastal zone, 15 percent resides in the coastal plain along the Gulf of Suez, and 20 percent is dispersed throughout the rest of the peninsula.

The Department of Planning and Follow-up of the North Sinai Governorate reports that north Sinai is divided into five administrative counties. Population estimates per county are shown in Table 3-1.

From a societal point of view, Sinai can be classified into three major types-- semiurbanized cities and towns, small settled communities, and seminomadic and nomadic Bedouin tribes.

TABLE 3-1

Population Estimates for North Sinai

<u>Administrative Counties<sup>a</sup></u>	<u>1960</u>	<u>1980</u>
El Arish	48,750	91,531
Bir El-Abd	12,100	22,717
El Hasna	15,000	28,163
Nakhl	12,000	22,530
Sheikh Zayed and Rafah <sup>b</sup>	<u>26,308</u>	<u>38,129</u>
Total	114,158	203,070

<sup>a</sup> Each county includes a town serving as an administrative seat and several surrounding villages and settlements.

<sup>b</sup> Territories still occupied by Israel.

### 3.1.1 Semiurban Cities and Towns

The largest city in Sinai is El Arish, with an estimated population of 50,000. Although accurate information about the socioeconomic characteristics of its inhabitants is not available, it seems that the majority of the people depend on trade and business activities for their livelihood, and that many are engaged in agriculture and fishing and in small manufacturing industries and crafts. A large proportion of the inhabitants are educated, and many students are currently enrolled in the city's primary, preparatory, and secondary schools.

The second largest city is El Qantara. Most of its residents work as employees and in trade and business activities. A large proportion of the population is educated, and many students are enrolled in schools.

### 3.1.2 Small Settled Communities

Several small settled communities are located in the northern coastal zone between the cities of El Qantara and El Arish, including Gelbana, Baloza, Romana, Katya, Rabaa, Negila, El Kherba, Bir El-Abd, Mosafek, Mazar, and El Masaid. El Hasana, Nakhil, and El Kassima are located in central Sinai, and small communities along the Gulf of Suez include Ras Sudr, Abu Zenima, Abu Rudeis, and El Tor. Sharm El Sheikh, Dahab, and Nobeia are found along the Gulf of Aqaba coast. Table 3-2 provides population data for these communities.

TABLE 3-2

Population Data for Small Communities in North Sinai

<u>Community</u>	<u>No. of Families</u>	<u>No. of Individuals</u>	<u>Average Family Size</u>
Baloza	224	911	4.1
Romana	223	1,073	4.8
Katya	146	635	4.3
Rabaa	130	557	4.3
Negila	249	1,098	4.4
El Kherba	310	1,377	4.4
Ras Sudr	267	1,183	4.4
Abu Rudeis	71	253	3.6

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SOURCE: 1976 survey, Ministry of Social Affairs.

### 3.1.3 Bedouin Tribes

Between 50 and 70 percent of the Sinai people are Bedouins. Not all the Bedouins, however, are nomads; a significant number live in the cities and the small settled communities in Sinai. They depend mainly on livestock and practice agriculture during a certain season of the year. While true nomadism is practiced only by a small group, most herdsmen are limited in movement; they have semipermanent dwellings to which they return at the end of the grazing season and cultivate patches of land.

There are over 20 Bedouin tribes in Sinai. It is estimated that 15 tribes live in northern Sinai, five in central Sinai, and seven in southern Sinai. Figure 3-1 indicates the territorial distribution of the major Bedouin tribes.

## 3.2 ECONOMIC CONTEXT

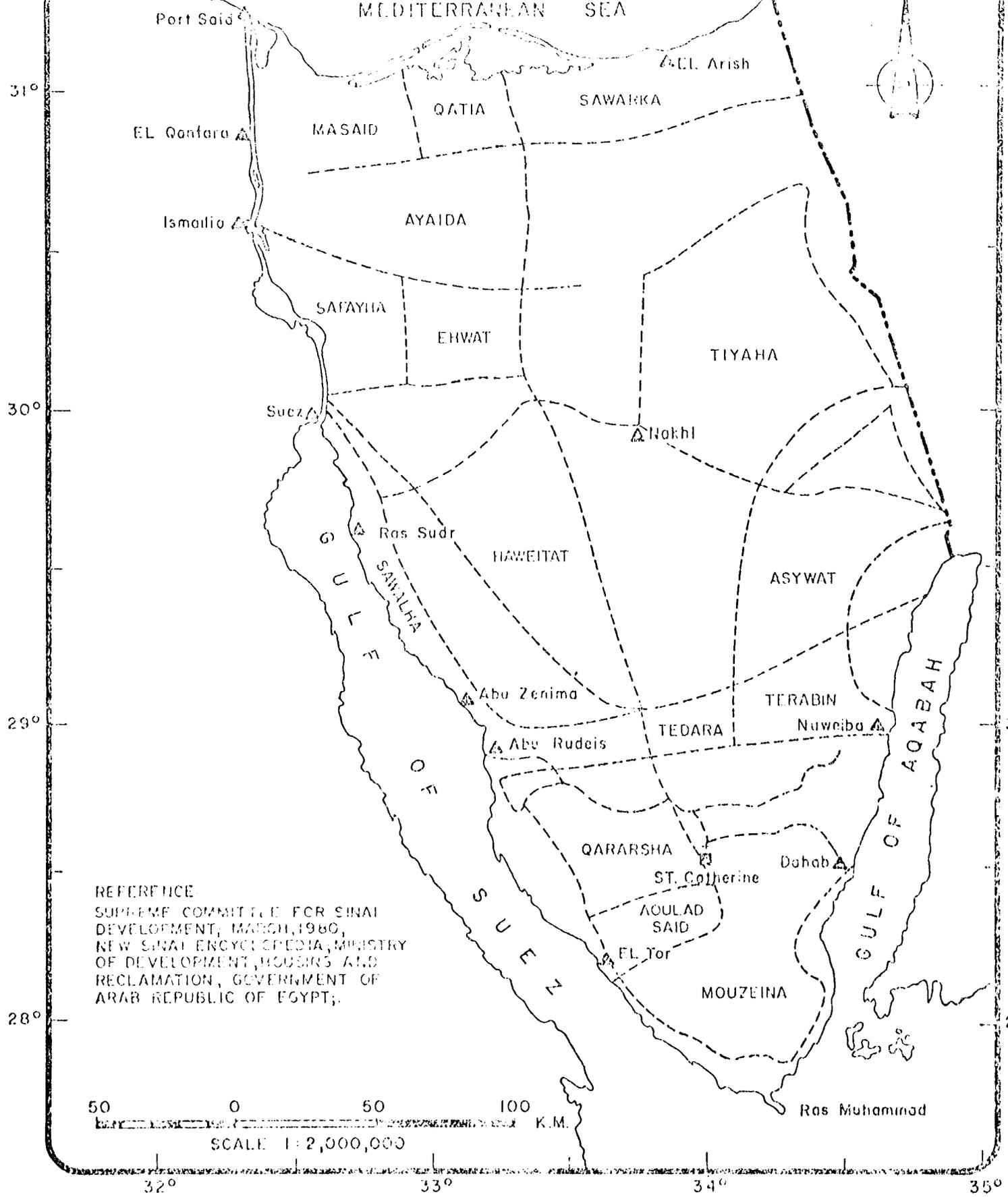
The economic context of Sinai communities is reviewed herein with respect to livestock raising, cultivation, trade, and manufacturing and crafts.

### 3.2.1 Livestock

In desert communities with traditional Bedouin cultures, stock raising is regarded as the most important and most honorable branch of economic activity. Most of the nomads raise sheep, but the herds include goats as well. Camels are usually herded separately, but the herds are not large except, perhaps, further to the south. The raising of camels, however, has decreased since their use for transport has declined.

A survey conducted by the Ministry of Social Affairs in 1976 provides information on the ownership of livestock in the studied communities in Sinai, as listed in Tables 3-3 and 3-4.

Stock raising, of course, is subject to the unreliability of rain and the growth of pasture plants. Accordingly, the movements of the flocks and their herdsmen tend to be rhythmic and regulated by the wet and dry seasons. The grazing grounds are traditionally divided, theoretically at least, among the different clans and clan segments, in the sense that each lineage has definite rights in specific grazing areas, to the exclusion of all others.



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DISTRIBUTION OF MAJOR  
BEDOUIN TRIBES IN SINAI

FIGURE 3-1

TABLE 3-3

Livestock Ownership Among Families  
During the Israeli Occupation

<u>No. of Livestock</u>	<u>Families Surveyed</u>					
	<u>Goats</u>		<u>Sheep</u>		<u>Camels</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
None	158	9.8	395	24.4	656	40.5
1 -	47	2.9	159	9.8	450	27.8
2 -	206	12.7	326	20.1	257	15.9
3 -	768	47.4	599	37.0	252	15.5
20 -	384	23.7	128	7.9	3	0.2
50 or more	57	3.5	13	0.8	2	0.1

SOURCE: December 1976 survey of 1,620 families, Ministry of Social Affairs.

TABLE 3-4

Livestock Ownership Among Families  
After the Israeli Withdrawal

<u>No. of Livestock</u>	<u>Families Surveyed</u>					
	<u>Goats</u>		<u>Sheep</u>		<u>Camels</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
None	207	12.8	468	28.9	745	46.0
1 -	110	6.8	227	14.0	566	34.9
2 -	295	18.2	415	25.6	214	13.2
3 -	870	53.7	486	30.0	94	5.8
20 -	131	8.1	22	1.4	--	--
50 or more	7	0.4	2	0.1	1	0.1

SOURCE: December 1976 survey of 1,620 families, Ministry of Social Affairs.

### 3.2.2 Cultivation

In traditional Bedouin cultures, livestock raising is usually supplemented by agriculture or some other occupation. At present there seems to be a trend toward a decline in pastoral nomadism in favor of agriculture and trade. There also seems to be an inverse relationship between the size of the herd and the practice of cultivation, in the sense that, among seminomadic groups, the more interest in agriculture the smaller the herds.

In most places, cultivation is affected by the erratic nature of rain and the scarcity of underground water. Accordingly, the cultivated area may vary from year to year according to rainfall. Wheat and barley are the most staple crops, though cultivators are never sure of the yields. Some inhabitants, especially in the northern coastal zone, have taken much interest in horticulture and in the growing of fruit trees and some vegetables. Table 3-5 lists results of the 1976 survey of the Ministry of Social Affairs with regard to cultivation of crops. These figures indicate a marked shift from the cultivation of fruit and castor-bean plants during the Israeli occupation to the cultivation of wheat and barley after the Israeli withdrawal.

TABLE 3-5

Number of Families Cultivating Various Crops During and  
After the Israeli Occupation

<u>Crops</u>	<u>Families Surveyed</u>			
	<u>During Occupation</u>		<u>After Withdrawal</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Wheat	187	11.5	381	23.5
Barley	144	8.9	239	14.8
Maize	12	0.7	98	6.0
Vegetables	5	0.3	54	3.3
Fruit	440	27.2	161	9.9
Castor-bean plants	301	18.6	68	4.2
Not cultivating	6	0.4	38	2.3

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SOURCE: December 1976 survey of 1,620 families, Ministry of Social Affairs.

The survey also reports the ownership of palm trees by the same group of families during and after the Israeli occupation, as shown in Table 3-6.

TABLE 3-6  
Number of Families Owning Palm Trees During and  
After the Israeli Occupation

<u>No. of Palm Trees</u>	<u>Families Surveyed</u>			
	<u>During Occupation</u>		<u>After Withdrawal</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
None	419	25.9	557	34.4
1 -	46	2.8	64	4.0
5 -	260	16.0	296	18.3
20 -	558	34.5	489	30.2
80 -	254	15.7	161	9.9
160 -	41	2.5	23	1.4
200 or more	42	2.6	30	1.8

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SOURCE: December 1976 survey of 1,620 families, Ministry of Social Affairs.

The figures in the table indicate a marked shift in the ownership of palm trees between the two periods. There is a considerable increase in the number of families who do not own palm trees, a slight increase in the number of those who own one to 20 trees, and a significant decline in the number of those who own 20 trees or more.

In accordance with Bedouin tradition, the common practice in agriculture is that land which is regarded as "belonging to" a kin group should be cultivated by the members of that particular group. Nevertheless, the need for extra labor usually arises at harvest seasons. This additional labor is often recruited from among the poorer lineages who do not have enough land under cultivation. Usually, the more important lineages abstain from doing any manual work involving land tilling, and they concede the rights of cultivating the land to "sharecroppers" or "partners." After the harvest, the crop yields are divided proportionately between the "landholder" and the "sharecropper."

It should be noted that in a traditional Bedouin culture, crop-sharing is not simply an economic rule which facilitates the tilling of the land under certain circumstances. Rather, it is a complicated institution which cuts across kinship and tribal boundaries and creates enduring bonds between the "owners" and the "tillers" of the land, thus providing an important factor of social solidarity beyond the boundaries of any particular kinship or tribal group.

### 3.2.3 Trade

In a traditional Bedouin culture, trade is usually a less important economic activity than livestock raising and cultivation. A common practice among nomadic and seminomadic groups is to go to trade centers in the desert to conclude their purchases. Fixed trade, however, has flourished during the Israeli occupation in the cities and in the smaller settlements along the northern coastal zone. The variety of shops in these areas reflects the increased importance of trade. Although small in size, most of the shops are general stores where all staples are sold. The transfer of consumable and durable goods and commodities from Israel to Sinai during the occupation period was the primary factor in the institution of trade as a major economic activity, especially in El Arish.

### 3.2.4 Manufacturing and Crafts

In a traditional Bedouin culture, nomads usually have no respect for manual work. A number of crafts, however, are actually practiced by both nomads and seminomads. Rugs and tent cloth, for example, are woven by women from sheep wool and are mostly used to meet private needs. In this sense, they are utility crafts rather than artwork. They can be preserved and developed, however, for commercial purposes.

The more settled groups may not object to being engaged in established industrial activities. It has been reported that during the Israeli occupation, large numbers of inhabitants, especially young men, were recruited by the Israeli authorities for manual work in construction and other activities. A significant number of Bedouins are known to be working as watchmen and drivers, and there is a growing tendency among young men to be engaged in paid jobs which are regarded as a secure source of income. There is strong evidence to indicate that the period of the Israeli occupation has introduced significant changes in the attitudes of the Bedouins toward manual work. This issue should be investigated since it affects to a large extent the availability of manpower within the area.

### 3.3 SOCIAL CONTEXT

#### 3.3.1 Political and Legal System

In traditional Bedouin cultures, the political and legal system constitutes one of the most important aspects of tribal and community life. The importance of this system lies in the fact that it encompasses the complex rules and procedures for social control in the tribal society, and cuts across the segmentary kinship structure of the Bedouins. In this kinship structure, the tribe constitutes the largest social unit. Each tribe is divided into clans which, in turn, are divided into lineages. The lineages are further divided into smaller kinship systems, ending with the family as the smallest social unit of the segmentary kinship structure.

In spite of the traditional correspondence between tribal or clan segmentation and territorial distribution, the lineages of any given clan may be found scattered all over the desert. Each clan, however, has a certain dominant lineage in which the political authority or the chieftainship is traditionally vested. Where members of different clans live in one locality, each member follows, from a political point of view, his own clan and his own tribal chief, despite his place of residence.

Chieftainship is hereditary in the same lineage, i.e., the political authority does not shift to other lineages except for very exceptional reasons, but it may shift from one family to another within the same lineage. The position of chiefs involves contradictory situations and conflicting attitudes which emerge mainly from the duality of affiliation implied by the nature of chieftainship. A chief has to act as a "leader" of his own clan and at the same time as a "representative" of the government administration. He has thus to reconcile the demands of the two sides. In general, the chiefs do their best to solve all the problems which arise in their respective clans without reference to the administrative authorities who, on their part, try to avoid interference except when the chiefs fail to reach a solution or when the situation tends to be explosive.

Judicial procedures and legal systems among traditional Bedouins follow, in general, certain rules and principles imposed by custom and defined by tradition. Law in the sense of imposed and written texts is not known except when the administrative authorities interfere in their affairs. Traditional values which regulate their lives and social relationships are kept alive in the memories of the elders and chiefs who investigate and settle disputes.

Judicial authority, in this sense, is distributed within the tribe along the same lines of bifurcation by which the tribe itself is segmented. This means that each kinship unit has its own chief who looks into the disputes of its members. Thus, the disputes which occur between two members of the same lineage are referred to the elder of that particular lineage, while disputes which arise between members of different lineages of the same clan are settled by the chief of that clan. But disputes between different tribes usually require the interference of a third party who acts as arbitrator, or they may be referred to the administration. An arbitrator need not be a tribal chief. An old wise man who is well-informed in tribal traditions and customary law or a religious functionary may be called upon to serve as mediator or arbitrator. Such persons do not interfere unless they are asked to do so; and once they are approached they cannot decline the assignment.

In the more settled Bedouin communities, the introduction of modern law, however, has led to an obvious duality in the judicial organization and procedures. The customary tribal law and tribal arbitrators are now functioning alongside the modern courts of law. The two systems are regarded by many Bedouins as complementary, in the sense that when one system fails to reach conclusive results the other system may be tried. This does not mean, however, that a dispute should be processed through a rigid order of procedures, passing from one procedure to another which is higher or superior. Litigants can bring their cases before the judicial body which they consider more suitable to give a definite and acceptable judgement.

### 3.3.2 Educational System

In the traditional Bedouin culture, informal education which is transmitted from the elders to children is much more important than formal education. In the informal educational system, emphasis is on oral literature, law, traditions, and entertainment; learning is through example provided by the elders and imitated by the children. However, formal education is spreading among the settled and semisettled Bedouin groups; schools are found in all large settlements. Before 1967, Sinai had the following schools:

- 55 primary schools
- 9 preparatory schools
- 4 secondary schools
- 1 technical commercial school

- 1 technical industrial school
- 1 teachers' training institute for females
- 1 teachers' training institute for males.

After the Israeli withdrawal, the Ministry of Education estimated that the following educational personnel were needed to operate the public school system in Sinai:

- Primary education:           325 teachers  
  41 schoolmasters  
  21 deputy schoolmasters
- Preparatory education:   124 teachers  
  8 schoolmasters  
  6 deputy schoolmasters
- Secondary education:      100 teachers  
  3 schoolmasters  
  3 deputy schoolmasters.

The cost of equipment and furniture for the schools was estimated to be LE 1,676,000.

The Ministry of Education also drew up a long-term plan for the development of the public school system in the area. This plan calls for:

- In Bedouin communities:
  - Establishing a co-educational primary school in each settlement. The school building can also be used for adult literacy classes in the evening.
  - Establishing one co-educational preparatory school for every 60 classes of primary education.
  - Establishing a comprehensive secondary school in Rabaa, Bir El-Abd, Sheikh Zoweid, and El Tor.
- In urban communities:
  - Integrating primary and preparatory education into one school level offering basic education compatible with societal needs.

- Continuing the existing secondary school education with emphasis on religious, military, and national subjects.
- Establishing in El Arish three technical intermediate schools (commercial, industrial, and agricultural) compatible with societal needs.
- Modifying the existing teachers' training institutes to produce the kind of teachers suitable for the educational system in the area.

It should be stated here that education can play an effective role in introducing significant social changes in Sinai, in promoting settlement of nomads, and in expanding the smaller settlements in the area. However, it is not practical to construct large school buildings in Bedouin communities since nomads and seminomads are dispersed in small groups. Primary education, for example, can be provided in a school building of one or two rooms for the children of the clans who live in the vicinity. The provision of a daily meal may be a great stimulation to increase enrollment and regular attendance.

The educational system in Bedouin communities should focus on the introduction of attitudes, values, and skills compatible with the anticipated social and economic changes in the area.

### 3.3.3 Health System

In traditional Bedouin communities, as well as in other traditional communities, health care is provided through both formal and informal health systems. Formal health care in Egypt is usually defined as all Government-regulated health service, such as Government hospitals and health units, maternal and child health clinics, private physicians, practices, and pharmacies. Informal health care includes the services of traditional practitioners in the community such as dayas, healers, barbers, bonesetters, herbalists, exorcists, and religious men. It is usually claimed that these traditional practitioners are often more responsive to their clients' perceptions and needs than are the service personnel of the formal health system, and that the use of informal health services in traditional communities is often greater than that of public health services. In the meantime, it is generally recognized that there is a need to upgrade the skills of informal health service personnel and to improve the interaction between formal and informal health systems.

The health status of a community can be readily assessed through the examination of two factors--housing conditions and the incidence of diseases.

3.3.3.1 Housing Conditions. In Sinai communities, dwellings are either permanent or mobile. Permanent dwellings can be stone (limestone), red-brick, or mud-brick houses or rudimentary shacks. The tent is the only mobile dwelling in the desert, but stationary tents are occupied by semisettled groups with relatively stable jobs. The type of dwelling and the dominance of one type or another is an index of settled or sedentary life in that area. Thus, one can expect to find mobile tents where pastoral nomadism has primacy, and permanent dwellings where people depend on agriculture, trade, business, and other sedentary occupations.

The report of the Al-Azhar University Medical School mission, which visited north Sinai in June 1980, indicates that--apart from El Arish--the majority of the permanent dwellings in the smaller settled communities are in the form of shacks which are poorly ventilated, dirty, and without latrines, running water, or adequate hygienic and sanitary facilities.

3.3.3.2 Public Health. The Al-Azhar report also indicates the inadequate public health situation as revealed by medical examinations of random population samples from some settled communities. These survey results are summarized in Table 3-7.

TABLE 3-7

Al-Azhar University Medical School  
Random Public Health Survey

	<u>Total Examined</u>	<u>Number Found Sick</u>	<u>Percent Found Sick</u>
El Arish	3,977	1,624	40.8
Bir El-Abd	522	171	32.8
Rabaa	224	132	58.9
Negila	244	121	49.6
El Kherba	356	163	45.8
El Hosna	95	39	41.1
El Gafgafa	432	121	28.0
Total	5,850	2,371	40.5

One can expect the public health situation among the nomadic and semi-nomadic populations to be much worse than among the settled populations.

Accordingly, the public health situation in south Sinai is much worse than in north Sinai.

Poor public health conditions are due mainly to lack of adequate health, medical, and hospitalization facilities. There is no evidence of localized or epidemic diseases in Sinai, and most illnesses could be dealt with successfully if general health facilities were favorable and if medicines could be easily obtained. The few health facilities are found only in the cities and large settlements, and generally they are understaffed and inadequately equipped. Hardly any effort is made by the local medical authorities to provide instructions on hygiene, to teach hygienic habits with regard to better housing and better ventilation, or to encourage the people to bore holes for latrines, etc. There is ample evidence to indicate that a major category of diseases in Sinai is caused by lack of cleanliness, lack of sanitary facilities, and lack of proper hygienic habits with regard to housing, food, drinking, and habitation.

The Ministry of Health has an urgent plan to provide emergency health facilities in Sinai, which calls for:

- Mobile health units for north and south Sinai.
- An additional health clinic for north Sinai.
- Emergency ambulances.
- A mechanical repair unit.
- Ample supplies of medicines, vaccines, and disinfectants.
- Remodeling of existing health units.
- Funds for salaries and incentives to health service personnel.

The estimated budget needed to initiate this plan is LE 3.5 million. Further plans for development and improvement of health facilities in Sinai will be formulated by the Ministry of Health in collaboration with the Sinai local administration authorities.

It must be emphasized here that upgrading and expansion of the health delivery system in Sinai deserves the utmost attention throughout the entire process of Sinai developmental plans. In this respect, it is important that the formal health system and its personnel recognize that in traditional communities, the informal health system has a strong influence that cannot be ignored or

underestimated. In these communities, the upgrading and use of the informal health system should be one of the main responsibilities of the formal health system.

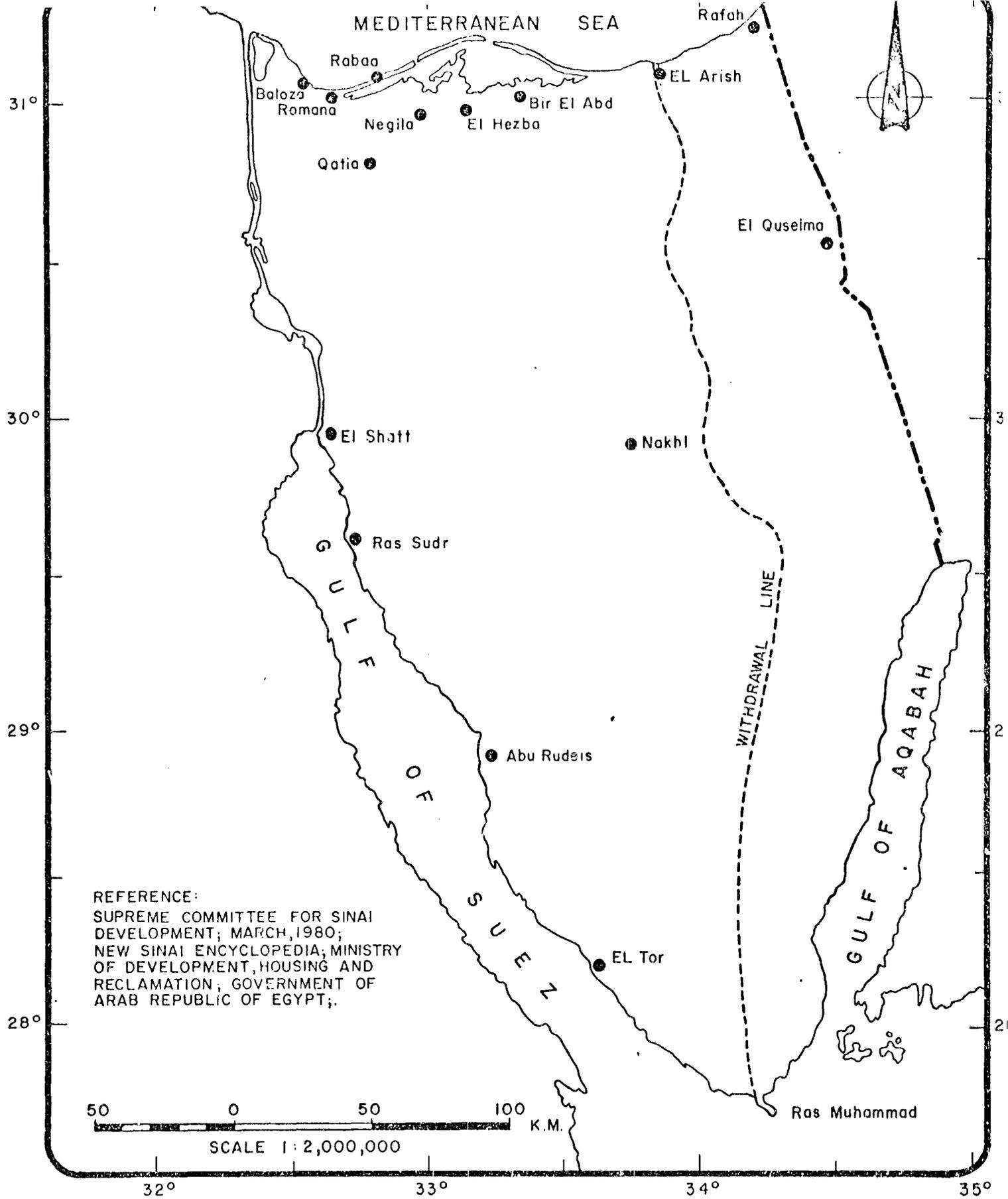
#### 3.3.4 Social Welfare System

In traditional Bedouin societies, as well as in other societies where poverty and minimum subsistence prevail, social welfare delivery systems assume a major responsibility in supporting and improving the quality of life. In Egypt, the Ministry of Social Affairs has an elaborate network for the delivery of social welfare services. In Sinai, the social welfare delivery system, as shown on Figure 3-2, includes:

- In El Qantara, an office for rehabilitation of handicapped persons and a building for the Islamic Society.
- In the north coast settlements, seven temporary social welfare units in Balaza, Romana, Rabaa, Negila, Qatia, El Kherba, and Bir El-Abd; also a vocational training center in Romana.
- In El Arish, a social welfare unit, a vocational training center, a building for the Red Crescent, a building for youth welfare, and buildings for other welfare societies.
- In Nakhl, a social welfare unit.
- In south Sinai, two social welfare units, one in Ras Sudr and another in Abu Rudeis.
- In El Shat and El Tor, two nonoperating social welfare units.

The Ministry of Social Affairs' immediate plan for social welfare in Sinai includes:

- Providing financial subsidies of LE 3 per month per person to 47,750 inhabitants, in addition to food and blankets. The budget estimated for this support is LE 1.9 million for 1 year, including some administrative costs.
- Arranging for the return of the relocated Sinai inhabitants. Transport costs are estimated at LE 92,200. The financial subsidies which they have been receiving would continue after their resettlement.



Sinai Development Study Phase I  
 Ministry of Development

Dames & Moore

DISTRIBUTION OF SOCIAL WELFARE  
 DELIVERY SYSTEM IN SINAI

FIGURE 3-2

- Initiating and developing social welfare programs by remodeling the existing social welfare units and activating their services. The estimated budget for this activity is LE 312,000.
- Providing compensation payments to Sinai inhabitants for losses and damages during the occupation period, with an estimated budget of LE 7.2 million.

The Ministry of Social Affairs also has a long-range plan for social welfare programs in Sinai. This plan calls for establishing:

- A rural social welfare unit in every agricultural settlement with 3,000 inhabitants, at an estimated cost of LE 120,000 each. Each social unit will include facilities for a nursery, a women's club, a vocational training workshop, public meetings, literacy classes, and other social programs.
- A building for a community development society in every small agricultural settlement (about 1,000 population), at an estimated cost of LE 30,000 each. This building will include facilities for a nursery, a vocational training workshop, a women's club, and other social programs.
- An urban social welfare unit in every urban community with a population of 5,000 to 10,000, at an estimated cost of LE 120,000 each. Each unit will include facilities for a nursery, a children's club, a women's club, a vocational training workshop, public meetings, literacy classes, and other social programs.
- Two mobile social welfare units, one for north Sinai and another for south Sinai, to serve the nomadic and nonnomadic populations. The estimated cost for each of these units is LE 50,000.

This long-range plan for the Ministry of Social Affairs reveals the elaborate network of the social welfare delivery system proposed for Sinai. Two important observations should be noted with regard to the proposed system:

- The social welfare delivery system and services proposed for Sinai are modeled after the network established in the Nile Delta and Valley. The extent to which this "model" is applicable to Sinai communities and inhabitants should be examined.

In social welfare delivery systems and services, the genuine participation and active involvement of community members is the key to the success of social activities and programs. It is the people who initiate, maintain, support, and develop all of the social programs. Unless these programs stem from the community and involve the people of the community, the social welfare units and their service personnel will remain isolated.

#### 4.0 SUMMARY

This paper has presented the first set of socioeconomic-demographic data for Sinai--specifically, data on population trends and the structural, economic, and social characteristics of local communities. The absence of accurate census data is the major deterrent to any present attempt to estimate population growth rates or to project future population.

As Phase I of the Sinai Development Study progresses, additional working papers will be presented on other components of Task 7. There is a close correlation between various levels of population increases and other elements of the overall study, especially water resources, agriculture, mining and industry, and infrastructure. Working papers in these areas will include much information of direct relevance to the development of population scenarios.