

Effect of Environmental and Socioeconomically Change on Agricultural Production in Sinai Region

Ahmed A. Elsayed¹, Ezz Eldeen Shakir², Mohamed A. Elsayed^{1*},
Nasem M. Nagib^{1#}, Rana E. Selmy¹

¹ Faculty of Environmental Agricultural Sciences, Suez Canal University, Egypt

² Information Center, North Sinai Governorate, Egypt

PhD Candidate, Gent University, Belgium

ABSTRACT

Environmental problems are on the increase due to increasing human requirements, especially in the field of agricultural production. In spite of the Sinai Peninsula of the most important areas for the implementation of economic development programs - agriculture where there is not any sources of industrial pollution, the source of irrigation water transferred at Peace-Salam Canal bearing the size of the agricultural pollution. Hence, the research aims to identify the potential for economic development - agricultural Sinai Peninsula as well as to focus on the problem of irrigation water pollution transmitted through the canal because the source of Peace-Salam Canal water from the end of the Damietta branch and the size of the growing pollution in addition to agricultural banks.

Keywords: Environment, Socioeconomic, Agricultural Production, Sinai Region

INTRODUCTION:

Arab Republic of Egypt is Arab state and Islamic religion, it located in the north-east of Africa, and in the extreme south-west of Asia, bounded on the north south-east coast of the Mediterranean Sea and on the east north-west coast of the Red Sea, with an area of 1.00245 million km², most of the territory in Africa.



Figure 1: Arab Republic of Egypt Map

*Corresponding author, M. A. ElSayed, Email: melsayed81@gmail.com, Tel.: +20-100-0900-716

However, the Sinai Peninsula is located in Asia. Egypt share from the west border with Libya, and to the south with the Sudan, the north-east with Israel and the Gaza Strip, and overlooking the Red Sea from the eastern side. Pass through the territory of the Suez Canal that separates the Asian part of the African section. The area of the Sinai Peninsula about 61 thousand Km², this area represents about 6% of the Arab Republic of Egypt, located north-east of Egyptian space and take a triangle shape and the length of Sinai Peninsula Coast, about 700 km approx.

The area of North Sinai, about 27 thousand km², or about 2.8% from Egypt and estimated population of 395 thousand inhabitants in 2011, living about 90% on the coastal strip on the area of 21%.

North Sinai governorate located in the northeast of Egypt between longitudes 32.34 east and latitudes 29, 31 to the north, and is bounded north Mediterranean length of 220 km, while the south extends from the southern corridor Mitla to Rass El-Nakab and east bordered with occupied Palestine and the west represents a continuum of the Mitla Pass in the south to Balaza north.

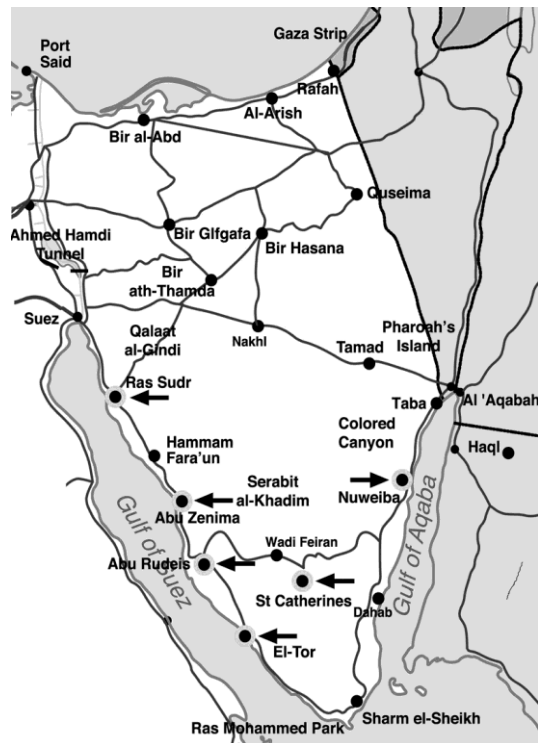


Figure 2: Sinai Peninsula Map

1. Terrain:

Geographical features are divided in North Sinai into two distinct first and coastal environments, which include the northern plains bordering the Mediterranean Sea a depth of 20 - 40 km is covered with sand dunes. The second type is a desert environment, which dominates the north-central Sinai, which is located in mostly the plateaus like El-Maghara mountain (776 m above sea level), El-Halal Mount (881 m above sea level) and Yalq Mount (1094 m) above sea level.

And permeate this group from the highlands series of valleys such as El-Arish Closed Basin, which is considered the largest valleys all runs through the North Sinai from south to north.

The El-Arish Closed Basin is a geographical features under the northern region of Sinai Peninsula, which reaches drainage area of about 20 thousand km² in the drainage system in the Mediterranean and reaches a length about of 250 km, and the valley narrow at its top, which penetrates plateau wilderness, and in the area related to the valley two side one from the West called Buraq Valley and east called Aqaba Valley.

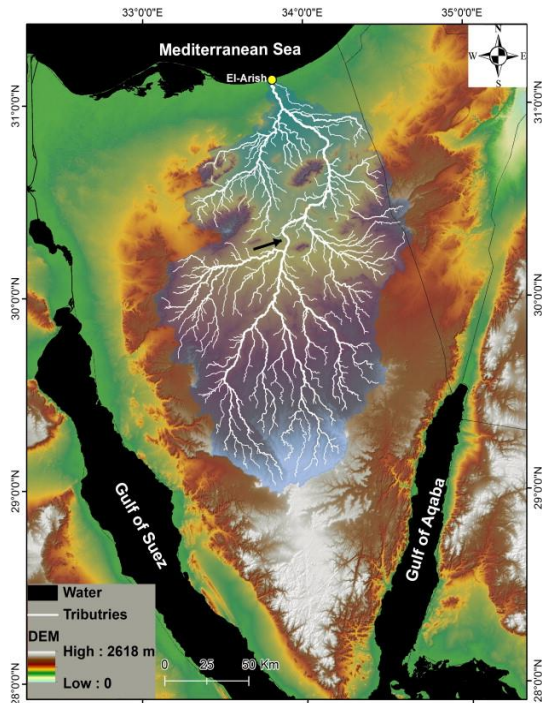


Figure 3: El-Arish Closed Basin

2. The census:

North Sinai community is divided into two main tranches urban and Bedouin.

1- Bedouin:

Extends the ethnic origins of the Sinai Bedouins to the Arab tribes in the Arabian Peninsula and judge Bedouin tribes are very strictly. Bedouin characterized by simplicity, lack of complexity as chivalry, magnanimity and generosity.

2-Urban:

Society of North Sinai Urban mostly is the mixing of some human races, there is a strain Turks who lived in the cities after the end of their Turkish administration services meaning that a multi-ethnic and El-Arish city is considered the largest centers of Population in Sinai – Table 1.

Table 1: Total area, Populated area and Population density 2012

City	2012**	Total Area Km ²	Populated Area Km ²	Density for Populated Area Inhabitants/km ²	Density for Total Area Inhabitants/km ²
El-Arish	164185	762	236.05	696	215
Rafah	72369	506	309.08	234	143
Shekh Zowaied	55039	783	356.23	155	70
Bir El-abad	78195	3857	135.6	557	20
El-Hasana	27270	10622	409.11	67	3
Nekhel	11483	11034	141.76	81	1
Total	408541	27564	1587.83	257	15

** Estimated by Information Center in North Sinai Governorate.

Source: Unpublished secondary data, CAMPAS, www.capmas.gov.eg, January 2013.

3. Climate:

North Sinai climate in the north seems Mediterranean climate and then ranging to be up to the atmosphere approaching the desert and semi-desert climate – Table 2.

Table 2: The rates of climate of El-Arish Meteorology Station

Month	Temperature Average °C	Maximum temperature °C	Microprocessor Temperature °C	Humidity %	Wind Speed Node	average brightness of the sun by hours	solar radiation Average MJ/m ²	Rainfall Mm	Evaporation Average
January	13.6	19.2	8.5	70	4.7	6.2	11.2	20.3	1.9
February	13.9	19.9	9.1	69	5.5	6	13.1	17.1	2.4
March	16	21.3	18.8	67	5.7	7.1	17.2	12	3.2
April	18.7	23.7	13.3	67	4.8	7.9	20.4	6.1	3.8
May	21.6	26.9	16.1	68	4.6	9.8	24.5	3.2	4.7
June	24.7	28.9	18.9	72	4.5	11.9	27.9	0	5.5
July	26.2	30.6	21.3	74	4.3	11.4	26.9	0	5.5
August	27	31.1	21.9	75	4	10.5	24.5	0.2	5.2
September	25.6	29.9	20.4	71	4.1	8.8	20.1	0.6	4.4
October	23.2	28.5	18	73	3.5	7.7	15.9	6	3.2
November	19.7	25.3	14.4	71	3.9	6.9	12.4	16.2	2.5
December	15.5	21.4	10.2	66	4.6	6.4	10.7	22.2	2.2

Source: Unpublished secondary data, <http://www.clac.edu.eg>, Information Center at North Sinai Governorate, March 2013.

High temperatures in summer and the warmth of winter blowing the wind either north or northwest in the summer and autumn and either Western south in the winter, The temperatures range where between 10 degrees winter to 24 in summer.

4. Land and water resources:

1- Land resources:

It is recognized that agriculture is the basis of the stability of societies therefore increase the agricultural area of the necessities due, the following table that the total area of the governorate about 6560 thousand feddan, and agricultural development based on water sources available (wells - rain - Seoul). North Sinai has cultivated about 140 thousand feddan from total area. It is expected that the amount borne by El-Salam Canal 4.45 billion m³ per year, and the share of the governorate which 2.3 billion m³ enough to cultivate about 500 thousand feddan modern irrigation systems where needs 10 - 15 m³/day for feddan – Table 3..

Table 3: Cultivated & Fallow Areas in North Sinai Governorate 2012

Statement	El-Arish	Rafah	Shekh Zowaied	Bir El- abed	El-Hasana	Nekhhel	Total
Total Area (Feddan)	181356	120428	186354	917966	2528036	2626092	6560232
Invalid Agric. Fallow Area (Feddan)	24334	14987	13324	595431	1242949	1721335	3612360
Agric. Fallow Area (Feddan)	120000	40000	96000	303179	1199105	880000	2638284
Seasonal fallow Area (Feddan)	12704	8960	46522	2633	79769	24060	169382
Cultivated Area (Feddan)	24318	56481	39508	21989	6213	697	140206
Crop Area (Feddan)	26661	58539	32206	23994	6213	697	148310
Villages No.	4	11	14	23	20	10	82
Agricultural units No.	8	11	6	22	9	5	61
Agricultural associations No.	11	21	15	11	7	1	66

Source: Unpublished secondary data, Information Center at North Sinai Governorate, March 2013.

2- Water resources:

Irrigation sources of North Sinai can provide almost 2,639,000 million feddan agriculture – Table 4. (Note: total area of North Sinai 6.6 million feddan).

We can be divided agricultural areas as follows:

(1) Coastal strip:

Stretching from the east of Suez Canal even Rafah display of 20/30 km in the south rainfall increases from west to east at 60 mm in Bir El-

Abed 100 mm up to 300 mm in Rafah and can be divided into three sections:

A - Bir al-Abed area:

Stretching from the east of Suez Canal to west of El Arish and is characterized by soft sand dunes and source of irrigation approximately 689 surface wells, in this region planting palm trees, vegetables, fruit.

B - El-Arish Closed Basin:

Featuring soil as a product of deposits loam caused by floods in El-Arish Closed Basin, this region has a large number of wells depths between 20 - 80 m and this region planting olives, vegetables, fruit and palm trees.

C - East of El Arish area:

Extends to the international border it is the most important agricultural areas closely at High Rainfall, soil fertility and range from deep wells between 15 - 100 meters, in this region planting rain crops (peach – almond - figs - grapes) and the cultivation of irrigated water from wells (citrus fruits - olive - apples – vegetables).

Table 4: Irrigation Sources in North Sinai Governorate

Source	Capacity
Rain Fall	140 Million m ³ / year
Trenches and Mawasi	33000 m ³ / month
Groundwater	459990 m ³ / day

Source: Unpublished secondary data, Information Center at North Sinai Governorate, January 2013.

(2) Central Sinai:

In this region, the future balance of agricultural development is in the case of the availability of irrigation water, and the cultivated area about 58.8 thousand feddan and includes:

A - Al Arish Closed Basin:

About 22 thousand km² and that the process of the runoff basin – Table 5 and the different regions of North Sinai in large quantities led to take advantage of this water from:

- a. **El-Rawafaa bridging:** it capacity about 5.3 million m³ of flood water to irrigate about 400 feddan.
- b. **El-Karm Dam:** it has been created to store 1.5 million m³ of flood water to irrigate 1060 feddan.

- c. Talaat El-Badan Dam:** it can be farmed 400 feddan on it.
- d. Jeravy Valley:** built 3 dams Tuiqih (with capacity of up to 0.86 million m³) - 3 dams earthen (with capacity of 0.44 million m³) - 15 tank satisfied (with a capacity of 630 m³) tank per order cultivation of 2450 feddan.
- e. Aljdiratt project:** finished in 2004, to increase the acreage to 850 feddan instead of 600 feddan and cultivated about 400 feddan olive.
- f. Ein Kedess project:** finished in 2007, the project includes establishment of Ground tank capacity of 190 m³ - 3 tank capacity of 50 m³.

Table 5: Dams established in North Sinai Governorate

Dams	Energy storage	Space to be cultivated
El- Rawafaa Dam	5.3 million m ³	400 Feddan
El- Karm Dam	1.5 million m ³	1060 Feddan
Talaat El-Badan Dam	0.5 million m ³ transformative	400 seasonal
El-Arak Dam	0.225	T uiqih
Abo Alidia Dam	0.175	T uiqih
El-Magrah Dam	0.46	T uiqih
15 Ground tank at Jeravy Valley	630 m ³ for tank	2450 Feddan
3 Earthen Dams at Jeravy Valley	0.44 million m ³	T uiqih

Source: Unpublished secondary data, Information Center at North Sinai Governorate, January 2013.

B – El-Maghara Valley:

Where there are a range of tributary valleys with fertile soil and amount of rainfall about 100 mm per year falling on the mountains and descend in the direction of the valleys are El- Karm – El-Maghara – El-Khareq available ground water.

Table 6: Future water resources in plan (93/ 97 – 2003/2017)

Irrigation resource	Proposed area reclaimed (thousands of Feddans)	Quantity per year
Future Water (El-Salam Canal)	275	2.3 milliard m ³
Local water & shallow groundwater	7	80 million m ³
Seoul water	20	90 million m ³

Source: Unpublished secondary data, Information Center at North Sinai Governorate, January 2013.

5. Axes of development in North Sinai:

North Sinai Governorate has strong economic activities like agriculture, fishing, industry and mineral wealth, and tourism. The paper can display them as the following:

1- Agriculture:

North Sinai depends on agricultural development, farmers has been the Citizens farming about 300 thousand feddan self-help, including (197) thousand feddan on the water sources is stable and the rest mainly depends on the rains and floods.

Due to the scarcity of water, especially in central Sinai is locals harvesting rainwater and floods using obstructionist and storage dams simple, Herabat.

It is located in North Sinai governorate Sheikh Gaber Canal length of 86.5 km to cultivate (190) thousand feddan and connected to El-Ser & El-Kwarer in Sinai Central (85) thousand feddan.

And livestock depend to maintain sheep and goats with a total of almost 96 thousand heads.

The table (7) shows crop structure of North Sinai Governorate, crop planted area about 148 thousand acres, and occupied the crop area for orchards highest area about 107 thousand feddan, followed by vegetable area amounted to about 20 thousand feddan, and then palm trees about 10 thousand feddan, then come after them crops and rainfed watermelon and medicinal and aromatic plants about 4902, 4327, 194 feddan, respectively.

The table (8) shows horticultural crops during 2012 as occupied peach crop ranked first in terms of horticultural crops cultivated area amounted to about 35.7 thousand acres, followed by the olive crop area amounted to about 30.6 thousand feddan, followed by citrus area amounted to about 9 thousand feddan, and then comes almonds, apples, figs, grapes, an area of approximately 2940, 714, 558, and 365 feddan, respectively.

It is clear from Table (9) the evolution of bee hives production in North Sinai where the number of hives in 2012 about 1005 cells compared to 697 cells in 2010. While the highest production of honey cells in 2011 was about 4663 kg.

Table 7: Crop structure in North Sinai Governorate 2012

City	Area by feddan		Vegetables Area by feddan				Crops Area by feddan				Medicinal			Total
	horticultural crops	Palm trees	Winter	Summer	Nelly	Total	Wheat	Barley	Lentil	Total crops	Other crops	aromatic plants	Watermelon	
El-Arish	17303	3029	1751	2571	117	4439	28	1646	0	1674	23	0	193	26661
Rafah	49655	234	2822	2608	1334	6764	41	1668	0	1709	75	102	0	58539
El-Shekh Zoied	25264	1150	2148	2075	69	4292	140	1188	10	1338	70	92	0	32206
Bir	12548	5725	2262	2096	522	4880	42	139	0	181	505	0	155	23994
El-Abed														
El-Hasana	2297	5	0	0	0	0	0	0	0	0	0	0	3911	6213
Nekhel	602	2	0	4	0	4	0	0	0	0	21	0	68	697
Total	107669	10145	8983	9354	2042	20379	251	4641	10	4902	694	194	4327	148310

Source: Unpublished secondary data, Information Center at North Sinai Governorate, March 2013.

Table 8 : horticultural crops in North Sinai Governorate 2012

City	Horticultural Area by feddan														Total
	Peaches	Almonds	Olives	Grapes	Apples	Pear	Guava	Citrus	Figs	Pomegranate	Mangos	Pistachio	Plum	Apricot	
El-Arish	445	392	7670	50	195	66	46	443	149	6	1	0	0	0	9463
Rafah	8218	345	4930	140	274	0	7	1158	73	0	14	0	0	0	15159
El-Shekh Zoied	27097	2010	6296	32	241	0	12	7367	3	0	32	10	2	0	43102
Bir	12	1	9818	21	1	42	143	303	255	223	286	0	0	0	11105
El-Albed	18	169	1390	105	2	0	0	0	72	10	0	6	0	0	1772
El-Hasana	2	23	547	17	1	1	0	0	6	1	0	0	0	4	602
Nekhel	35792	2940	30651	365	714	109	208	9271	558	240	333	16	2	4	81203
total	2.3	2.4	2.3	2.3	6.6	4.6	4.4	6.6	2.2	3.1	4	0	2.2	2.1	
Production Average ton															

Source: Unpublished secondary data, Information Center at North Sinai Governorate, March 2013.

Table 9: The evolution of bee hives production in North Sinai Governorate

City	2009/2010			2010/2011			2011/2012		
	Hives No.	Production Average Kg	Production Quantity K	Hives No.	Production Average Kg	Production Quantity K	Hives No.	Production Average Kg	Production Quantity K
El-Arish	174	4.6	800	215	4	860	239	2.65	633.5
El-shekh Zoied	85	3	255	160	3	480	169	3	507
Rafah	395	6	2370	398	8	3184	518	5	2590
Bir El-Abed	43	2	86	65	2.13	139	79	2.75	218
Romana	0	0	0	0	0	0	0	0	0
Total	697	5	3511	838	5.50	4663	1005	3.15	3948.5

Source: Unpublished secondary data, Information Center at North Sinai Governorate, January 2013.

2- Fishing:

Restricted fishing areas in North Sinai on the shores the Mediterranean Sea for more than 200 km and Lake Bardawil and we review the following fishing areas in the governorate are as follows:

(1) Mediterranean:

Extends the shores on the Mediterranean Sea for more than 200 km and resides commercial El-Arish port and equipped to receive fishing boats also.

Maritime El Arish Port:

- a. El-Arish port is located east of the village of Abu Saqal Village refine just 500 meters from the main road Rafah / El-Arish.
- b. Ended the first phase of the project on April 25 1984 where he began to fish activity.
- c. Maritime El-Arish Port area of 40 feddan a depth of 8-9 meters.
- d. It has been converted into a commercial port on 8/1996 decision of the the Republic President No. 221 of 96 as the commercial port of El-Arish port for the export of raw materials Sinai (coal - sand - salt - cement, etc.).
- e. Commercial port has been prepared in all respects and port specifications are:
 - (A) quay length of 242 over the trade and draft up to 7.5 - 8 to 10 thousand tons of cargo.
 - (B) Quay length of 122 meters up to 3 m draft.
 - (C) The 30-meter high lighthouse guiding ships to over 18 nautical miles to the sea.
 - (D) Signs of entering the port septal height of 10 meters.
 - (E) The signs match for the entry of ships at night.

- (F) Buoys to port access corridor, which has a length of 2 nautical miles 100 m wide and 10 m draft.
- (G) Mooring bollards and guidance.
- (H) Water Station meteorologist Joe freely.
- (I) Equipped with storage space about 27 thousand m².
- (J) The port can receive up to 120 tourist yacht.
- (K) A refrigerator to serve fishermen in the port.
- (L) The area was annexed a length of 2 km to the east and the depth ranges from 90-100 meters allocation of North Sinai Governorate for future development for the port and increase payloads up to 30 tons

The table (10) shows what is being exported through the port of El-Arish sea, as seen from the table high export sands glass, followed by salt with an estimated number of vessels exported 1707 and 1374, respectively ship.

Table 10: Exports from El Arish Port Marine from 1996 to 2012

No.	Load type	Ships No.	Wight (ton)
1	Salt	1374	5137306
2	Coal	42	378359
3	Glass Sands	1707	7251202
4	Sands	37	127894
5	Cement	325	1162768
6	Clinker	98	350262
7	White Cement	378	1352307
8	Alkaulina	5	13764
9	Quartz (Marble)	3	7851
10	Gypsum	4	8335
11	Rice	0	105
12	Olive T flh	1	3944
13	Petroleum Equipment	40	4765
14	Feldspar	8	19390
15	Gravel	2	9100
16	Others	5	293
Total		4029	15827645

Source: Unpublished secondary data, Information Center at North Sinai Governorate, February 2013.

(2) Bardawil Lake:

Bardawil lake low coastal shallow high salinity an area about of 165 thousand feddan (about 700 km²), located in North Sinai and confined between the longitudes 32.40 to 33.30 north and between latitudes 31.03 to 31.14 east, and the lake adjacent to the Mediterranean coast, and the length of the lake 95 km and display the range of 18-22 km,

and relate to the Sea through three openings called Alboaquez, and the average depth of the lake 135 cm.

The average annual production about of 3,500 tons and is famous lake produced fish luxury (bream - bass - Alborah - shrimp), and considers the purest lakes in Egypt, where it relates the lake Mediterranean Sea directly through the three boaquez are the main arteries of the fed water and fry. The number of boats 1229 boat at the lake and the number of fishermen about 5,000.

In the framework of state policy for development of fisheries as the main source of protein sources, the state develops the lake to raise the efficiency of production.

The table (11) shows the evolution of fish production from the sea and the lake during several years it was found lower production Bardawil lake during 2012 than in previous years, and similarly low production of the sea in 2012 for the year 2008 and this is due to the neglect of cleansing boaquez and the inability of fry to enter the lake.

Table 11: Evolution of Fish Production from the sea and Bardawil Lake

Year	2005	2006	2007	2008	2009	2010	2011	2012
Bardawil Production (ton)	3534	4142	4729	5393	5410	4733	4529	3845
Sea Production (ton)	1069	4838	2338	3596	1526	750	1296	2334
Export and luxurious	-	-	-	-	659	503	443	474
Domestic consumption	4603	8980	7067	8989	6277	4980	5382	5705
Total								

Source: Unpublished secondary data, Information Center at North Sinai Governorate, February 2013.

3- Industry and Mineral Wealth:

North Sinai had several mineral wealth (13) Type of mineral reserves are large and economic exploitation are as follows: marble, ornamental stones - limestone - girl - gypsum - yellow sand - marl - sulfur - coal - dolomite - soil Zlatih - sand white - black sand - sodium chloride (salt).

This is exploitation of these materials through (113) quarry in addition to a number (6) Navigation produce an annual crude salt is about 1.3 million tons and is available to maintain 3 industrial zones characterized by their respective advantages relative from the other (area of heavy industry in central Sinai - medium industries area in Bir El Abd - CRAFT area in El-Masaeed in El-Arish).

It is clear from Table (12) Total number of establishments in the governorate where occupies projects food and tobacco projects ranked first in terms of number of projects which amounted to about 25

projects, followed by Engineering industries projects and electronic ranged from about 11 project.

Table 12: Total number of industrial establishments at the governorate

Statement	Projects No.	Production Value	Investment Costs	Value: Thousand pounds	
				Labor No.	Wages
Coal mining	1	16840	394512	843	8372
Food and tobacco projects	25	259586	194085	1472	9562
Wood and its products and Upholstery	10	598	233	30	52
paper products, printing and publishing	4	30157	11586	74	642
Basic chemicals and products	7	26664	37251	98	1977
Building materials, ceramics, Chinese and Refractories	8	1473175	1849357	537	15466
Engineering Industries and electronic	11	7105	2628	50	353
Production and distribution of electricity, lighting and power	1	18000	710530	240	4157
Mining and Quarries	2	20880	9420	26	629
Total	69	1853005	3209602	3370	41210

Source: Unpublished secondary data, Information Center at North Sinai Governorate, March 2013.

4- Tourism:

Overlooking North Sinai on the Mediterranean Sea from Port Fouad west to Rafah in the east, where Palm Beach outstanding and flat areas which reaches a depth to 20 km in the north and the mountains and valleys in the south, to the varied types of tourism in the region to include: beach tourism - pensioners tourism - conference tourism - therapeutic tourism – historical tourism - religious tourism - ecotourism - desert tourism - oases tourism - yacht tourism and water sports - transit tourism.

And small enterprises and micro-target a series centers integrated services along roads in North Sinai - the establishment of projects in support of the Tourist Transport Land.

The table (13) shows the evolution of tourists number and tourist nights in North Sinai, where show lower numbers of tourists compared to 2004 where the number of tourists in 2012 about 37 thousand tourists compared to 62 thousand tourists in 2004 due to the conditions experienced by the country during this phase.

Table 13: Evolution of tourists numbers and tourist nights at the governorate

Year	Total of Tourists Number	Total of Tourist Nights	Average of Tourist Accommodation
2004	62685	228845	3.6
2005	60198	199364	3.31
2006	55627	229672	3.31
2007	49828	238254	4.78
2008	66710	186301	2.8
2009	42501	146523	3.4
2010	38639	163208	4.2
2011	20061	131212	6.5
2012	37890	182120	4.8

Source: Unpublished secondary data, Information Center at North Sinai Governorate, March 2013.

6. Development obstacles in the North Sinai Governorate:

Showing through the characterization of resources, there are some obstacles that hinder development in North Sinai in several areas, including:

- 1- Instability that prevailed in the region and the growing terrorist operations on the regional and international level.
- 2- As investors and the private sector to contribute the targets of the national project was not at the level of the desired orientation.
- 3- Addition of Sinai to the territory of Suez Canal led to insufficient credits that include the Sinai, and the lack of homogeneity within the region in the aspects (social - economic - tourist) with the nature of development in Sinai.
- 4- The displacement of residents of central Sinai to the path of El-salam Canal in north coast and neighboring governorates due to the drought situation faced by the region, which stimulates the importance of the arrival the El-Salam Canal to the downtown area Sinai(El-ser & El-Kawarer).
- 5- The security situation and the spread of agriculture land to squatters and the emergence of many issues of fraud, murder and weak security presence and lack of rule of law to protect the property of the new settlers exposes them to many of extortion and migration back to their places of old after the loss of their fortunes of the tribal system and the belief that all the land of Sinai king tribes and subjected investors to extortion and participation in their projects emergence of tribal conflicts from time to time lead to instability.
- 6- The spread of cultivation narcotic substances and dream of get-rich-quick. In addition, the mutual trust loss between the police and private citizens.

- 7- Water scarcity, as well as increasing the salinity of the water and the distance from the ground level, in addition to the cost of drilling and licensing wells When drilling the well must kilometers down the level of water a distance of not less than twenty meters, until no dry water after the completion of drilling and access to water, is taken a license to this Well in order to extend the electricity needed, which is renewed every three years.
- 8- Sinai owns stockpile of groundwater Among Jerafa Valley which is the largest in the Middle East, but the lack of maps hydrological wasted Egypt's share of it while Israel is cultivating the El-Nakab based on its waters for barley and wheat, while the adjacent land barren, despite its presence above the tank tremendous of potable water for agriculture.
- 9- Projects have been implemented part of it has not yet completed (Sheikh Gaber Canal - development maritime El-Arish port - complex natural gas and plugged Delivery - complex chemical project).

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تأثير التغيرات الاقتصادية والاجتماعية والبيئية علي الإنتاج الزراعي في منطقة سيناء

أحمد أحمد السيد^١ عز الدين شاكر^٢ محمد أحمد السيد^١

نسيم محمد نجيب^{١*} رنا عيد سلمي^١

١ كلية العلوم الزراعية البيئية - جامعة قناة السويس - مصر

٢ مركز المعلومات - محافظة شمال سيناء - مصر

* طالب دكتوراه، جامعة جنت، بلجيكا

تعتبر المشاكل البيئية في زيادة مستمرة نظراً لزيادة المتطلبات البشرية خاصة في مجال الإنتاج الزراعي. وعلي الرغم من شبة جزيرة سيناء من أهم المناطق لتنفيذ برامج التنمية الاقتصادية - الزراعية حيث لا يوجد بها أي مصادر للتلوث الصناعي، فإن مصدر المياه الإروائية المنقولة بترعة السلام تحمل حجم تلوث زراعي. ومن ثم، فإن البحث يهدف إلي التعرف علي إمكانات التنمية الاقتصادية - الزراعية بشبة جزيرة سيناء بالإضافة إلي التركيز

علي مشكلة تلوث المياه الإروائية المنقولة من خلال ترعة السلام لأن مصدر مياه ترعة السلام من نهاية فرع دمياط وحجم التلوث تزايد إلي جانب المصارف الزراعية.

الكلمات المفتاحية: البيئة، الاقتصاد الاجتماعي، الإنتاج الزراعي، منطقة سيناء.

