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SOUTH SINAI ENVIRONMENTAL ACTION PLAN

MINISTRY OF STATE FOR ENVIRONMENTAL AFFAIRS



Egyptian Environmental Affairs Agency
SEAM Programme
Entec UK Ltd, ERM
UK Department for International Development



SOUTH SINAI GOVERNORATE

MINISTRY OF STATE FOR ENVIRONMENTAL AFFAIRS



Egyptian Environmental Affairs Agency
SEAM Programme



SOUTH SINAI GOVERNORATE

**Message from His Excellency, the Minister of State for Environmental Affairs**

South Sinai Governorate has a unique environment with coral reefs of a national and international importance, high altitude desert ecosystems, varied and unique coastal habitats, important religious and cultural sites and other scenic landforms and natural attractions.

Such environmental treasures are also a lure for domestic and international visitors. Tourism to South Sinai has grown rapidly in the past 20 years transforming the Governorate into one of Egypt's leading international holiday destinations.

With such growth inevitably come development pressures on the environment. The Government of Egypt has met this challenge with the declaration of five Protected Areas covering the equivalent of 40% of the land area of South Sinai including 1,651 km² of the entire Gulf of Aqaba coastline up to the high water mark. Strict environmental controls on development have been imposed and we continue to work actively with the private sector to minimize development impacts and to ensure their investments are sustainable.

In line with the Government's new policy on decentralisation and participation I am very pleased that the Governorate Environmental Action Plan (GEAP) for South Sinai has been prepared on a participatory basis, building consensus on priority issues and actions among a wide cross section of organizations and people who live and work in the Governorate as well as tourists visiting the area. This Action Plan is also an important mechanism for decentralizing environmental planning and management to the local level.

On behalf of the Egyptian Government and its people I would like to thank the UK Department for International Development for its support through the SEAM Programme to developing this GEAP. I would also like to thank the European Commission for its encouragement for this Action Plan, which will provide inputs to the strategic framework of their South Sinai Regional Development Programme to commence in 2005.

I would like to extend my special thanks to General Mostafa Afifi, Governor of South Sinai for his advice and active support for this Action Plan. My thanks also go to the staff of the Governorate, various Ministries and Government organizations who participated and to all those in the private sector and community who contributed their valuable time and expertise to the development of the GEAP.

Finally, I look forward to working in partnership with the Governorate to implement this Action Plan, which will contribute to our national vision of sustainable development in Egypt.

Eng. Maged George Elias
Minister of State for Environmental Affairs



previous south sinai governors

Farid Ezzat Wahba
29/11/1978 - 14/5/1980



Fouad Aziz Ghali
15/5/1980 - 15/3/1983



Magdi Ahmed Soliman
16/3/1983 - 12/7/1986



previous south sinai governors



Mohamed Nour El Din Afifi
13/7/1986 - 19/8/1991

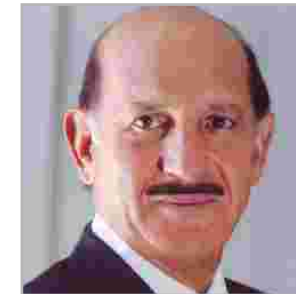


Abdel Moneim Mohamed said
20/8/1991 - 28/11/1993



Mamdouh El Zohairy
29/11/1993 - 8/7/1997

Foreword



Message from His Excellency, the Governor of South Sinai

The South Sinai Governorate has seen dramatic development and economic growth over the past 15 years. It has gained international reputation as a world class tourist destination built on its outstanding natural environment, coral reefs, cultural heritage and high quality tourist establishments. Protection of the environment has been of paramount concern with five Protected Areas, covering 40% of South Sinai, having been declared since 1983. The St Katherine Area was declared a World Heritage site in 2002.

Accomplishments and successes have been achieved under the leadership of President Hosni Mubarak and the efforts, coordination and cooperation of the Governorate, Government Ministries, Agencies, private sector and the community. The Governorate's development policies and plans to 2017 are founded on the principles of sustainable development, environmental protection, new job creation, gender sensitivity and improving the quality of life for Bedouins and all who live and work in the Governorate.

Efforts to protect the environment have gained international recognition for Sharm El Sheikh including the UNESCO 2000/2001 "City of Peace" Award in appreciation of its adherence to environment preservation, in the face of rapid tourism growth and the 2003 Golden Apple Award from the World Federation of Journalists and Travel Writers acknowledging its major tourist, environment and peace achievements.

Despite the tremendous progress to date and international recognition, many challenges still lie ahead. Tourism is expected to increase fourfold to around 7 million annual tourist arrivals by 2017. Infrastructure development will need to keep pace with demand. Pressures on the environment will be continuously tackled to maintain the ecological integrity of the area.

It therefore gives me great pleasure to release the Governorate Environmental Action Plan, which sets out our vision and the actions to be taken to reach that vision. I would like to thank the many organizations, community groups and individuals who have contributed to its development. The Governorate is committed to work in partnership with Government organisations, private sector and the community to achieve the goals and actions set out in this plan.

General Mostafa Affifi
Governor of South Sinai



GLOSSARY AND LIST OF ACRONYMS

CDA	Community Development Association
CSO	Civil Society Organisation
DFID	Department for International Development
DNP	Department of Natural Protectorates
EEAA	Egyptian Environmental Affairs Agency
EIA	Environmental Impact Assessment
EMU	Environmental Management Unit
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GEAP	Governorate Environmental Action Plan
GIS	Geographic Information System
GOPP	General Organisation for Physical Planning
km	Kilometre
LE	Egyptian pound
MOWRI	Ministry of Water Resources and Irrigation
m ²	Squared metre
m ³	Cubic metre
m ³ /d	Cubic metre per day
NCS	Nature Conservation Sector
NGO	Non Governmental Organisation
NOPWASD	National Organisation for Potable Water and Sanitary Drainage
O&M	Operation and Maintenance
RBO	Regional Branch Office
RO	Reverse Osmosis
SEAM	Support for Environmental Assessment and Management
SSDM	South Sinai Association for Diving and Marine Activities
TDA	Tourism Development Authority
tpd	Tonnes per day
UNESCO	United Nations Educational, Scientific and Cultural Organisation
SCA	Supreme Council for Antiquities
FGD	Focus Group Discussion

ACKNOWLEDGEMENTS



There have been many contributors to this document.

The Egyptian Environmental Affairs Agency (with support from SEAM) as compilers and facilitators of this initial Governorate Environmental Action Plan (GEAP), wish to thank all those who have generously contributed time, ideas, support, administrative skills and written inputs.

Particular thanks are due to His Excellency the Governor and the many staff of the Governorate, whose commitment to environmental protection and active participation throughout the entire GEAP process will ensure its successful implementation.

Special thanks are also due to the management and staff of the Nature Conservation Section of the Egyptian Environmental Affairs Agency who have shown keen interest in the development of the GEAP and have provided invaluable information. The Tourism Development Authority is also acknowledged for their support, advice and many constructive comments on tourism development issues.

With special emphasis, we acknowledge the contributions made by all the Stakeholder Groups, the community, Bedouins and tourists who were consulted within the Governorate. This document responds to the ideas and concerns voiced during the many consultations that were held during the course of the GEAP process and in compiling this Plan.

Special thanks also to the European Commission for their support for the development of this Plan, which will provide inputs to the strategic framework of the EC supported South Sinai Regional Development Programme.

SEAM Programme
Egyptian Environmental Affairs Agency

30 Misr Helwan Agriculture Road, Maadi, Cairo
Tel: (+202) 525 9648, Fax: (+202) 524 6162
www.seamegypt.org



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Location	- Peninsula East of mainland Egypt. - Capital city is Tur Sinai, located 410 km from Cairo. Sharm El Sheikh is the largest city.
Area and Settlements	- Total area is 28,438 km² (2.7% of Egypt's total) of which 10,421 km² is Protected Areas. - There are 8 Markazes, 8 cities, 12 mother villages, 79 small villages. - Mount Katherine is Egypt's highest point at 2,642m.
Population	- Total population in the 1996 census was 54,826. Current estimate is 111,000 (0.16% of Egypt's total). - There are 12 Bedouin tribes with an estimated population of 22,000.
Climate	- Along the Gulf of Aqaba temperatures range 16-28°C in winter and 28-38°C in summer. - Inland at St Katherine temperature varies from a mean maximum of 36°C in August to a mean minimum of -7°C in February. - Water temperature ranges from 28°C in the summer to 20°C in the winter - Annual rainfall averages 50 mm at St Katherine and 13 mm along the coast.
Economic Base	- GDP per capita is LE11,557, the highest in Egypt (UNDP 2001). - Tourism is the dominant sector accounting for over 50% of employment. - Oil and gas reserves are exploited in the Gulf of Suez. The Wadi Feiran oil refinery processes 8,500 barrels / day, which are shipped through the Wadi Feiran oil terminal. - Mining is concentrated around Abu Zeinema, Abu Rudeis and Ras Sudr. Manganese, gypsum, albite and white sand are main minerals exploited. 2003/04 shipping - 16,100 vessels in Gulf of Suez and 2,694 in Gulf of Aqaba. - Only 54 km² is cultivated for agriculture.
Tourism Development	- The Tourism Development Authority and Governorate are the main organisations responsible for tourism development. - There are 271 hotels with 37,429 rooms. Over 45% of rooms are classified 5 star. - Another 526 hotels are under construction or planned and will add 101,346 more rooms. - Sharm El Sheikh accounts for 60% of rooms. - TDA has 9 development centres around Nuweiba-Taba and 7 around Ras Sudr and 2 in Sharm El Sheikh. - There are 280 dive boats, 69 dive sites and 157 dive centres along the Gulf of Aqaba.
Tourist Arrivals	1.7 million hotel tourists in 2003 of which 53% were West Europeans, 20% East Europeans, 6% Arabs and 21% others. - Main international airports are Sharm El Sheikh (2.07 million passengers in 2001) and Taba (10,800 in 2001). Sharm El Sheikh is being expanded to 7 million passengers. - Nuweiba is the largest port handling 1.25 million passengers annually (mostly workers and haj pilgrims). The Sharm El Sheikh port received 202 cruise ships between July 2003 and March 2004.
Protected Areas	- Covering 31% of the land area of South Sinai plus 1,651 km² of the entire Gulf of Aqaba coastline up to the high water mark. - Three coastal protectorates along Gulf of Aqaba, of Ras Mohamed (480 km²), Nabq (600 km²) and Abu Gallum (400 km²), protect extensive coral reefs, marine life, mangroves and adjoining desert habitats. - Inland Protectorates at St Katherine (4,300 km²) and Taba (3,000 km²) cover unique desert ecosystems, natural landscapes and important cultural heritage sites.
Essential Services	- Water supply - 110,260 m³/day produced from desalination (66%), groundwater (17%) and Nile water pipeline (17%). - Sanitation - 40 sewage treatment plants with a capacity of 48,732 m³ per year. - Power supply - electricity generation 181 MW, capacity 242 MW 2215 km of paved roads, 282 km unpaved.
Health and Education	- There are 12 hospitals, 222 hospital beds, 9 rural clinics, 1 family planning clinic. - Life expectancy at birth is 67.1 year. 217 schools and 1507 teachers provide education services for 14,500 students giving a staff: student ratio approximately half that of the national average.



1- GEAP as a Strategic Document

1.1 A Plan for Action

This document describes the Action Plan covering environment and development in the Governorate of South Sinai. The plan provides the foundation for actions to maintain South Sinai as a premier tourism and conservation area and to ensure that development can be sustained without major adverse effects on the natural biodiversity of the area, parts of which are recognized as world natural heritage sites. The plan reflects the views of the many primary and secondary stakeholders that have participated in its preparation. It provides a vision for the future and identifies the issues that will need to be addressed to achieve that vision. It gives direction and guidance through a set of objectives, strategic intervention areas and improvement programmes for the many organizations, agencies and individuals whose actions will determine whether the vision is reached.

The plan seeks to identify practical and affordable solutions that address the technical, economic and social effects of interventions.

The plan proposes actions in line with the National Five Year Plan for Social and Economic Development. It also addresses priorities of major national plans including the National Integrated Water Resources Plan (2004), National Environment Action Plan (2003), National Strategy for Biodiversity and Action Plan (1998) and the National Strategy for Solid Waste Management.

1.2 Why Do We Need an Action Plan?

South Sinai is the seventh largest Governorate in Egypt in land area, however it has the smallest permanent population. Over the past decade there has been significant economic growth in the tourism sector, with South Sinai now accounting for 25% of all tourist arrivals in Egypt; tourism overall accounts directly for 4.5% of national GDP and indirectly, 15% of GDP. This growth has been largely built on the natural environment and unique natural resources of the area. However without appropriate awareness, institutional strengthening, planning, controls and supporting infrastructure services, the phenomenal economic growth that has been achieved to date may not be sustainable in the longer term. The environment and development action plan, therefore aims to address the following:

- *The sustainable development of South Sinai as a premier tourism and conservation area including the efficient provision and management of infrastructure and environmental services (water, sanitation, solid waste, flood protection).*
- *planning, sustainable development, use and management of the natural resources of the Governorate.*
- *The prevention and control of development impacts on the Governorate's natural resources.*
- *The social assets of the inhabitants of the Governorate.*

Any changes will not be sustainable unless the right organisational processes, skills and cooperation are in place. This plan addresses the institutional and capacity building requirements that will be needed to take forward proposed actions.

The plan is designed to get everybody working together towards a shared future in which Government, business, education and the community have a shared responsibility.



1.3 How Was the Plan Prepared?

A Higher Committee for Environment was established by the Governorate to endorse the approach, provide guidance on preparation and to review outputs. The Action Plan was prepared on the principles of participatory planning where by extensive consultation was undertaken to capture a wide cross section of views and to ensure that the opinions of the less privileged are equally heard.

Key secondary stakeholders were identified and grouped as working groups with common interests. These groups represented:

- a) tourism;
- b) urban and regional development;
- c) water, sanitation and flood protection;
- d) protected areas;
- e) coordinated environmental management;
- f) solid waste;
- g) marine environment and coastal zone management;
- h) ports, harbours, marinas and shipping;
- i) petroleum, mining and quarrying; and
- j) agriculture, animal husbandry and fishing.

Working group / member organisations:

- a) facilitated data gathering;
- b) provided inputs to forward plans and strategies;
- c) agreed issues and actions; and
- d) developed priority projects.

Cross sector working groups were held to agree overall priorities. Central Ministries and organizations were involved to contribute to the process and gain their support for implementation. Technical specialists were engaged to facilitate the working group process, help integrate the public consultation results and prepare technical reports.

Public consultation was undertaken with a geographic cross section of Bedouins, residents, workers, CDAs and NGOs. A key component of the Action plan, the consultation ensures that

inhabitants have an opportunity to express their views with respect to development, environment and the provision of environmental services in South Sinai.

The purpose of the public consultation has been to:

- *Identify community problems and priorities;*
- *Understand different aspects of environmental problems;*
- *Represent all social groups;*
- *Understand impacts of environmental problems on livelihoods;*
- *Ensure identification of demand driven projects and actions;*
- *Indirectly raise environmental awareness.*

As South Sinai's growth is driven by tourism, tourists were surveyed to understand the reasons for selecting South Sinai as their holiday destination, the significance of natural resources in their decision and issues they enjoyed least, which will allow remedial action to be taken to ensure tourists remained satisfied and a high level of repeat tourism can be attained.





2- Vision for South Sinai

The Environmental Action Plan for South Sinai envisages that by 2017 there will be:

Major world tourist destinations with a diversity of high quality attractions that meet the needs of international and local tourists and which are developed and managed in a sustainable basis. Tourism centres would be supported by world class infrastructure and ancilliary services with tourist comfort and security being of paramount importance.

Sustained economic growth based on tourism, with upwards of 7 million tourists arriving annually and which will contribute significantly to the well being of the local population and the overall development of Egypt.

Protection of unique ecosystems the rich diversity of marine and terrestrial species and habitats, parts of which are in pristine condition, remain protected and development is managed so as not to adversely affect the ecological integrity of the area.

Integrated development and management which fosters cooperation between Government, private sector and the community and encourages the planned expansion and provision of social and environmental services without adverse impacts to the environment and individuals.

Preservation and management of cultural heritage the St Katherine's World Heritage site and all aspects of South Sinai's cultural heritage are protected and managed for the benefit of current and future generations.

Institutional sustainability and informed decision making in which organisational structures are strengthened and capacity building provided to enable all concerned to carry out their tasks effectively. Necessary information will be collected to inform the planning and decision making processes.

Increased awareness among the community and visitors to the area so that there is a broad understanding of the diverse values, natural attributes and sustainable use of the marine environment and resources.

An involved community which is informed and participates with Government and business to develop and maintain a healthy environment.



To realize the vision a number of priority action areas have been identified:

1. Sustaining tourism development
2. Protection and management of the environment
3. Developing local-municipal services
4. Social development
5. Preservation of the cultural heritage
6. Raising public awareness
7. Institutional strengthening and capacity building



3- South Sinai Development

3.1 South Sinai Development up to 2004

The economic growth of South Sinai in the last two decades has been truly remarkable. The engine of this growth has been largely private sector investments in tourism complemented by government investments in needed infrastructure and social services.

In 1982, when Egypt regained control of South Sinai, there were only 312 hotel rooms. By 2003 there were 37,429 hotel rooms and many thousands more under construction. From 1996 to 2003 the number of operating hotel rooms increased each year by an average of over 25%, indicating a doubling of room capacity in less than four years. Most of these rooms are in the four and five star categories, and almost all are in beach hotels and resort villages. Diving, snorkelling, and other water sports are important as leading niches. Sharm el Sheikh is the centre of South Sinai tourism, with 70% of tourist rooms, the main international airport, and most ancillary tourism services. International tourist arrivals to South Sinai were estimated at 1.7 million in 2003, of which 53% were western European, 20% East European, 6% Arab, and 21% other (mostly land arrivals at Taba).

Other than tourism, the main economic sectors in South Sinai are petroleum and mining. Government employment has been important in South Sinai, both for local administration and services and also for security. There is some commercial fishing in the Gulf of Suez and subsistence agriculture / fishing is practiced by the local Bedouins.

Government investments have had to keep pace with the rapid economic and demographic growth in South Sinai, but in general the results have been impressive. Sharm el Sheikh airport has been (and continues to be) upgraded. Water has been provided to the growing towns by tapping groundwater resources, building pipelines from Suez and desalination plants. Tourism developments are largely supplied by hotel or private sector desalination plants. Most towns have wastewater networks and treatment plants. Power generation has been considerable, and linking all South Sinai cities to the national grid will be completed soon. Thousands of kilometres of roads have been built, as have thousands of public housing units and hundreds of schools, health centres and government buildings. Telecommunication services in South Sinai are excellent. Government agencies have also extended water, public services, and power to Bedouin settlements.

The main administrative responsibility for local development lies with the Governorate of South Sinai and the sectoral directorates. Other national agencies with particularly important development roles in South Sinai include the Tourist Development Authority, Egyptian Environmental Affairs Agency and its Nature Conservation Sector and Sinai Development Authority (Refer to Annex 1).



Rapid tourism development: White Knight in 1997 and below White Knight in 2004





3.2 Protected Areas

There are five protected areas in South Sinai with a total area equivalent to 40% of the land area of South Sinai. Coral reefs of international importance, high altitude desert ecosystems, varied and unique coastal habitat, important religious and cultural sites and other natural landforms are protected and add to the attraction of the area as a tourist destination. Protected areas, managed under Law 102 of 1983 by the Egyptian Environmental Affairs Agency, include:



- The Ras Mohamed National Park (declared in 1983; borders amended 1996).
- The Nabq Managed Resource Protected Area (declared in 1992; borders amended 1996).
- The Abu Galum Managed Resource Protected Area (declared in 1992; borders amended 1996).
- The Saint Katherine Protected Area (declared in 1988; borders amended 1996).
- The Taba Protected Area (declared in 1998).

3.3 Population

In 1960 the Census of Egypt recorded only 4,355 inhabitants in South Sinai, almost all of who were indigenous Bedouin. By 1986 the number of inhabitants had increased to 28,576, and by 1996 the number stood at 54,826, representing an annual increase of 6.7%.

In 2003 there were estimated to be around 111,226 inhabitants, of which 52% are employed directly or indirectly in tourism. Projections up to 2017 indicate the population will increase to 289,718 on a conservative forecast and may reach 500,000 should higher migration rates to the area be achieved by the Governorate. The forecast of 289,718 has been made by SEAM consultants based upon a number of assumptions concerning the rate of increase of operating hotels, the indirect tourism employment multipliers, and the settlement of families of tourism workers. While such assumptions are the best that can be made based on existing conditions, it must be recognized that they are conservative.

Of the projected population of 289,718 in 2017, 64,000 will be employed directly by hotels. Overall it is estimated that 62% of the population would be employed directly or indirectly in the tourism sector. Thus the economically active population of South Sinai will represent an extremely high portion of the total. The current phenomenon of a high percentage of single workers (staff of hotels and bachelor workers) are assumed to continue to dominate and is an important demographic factor in South Sinai. While such a phenomenon runs counter to the Government's desire to see South Sinai contribute to the absorption of Egypt's huge population increases, there may be economic advantages in that less investment will be required in population-serving services (compared to similar services in the Nile Valley, where economies of scale operate). It should be noted that workers cited the high cost of living and lack of affordable housing as two main barriers to settling in South Sinai.



Estimated Population by Region – Conservative Estimate

City	2003	2008	2013	2017
El Tur	23,397	28,146	34,090	41,176
Abu Zeinema	8,193	9,397	10,781	12,369
Ras Sudr	8,421	11,144	14,071	17,254
Abu Rudeis	8,830	9,459	10,139	10,874
Saint Katherine	4,880	5,565	6,273	6,640
Sharm El Sheikh	39,472	62,386	89,637	122,420
Dahab	7,628	10,919	20,382	31,744
Nuweiba-Taba	10,405	20,826	34,226	47,241
Total	111,226	157,842	219,599	289,718

Source: SEAM consultant, Culpin Planning, 2004.

3.4 Future Development and the Dominance of Tourism

It is expected that tourism will remain the lead economic activity in the future both in terms of investments and employment. Tourism projects planned or under construction would add 101,346 rooms, bringing the total capacity to 138,775 tourist rooms (150,000 rooms if development proceeds on El Tur – Ras Mohammed coastal strip). A "best estimate" of hotel rooms by 2017 is thought to be 103,007 rooms, taking into consideration the current state of development. The implied room completion rate for South Sinai will be 4172 rooms per year in the 2004-2008 period, rising to 4569 rooms per year in the 2009-2013 period and 5468 rooms per year in the 2014-2017 period.

Hotel Developments in South Sinai

	Completed or Operating (2003)		Under Construction		Planned		Total Capacity		Possible by 2017
	No. of Projects	No. of Rooms	No. of Projects	No. of Rooms	No. of Projects	No. of Rooms	No. of Projects	No. of Rooms	No. of Rooms
Ras Sudr	16	2,085	71	11,620	53	10,664	140	24,369	13,705
Taba-Nuweiba	19	4,161	47	13,155	123	20,574	189	37,890	22,460
Dahab	97	2,935	11	1,108	119	6,189	227	10,232	10,232
Nabq-Monteza	16	4,267	32	11,635	29	5,790	77	21,692	15,902
Sharm El Sheikh	106	23,000	34	9,844	7	10,767	147	43,611	38,227
Other	17	981	0	0	0	0	17	981	2,481
Total	271	37,429	195	47,362	331	53,984	797	138,775	103,007



It is conservatively estimated that by 2017 there will be 6-7 million tourist arrivals to South Sinai compared to the current level of 1.7 million international arrivals. By 2017 it is estimated that South Sinai will have 183,072 jobs dependent on tourism, of which 70% will be in Sharm – Nabq area. Other economic sectors – such as agriculture, fishing, mining, petroleum, and industry – are likely to be relatively insignificant.

Development in South Sinai will largely take place in urban areas, within municipal boundaries. Sharm el Sheikh (including Nabq-Monteza) will dominate as the main economic and services center, and El Tur will remain the primary administrative centre as the seat of South Sinai Governorate. Coastal tourism development will extend along the whole of the Gulf of Aqaba, with the exception of the protected areas of Nabq and Abu Gallum, and also along the northern Gulf of Suez (Ras Sudr sector). The mountainous interior of South Sinai, which is mostly covered by St. Katherine and Taba Protectorates, will be preserved in its natural state and enhanced with a number of natural and heritage attractions for visitors.



Neama Bay 2004. Sharm El sheikh currently accounts for more than 70% of hotel rooms in South Sinai

3.5 The Potential for Other Development Sectors

The dominance of tourism in South Sinai's future development is further underlined by the expected decline of the petroleum industry and the rather limited potential for mineral extraction and processing. Oil production from the offshore fields in the Gulf of Suez is already declining (in spite of considerable investments to improve extraction) and exploration has not discovered significant new fields which are economically viable. Likewise, to date no significant deposits of natural gas have been uncovered. The most significant mining/processing operation in South Sinai is the ferro-manganese operation in Abu Zenima. There is potential in South Sinai for mining albite, bentonite, kaolin, gypsum, and white sands. There are government plans to having processing industries (such as ceramics, glass, and building materials) based on these materials, yet even should these prove viable, their contributions to local development are likely to remain limited in the foreseeable future.



Oil and gas is produced from offshore fields in the Gulf of Suez and onshore between El Tur and Abu Rudeis

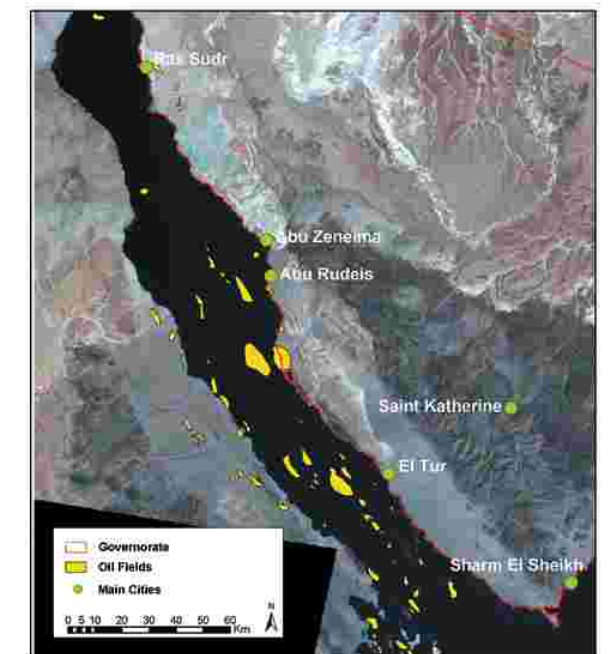


Although various schemes for agricultural land reclamation in South Sinai have been advanced, the realistic potential is severely constrained by the very limited water supplies. Traditional scattered Bedouin agriculture can be enhanced (rain harvesting, newer technologies, tapping ground water), and limited reuse of tourism wastewater can support tree farms and horticulture. Also, animal husbandry practiced by the Bedouin should have a secured future based on the recycling of organic wastes coming from tourist establishments. But in terms of scale, neither agriculture nor animal husbandry can be seen as important sectors in the future of South Sinai, especially considering the acute competition for water for urban and tourism uses. And a significant expansion of fishing in coastal waters will conflict with marine life conservation measures already in place.

There is a certain potential for South Sinai to serve as transport corridor. Already there is considerable land transport from the Nile Valley via the Nuweiba ferries to Aqaba and on to Jordan and Saudi Arabia. Also, both power and natural gas transmission lines are being laid on the Suez – Taba axis to link Egypt with Jordan and the Mashraq countries.



Location of Metallic and Non Metallic Deposits



Location of Oil Fields in Gulf of Suez



4- Public Consultation Programme and Results

4.1 Consultation Process

Public consultation was undertaken as follows:

Target Group	Mechanism
Bedouins	Meetings with Sheikhs and Omads 46 Focus Group Discussions – 25 urban/rural settlements Observation and transect walks
Residents and Workers	Survey – 750 questionnaires 21 Focus Group Discussions – urban centres 15 Key Informant Interviews – city heads + key officials Observation and transect walks
Tourists	Survey – 453 multi language questionnaires with international visitors through tour operators and hotels Key informant interviews - tour operators and hotels
CDAs and NGOs	Survey of capacity and activities Regional consultation workshops with 35 CDAs and NGOs

The public consultation process has focused on gathering information on people's perceptions on the following areas:

- General priorities;
- Environmental issues and priorities and their causes and effects;
- General environmental awareness and role of environmental institutions;
- Perceptions on the challenges and opportunities of tourism and their impact on the environment and people's livelihoods;
- Incentives and barriers encouraging permanent and temporary settlement in South Sinai.

Other areas that were covered in focus group discussions with Bedouins were: (i) Bedouins in tourism, focusing on the opportunities and challenges posed by tourism; (ii) rural and urban migration and settlement amongst Bedouins, and finally, (iii) the importance of preservation of Bedouin traditions and social patterns. The participatory approach proved invaluable. The information gained helped to build consensus on priority issues and enable decision makers to better plan improvements that meet end user expectations.



4.2 Public Consultation Findings

4.2.1 Bedouins

For Bedouins living in urban areas the main areas of concern that were raised in the focus group discussions (in order of priority) are:

- 1) land tenure;
- 2) economic opportunities;
- 3) health services;
- 4) housing;
- 5) education.

Priorities differed for Bedouin living in rural communities, which ranked the following:

- 1) education;
- 2) electricity;
- 3) health services;
- 4) economic opportunities;
- 5) roads.

Environmental concerns for both urban and rural communities were overwhelmingly water issues (access, quality, recharge dams). Next priority was sanitation and the third priority was solid waste.

Ranking of General Priorities for Urban and Rural Bedouins

Issue of Concern	Urban	Rural
Land Tenure	1	7
Job opportunities / Economic Development	2	3
Health Services	2	2
Housing	3	4
Education	3	1
Electricity	4	1
Food Supplies	4	5

Note: 1=high priority; 7=low priority

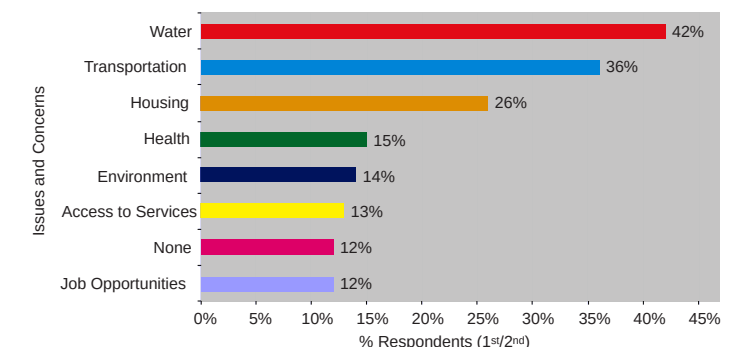
Ranking of the Environmental Priorities for Urban and Rural Bedouins

Environmental Concern	Urban	Rural
Water	1	1
Sanitation	2	2
Solid Waste	3	3

Note: 1=high priority; 7=low priority

4.2.2 Residents and Workers

The three main general concerns highlighted by respondents were water (42%), transportation (36%) and housing (26%). Other, but lesser concerns were (in order) health, environment, access to services and employment opportunities. However it is also important to note that a third of the focus groups consulted and 12% of GEAP respondents expressed no general concerns.



Note: The percentages are based on a combined response for 1st and 2nd priority ranking of issues.

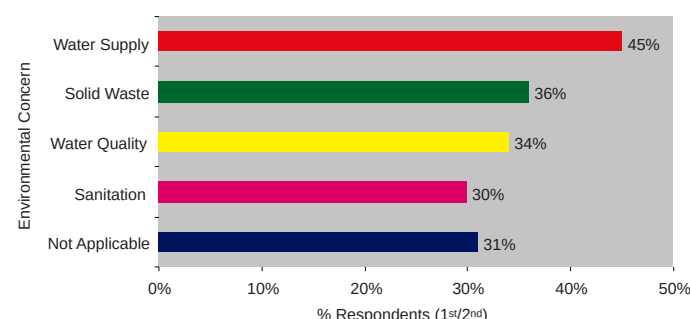


4- PUBLIC CONSULTATION PROGRAMME AND RESULTS

In terms of environmental priorities, four areas were identified as the most important: water supply, solid waste, water quality and sanitation. However a high percentage of total respondents, particularly from El Tur and Naama Bay did not perceive any environmental problems.

On the issue of whether workers would bring their families to settle in South Sinai the main barriers were:

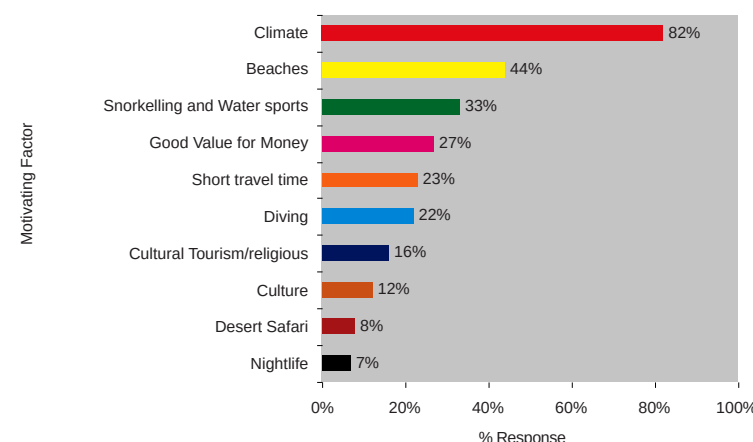
- a) the high cost of living in comparison to the Delta and Upper Egypt (33%),
- b) the lack of affordable housing (32%)
- c) lack of access to services (15%).



4.2.3 Tourists

A survey of European tourists was undertaken in February to April 2004. When asked the top 3 reasons for selecting South Sinai as their holiday destination the overwhelmingly response was climate (82%), probably reflecting the timing of the survey during the European winter months. Other factors were beaches (44%), snorkeling and water sports (33%), good value from money (27%), short travel time (23%), diving (22%), cultural/religious tourism (16%), desert safaris (8%) and nightlife (7%). It should be stressed that this is the total response and local variations occurred, for example water sports and diving were higher for those traveling to Dahab.

Factors Motivating Tourist Visits to South Sinai



Note: The percentages reflect combined 1st, 2nd and 3rd responses

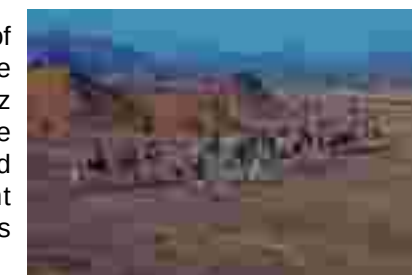
When asked what they enjoyed least about their holiday 31% were completely satisfied with no issues raised. Others highlighted the airport (32%), which was undergoing extensive upgrading at the time, accommodation and food (18%), waste and rubbish (15%), quality of service (14%), noise (9%), sea pollution (8%), value for money (6%) and overcrowding (4%).

4- PUBLIC CONSULTATION PROGRAMME AND RESULTS



4.2.4 CDAs and NGOs

There are only 53 CDAs and NGOs registered with the Ministry of Social Affairs in South Sinai. During consultation workshops the CDAs and NGOs raised a number of issues. In the Gulf of Suez priorities centred on environmental improvements such as tree planting, waste recycling and water, whilst in the Gulf of Aqaba and St Katherine the focus was more on creating employment opportunities, basic services and management of natural resources in the face of increased tourism development.



The environmental concerns of CDAs and NGOs revolved primarily around limiting the negative impact of tourism and industry on natural resources in the Gulfs of Aqaba and Suez respectively. Other key concerns were the management of solid and liquid waste, floods and access to potable water.

General Priority Areas - Local Community Needs from CDAs and NGOs

Priority Area	Gulf of Suez	Gulf of Aqaba/ St. Katherine
Economic Development	4	1
Transportation	4	4
Greening / Wind Buffers	1	
Managing Reefs / Boats		3
Solid Waste / Recycling	2	
Water – potable and waste	1	4
Pollution Control	3	
Health (Bedouins / Divers)		2
Education (Incl. Training)		3

Note: 1=high priority; 4=low priority

Environmental Priority Areas for CDAs and NGOs

Environmental Priority	Gulf of Suez	Gulf of Aqaba/ St. Katherine
Waste Management (Solid & Liquid)	1	2
Air Pollution	2	
Potable Water	2	3
Flooding	2	
Coastal Zone Management (Coral reefs / fishing)		1

Note: 1=high priority; 3=low priority



5 Priority Issues

Priority issues for action have been developed through an extensive process of consultation and exchange of ideas with a wide range of government agencies, the private sector and civil society. They also take into consideration the challenges posed by rapid economic and demographic growth expected over the next 15 years.

Priority Areas	Expressed concerns from consultation
Sustaining tourism development	Need for more mooring buoys, maintenance and networking of mooring buoys, overcrowding of jetties, food and service quality, water and energy conservation, no coherent marketing, beach access for hotels located back from the coast, protection of marine environment, nature of tourism.
Local-Municipal services	Water Shortages and low pressure in some settlements, network supply disruptions, lack of co-ordination in water tanker delivery, desalinated water not suitable for drinking (rely on bottled water), brackish well water in some rural areas, leakage losses, high cost of water, need to locate recharges dams in appropriate areas, old/rusted pipes. Sanitation Remote settlements lack sanitation facilities, need for low cost solutions in rural areas, inappropriate disposal of sewage, pollution of ground water, lack of privacy for women, cost of emptying septic tanks, maintenance, insufficient vacuum tankers in areas of septic tanks, overflowing septic tanks in rocky areas. Flood Protection Damage from flood waters, issue of flood avoidance versus flood control. Solid waste Inadequate collection in some non tourist areas, need for managed disposal sites, Bedouin needs for organic waste stream as animal feed, litter an issue for tourists, dumping of construction debris, plastic bags blown into sea, dumping carcasses, insufficient service in some areas. Settlement upgrading Dirty areas in some location, design of Bedouin housing to take into consideration their needs, informal urban Bedouin settlements lack access to services, security of tenure.
Social development	Health Lack of facilities in some rural communities, shortage of qualified personnel especially. specialist doctors, incentives insufficient to come to South Sinai, kidney disease from drinking salty/brackish water, nutrition and household security in some rural areas. Education Distance to schools, shortage of qualified and motivated teachers, lack of effective incentives to move to remote locations, absence of higher education and vocational facilities, main priority for rural Bedouins. Power Remote Bedouin communities limited or no access to power supply, reliance on generators. Other Livestock management, high cost of housing, weak community representation, road accidents near quarries, walkways for Bedouin fishing.



Priority Areas	Expressed concerns from consultation
Environmental management	Lack of law enforcement, reef carrying capacity, oil leaks and waste from passing ships, marine pollution risks, sea cucumber harvesting, air pollution in Anu Zeinema, flora damage from offroad driving and quarrying, illegal tree felling, illegal hunting, guarding natural sites, shortage of resources.
Preserving cultural heritage	Damage to antiquity sites, lack of resources to preserve sites, promotion of Bedouin handicrafts and culture.
Public awareness	Need for greater environmental awareness among workers and tourists, education for boat crews, need for signposting.
Institutional strengthening and capacity building	Need for better coordination between environmental regulators, increased capacity for governorate personnel, civil society organizations and the tourism workforce.



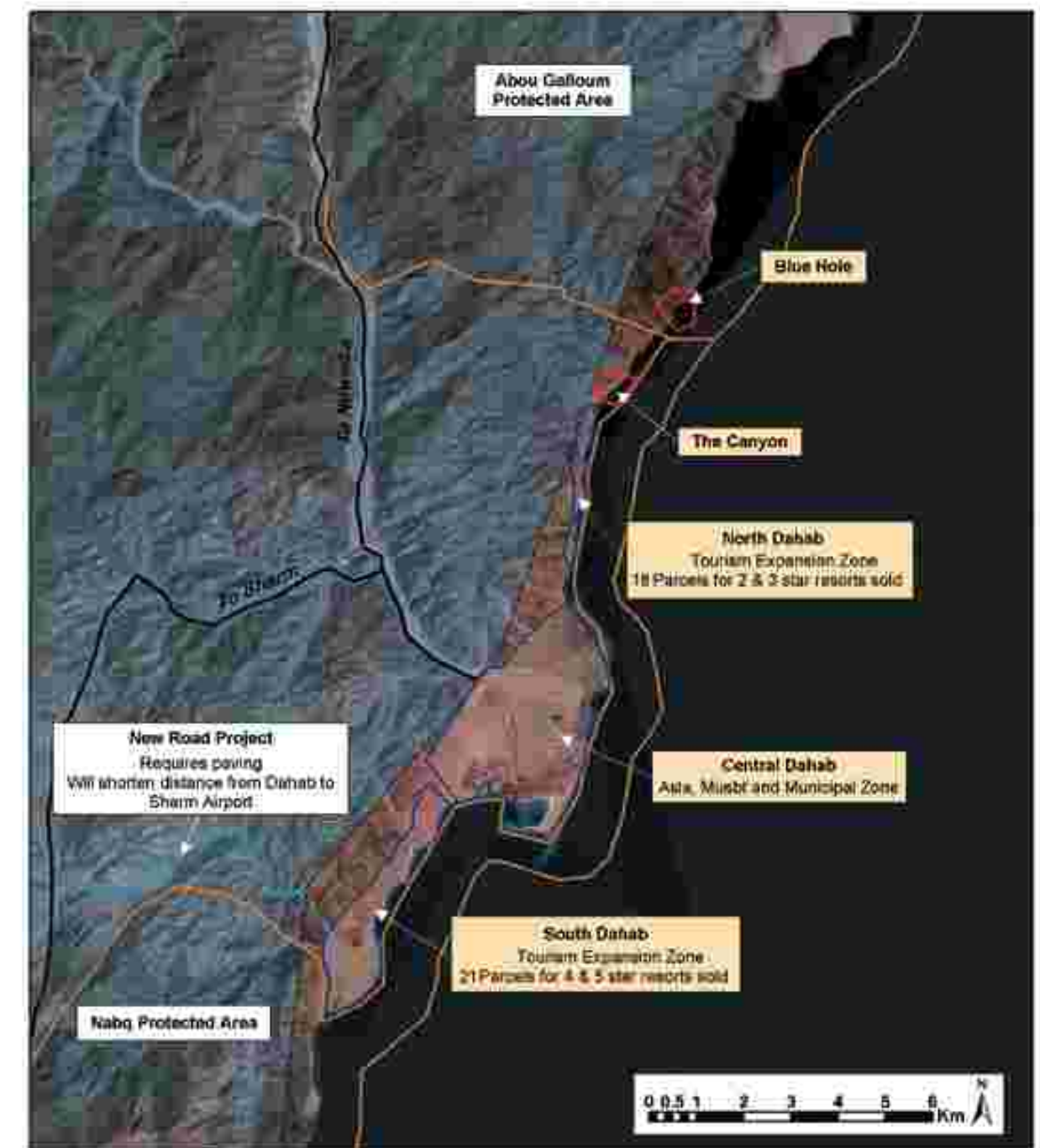
6- What Actions are Needed?

6.1 Objectives, Targets and Actions

Actions are required to allow the vision for the Governorate to be achieved. Objectives and 10 year targets have been established to address the priority issues. Programmes have been designed that will enable practical and affordable actions to be taken to meet the targets and objectives. Broadly these are:

- Objectives, which state what should be achieved over the next 25 years. The objectives either relate to improving the provision, management and maintenance of key environmental services or to the protection, conservation and sustainable development of the Governorates natural resources.
- Targets are derived from the Objectives but are shorter term, set for a time scale of up to 2017.
- Programmes are sets of actions, which will contribute to meeting the targets. They vary widely in their scale (from Governorate-wide to community level), means in implementation and technical requirements.
- The above parameters have been established for each of the priority areas, namely: sustaining tourism development, developing local-municipal services, social development, environmental management, preservation of cultural heritage and public awareness. The Action Plan also includes a number of representative Projects that support implementation of the above programmes.

This document is not intended to be a comprehensive list of all the issues, which could have been addressed in this first Action Plan. Rather, it is a synthesis of the priority issues identified in the extensive stakeholder discussions. As the GEAP process continues, so additional issues can be added. Likewise, it has not been possible for each issue to set quantifiable targets for the 10 years ahead. Where this is the case, a priority of the ongoing Action Plan process, should be the setting of, and agreement upon, realistic achievable targets by all relevant stakeholders.



Dahab (2004)



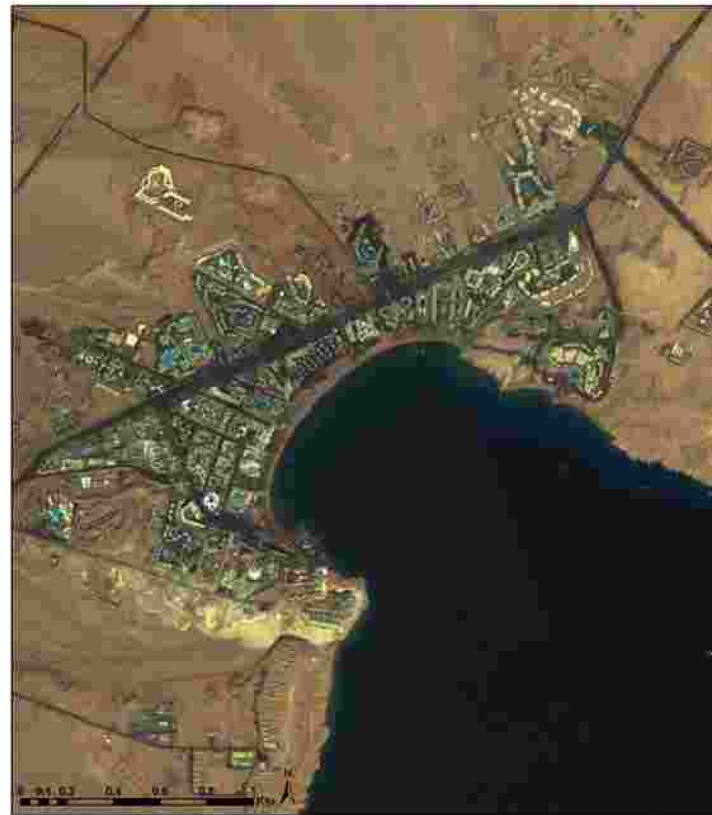
7- Actions Needed: Sustaining Tourism Development

7.1 Rationale – Why?

South Sinai offers a unique natural environment – hundreds of kilometres of coast boasting diverse marine life and world-class coral reefs, plus dramatic desert and mountain landscapes sparsely inhabited by indigenous Bedouin. Over 31% of the land area and all of the Gulf of Aqaba have been designated as natural parks in which any development is strictly limited. As underlined during tourist surveys, a very important attraction for resort tourism is the climate: year-around warm weather and practically unlimited sunshine. And South Sinai is enticingly close to the huge European resort tourism market; it is in fact the nearest tourist destination to Europe which can offer such a climate.

Over the last twenty years Egypt has capitalized on South Sinai's advantages and has created a tourism industry, which is, by any measure, a tremendous success story. In 1981, when Egypt regained control of South Sinai, there were only 312 hotel rooms. By 2003 there were 37,429 hotel rooms, many thousands more under construction and over 50,000 Egyptians earning their livelihood from tourism in South Sinai. From 1996 to 2003 the number of operating hotel rooms increased each year by an average of over 25%. Most of these rooms are in the three to five star categories, and almost all are in beach hotels and resort villages. Diving, snorkeling, and other water sports are important as leading niches. A certain diversity of tourist attractions has been developed, mostly related to desert safaris and cultural/religious tourism (Bedouin life and St. Katherine Monastery). Currently over 70% of tourism capacities in South Sinai are found in Sharm el Sheikh area, where virtually all major hotel chains are represented and which boasts many secondary tourist attractions (such as amusement parks, casinos, night clubs, etc.). Although there have been periodic ups and downs in tourist flows to South Sinai due to external factors (regional instability), recovery from these periods has been buoyant, particularly in Sharm el Sheikh where, for example, occupancy rates are currently averaging 70% (and 90% in Naama Bay).

The South Sinai Governorate and the Tourism Development Authority have played the lead roles in promoting tourism in South Sinai, mainly by providing cheap land and facilities to private investors and attracting world-class hotel chains. To accommodate growth in tourism, the Egyptian Government has made considerable investments in supporting infrastructure in South Sinai, especially in roads, airports, ports, electricity, and various urban amenities.



Naama Bay (2002)



The Egyptian Government has also shown an admirable concern to minimise tourism development impacts on the environment. Many controls have been put in place, such as requirements for Environmental Impact Assessments for all projects, limits on jetty construction, bans on damaging development on coral reefs, limits to dive sites and the number of dive boats, zero wastewater discharges into the sea, reuse of treated wastewater, etc. These have minimized negative impacts and, where damage has been done (such as in Sharm el Moya bay), steps have been quickly taken to remedy the situation.



It is expected that the rapid growth of tourism in South Sinai will continue and even accelerate, resulting in a three-fold increase in room capacities by 2017, with annual additions of between 4,000 and 5,500 tourist rooms each year. Tourist arrivals to South Sinai are expected to increase from the present 2.2 million arrivals per year to over 6.8 million arrivals by the year 2017. Expansion of tourism capacities are expected throughout South Sinai, with the most rapid growth in Dahab, Nuweiba, Taba, and Ras Sudr areas. Even so, Sharm el Sheikh area is expected to retain its ranking as the most important tourist center.

This is the challenge: how to cope with the expected huge increase in tourism and to ensure that it is sustainable. Key issues are outlined below.

7.1.1 Environmental Pressures

In spite of efforts made by the Egyptian Government, some observers and industry experts have pointed out during consultations that there remains a potential threat to the coral reef systems and marine life, due to pollution and pressures from divers, boats, and other tourist activities. The crucial question is: To what extent is there deterioration and will deterioration reduce the overall attractiveness of South Sinai as a tourist destination and put a brake on the growth of the sector? The answer is not clear, as there have been no definitive time-series monitoring of reef ecosystems. 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 damage. The most crucial agent for preservation are the National Parks administrations, whose continued and improved role is crucial. 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.



Tourism growth will put increased pressure on the carrying capacity of reefs.



7- ACTIONS NEEDED: SUSTAINING TOURISM DEVELOPMENT

7.1.2 Cut-throat Competition and Loss of Quality Tourism

In hard times, due to political instability in the region, there has been a tendency for hotel and resort operators to sell rooms at considerable discounts and such discounts are very common in less strategically placed resorts. In South Sinai the resort tourism market is more buoyant than in other parts of Egypt, but even so such under-cutting of market price structures could be a serious threat to sustained growth in South Sinai. Already there are indications that there is a loss of quality tourists, i.e. those who are willing to pay for more than the cheapest holiday tour. With the huge number of new rooms coming on line, this preoccupation with the mass holiday market, where numbers alone count, it is hard to see how cut-throat competition can be mitigated. The Governor of South Sinai, in reaction to growing over capacity, recently imposed a moratorium on new tourist hotel and resort licenses in Sharm area. Such an approach might be considered on a more systematic basis. If some of the many vacant sites and stalled projects were put on hold, the business climate for operating establishments and those almost completed would improve. Occupancy rates would increase, leading to better profitability and removing the need for price-undercutting. Furthermore, resorts could then concentrate on targeting the higher quality end of the international tourism market, further raising profitability and attracting those tourists who have a greater appreciation and awareness of the environmental attractions of South Sinai.

7.1.3 Need for More Diversity of Tourist Attractions and Attracting Non-traditional Tourism Markets

Conventional economic wisdom discourages reliance on a single industry for regional growth. However, this is a fact in South Sinai. The question is how to stimulate diversity within the tourist sector so that it can better weather vagaries in the international business and attract alternative segments of the tourist market. And 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). 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 and health tourism), but considerably more could be done to promote attractions as alternates and complements to resort and sea tourism. In particular, recent interest by the TDA and the Protectorates in high-end ecolodge development should be further developed.



Al Karm ecolodge - Saint Katherine



7- ACTIONS NEEDED: SUSTAINING TOURISM DEVELOPMENT

7.1.4 Inclusion of Bedouin in Tourism Development

Although the local Bedouin of South Sinai are already engaged in the tourism sector in many aspects, there is a perception among Bedouin that there are a number of barriers to their full inclusion into tourist development. This relates to a range of tourist investment and employment opportunities. Bedouin-style establishments can offer an important kind of diversity to the South Sinai tourism mix, and can be combined with cultural and nature oriented activities. Certainly the Bedouin's local knowledge of the natural attractions of the coast and inland desert is an important asset, which should be promoted. It is understood that TDA has made preliminary plans for developing a stretch of coast near Nuweiba for Bedouin owned and run beach resorts and associated activities. Such ideas should be encouraged.



7.1.5 Bottlenecks to Rapid Tourism Growth

The following are issues, which, due to the expected rapid increase in tourist arrivals, should be addressed so that they do not lead to serious constraints or "bottlenecks" to various aspects of tourism:

Entry points to South Sinai

Airports are the main points of entry for tourists to South Sinai, and by far the most important airport now and in the future is Sharm el Sheikh Airport. This airport's terminal is currently being improved, and when the World Bank-assisted expansion of the airport is implemented there will be a world-class air terminal with enough capacities for the next 15 years, both for charter as well as international scheduled flights. It is hoped that better management coordination between the airport authority, security, ground transport, baggage handlers, and the airlines themselves will be an integral component of the airport's expansion plans. Given the increasing importance of Taba-Nuweiba tourism corridor, the capacity and management of Taba Airport needs to be dramatically improved to allow it to function as a main destination for both domestic flights from Cairo as well as charters from Europe. It should be added that in the future land entry points to South Sinai might become more important for tourism, therefore improvements at Taba border crossing as well as in ferry services from Aqaba should be made.



7- ACTIONS NEEDED: SUSTAINING TOURISM DEVELOPMENT

Beach and Shore Access

Un-crowded, clean, and equipped beaches with easy entry to the sea for swimming are a basic requirement of resort tourism. However, such is not always the case in South Sinai, particularly in the heavily developed tourism centres. Land allocation policies have meant that practically all shoreline is in effect under the control of private resorts and tourist villages. And many of the land allocations are on shorelines with wide reef shelves, meaning that prospective swimmers must walk or wade up to a few hundred metres to reach the reef edge. Besides the potential for environmental damage, such a situation reduces the attractiveness of the beach experience. To this must be added the problems of the “second row” resorts that are inland and must negotiate beach rights from “first row” resorts. With the rapidly increasing capacities in resort tourism, this issue needs to be tackled as a priority.



There will be a need to provide beach access for second row hotels

Supporting Infrastructure (roads, electricity, and water)

In many tourism zones of South Sinai there appears to be poor coordination between tourist development and the introduction of supporting infrastructure. There needs to be much better coordination of the main concerned authorities (TDA and the Governorate and municipalities on the one hand and Sinai Development Authority, Roads Authority, and the Electrical Distribution Company on the other hand).

Diving/Snorkeling Sites and Dive Boat Marinas

There is a severe bottleneck in the number of jetties in South Sinai that can be used by dive boats, both for embarking and disembarking tourists and also for providing safe anchorage and marine support for diving and excursion boats. In addition, there is much anecdotal information that specific dive sites themselves off the coasts of South Sinai are becoming too crowded, and that more, alternative sites are going to be required to meet expected growing demand. This is an important issue, which needs careful consideration by all stakeholders, since expansion of diving capacities must be weighed against threats of deterioration of the coral reefs as well as aquatic life.



Travco Marina - Sharm El Sheikh

7- ACTIONS NEEDED: SUSTAINING TOURISM DEVELOPMENT



7.1.6 Cleanliness in Tourist Areas

Solid waste collection from tourist establishments and town centres is relatively efficient. However, many areas, especially those which fall outside the responsibility of municipalities and their solid waste contractors, have scattered and uncollected garbage. This problem is compounded by the paper and plastics, which are scattered by the frequent strong winds in tourist areas. In addition, in most tourist areas and along tourist corridors there is a serious problem of un-disposed rubble and construction waste, which the solid waste contractors are reluctant to collect because of their zero re-cycling value.

7.1.7 Image Problems

The above cleanliness issues relate to the general image of South Sinai's tourist areas in the eyes of tourists and, equally important, those who organize and promote tourist destinations. Probably the most serious image problem relates to the fact that all tourist areas in South Sinai are still under development. This means that there are many projects under construction as well as stalled projects. This gives an impression of the whole area as being a construction site, with unsightly materials yards, worker and contractor huts, naked RC frame structures, temporary boundary walls, etc. Dust and material spills are common. The Governor of South Sinai has required that stalled and unfinished buildings in Sharm el Sheikh and Nabq be plastered white, and this has helped considerably. But the issue needs a more fundamental management solution: (1) what measures can be taken to impose cleanliness during site construction as well as to require rapid completion of projects? and (2) what administrative and legal measures can be taken with the numerous stalled or bankrupt projects? These measures need to be taken up by the TDA and Governorate in a parallel and coordinated fashion.



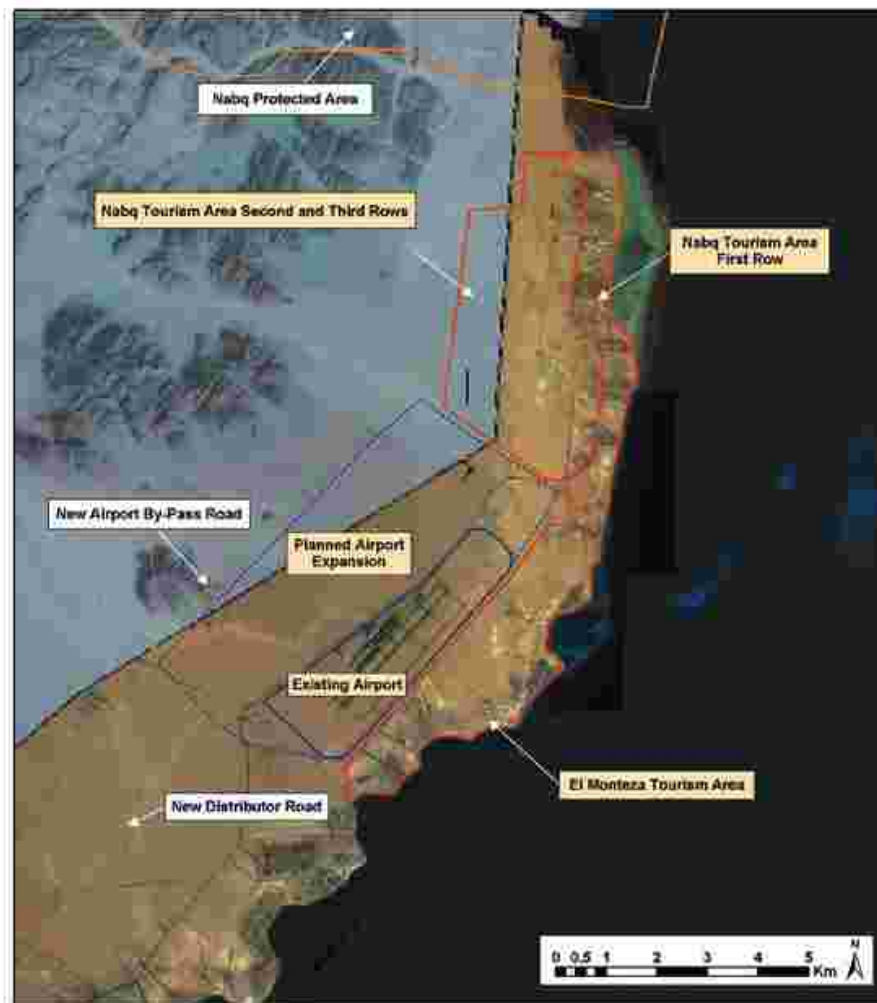


7.2 Objectives

The objective of this action plan is to ensure that the economic and social benefits of rapid growth of tourism in South Sinai are maximized while, at the same time, that the environmental assets of South Sinai (upon which tourism depends) are sustained and enhanced. With the establishment of an integrated strategy of actions these two goals will not be in conflict.

7.3 Targets and Actions

The following are a package of actions that will address the main issues relating to tourism development and help meet the objectives of the Sustainable Tourism Development Action Plan. Due to the importance of tourism as it relates to both the development and environment in South Sinai, some issues, which touch on tourist development, are addressed within other Action Plans.



Montaza- Nabq (2002)



Provide supporting infrastructure for major tourist destinations

- Expand and improve major entry points including upgrading of Sharm El Sheikh airport to handle 6 million tourist annually and the main shipping ports of Nuweiba, Sharm El Sheikh and El Tur.
- Ensure the timely construction of needed access roads, power networks, and other infrastructure amenities in emerging touristic zones.
- Upgrade water and sanitation facilities, particularly in Dahab and Nuweiba where there are many small tourist establishments which cannot afford water desalination and effluent treatment on site.

Improve diving-related activities

- Develop / expand dive jetties to relieve current overcrowding in Sharm El Sheikh.
- Assess reef carrying capacity of all dive sites and use information to control dive site use and ultimate zoning / charging for dive site use.
- In line with the reef carrying plan expand dive boat fleet in Sharm El Sheikh and / or other tourism centres along the Gulf of Aqaba to cope with increased tourism under strict environmental controls and improve collection and removal of onboard wastewater and solid waste.
- Increase the number of dive mooring buoys and address mechanisms for maintaining all mooring buoys.
- Introduce dive boat tracking and regular policing by patrol boats.
- Upgrade emergency response systems including search and rescue and hyperbaric chambers.

Provide greater beach access and diversify tourist attractions

- To accommodate guests of hotels set back from the coast, develop (on a cost recoverable basis) good access and beaches in parts of Abu Gallum, Nabq and Ras Mohamed Protectorates including road upgrading and change facilities.
- Establish Bedouin-run beach resorts on certain TDA lands (including Wadi Um Merekha, North Nuweiba), and establish Bedouin-run day-visit beaches, both on TDA lands and within the Nabq and Abu Gallum protectorates.
- Establish additional privately funded and managed ecotourism lodges within Protectorates to develop high paying niche markets.
- Preserve and develop selected heritage sites in Protectorates and near El Tur, Abu Rudeis and Abu Zenima.
- Promote desert safaris, trekking, and Bedouin cultural events and destinations and address licensing procedures necessary for these operations.



7- ACTIONS NEEDED: SUSTAINING TOURISM DEVELOPMENT

Resolve problems related to stalled projects

- ▶ Develop the legal, procedural, and financial means to quickly re-allocate stalled and half-completed tourist villages and other projects which are unsightly and give a bad image.
- ▶ Consider a slow down of new construction licences to facilitate completion of stalled projects.

Improve Vocational Training for Tourism

- ▶ Develop a trained and qualified workforce to cope with tourism growth by improving / expanding existing human resource development programmes by hotel chains and establishing a vocational training institute for tourism in Sharm el Sheikh.



7- ACTIONS NEEDED: SUSTAINING TOURISM DEVELOPMENT



8- Actions Needed: Protection and Management of the Natural Environment

8.1 Rationale – Why?

In 1983, Egypt established its first National Park at Ras Mohammed on the southern tip of Sinai Peninsula. In 1988, St. Katherine Protected Area was declared in the mountainous inland area of South Sinai, centred on the historic monastery of St Katherine. In 1992, Managed Resource Protected Areas were declared along the coasts of Nabq and Abu Gallum and marine areas up to the high water mark along the Gulf of Aqaba were also declared protected. In 1996 the boundaries of these four Protected Areas were expanded and the Gulf of Aqaba (within Egyptian waters and up to the high water mark) was declared a Protected Area. The inland Taba Protected Area was declared in 1998. All Protected Areas are managed under Law 102/1983 by EEAA through the Nature Conservation Sector. Protected Areas now cover the equivalent of 40% of South Sinai and are an integral part of the attraction that brings tourists to the region. Their protection is essential if development is to be sustained. Law 4 was ratified in 1994 as the main environmental law administered by the Egyptian Environmental Affairs Agency (EEAA). Environmental Impact Assessments became mandatory for all new developments and was rigorously applied in South Sinai. Controls were implemented to minimise the impact of development on the natural resources including coastal set backs for development, limits on the construction of marinas and jetties, zero wastewater discharges to the sea, use of treated wastewater and so on. Eight Regional Branch Offices have been established by EEAA including Suez, which covers South Sinai.

Environmental Management Units (EMUs) were established in most Governorates under a decree from the Ministry of Local Development in 1987. In recent years efforts have been made to strengthen their capacity and in 2003 a protocol signed between the Ministries of Environment and Local Development allows EMUs to be supported by and report technically to EEAA. In South Sinai over 30 staff work in the EMU (upgraded to a General Department) and environmental offices have been established in each of the cities.

The Tourism Development Authority is responsible for managing the environment in areas under their control. Ministries and their Directorates such as Water Resources and Irrigation, Housing and New Communities, Health and Manpower have environmental responsibilities under different laws in relation to water quality, wastewater discharges, solid waste and occupational health and safety. The Environment and Surface Water Police and the Coast Guard both have important roles to play.

Marine pollution from shipping and oil production and the risk of a major oil spill are a potential serious threat to the booming tourism industry. An oil combat centre has been established in Sharm El Sheikh and two in the Gulf of Suez but more needs to be done to minimise risk. The 1994 Oil Spill Contingency Plan should be updated and additional equipment and resources provided.

While environmental regulations are in place and organisations tasked with their enforcement much still needs to be done particularly in the strengthening and coordination of environmental management. Significant challenges also lie ahead as tourism development and tourist arrivals are projected to triple over the next 15 years. Some key challenges as outlined below will need to be dealt with.



Oil spill combat centre in Sharm El Sheikh



8.1.1 Support to the Protectorates

Additional financial and human resources will be needed for the Protectorates to meet their mandate and to cope with increased tourism pressures. Park fees and damage penalties are collected and paid to the EEAA Environmental Protection Fund, with only smaller amounts being returned for Protectorates management. Innovative schemes for raising additional revenues and local retention of part of the revenues by the South Sinai Parks and Governorate will need to be identified. Opportunities for outsourcing some of the current activities of the Protectorates should be considered to allow Protectorate staff more time to focus on environmental protection and management.

In contrast to Ras Mohammed and St. Katherine's protectorates, Taba, Nabq and Abu Gallum have received little investment to help protect them, such as the provision of roads, parking areas, signposting, entrance gates, etc. Given that they will soon be bounded by extensive tourism resort complexes, the visitation pressures on these areas will increase dramatically. Without careful management of this pressure, these three areas will neither be "protected" nor will they be able to add value to the tourist experience.

8.1.2 Strengthening Institutional Capacity and Coordination

Capacity building of the main environmental institutions will help them cope with the environmental effects of increased development. This will necessitate increasing staff numbers, training, expanding the institutional frameworks and providing the necessary equipment and systems to fulfill their functions. For the EEAA Nature Conservation Sector, consideration should be given to establishing the South Sinai Protectorates as a General Department and each of the five Protected Areas elevated to Departments. Mechanisms will need to be established to improve coordination and data sharing between environmental regulatory authorities.

8.1.3 Monitoring Environmental Impacts

Constant monitoring of physical development and tourism activities and their impact on the environment is extremely important. Urban and coastal developments and activities need continuous monitoring, as do the delicate environmental systems that they fringe Marine life and the threats to reef ecosystems in particular need more systematic monitoring. Carrying out such monitoring will allow informed decisions concerning environmental preservation to be made.

8.2 Objectives

To strengthen institutions responsible for environmental management and to improve the coordination between such organisations so that laws and regulations are applied and natural resources are managed more effectively to sustain growth and to maintain areas of natural beauty for future generations and tourists.



Additional oil and chemical spill response facilities are recommended in view of the major shipping lanes along the Gulf of Suez and Gulf of Aqaba



8.3 Targets and Actions

Strengthen institutions with environmental responsibilities and improve coordination

- ▶ Improve organisational structures and provide additional qualified staff necessary to meet their obligations by law. In particular strengthen the South Sinai Protectorates and expand the EMU and Environmental Units in each of the cities.
- ▶ Provide equipment, systems and operating guidelines to the various organisations involved in environmental management to enable them to carry out their tasks more effectively. For Protected Areas management this may include boats for surveillance and control.
- ▶ Provide sufficient and adequate training on the job, formal workshops and appropriate overseas visit to build their capacity and to be able to use their training effectively.
- ▶ Provide adequate financial resources to sustain activities and in particular to identify innovative schemes for raising and retaining resource locally to offset the costs on better environmental management.
- ▶ Establish a mechanism to improve coordination between the different organisations for more effective environmental management.

Enhance the management and sustainability of Protected Areas

- ▶ Install a dive boat and safari vehicle tracking system to monitor reef use and boat/vehicle movements to assist in zoning of reef areas and the possible application of differential charge system for reef use, desert access and environmental services.
- ▶ Address mechanisms for access and road maintenance that allow fragile ecosystems to be better protected.
- ▶ Outsource some of the activities of the Protectorates (e.g. mooring buoy maintenance, ecolodge management/development) where these could be better sustained and to allow staff to focus on environmental protection and management.
- ▶ Complete and implement management and training plans for all Protectorate to cope with the many designated responsibilities and future tourism pressures on park facilities.
- ▶ Consolidate existing studies and provide capacity to undertake time-series monitoring of important reef areas under pressure, to allow better, informed management of dive sites, setting of reef carrying capacities, and for protection of desert wildlife.



Upgrade and expand physical investments in Protected Areas

- ▶ Determine infrastructure needs to ensure that tourist access is encouraged on a cost recoverable basis, whilst minimising impacts on the environment.
- ▶ Improve and pave access roads and designated parking, provide rest amenities, improve sign posting and enhance policing.
- ▶ Involve local people (Bedouin) through the award of controlled concessions for restaurants/beach areas and the establishment of eco-lodges.

Improved protection from marine pollution

- ▶ Construct an oil and chemical spill centre in Nuweiba.
- ▶ Obtain an emergency response vessel to secure stranded ships before grounding on reefs in the Gulf of Aqaba and be used for spill cleanup.
- ▶ Strengthen capacity in selected centres on oil pollution response measures.

Improve and coordinate physical planning and land management

- ▶ Develop GIS and satellite image capacity to monitor development, improve planning and to identify environmental conflict zones.
- ▶ Update strategies for coastline development.



9- Actions Needed: Developing Local-Municipal Services

9.1 Improving Potable Water Supplies

9.1.1 Rationale – Why?

With scarce water resources in South Sinai, provision of potable water supplies within the Governorate is presently and will continue to be a high priority. Demand for potable water is estimated to be in the order of 80,000 m³ per day although current capacity of potable water facilities is reported to be 110,260 m³ as indicated below.

Current Capacity of Potable Water Facilities, South Sinai

Area	Private Desalination		Government Desalination		Nile Water Pipeline	Groundwater	Pipe and Tankers from Tur
	Number	m ³ /day	Number	m ³ /day	m ³ /day	m ³ /day	m ³ /day
Ras Sudr	6	1,800			13,000		
Abu Zenima					4,000		
Abu Rudeis			1	200	2,000		
St Katherine						500	
El Tur						13,000	
Sharm El Sheikh	55	42,160	3	6,300			3800
Dahab	4	1,000	1	5,000		1,300	
Nuweiba	2	4,200	1	5,000			
Taba			2	7000			
Total	67	49,160	8	23,500	19,000	14,800	3800

Most major hotels have built their own desalination plants, with capacities generally 200-500 m³/d but ranging up to 3,000 m³/d. In Sharm El Sheikh there are three commercial desalination plants of 9,000-10,000 m³/d capacity providing water through distribution networks to smaller hotels and commercial establishments at LE7-12/m³. Government desalination plants provide water to residential, commercial and some of the smaller hotels. The majority of desalination plants use seawater, however the number of plants extracting brackish groundwater is increasing as the treatment cost is about 30-60% of that of seawater.

The most significant groundwater source is at El Tur. Extraction is currently 13,000 m³/d and provides water to El Tur. Around 3000 m³/d is tankered and 800 m³/day is piped to Sharm El Sheikh from this resource. St Katherine and Wadi Feiran also depend on groundwater but have experienced severe difficulties in recent years as wells have yielded insufficient water to meet demand and have become brackish. Some Bedouin settlements continue to use groundwater but many now receive tankered water provided by the Governorate. Brackish groundwater is extracted for small-scale irrigation and is also used for drinking water by some Bedouin communities.



Small R/O units installed to improve water quality in remote settlements



Desalination plant serving Dahab City

A water pipeline along the west coast of South Sinai brings Nile water to Ras Sudr, Abu Zenima and Abu Rudeis. With a design capacity of 22,000 m³/d it is delivering around 19,000 m³/d. Increasingly more water is taken off at Ras Sudr to provide water for new hotels.

Based on projections of tourism and population growth, potable water demand is estimated to increase to around 200,000 m³/d by 2017. It is expected that private sector will cover most hotel needs. Of the total project demand, upwards of 70,000 m³/d will be required by the public sector. To meet increased demand the Government is expanding the Nile pipeline to 34,000 m³/d. Civil works are in place to expand desalination capacity in Sharm El Sheikh by another 2000 m³/d. Current Governorate plants in Dahab, Nuweiba and Taba are sufficient to meet public demand. Indeed the smaller of the two Taba plants has been taken out of service as it is surplus to requirements. All plants are run by private organisations under contract to Sinai Development Authority.

While much has been done to meet water demand there are still deficiencies and water shortages. For example El Rowisat receives very little water from Sharm El Sheikh public system. Older networks and elevated tanks need replacing. Groundwater supplies to rural settlements are declining and becoming brackish.

The pricing of water also poses some problems as Municipalities are required to conform with national water consumption tariffs (starting at LE 0.18/m³) when the “market” value of water in Gulf of Aqaba cities can reach up to LE 15/m³.

9.1.2 Objectives

To provide a cost efficient and sustainable clean water supply system, through the public and private sector for the benefit of residents and visitors to the Governorate.



9.1.3 Targets and Actions

Greater attention is given to public water supply requirements as the private sector will largely cater for the needs of hotels and other tourist establishments.

Reduce unaccounted losses and excessive use

- ▶ Extend the Smart Card metering system that has been piloted in Nuweiba, to initially Ras Sudr and then later in other cities.
- ▶ Improve water management in Ras Sudr and in El Tur.
- ▶ Implement a comprehensive leak detection and repair programme for water mains and networks.
- ▶ Rehabilitate old networks particularly in Ras Sudr, Abu zenima, abu Redis and El Tur, and to a lesser extent in Sharm El Sheikh and Dahab.
- ▶ Install new main distribution line in Nuweiba.
- ▶ Promote water conservation measures to large users.
- ▶ Evaluate the effects of distorted pricing systems between municipal and private sector supplies.

Institutional capacity building

- ▶ Establish an integrated water management council with key stakeholders in line with national plans and assess future demand, water availability and options.
- ▶ Strengthen capacity and resources for operations and maintenance.
- ▶ Build on the public-private partnerships already established for operating Governorate desalination plants and network maintenance.

Increase production and supply of drinking water to meet projected demand

- ▶ Complete the upgrading of the Suez pipeline to increase capacity to 34,500 m³/d.
- ▶ Extend water networks in main cities to serve nearby surrounding districts.
- ▶ Rehabilitation of water supply and distribution system of El Souk El Togary El Kadeem in Sharm El Sheikh.
- ▶ Construct a new desalination plant (6000 m³/d) in Sharm El Sheikh and increase the capacity of the desalination plant in Nuweiba to 10,000 m³/d.
- ▶ Construct elevated balancing tank in Taba.

Increase supply and quality of rural water supplies

- ▶ Implement a scheme for improved water supply to St Katherine and nearby settlements in Wadi Feiran villages after studying the options of a pipeline from Abu Rudeis.
- ▶ Water quality and quantity management of El Qaa Plain well.
- ▶ Provide small-scale RO units to rural settlements that are currently using untreated brackish groundwater for drinking.
- ▶ Increase tankering to rural settlements particularly during extended dry periods.



9.2 Improving Sanitation

9.2.1 Rationale – Why?

Over the years, the Government has taken a number of initiatives to improve sanitation conditions in South Sinai. As a result, most urban areas are sewered and most of the sewage conveyed in these sewers is treated. In recent years, the main focus has been on the towns along the Gulf of Aqaba coast. All except Dahab now have adequate facilities, based on the use of simple waste stabilisation pond treatment.

Investments in sewerage and sewage treatment have also taken place in St Katherine and the Gulf of Suez towns. El Tur has a centralised system, discharging to a treatment works. The treated water is used to irrigate a 200 feddan 'tree farm'. All the other Gulf of Suez towns are served by localised systems, discharging to septic tanks. Effluent from the tanks is used for irrigation of green areas in all towns. A new centralised disposal system for Abu Zenima is under construction while a new pumping station and force main are being constructed in Ras Sudr. Sinai Development Authority have plans to provide improved facilities in most Gulf of Suez towns.

There is demand for the provision of improved sanitation systems in urban fringe areas and in areas such as Wadi Tur that are fairly close to existing sewerage and sewage disposal facilities. The current intention is to link these fringe areas to existing centralised systems. Some rural Bedouin settlements remain un/underserved and need sanitation schemes appropriate for their circumstances.

It should be stressed that most major hotels have their own wastewater treatment facilities with treated wastewater being used to water green areas. Wastewater discharges to the sea are not allowed.



Treated wastewater is used for irrigating hotel green areas.

9.2.2 Objectives

To provide a sustainable wastewater collection and treatment service, either through the public or private sector, for all residents and visitors to the Governorate.



9.2.3 Targets and Actions

Extend / Construct sanitation facilities for all urban areas

- ▶ Complete the wastewater network for the new housing areas in el Tur and Dahab.
- ▶ Improve Sanitation and wastewater treatment in Taba.
- ▶ Construct wastewater treatment plants in Abu Rudeis, Ras Sudr and St Katherine.
- ▶ Complete the wastewater network and treatment facility in Abu Zenima.
- ▶ Upgrade the wastewater treatment plant in Nuweiba.
- ▶ Commission new treatment facility for Dahab making use of the partly completed oxidation ponds.
- ▶ Extend sewerage to newly developed and/or unserved areas.
- ▶ Undertake wastewater management improvements in El Tur City.

Provide appropriate sanitation for small rural or peri-urban settlements

- ▶ Develop alternatives to conventional centralized sewerage in areas in which water supply is limited including but not restricted to Wadi El Tur village, parts of St Katherine and villages in Wadi Fieran.
- ▶ Increase the number of vacuum tankers to adequately serve communities dependent on septic tanks in Abu Rudeis, Dahab, Nuweiba and St Katherine.
- ▶ Establish sewerage networks in peri-urban areas of El Tur, Sharm El Sheik (El Nour, Rowisat), Ras Sudr and St Katherine.

Strengthen planning, operations and maintenance

- ▶ Assess actual wastewater production in cities along the Gulf of Suez and use the results to inform schemes that will improve sewage treatment in those towns.
- ▶ Plan for additional facilities to meet projected demand.
- ▶ Plan and implement appropriate schemes for small-scale wastewater solutions for small, sparsely populated settlements.
- ▶ Increase the financial allocation for the wastewater sector to make it consistent with the allocation for the water sector.

Maximise reuse of treated waste

- ▶ Design and implement schemes that allow increased use of wastewater for commercial purposes.



9.3 Flood Control and Flood Harvesting

9.3.1 Rationale – Why?

Storm water runoff in major wadis has in the past caused significant damage to developed areas. At most risk are the settlements along the Gulf of Aqaba. At the same time the amount of water “lost” to surface runoff is significant. Twenty two dams have been constructed in different areas along the Gulf of Aqaba to harvest rainfall runoff. Dams are able to retain and store around 2.46 million m³/year. However experience of flash flood harvesting is still limited and needs a much better understanding of the wadi hydrology including the intricate relationship between wadi runoff and wadi aquifer.

More detailed work has been done in Wadi Watir one of the major drainage systems near Nuweiba with a catchment of 3,440 km². A number of dams have been constructed to protect Nuweiba from flood damage and to retain water.

Buffer dams have been constructed by the Bedouins to capture flood water to recharge groundwater aquifers. These are low cost schemes and many are proposed to try and replenish aquifers as extraction in rural areas is lowering groundwater levels and the quality becomes brackish.



Nuweiba Flood Protection Scheme



9.3.2 Objectives

To reduce flood damage to settled areas and to increase the harvesting of rainfall runoff.

9.3.3 Targets and Actions

Construct flood protection schemes

- Construction of flashflood control canals in priority water courses (upstream of towns, tourist establishments, major transport corridors) after technical studies and cost benefit analyses.
- Develop flood protection schemes for high risk priority areas along the Gulf of Aqaba, in particular for Dahab and Nuweiba-Taba.
- Upgrade flood protection for Dahab city and along the coastal strip from Dahab to the Canyon.
- Increase restrictions on construction in wadi beds that are zones of high risk.

Increase the amount of rainfall harvesting

- Construct dams and reservoirs to harvest rainfall runoff after more detailed planning of the wadi hydrology. Priority should be given to schemes that include wider benefits of flood control and land reclamation.
- Progress implementation of planned dams in the following wadis: Saadi, Qudira, Sowwana, Zalaga, Faraa, Sortoba, Fugaira, Botn, Shoara and El Aqa.



9.4 Managing Solid Waste

9.4.1 Rationale – Why?

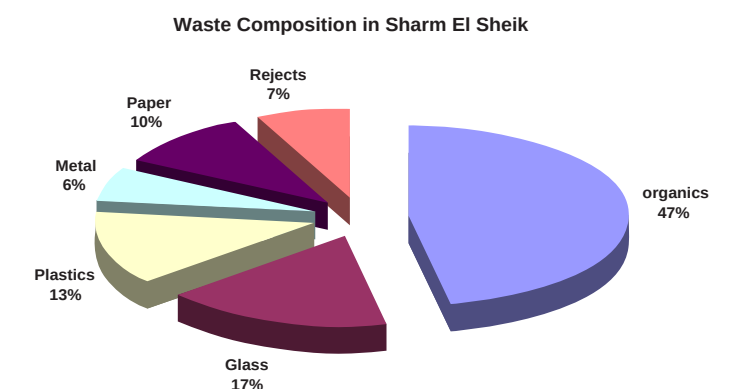
Municipal solid waste generation is estimated to be 220-270 tpd with Sharm El Sheikh accounting for over half the total. Dahab and Nuweiba-Taba generate around 50-75 tpd with lower generation in the winter months. Around 25 tpd are collected in El Tur and each of the remaining 4 cities generate less than 10 tpd. Waste generation by the year 2017 is expected to be more than 500 tpd.

Hotels, shops and restaurants generate most of the waste, which is high in organics and recyclables. Much of the waste in the tourist cities along the Gulf of Aqaba are collected by private sector or an NGO. In Sharm El Sheikh waste is collected by 7 contractors using 2-4 compaction trucks and 14 jumbo trucks. In Dahab one contractor operates with 2 flat bed trucks and in Nuweiba-Taba 1-2 jumbo trucks are used with the City Council covering the residential areas and a private contractor removing waste from Nuweiba Port.



Private contractors are responsible for fee collection, which in Sharm El Sheikh has been set at LE 10 per room per month for hotels and LE 30-100 per month for shops and restaurants. Fee collection is high from the hotels and commercial establishments and low from residential areas. Bedouins have contracts with a number of hotels to remove waste, their main interest being in the organic content, which they use as animal feed for their livestock. In the non tourist cities and St Katherine waste is generally collected by the City Councils.

Waste composition in Nuweiba, where there is a recycling plant, is 40% organics, 14% glass, 8% plastics, 3% metal, 16% paper and cardboard and 20% rejects. Recovered recyclables sold for LE 85,000 in 2003. In Sharm the composition is estimated to be 47% organics, 17% glass, 13% plastics, 6% metal, 10% paper and cardboard and 7% non recyclables. It is difficult to obtain reliable sales figures for recyclables recovered at Sharm El Sheikh dumpsite, however some estimates are upwards of LE 3 million per year.





Overall the tourist cities are remarkably clean. Greater investment by the Governorate in non tourist cities has also improved waste collection systems, particularly in El Tur where 2 large compaction trucks have been purchased in 2003/04. Plans for Sharm El Sheikh will see the private sector taking greater responsibility for all aspects of waste collection, street sweeping and disposal.



Sharm El Sheikh dumpsite

It will be important to continue building on the efforts of the Governorate and City Councils to cope with the projected rapid expansion of tourism development. Tourist cities will need to have modern, efficient waste collection systems to maintain a high standard of cleanliness expected in major tourist destinations. More attention will be needed to improve disposal practices. Collection systems for the new growth centres of Dahab, Nuweiba, Taba and Ras Sudr will need careful planning and implementation. At source segregation will improve the recovery of recyclables and separated organics can be made available to the Bedouins as animal feed. Disposal of construction waste will have to be managed to avoid unsightly piles of debris in and around tourist areas.

Additional equipment will be required in the non tourist areas, where the waste volumes and potential revenues are likely to be too small to interest private sector. Improved disposal practices and upgrading of maintenance facilities to keep equipment operating will be needed. To cope with the increased waste volumes from tourism growth institutional strengthening and capacity building will be required to either effectively operate systems or plan and monitor private contractors.



9.4.2 Objectives

To provide modern, efficient waste collection systems to maintain a high standard of cleanliness expected in major tourist destinations and to provide an effective and affordable solid waste management system for all non tourist cities.

9.4.3 Targets and Actions

Develop and maintain modern, efficient collection systems in tourist cities

- ▶ Expand the role of private sector in Sharm El Sheikh in solid waste management including street sweeping.
- ▶ Rationalise the number of contractors and contract duration in Sharm El Sheikh to facilitate management and achieve an economy of scale that allows contractors to invest in the necessary equipment.
- ▶ Plan for a 400% increase in waste volumes in the rapidly expanding centres of Dahab, Nuweiba, Taba and Ras Sudr by 2017.
- ▶ Develop a strategy for private sector participation in the smaller tourist cities where waste volumes are currently too small for private companies to invest in appropriate equipment. Consider a combination of Governorate procurement and private sector management.
- ▶ Make systems self sustainable through appropriate tariff structures including possible cross subsidy of residential areas. Fee increases to be considered in Sharm El Sheikh.

Upgrade collection for non tourist cities

- ▶ Upgrade collection equipment in Abu Zenima, Abu Rudeis and St Katherine.
- ▶ Upgrade workshops to better maintain equipment.

Segregate and recycle waste

- ▶ Promote segregation of waste at source for hotels and commercial establishments in tourist areas.
- ▶ Establish sorting station in Sharm El Sheikh and Dahab to recover recyclables and reduce the amount of waste to be hauled to the dumpsite.
- ▶ Establish system for providing organics to Bedouins as animal feed (and remove potential leachate source).



Improve disposal practices

- ▶ Identify suitable sites with sufficient capacity to cope with increased volumes of waste in the future and complete EIA.
- ▶ Manage and control landfill sites to appropriate Egyptian standards to minimise wind blown litter.
- ▶ Develop an above ground banded landfill for El Tur.
- ▶ Seal the road to Sharm El Sheikh landfill (assuming the adjoining sand quarry will eventually be available for land filling).
- ▶ Provide landfill equipment (including waste compactor and loader/bulldozer) for Sharm El Sheikh.
- ▶ Use modified agricultural tractors to compact and cover waste at small landfill sites.

Deal with construction waste

- ▶ Identify disposal sites for construction waste.
- ▶ Strengthen EIA and licensing procedures to ensure effective management of wastes during construction.
- ▶ Increase monitoring and enforcement of construction waste disposal.



9.5 Settlement Upgrading

The Government 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. 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 centres. The first of these buildings was constructed in the 1980s and were “economic” units averaging 60 to 70 m² per unit, in 2 and 3 floor 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 Qaria el Sayediin in El Tur 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.

Further upgrading of settlements are planned including the Asla area of Dahab. Any upgrading to accommodate Bedouins will need to address their concerns otherwise there is a danger that such developments will remain under-utilised.



New housing and upgrading of infrastructure facilities ongoing in Dahab



10- Actions Needed: Social and Community Development

10.1 Rationale – Why?

The physical nature of South Sinai makes equitable provision of social services to urban and rural communities a difficult task. Bedouin settlements are generally small and scattered in remote areas, which make investment in social services uneconomic. This said, South Sinai Governorate and relevant ministries have succeeded in providing basic infrastructure to most Bedouin settlements. The following list of issues was highlighted by Bedouins, residents and service providers as their main areas of concern during extensive consultation.

10.1.1 Access to Health Services

South Sinai currently has 12 hospitals in the 8 cities with a capacity of 222 beds. There are 9 rural clinics and one family planning clinic. Facilities are generally well equipped however shortage of qualified doctors is often cited as a limiting factor in the provision of good health services. These issues are being addressed in the National Health Sector Reform Programme, and lessons learnt here could be extended to South Sinai.

Access to health services was ranked as the second most important issue among urban Bedouins and other residents, whilst those in rural areas ranked it as their third. Around 80 settlements do not have direct access to any health services. Furthermore, the lack of adequate transport between many rural settlements further hampers their access to adequate health services.

10.1.2 Access to Sources of Power

All cities in South Sinai are connected to the national grid with the exception of St Katherine, Abu Zenima, and El Tur. It is planned to connect the latter two cities in the near future. Electricity to rural settlements is frequently provided by diesel generators of 30-100kwh capacities that operate for 6 hours/day. Usually the Governorate provides the generator and generator housing and the Electricity Distribution Company installs the network. Maintenance is subcontracted. It is estimated that more than 40 small, isolated rural settlements are without electricity.

During the GEAP consultation process rural Bedouins ranked access to electricity as their first priority issue, whilst urban Bedouins ranked it as their fourth. In both cases the absence or a regular supply of electricity was identified as being a major constraint in limiting their ability to store food, use computers (for settlements with schools) and access telecommunications.

10.1.3 Access to Education

With many employment opportunities being taken by people with access to better education from the Nile Valley demand for better education among Bedouins has increased substantially in recent years. Among rural Bedouins access to education was ranked as their most important priority issue (jointly with electricity), whilst urban Bedouins ranked it as their third. Some of the most important issues related to access to education included: poor access schools, lack of transport to schools, the shortage of suitably qualified and motivated teachers, which is further compounded by a lack of effective incentives for teachers in remote settlements and the absence of institutes of higher education. Distances between rural Bedouin settlements are generally large and children of school going age are often discouraged by family from commuting.



10.1.4 Sustainable Bedouin Livelihoods and Household Food Security

Whilst there has been a steady increase in the number of Bedouins (mostly men) migrating from rural to urban areas in search of work many still maintain strong linkages with wadis for cultural and economic reasons even though their lifestyles are changing rapidly. Whilst men migrate to urban areas women stay behind to manage small-scale cultivation and livestock, which is an essential part of Bedouin livelihood. However, substantial improvements and investments in the management of water resources need to be made soon if this fragile livelihood is to be protected, particularly as one of the main driving forces behind Bedouins moving to urban areas has been the fact that many wadis now have insufficient water to support Bedouin communities and their livelihood activities.

According to a study conducted amongst Bedouin children in St Katherine (Dunbar, 2003), a high proportion of children suffer from acute malnutrition because they consume food, which has a poor nutritional value. This particular problem can in part be addressed by increasing household food security among rural Bedouin families and providing Bedouin mothers with public health education.

10.1.5 Access to Affordable Housing Services

The Governorate of South Sinai has already been successfully involved in the delivery and provision of public housing. However, there is still a growing demand for affordable and appropriate housing to meet the needs of individual workers and migrating families. In the public consultation process, housing and land ownership emerged as a major incentive for permanent settlement. 32% of respondents in the GEAP survey, identified the lack of affordable housing as being the second most important barrier to preventing individuals and their families from settling permanently in South Sinai.

10.1.6 Representation and Role of Civil Society

Civil society organisations have potentially an important role to play in the development and environmental management of South Sinai. Currently there are 53 organisations registered with the Ministry of Social Affairs. There is limited capacity in the CDA and NGO sector in South Sinai, with the majority of registered CDAs engaged in social and welfare activities. However in consultation workshops with CDAs they identified that there was scope for many to re-prioritise their programmes in order to increase their effectiveness in responding to community needs. There is also potential to increase the potential impact amongst CDAs and NGOs in South Sinai through improved co-ordination and networking. Women and Bedouins are under represented on CDA and NGO boards. CDAs should work on addressing this issue, through the increased engagement of women and Bedouins. The consultation process highlighted that Bedouins and women are willing to engage in developmental and environmental activities, but would need support in mobilising, building their capacity and accessing resources.

10.2 Objectives

To improve and develop the quality of life of the residents in South Sinai, through the increased engagement of civil society organisations and expansion in the provision of basic social services to the resident communities, specifically remote Bedouin settlements.



10.3 Targets and Actions

The following are a package of actions, which will address the main issues relating to improving access to social services by residents and be instrumental in meeting the objectives of the Social Development Action Plan.

Increase access to health services in rural and urban communities

- ▶ Extend piloting of the national health sector reform programme to South Sinai, in particular the application of incentive schemes to attract qualified medical staff to relocate to South Sinai and to guarantee regular visits to the health units in remote areas.
- ▶ Consider the private management of health facilities in the event that relocating qualified staff continues to be a problem.
- ▶ Increase the number of health units in remote settlements and provide a number of mobile health units to serve isolated communities.
- ▶ Train Bedouins in remote areas as community health promoters, including first aid issues to increase their ability to deal with minor ailments and respond in emergencies.
- ▶ Implement public health education and awareness (health and hygiene, nutrition, mother and child health) programmes.

Increase access to sources of power for isolated settlements

- ▶ Supply generators to settlements without electricity and expand networks.
- ▶ Increase the hours of the service, which is currently 6 hours/day.
- ▶ Evaluate the application of alternate energy sources in small and sparsely populated settlements.

Increase access to education in rural settlements

- ▶ Develop an attractive incentive scheme to attract and motivate qualified teachers to remote areas.
- ▶ Train Bedouins to become teachers in their own settlements.
- ▶ Promote the idea of the one class school in remote settlements.
- ▶ Improve the roads connecting the settlements as well as the transportation system.

Address affordable housing options to encourage permanent settlement

- ▶ Promote forms of urban residential development, which will address the existing and growing lack of affordable housing for migrating families and individual workers.
- ▶ Encourage forms of "sites and services", which provide serviced land parcels, appropriate building regulations, and loans for small entrepreneurs to enter the housing market, both building their own housing and developing housing for permanent and temporary workers.

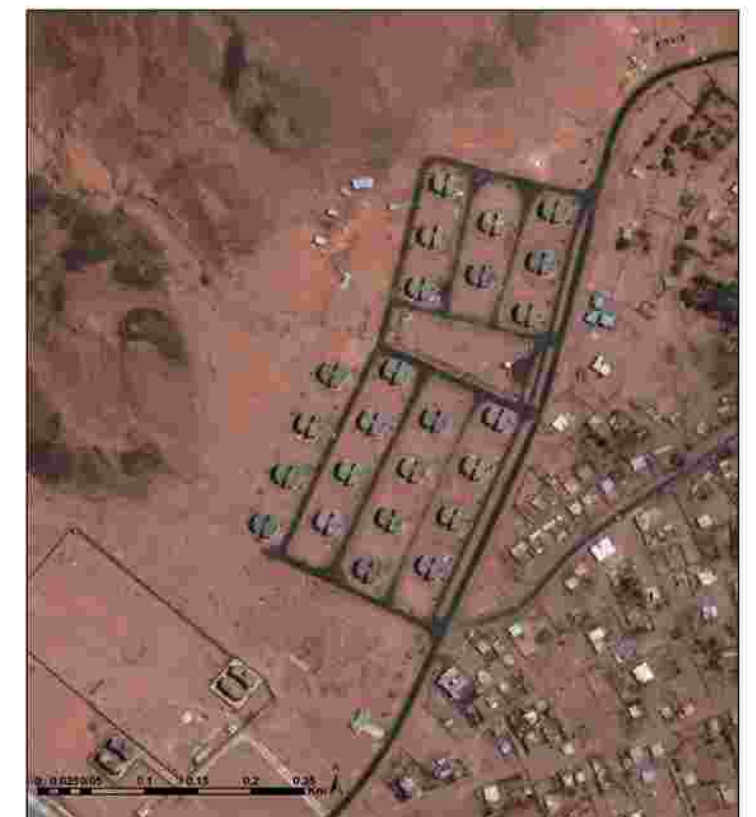


Support to Bedouin Livelihoods

- ▶ Increase Bedouin household food security (nutrition).
- ▶ Promote highland wadi cultivation.
- ▶ Develop buffer dams for Bedouin gardens, small scale farming and to recharge groundwater aquifers.
- ▶ Improve veterinarian services including wadi outreach.

Strengthen and support Civil Society Organisations to have a more effective role in the development

- ▶ Build capacity of CDAs and NGOs to address needs and priorities of communities and implement appropriate solutions.
- ▶ Support networking and co-ordination between NGOs and CDAs at the Governorate and National level.
- ▶ Increase representation of women and Bedouins in CDAs and NGOs and encourage Bedouins to mobilise and register community-based organizations.
- ▶ Encourage formation of new CDAs and NGOs concerned with environment.
- ▶ Promote community based initiatives and approaches through CDAs and NGOs, highlighting innovative practices for replication.



Mubarak youth housing in Dahab



11- Actions Needed: Preservation of Cultural Heritage

11.1 Rationale – Why?

South Sinai is rich in cultural heritage. There are extensive remains which evoke thousands of years of human activities in South Sinai - both historic and prehistoric - and there is the living culture of the indigenous nomadic Bedouin. In addition, South Sinai boasts what is arguably the world's oldest continuously operating Christian monastery - the Monastery of St. Katherine's - itself an architectural treasure. And according to biblical tradition sacred to all three monotheistic religions, the mountain of Gebel Musa and Wadi El Raha below it are where the story of Moses and the Ten Commandments took place.



This considerable cultural heritage is found in a starkly beautiful mountainous and desert landscape which adds to its appeal and to the enjoyment of a wide range of visitors – those interested in archaeology, history, and religious contemplation, and those who wish to appreciate a Bedouin culture which has for centuries existed within and as part of this landscape.

In the last two decades the Egyptian Government and concerned groups have taken a number of steps to preserve and enhance South Sinai's cultural heritage. Following the return of South Sinai to Egypt in 1981, the Supreme Council for Antiquities has recorded and made steps to ensure the preservation numerous sites, including the Pharonic temple cult of Serabit el Khadim (dating from at least the Middle Kingdom) and proto-Pharonic, Pharonic, and Greco-Roman structures and inscriptions related to the extensive mining and caravan activities carried out in South Sinai in ancient times. Also, in 1988 the St. Katherine's Protectorate was established by EEAA, with the goal of preserving and improving the most culturally important area of South Sinai and improving the livelihoods of the Bedouin inhabitants.

Over the same period mass tourism has boomed in South Sinai, and it is expected that it will continue to increase at a rapid pace. South Sinai's cultural and religious sites are thus accessible to a growing number of visitors, and these sites provide the kind of diversity of attractions which is very welcome for the tourism industry. However, at the same time this represents a challenge, of how to promote visitation and yet mitigate any adverse effects which might be caused by the huge increase in tourist numbers. The St. Katherine's Protectorate and the Monastery have already put in place a number of site management measures. Yet there are examples of early tourism ventures which have not always been in good taste (such as the constructions in Wadi El Raha) nor have respected the sanctity of the sites.



In terms of cultural heritage, the Bedouin represent a unique contribution and an opportunity to enhance the cultural experience of visitors and contribute to diversity. Bedouin culture and traditions are important factors in the development of tourism in South Sinai. It is they who have an intimate knowledge of the desert and its wildlife, medicinal plants, and other natural resources, and which can provide visitors with a sense of "real" Bedouin life and desert journeys. Furthermore, as has come out of consultations with Bedouin, South Sinai Bedouin are proud of their cultural heritage and wish to play a larger role in tourism activities. And in terms of preservation of natural resources and the area's heritage, it is the Bedouin themselves who are best suited to have an important role.

11.2 Objectives

The objectives are to build on earlier work in preserving South Sinai's unique cultural heritage, with the aim of enhancing religious and historic sites and promoting their visitation, as well as ensuring that the traditional culture of South Sinai's Bedouin is preserved and appreciated by Egyptians as well as foreign visitors.



St. Katherine Monastery

11.3 Targets and actions

The following are a preliminary package of actions which will address the main issues relating to cultural heritage in South Sinai and help meet the objectives set out above.

Preservation of St. Katherine monastery as a World Heritage site

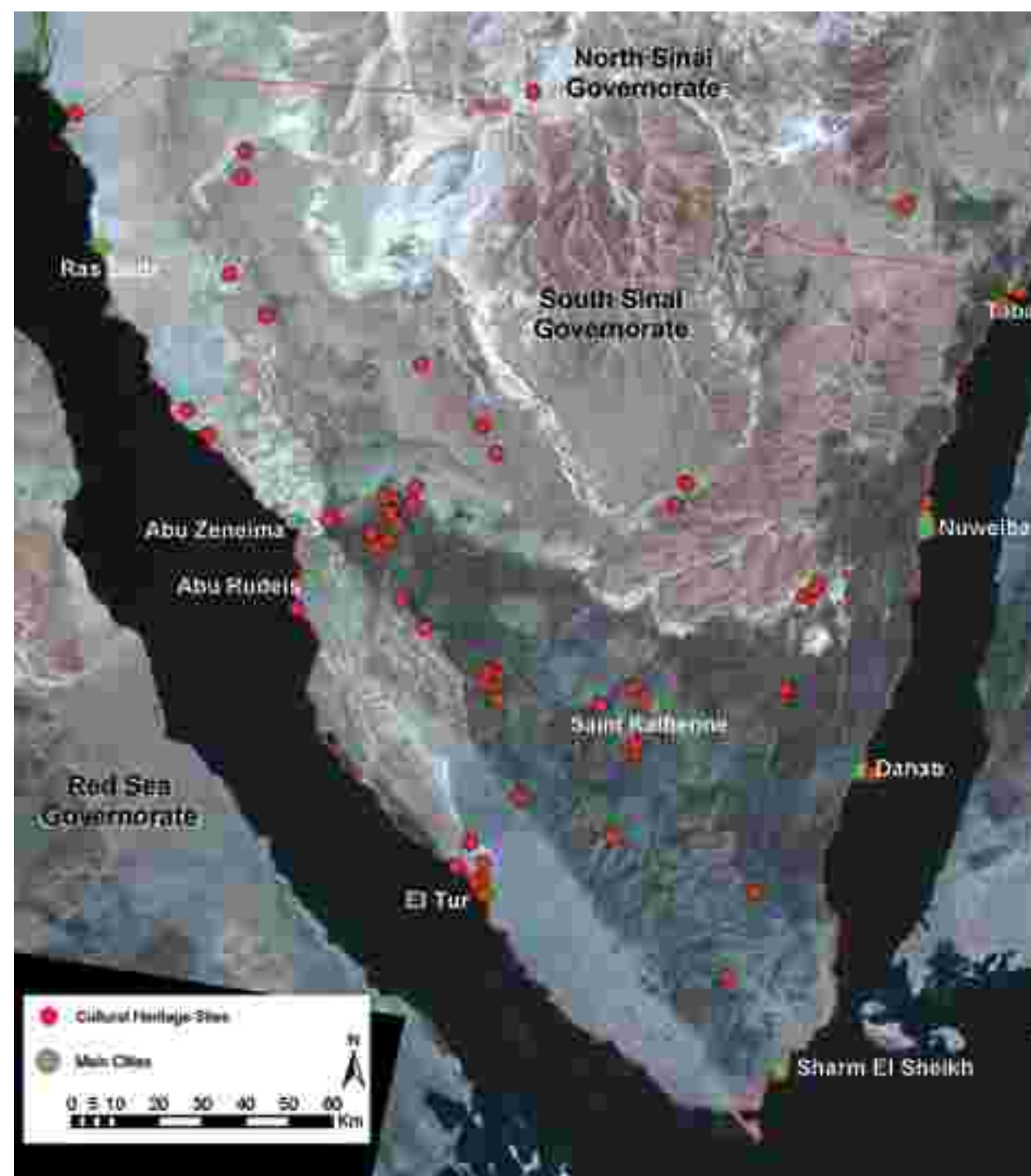
- ▶ Continue restoration activities undertaken by the Monastery and strengthen control and management of visitation in collaboration with the Monastery and St. Katherine's Protectorate.
- ▶ Ban any new structures in Wadi El Raha and replace street lighting, to reflect the natural and religious character of the area.
- ▶ Restructure access routes for tourists and develop the visitor's center area.

Preservation and effective use of South Sinai's cultural heritage sites

- ▶ Prepare an inventory of all cultural heritage sites in south Sinai.
- ▶ Establish appropriate protection measures for all sites.
- ▶ Identify sites that could be effectively managed and opened to tourists to expand cultural tourism in South Sinai.

Increased Awareness of Bedouin culture

- ▶ Develop Bedouin information centre to increase awareness of Bedouin's culture and traditions.
- ▶ Create better access to tourists for the promotion of Bedouin handicrafts/culture.
- ▶ Assess opportunities for expanding Bedouin based desert safaris and guiding.



Cultural heritage sites in South Sinai





12- Actions Needed: Raising Public Awareness

12.1 Rationale – Why?

The dramatic and pristine natural environment of South Sinai has been one of the drivers for the governorate's development. However, tourists arriving to experience this environment, and workers migrating to participate in the economic boom, are often unaware of the particular fragilities of South Sinai's ecosystems. Lack of environmental awareness was ranked as the fourth most significant issue during the GEAP residents' consultation. More than half of the residents consulted during the GEAP process could not identify what they considered to be the most significant threat to the local environment, whilst three quarters could not identify a second threat. Inevitably this means there is a lack of awareness as to how people can minimise their own impacts on the environment and contribute to long-term sustainability.



Public awareness campaigns should play a central part in improving environmental governance in South Sinai Governorate, contributing to both immediate and strategic objectives.

Public awareness is an essential ingredient for the success of many components of environmental management in South Sinai. Many marine recreational activities, such as diving and snorkelling, can have direct negative environmental impacts through physical impacts on coral reefs, feeding of fish, and curio collecting, and indirect impacts through marine pollution. Desert safaris, quad-runner and motorbike excursions can impact on fragile desert ecological communities through off-tracks driving. The dispersed nature of these activities makes enforcement problematic and costly. Public awareness campaigns targeting dive guides, boat captains, safari operators and tourists have been successful in the past.

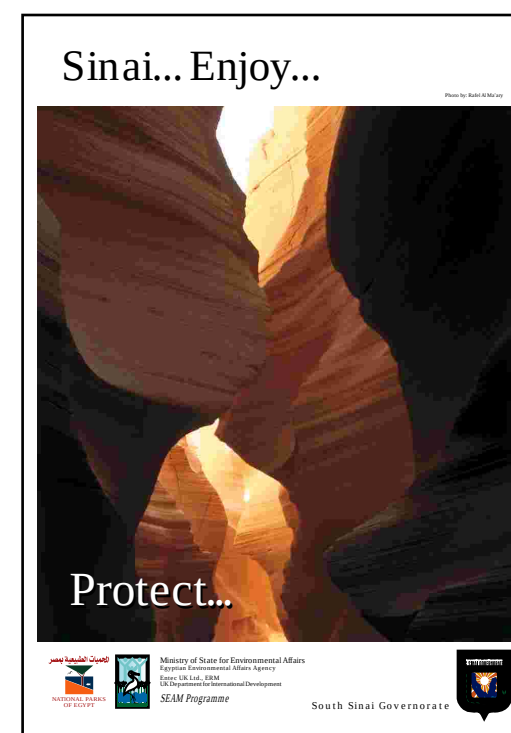
Studies have shown that briefings and informational videos significantly affect the behaviour of tourists, and the Gulf of Aqaba protectorates have begun to conduct basic courses aimed at particular groups of operators such as boat captains. However, there is a need to develop further programmes of public engagement to match the growth in numbers of tourists and operators. Similarly, waste separation and recycling awareness campaigns will be important components in managing solid waste issues in South Sinai.



Due to their daily contact with tourists and their constant presence in the protected areas, dive guides, boat captains and safari operators have the potential to act as stewards of the local environment. They can set examples to their guests and encourage their colleagues to achieve better standards. However, the task of raising public awareness is one that will require long-term support because of local social dynamics, with many workers immigrating from outside the area and a large number of transitory workers. Awareness raising campaigns therefore need to be constant in order to capture newly arrived workers, as well as maintain the awareness of those already in the area. In addition to the direct benefits of using local people as stewards of the environment, this approach would also build concepts of public ownership for the area's natural resources which would have wider social benefits, particularly in encouraging permanent migration. Educational materials should be developed for local schools that build awareness amongst future generations of the Sinai's ecosystems and unique environment. Such campaigns can also be used to conserve and disseminate indigenous Bedouin knowledge about the environment, particularly of desert ecosystems. All these outcomes aim towards wider objectives of sustainable development.

A parallel track to campaigns encouraging stewardship amongst residents and guests should be campaigns raising the profile of local environmental initiatives. The GEAP consultation process found that over 70% of residents did not know who to contact in the event of an environmental problem. Campaigns building awareness of the activities and successes of state organisations, such as the

governorate and the protectorates, will be essential in encouraging public cooperation. Similarly, there is a need for marketing tourist information to guests about the wider recreational opportunities available in Sinai away from the coast and assisting with diversifying the tourism product. Such marketing should focus on the uniqueness of Sinai's environment, and promote the governorate's image as an environmentally-friendly destination. The availability of environmental information in relevant languages at tourist information outlets should be a priority.





12- Actions needed: Raising Public Awareness

	Boat anchors destroy the coral...Use the mooring buoys		Illegal fishing reduces the fish population to unsustainable levels
	Feeding fish harms their ability to hunt for food		Garbage dumped in the sea and on the beach kills wildlife
	Touching, walking or standing on corals breaks and kills them		Taking corals and shells upsets the ecological balance of the reef

12.2 Objectives

To raise public awareness, of both local residents and tourists, with respect to the fragility of the South Sinai environment, as well as to increase access to information on South Sinai's diverse attractions.



12- Actions needed: Raising Public Awareness

12.3 Targets And Actions

Increased environmental awareness amongst tourists, residents and workers

- Develop promotional materials and make information readily accessible to tourists through strategic tourism offices in key locations to raise awareness of the uniqueness of South Sinai as a tourist destination, promoting protectorates and diving experience.
- Launch targeted awareness campaigns for environmentally responsible tourism for hospitality workers, boat crews, dive centres, tour operators; also for personnel in security services, including coast guard; special targeting of 4x4 and quad vehicle entrepreneurs.
- Install and maintain signs of environmental do's and don'ts, especially at land-based dive sites and popular snorkeling beaches, also at dive boat jettys, and entrances to popular desert tracks.

Environmental awareness in schools and youth centres

- Target new generations of residents in South Sinai by introducing environmental courses in local schools and other venues where youth congregate.

Market Promotion of South Sinai as Environmentally-Friendly Tourist Destination

- Undertake media promotion campaigns targeting Europe and new market segments which extol the attractions of South Sinai and how the region is committed to environmental conservation and enhancement.



13- Actions Needed: Institutional Strengthening and Capacity Building

13.1 Rationale – Why?

Successful implementation of the actions outlined in this Action Plan will aim at more sustainable development as well as much improved environmental management in South Sinai. However for these actions to be effective, attention must be given to the organisational structures, processes and incentives needed to achieve them.

Sound environmental management has been a cornerstone in the development of South Sinai to date. The establishment of Protected Areas, the oil combat center, the Governorate Environmental Management Unit and EEAA's strict requirement for EIA's of new establishments are just a few examples of the high attention given to the environment. Rapid tourism growth over the past decade and even a greater accelerated growth expected up to 2017 will however pose many challenges not only in protecting the environment but in overall planning and provision of essential environmental services.

Institutional strengthening and capacity building will need to address organizational structures, equipment, systems and training that will allow organizations to fulfill their designated functions more effectively. Actions need not impose any new bureaucratic structures, but should simply build on the present Governorate local administration and on the ministries and agencies already involved in environmental management. Note that some of these actions are also inherent in the action plans set out in sections 7 through 12 above.



13.2 Objectives

To provide a clear emphasis on institutional strengthening and capacity building as an issue which cuts across all sectors and actions related to South Sinai's sustainable development.

13.3 Targets and Actions

Although institutional strengthening and raising capacities will be a continuing process, initial actions to be taken are outlined below.



Strengthen environmental management

(see also actions under Section 8)

- ▶ Provide support to the Protectorates to further strengthen their capacity to manage the marine and desert environments.
- ▶ Provide equipment, systems and training to build the capacity of the EMU and City Environmental Units and other regulators.
- ▶ Establish a system of Environmental Officers in rural settlements.
- ▶ Improve coordination between environmental regulators including the Protectorates, EEAA Central and Regional Branch office, EMU, Tourism Development Authority, Environment and Surface Water Police, Directorate of Water Resources and Irrigation, Directorate of Health and Department of Occupational Health and Safety
- ▶ Strengthen the capacity to enforce and monitor adherence to environmental laws.
- ▶ Improve emergency response capability in the event of a major oil or chemical spill.
- ▶ Support the recently established Higher Committee for Environment.

Strengthen capacities to deliver environmental services

(see also actions under Section 9)

- ▶ Establish an effective Central Waste Unit in the Governorate to undertake planning on all aspects of waste management from collection to disposal.
- ▶ Build capacity to monitor and supervise private contractors.
- ▶ Build capacity to ensure proper disposal of construction waste.
- ▶ Continue support to the water and sanitation department, particularly in the areas of O&M, contract monitoring and leak detection.

Improve area planning and land management

- ▶ Strengthen capacities of the Governorate physical planning department and municipal engineers (skills development, equipment and systems) to integrate physical and infrastructure planning and to promote better land management.
- ▶ Strengthen the Governorate GIS unit to aid better planning and monitoring of development.
- ▶ Promote full integration of the Governorate information center and municipal information centers with the physical planning department, in order to create and maintain a data base on tourism growth and land development.

Strengthening community participation

(see also actions under Section 10)

- ▶ Strengthen the capacity of NGOs and CDAs to be better able to articulate the needs of communities and to implement community based projects and public awareness campaigns.



13- ACTIONS NEEDED: INSTITUTIONAL Strengthening and capacity building

Promote effective vocational training

(See also actions under section 7)

- ▶ Establish a vocational training institute for tourism in Sharm el Sheikh based on the principle of dual theoretical and on-the-job training.
- ▶ Develop a trained and qualified workforce to cope with high-quality tourism growth by improving and expanding existing human resource development programmes of hotel chains and integrating them with the proposed tourism training institute.

Strengthening educational and private sector institutions

- ▶ Strengthen educational establishments and private sector businesses to plan and implement environmental programmes and projects.
- ▶ Encourage initiatives such as the appointment of Environmental Officers in Trade Associations and Chambers of Commerce to promote self monitoring and the benefits of improved environmental performance.

Strengthening capacities of government employees in south sinai

- ▶ Carry out structured training of key governorate and city council personnel in information management and the need for transparency and timely sharing of information
- ▶ Improve administrative and technical training of employees to add value to their work and help in the retention of employees in South Sinai.
- ▶ Emphasize the importance of financial planning for operations and maintenance in training programmes in technical directorates.



13- ACTIONS NEEDED: INSTITUTIONAL Strengthening and capacity building





14- Working in partnership: implementing the plan

14.1 Government Roles and Responsibilities

The Governorate is the pivotal actor in the implementation of the Action Plan. The Governorate is the statutory authority responsible for local development, and is the focal point for coordination of all government agencies involved in development and environmental management. In addition, the Governorate is the apex authority for the eight municipalities, which make up local government, and the sectoral directorates (housing, utilities, health, education, etc.) are the local agents of the respective line ministries. Furthermore, the Governorate maintains direct interface with elected community representatives through the system of local popular councils.



South Sinai has a unique comparative advantage in the coexistence of development areas and Protected Areas. EEAA, through the Nature Conservation Sector, is responsible for the management of Protected Areas under Law 102/1983. They therefore have an important role in protecting the natural assets that attract developers and tourists. The 1980s and 90s witnessed the setting up and initial operation of these protectorates, and considerable achievements have been realized. However, during consultations with stakeholders a number of institutional issues have been identified which point to the need for strengthening of the Protectorates in order for them to shoulder the upcoming challenges. The aspect that could most compromise the Protectorates' role is insufficient financing of crucial operations and maintenance activities and the lack of earmarked funding for such. In order for the Protectorates to fulfill their role as protectors of natural assets, innovative financing solutions must be found.

The Tourism Development Authority, responsible for land assignments and control of private tourist projects along Taba-Nuweiba corridor and in Ras Sudr sector, is a crucial player in sustaining tourism development, and enhanced coordination between the TDA and the Governorate in tourism development is essential.

Central Ministries and their Directorates in South Sinai will also play an important role in implementing the Action Plan. Central Ministry engagement is essential to obtain the necessary financial resources to implement agreed activities.



Action Plans	Lead Organisations for Implementation
Sustaining tourism development	Tourism Development Authority, Sinai Development Authority, EEAA Protectorates, Supreme Council of Antiquities Markaz/municipalities, Governorate planning department, Roads and Bridges Authority, Ministries/Directorates of Tourism, Civil Aviation, Education, Electricity, South Sinai Investors Association, Diving organizations (SSDM), marina and jetty operators, tour operators, private education organizations, hotels.
Develop local-municipal services	Sinai Development Authority, NOPWASD, Local Popular Councils, Governorate departments of water and sanitation, and physical planning, City water, sanitation and cleansing departments, Ministries/Directorates of Water Resources & Irrigation and Health, Tourism Development Authority, Social Fund for Development, SHOROUK, commercial utility and service providers, EEAA Protectorates.
Social development	Sinai Development Authority, Governorate planning department, Markaz/Municipalities Ministries/Directorates of Social Affairs, Housing & New Communities, Electricity, Health, Education, Water Resources & Irrigation, Agriculture, Social Fund for Development, SHOROUK, EEAA Protectorates.
Environmental management	EEAA, Protectorates, EEAA Regional Branch Office, Governorate EMU and Environmental Units at city level, Tourism Development Authority, Environment and Surface Water Police Directorates of Water Resources & Irrigation, Health, Occupation Health and Safety, Pesco, NGOs and commercial establishments.
Preservation of cultural heritage	EEAA Protectorates, Supreme Council of Antiquities, Cities and Markazes (particularly St Katherine), Governorate planning dept. Ministries/Directorates of Culture St Katherine's Monastery, Bedouin communities.
Public awareness	EEAA, Protectorate, NGOs, CDAs, South Sinai Investor Association, diving organizations (SSDM), tour operators, Governorate Information Office, Tourism Development Authority, media, hotels, Ministries/Directorates of Education, Tourism.
Institutional strengthening and capacity building	EEAA, Protectorates, Directorates of Education and Tourism, Sinai Development Authority, Governorate's departments for Physical Planning, Water and sanitation and Training, Hotels and Investors' Associations the private sector, Training Institutes, NGOs and CDAs.



14.2 Role of Private Sector

The private sector already plays the leading role in South Sinai's development through its heavy stake in tourism. The private sector has also been involved in the provision of environmental services, including for example:

- Installation of water desalination plants and networks on a commercial basis (in addition to plants built by hotel developers).
- Operational management contracts on desalination plants owned by the Sinai Development Authority.
- Operation and maintenance contracts with the Governorate on water and sanitation facilities.
- Provision of solid waste services in Sharm El Sheikh and Dahab by private contractors and in Nuweiba by an NGO.
- Operation of the EEAA oil combat center in Sharm El Sheikh.



There are many other examples of the private sector role in service provision and as the demand for water and sanitation continues to grow and the volumes of solid waste continue to increase then the private sector could play an even bigger role in service provision, at least in the tourist centres.

There may well be other areas where private sector could be involved. For example consideration could be given to addressing shortages of qualified persons for hospitals and health clinics by engaging private sector management. Maintenance of mooring buoys by the private sector could also be considered as is presently the case in the Red Sea.

Hotel managers, tour operators, dive and water sport centres can play a more important role in promoting environmentally-sound development of South Sinai, since it is in their interest to ensure that South Sinai's natural resources, upon which tourism depends, are preserved and enhanced.

14.3 Role of Community

14.3.1 Communities

The participatory planning process underlying the development of the GEAP is a genuine attempt to enable potential beneficiaries to have a say in shaping the future of South Sinai and in ensuring that the plan meets their needs and priorities. It is recognised that environmental issues cannot be resolved without the direct participation of individuals. It is also hoped that through greater participation in the planning process this will result in more appropriate solutions being developed and communities taking greater action themselves in improving environmental conditions in their areas. Entry points for community action and involvement will need to identified with the support of civil society organisations.



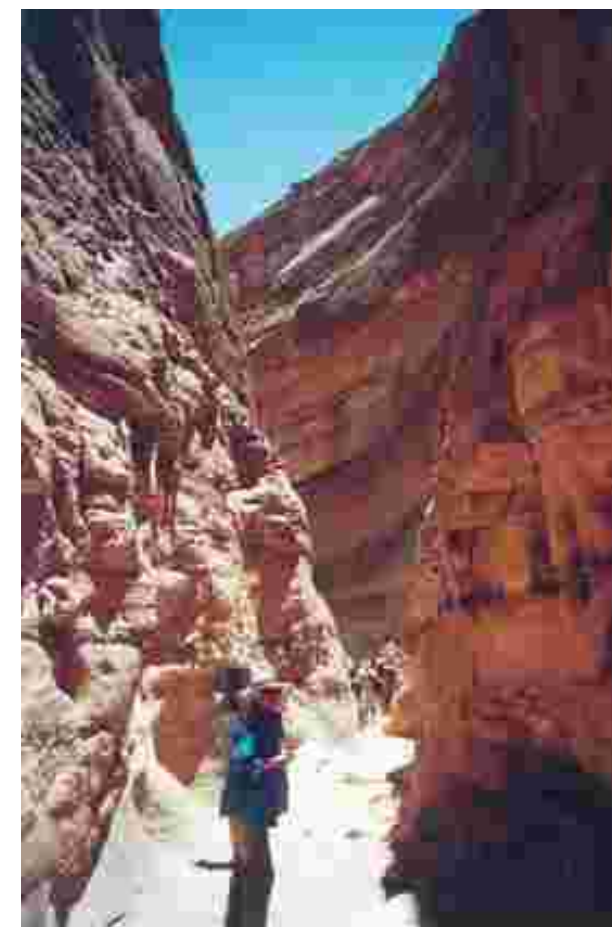
14.3.2 Civil Society Organisations

There are 53 CDAs and NGOs registered with the Ministry of Social Affairs, the majority of those registered are engaged in social and welfare activities. However there is a potential role to be played by civil society organisations in the implementation of GEAP priorities both in partnership with communities and with Government. This could include but not limited to:

- Environmental awareness raising.
- Piloting innovative practices and initiatives.
- Service Delivery e.g. solid waste management;
- Informing decision makers on the needs of the community / constituent members.
- Monitoring and undertaking environmental management in co-ordination with relevant bodies.

Examples of NGOs already active in some of the above fields are the Hemaya NGO (waste collection in Nuweiba-Taba) and the South Sinai Diving and Marine Association (diving and water sports). However to fulfil this critical role, the capacity of CDAs and NGOs should be strengthened. Civil society organisations will also need to be more responsive to community needs and better able to articulate their priorities, as well as ensuring representation of the indigenous population (Bedouins) and women.

To enable CSOs to play a more active role in the GEAP implementation consideration could be given to increase their representation in relevant Governorate level committees.





14.4 Priority Projects for Plan Implementation

Following extensive consultation with government agencies, the private sector, and communities in South Sinai, a number of project proposals have been developed in the sectors of sustainable tourism development, local municipal services, social development, environmental management, and preservation of cultural heritage.

Each of these priority projects are detailed in terms of rationale, purpose, outputs, activities, lead proponent, beneficiaries, and indicative budgets. For each there is also a discussion of sustainability issues.

Table below lists these priority projects.



South Sinai Priority Projects

Sector	Title	Location	Main Proponent(s)	Estimated Cost (LE million)
Sustaining Tourism Development	Strengthening Integrated Planning and Land Management Capacities	South Sinai	GSS	3.6
	Support and Development of the Mooring Network to Protect Coral Reef Ecosystems	Gulf of Aqaba South Sinai	EEAA + private sector	19.2
	Electronic Tracking of Diving Boats and Desert Safari Vehicles	Nabq & Abu Gallum	EEAA + GSS + private sector	15.0
Developing Local Municipal Services	Sustainable Development of Nabq and Abu Gallum Protected Areas for Tourism Use	Sharm el Sheikh	EEAA	23.3
	Rehabilitation of Water Supply & Distribution System in El Souq El Togary El Kadeem	Ras Sudr	GW&WWD + City Council	13.2
	Increasing Water Management Efficiency in Ras Sudr	El Tur	GW&WWD + City Council	8.6
	Increasing Water Management Efficiency in El Tur	El Tur Area	GW&WWD + SDA	26.3
	Water Quality and Quantity Management of El Qaa Well Fields	St. Kath + Firan	SDA + MOWRI	10.4
	Water Supply for St. Katherine & Wadi Firan	El Tur	SDA + MOWRI	97.4
	Wastewater Management Improvements in El Tur City and Wadi El Tur Villages		GW&WWD + SDA	50.4



Sector	Title	Location	Main Proponent(s)	Estimated Cost (LE million)
Social Development	Improved Sanitation and Wastewater Treatment in Taba	Taba	GW&WWD + SDA	16.1
	Flood Protection for Dahab City	Dahab	MOWRI	32.3
	Water Tankers Supply to Rural Communities	South Sinai	GW&WWD + SDA	4.5
	Water Supply for Rowaysat, Industrial Area, and Hotel Employees District	Sharm el Sheikh	GW&WWD + SDA	20.7
	South Sinai Solid Waste Management	South Sinai	GSS + City Councils	27.4
	Strengthening Civil Society Organisations	South Sinai	SFD + MSA	12.2
	Better Health & Education Services to Remote Bedouin Settlements	South Sinai	SSG (health & education directorates)	9.8
	Strengthening Marine Pollution Control Capacities	Gulf of Aqaba	EEAA	31.1
	Institutional Strengthening of South Sinai Protectorates	South Sinai	EEAA	33.8
	Strengthening Emergency Response to Protect the Marine Environment	South Sinai	EEAA + Port Authorities + private sector	25.6
Preservation of Cultural Heritage	Preservation of Archaeological Heritage Sites	South Sinai	SCA	15.0



15- Financing the Plan

15.1 Overview: Financing the Regional Development of South Sinai

South Sinai is a prime example of private-sector led regional development. Private investments (equity and bank credit) have mostly been for the construction of hotels and tourist resorts by Egyptian individuals and companies, although secondary tourism pursuits (restaurants, diving, entertainment, etc.) have also been significant. Using the investment rule of thumb of \$ 100,000 per tourist room, sunk investments in South Sinai have already exceeded \$ 3.7 billion and future private investments in the 2004-2017 period will easily surpass \$ 6.6 million. It should be noted that private sources of finance cover all operations and maintenance of tourist assets and the costs of environmental services associated with tourist establishments.



Public sector investments, mostly in public infrastructure, have complemented this private investment. Public investments have been considerable in the past and are continuing. They originate from a number of budgets and agencies:

- 1- Diwan Am Budget This is the investment budget of the South Sinai Governorate, which is both five year investment plans and annual plans. It mainly involves municipal infrastructure & utilities, security, public buildings, local roads, and rural infrastructure (the national Shorouk project).
- 2- The budgets of sectoral directorates These directorates are the agencies of line ministries in South Sinai, and their investment budgets come from their parent ministries. The main directorates are in the sectors of education, health, and public housing . Power generation and distribution is through a separate economic authority.
- 3- Sinai Development Authority. This is a branch of the national Development Authority, and is attached to the Ministry of Housing, Utilities, and Urban Communities. It has had a very important role in financing major infrastructure in South Sinai as a “frontier” governorate, especially in main roads and highways, in regional water conveyance, and in the construction of water and wastewater treatment plans. The Sinai Development Authority’s budget is a special budget which is “outside” the State budget.
- 4- EEAA finances investments in the five protectorates and protected areas found in South Sinai, out of its national investment budget.
- 5- TDA finances certain infrastructure (mostly roads) in tourism areas.
- 6- Others: There are a number of other agencies which finance public investments in South Sinai, such as the ports and airports authorities, the Ministry of Interior for police and security, and the Social Fund for Development for social projects.

The forward streams of capital financing for South Sinai coming from these agencies cannot be estimated with any confidence, due to the diverse nature of the sources and the different ways budgets are prepared and funds mobilized and allocated. Yet they can be expected to continue to be substantial, and can be expected to be augmented by external sources, for example the upcoming EC-funded South Sinai Regional Development Programme (SSRDP). However, as is discussed below, public allocations for operations and maintenance of these new investments as well as past public investments are problematic.



15.2 Capital Investment Requirements for South Sinai Environmental Actions through 2017

The South Sinai Governorate Environmental Action Plan specifically calls for public sector investments in environmental services and environmental infrastructure. Rough estimates of the required costs over the 2005-2017 period have been calculated for the main categories. It shows that, by far, the largest public investments are called for in environmental infrastructure items, and that of these potable water is the most important, representing 50% of the estimated total of required environmental investments. Infrastructure investments together amount to LE 1088 million, or 78% of total required environmental investments in South Sinai. Investments in environmental management are relatively high at LE 190 million, due to the need for physical investments in natural protectorates and considerable investments for coastal and marine protection.

Note that investment estimates include training and capacity building for human resource development.

Preliminary calculations of economic benefits to be derived from the main infrastructure investments show that they are quite robust. For example, it is estimated that the internal economic rate of return to investments in potable water will be 15%, in sanitation 14%, in flood control 33%, and in solid waste management 17%. Note that these calculations assume that the bulk of infrastructure investments are made “up front” over the 2005-2009 period, and that the stream of benefits extends over the whole 2005-2017 period.





Global Estimates of Investments Required for South Sinai GEAP

Sector	Types of Investment	Estimated Costs LE million
Environmental Infrastructure	Potable water Conveyance, treatment, networks, system improvements (e.g. leak detection), tanker transport.	660
	Sanitation collection networks, pump stations, force mains, treatment, rural low-cost sanitation.	183
	Flood Control Dams, channels, rain harvesting.	210
	Solid Waste Management bins, vehicles, recycling equipment, disposal site investments, central unit monitoring, training.	35
	subtotal	1088
Environmental Management	Protectorate areas roads, entry points, admin buildings, vehicle tracking systems, vehicles, equipment, signs, parking, etc.	55
	Coastal management & control marine pollution control, emergency oil spill response, dive boat mooring systems, boat tracking systems, monitoring of marine ecosystems, staff training.	75
	Strengthening protectorates vehicles, fast boats, monitoring equipment, training, media production	45
	Strengthening regulatory agencies vehicles, testing equipment, monitoring equipment, staff training, etc. for EMUs and other statutory agencies.	8
	Land management and planning GIS systems, data bases, training, specialized studies etc.	7
	subtotal	190
Community Initiatives for the Environment	Support to civil society training, seed capital, etc.	25
	Bedouin outreach health & education services, settlement upgrading, remote power generation, training.	55
	Economic support small loan programmes, business services, etc.	15
	subtotal	95
Public Awareness	Environmental awareness campaigns signs, videos, publicity, advertising.	15
	Training & environmental education in school curriculum, government employee awareness training, etc.	12
	subtotal	27
Grand Total		1,400



15.3 The Crucial Importance of Meeting Recurrent Costs

Proper staffing, operations and maintenance of environmental services and infrastructure are essential if South Sinai is to meet its vision as a premiere, world class tourist destination which can boast a unique and high quality environment. The public sector capital investments estimated above for the 2004-2017 period have considerable annual operating costs associated with them. As an example, it is calculated that environmental infrastructure investments in South Sinai will require recurrent annual costs of the following amounts:

Environmental Infrastructure Item	Estimated Annual Recurrent Costs (equipment, material, labor, admin.)
Potable Water at 5% of capital costs plus inflator	28.2 million
Sanitation at 3% of capital costs plus inflator	4.6 million
Flood Protection at 10% of capital costs plus inflator	20.5 million
Solid Waste Management at 10% of capital costs plus inflator	2.8 million

In addition, there are very significant recurrent costs associated with environmental management, community development, public awareness, and capacity building. In some cases these recurrent costs will exceed, due to their “soft” nature, the required physical investments over the 2004-2017 period. How are these recurrent costs to be financed? Past experience in South Sinai (and in local development in Egypt in general), shows that reliance on central government allocations for recurrent costs coming through Bab One (salaries and other employee costs) and Bab Two (operating costs and maintenance) are woefully inadequate to allow proper functioning of environmental services and at the same time to preserve the economic value of sunk investments. This is particularly true of rapidly growing regions where budgetary allocations for recurrent costs lag way behind physical investments. Thus a concerted strategy is needed for finding innovative ways to meet recurrent costs which ensure high quality environmental services and which do not rely totally on central government allocations. Such a strategy is discussed below.

15.4 Strategies for Financing the Environment – Cost Recovery and Retention of Fees

Financing for South Sinai’s public sector investments in the environment and associated recurrent costs will come from various sources, including from Government budgets and from external donors. But whatever the source, the principles of cost recovery and retention of fees should be paramount, in particular to ensure proper financing of recurrent costs. International experience shows that there are a number of mechanisms for raising funds for the environment (See Box.) And in Egypt, there have already been some innovative approaches, for example outsourcing and privatizing of components of environmental services. (The most prominent of these is the privatization of solid waste collection.) Another approach is to contract out services to CDAs where possible, since they can legally retain fees. There are also a number of mechanisms which can be used for cost recovery and retention of fees. These are discussed below:

**Water tariffs and their rationalization:**

Potable water, a scarce resource in South Sinai, is sold at widely varying prices, depending on the source. Water distributed to residents through municipal systems is charged at the extremely low price of 0.18 LE/m³, the national tariff mandated by law, and commercial and industrial consumers pay from 0.40 to 0.80 LE/m³. (A surcharge is added to water consumption bills to cover wastewater services.) In comparison, water produced by private desalination plants in tourist zones such as Sharm el Sheikh is sold at 7 – 12 LE/m³, and in these areas water distributed by tanker truck to establishments and residents can reach up to 15 LE/m³, with even higher prices in summer. Obviously, with such a spread in prices, waste and distortions in use and consumption are common. Local authorities are well aware of the situation, and the principle of charging the true economic cost of water production and distribution is in general accepted, although the average citizen's ability to pay for water remains a paramount political concern. As part of reform in the sector, in 2004 two Presidential Decrees established a national holding company for water supply and a national water authority which will allow each governorate to set water consumption tariffs. It is hoped that this reform will allow South Sinai Governorate to adopt a clear water tariff structure in each town, one that allows water revenues to increase to recover, at a minimum, all recurrent costs of providing water services. If there are subsidies for certain users, at least these subsidies should be carefully calculated and met through higher charges imposed on other consumers (e.g. those in the tourism sector).

Protectorates and entry fees:

The popular South Sinai protectorate of Ras Muhammed has been charging entry fees for over 10 years, entry fees were recently set for Nabq protected area, and an entry fee structure has been proposed for St. Katherine's. Such entry fees already represent a significant stream of revenues and, with tourist arrivals to South Sinai set to increase at least three-fold over the next decade, they have tremendous potential as a means to finance high-quality environmental services. Unfortunately, there is now no mechanism in place to ensure that a portion of these revenues to be earmarked for services and improvements within South Sinai protectorates, and as a result protectorates must rely on meager centrally-determined allocations through EEAA. That such a local/central revenue sharing system be put in place is a matter of highest priority.

Innovative approaches in charging for use of prime environmental locations:

With the rapidly increasing volume of tourist visitation to South Sinai pressures are mounting on certain prime locations, particularly dive sites and marine destinations. As a matter of priority consideration should be given to imposing extra fees for visiting these prime sites. Not only will this enable proper management of the sites to ensure that visitor loads do not exceed a particular site's carrying capacity, it will generate significant revenues which can be employed to raise the environmental quality of the sites and/or to finance improvements of new attraction locations. The precedent for this has already been set in the Red Sea Governorate.

**Creation and use of special local development funds:**

Special services and development funds are allowed to be set up by governorates, with revenues (including locally-imposed fines and penalties) coming from certain local levies and fees defined by law and expenditures earmarked for specific services and investments. This mechanism of special local funds has in theory considerable promise, but past experience in Egypt has shown that these funds are rarely effective means for local resource mobilization, serving more often as a way for governors to meet shortfalls in the financing of projects started with central government allocations. Yet in South Sinai, where various activities associated with tourism have considerable revenue potential, the mechanism of local funds could be utilized effectively to help finance high-quality services. The Governor of South Sinai has established a couple such funds which are innovative and show that the principle can succeed. Local funds with central/local revenue sharing could even be set up which capture what is now perceived by the Ministry of Finance to be one of the revenue-bases of central government.

Full cost recovery and solid waste management:

Investigations carried out by the SEAM team in collaboration with local authorities and the private sector show that the collection and disposal of solid wastes in South Sinai is, in financial terms, a win-win situation. Already cost recovery of solid waste services through private sector concessions is high in tourist cities, due to the high recycling value of the wastes generated. A separate SEAM programme report, the South Sinai Governorate Solid Waste Management Strategy, sets out a medium term strategy for total cost recovery in the sector, with the principle that the waste generator pays the full cost of the service, with internal cross subsidies for certain residential neighborhoods where full charges cannot be collected.



16- Contribution To National/Global Issues

The sustainable development of South Sinai, as embodied in the GEAP, will support or contribute to a number of national and global development objectives. Among them are the following:

16.1 Poverty Alleviation

A fundamental policy of the Egyptian government is the improvement of the livelihoods of Egyptians families of limited income and the alleviation of poverty in all its aspects. The GEAP envisions a strengthening of social and economic development of the indigenous Bedouin inhabitants of South Sinai (estimated to reach 40,000 persons by 2017). But further than this, the sustainable expansion of tourism in South Sinai will create, by the year 2017, over 120,000 permanent jobs as well as significant temporary employment opportunities in the construction and tourism sectors. The large majority of these jobs will be “rank and file” positions in the hospitality sector, and those filling them will come from Egyptian families of modest means living in towns and villages in the Nile Valley. The salaries from these jobs will make crucial contributions to their families’ incomes. It can be estimated that employment generated in South Sinai by 2017 will directly support 700,000 Egyptians.

16.2 Contributions to Government Revenues

The Egyptian government already gains significant revenues from tourist activities in South Sinai, in the form of sales taxes, fees, and corporate taxes. Over the next two decades such revenues can be expected to increase several-fold, far exceeding the sunk capital costs and recurrent expenditures, which the government allocates to South Sinai. Thus, South Sinai’s development contributes to the national income, a significant portion of which goes to the development of lower income areas in Upper Egypt.

16.3 Response to National Plans

The Action Plan responds to many national development plans and strategies, including:

- 1) *National Environmental Action Plan*
- 2) *National Solid Waste Strategy*
- 3) *National Plan for Integrated Water Resource Management*
- 4) *National Health Sector Reform.*



16.4 National Tourism Sector Strengthening; South Sinai as a Center of Excellence

It is estimated that tourism in Egypt currently contributes to over 5% directly and 15% (direct and indirect) of Egypt’s GDP, and it is likely that this proportion will increase over the next two decades. For Egypt to maximize the growth of and benefits coming from tourism it must improve the operations and quality of its tourism sector and improve performance in what is an extremely competitive global industry. South Sinai already accounts for over 25% of Egypt’s tourism capacity, and it represents the leading edge of quality resort tourism in Egypt. The GEAP Sustainable Tourism Action Plan aims to consolidate South Sinai’s excellence in diversified and attractive nature-based tourism and to enhance its position in the global tourism market. In doing so it will help to strengthen the performance of the tourist sector nationally.

16.5 Red Sea as Global Commons

The Red Sea, and specifically the Gulf of Aqaba and Gulf of Suez, are extremely important international water bodies with unique biodiversity. The South Sinai GEAP will strengthen the means of protecting the natural habitats of coastal areas and islands off South Sinai, and in particular mitigate the results of future sea pollution. This will assist Egypt in meeting its obligations under international conventions dealing with oil pollution response.





17- The GEAP Cycle

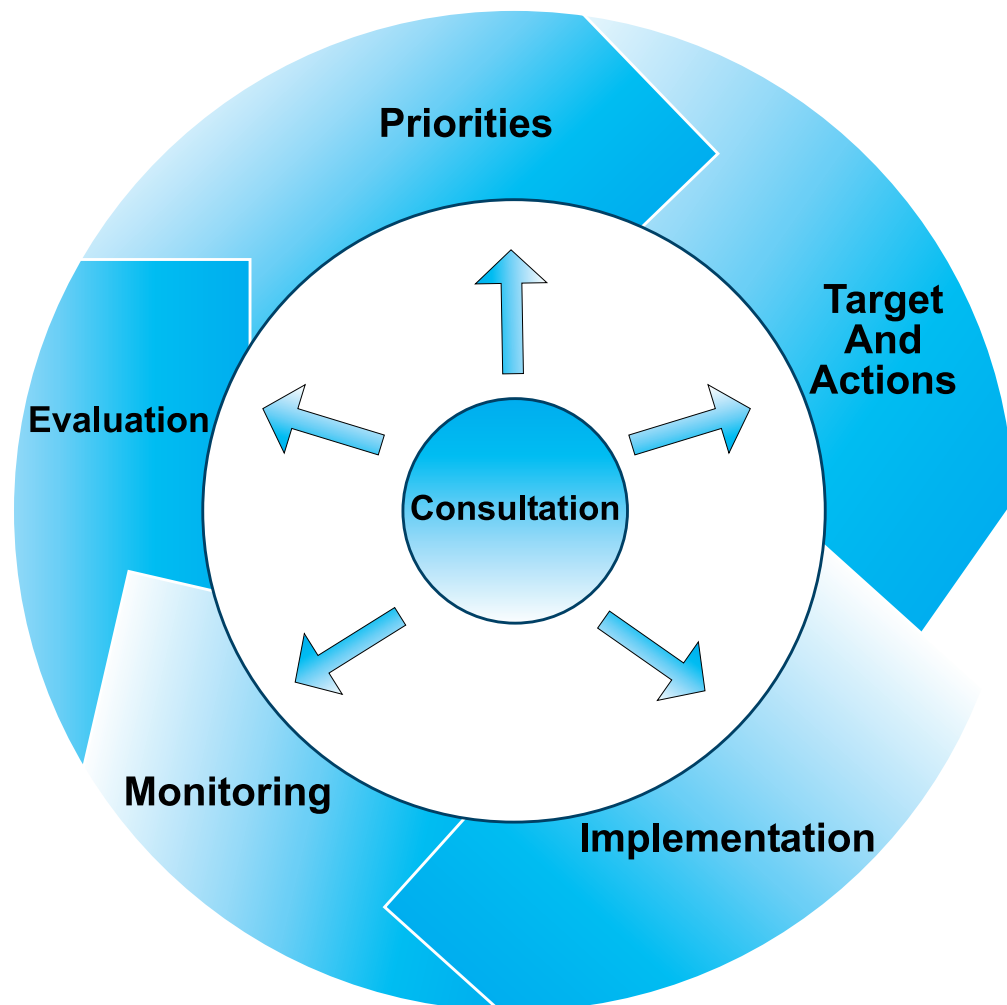
17.1 Monitoring the Actions

Actions have been identified to address priority issues. Lead organizations having a key role in achieving these actions (Section 14.1), should be monitoring the outcomes and provide feedback to other organizations involved.

A Governorate “State of the Environment” report should be prepared each year summarizing:

- Progress achieved in implementing the agreed actions.
- Areas that need to be addressed due to non-performance or difficulties.
- Recommended changes to ongoing actions to take account of changing circumstances.

Preparation of the report should be coordinated through the Governorate Environmental Management Department and submitted to the Higher Committee for the Environment to take appropriate action.



17.2 GEAP as an Ongoing Process

The GEAP targets and actions should be updated on an ongoing basis. Progress reports should be produced annually and the GEAP itself updated every 5 years. In the GEAP cycle it will be necessary to:

- Prepare annual implementation plans and budgets for the priority actions.
- Undertake monitoring and evaluate progress and implementation performance.
- Assess difficulties encountered and identify alternative ways of achieving objectives.
- Continue consultation with stakeholders, the community and tourists and to incorporate their views and support for forward plans.
- Identify new actions that become necessary due to changing circumstances (e.g. new laws or standards).
- Revise and set new targets and actions as appropriate.
- Accelerate investment in certain areas as a result of outside changes.
- Lobby continually for external investment from Central Government, private sector and donor agencies.
- Keep abreast of technological improvements that may provide more cost effective solutions.
- Respond to changing requirements for institutional strengthening and capacity building.



Governorate 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 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 centre which reports to the Governorate information center in El Tur.

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 around 15 from each city 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:

Tourism 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 Nature Conservation Sector five protected areas have been created, Ras Mohammed National Park, St. Catherine Protected Area, Nabq, Abu Gallum and Taba Managed Resource Protected Areas.

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 Tur and the SDA has roughly 150 employees.

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.



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Contributors

South Sinai Governorate

His Excellency the Governor,
General Mostafa Affifi

His Excellency the Secretary General,
General Sha'ban Khamees

His Excellency the Former Secretary General,
General Mohamed Waguih Abdel -Ghani

His Excellency the Deputy Secretary General
General Sami Fouda

South Sinai General Department for the Environment
Ahmed Shousha
Hamdi Kotb
Samir Hassanein

SEAM South Sinai GEAP Team

Dr Atwa Hussein, EEAA
Mahmoud Zaccahria, EEAA
Philip Jago, Programme Manager
Bahgat Sharara, Coordinator South Sinai
Rafik Riad
Dr. Guy Jobbins
Magdalena Banasiak
Manus Coffey
Steve Chaplin
Dr. Linda Timothy
Kevin Taylor
Heba Behairy
Nahla Sabet
Harold Goodwin
Amal Nabil
Dr. Hanaa El Gohary
Hossam Aziz
Dr. Ahmed Aziz
Janet Williams
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Public Consultation Team

Sonia Ahmed El Taham
Yara El Demerdash
Soha Ibrahim Abdel-Gawad
Islam Mahmoud
Wael Ibrahim
Khaled 'Alam

Participatory / Consultee Organisations:

Egyptian Environmental Affairs Agency

Coastal Zone Management Unit, Cairo
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South Sinai Governorate Directorates and Departments

Agriculture Directorate
Education Directorate
Fisheries Directorate
Health Directorate
• Sharm El Sheikh International Hospital
Housing Directorate
Mining and Quarrying Department
Occupational Health and Safety Department
Physical Planning
Social Affairs Directorate
Underground Water Department
Water and Sanitation Department

Abu Rudeis Municipality
Abu Zeneima Municipality
Dahab Municipality
El Tur Municipality
Nuweiba Municipality
Ras Sudr Municipality
Sharm el Sheikh Municipality
St Katherine Municipality

Private Sector

Anemone Diving Center, Sharm El Sheikh
Basata Village, Nuweiba
Camel Dive Club & Hotel, Sharm el Sheikh
Cfun Divers, Sharm el Sheikh
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Eden Rock Hotel Naama Bay
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Rafel Al Ma'ary
Shahenaz Fouad

Academic Organisations

Department of Biology, Suez Canal University
Department of Biology, American University in Cairo



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Local Communities

Bedouin Tribes

Aleiqat Tribe
Awlad-Said Tribe
Badara Tribe
Gabalia Tribe
Gararsha Tribe
Hamada Tribe
Hewat Tribe
Hoitat Tribe
Mezeana Tribe
Sawalha Tribe
Tarabeen Tribe

Urban Communities

Abu Rudeis
Abu Sweira Village
Abu Zeneima
Dahab City
El Asslah Village
El Gibil
El Ruweisat
El Tur City
Nuweiba City
Ras Shitani
Ras Sudr City
Sharm El Sheikh City
St. Katherine City

Rural Communities

Mandar
Khriza
El Ghargana
Wadi Kid
Wadi Se'al
Wadi El Arbe'in
Wadi Mokatab
Wadi Abu Ghara'ed
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Wadi Feiran
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