The Arab Republic of Egypt

Egyptian Holding Company for Airports and Air Navigation (EHCAAN)
Egyptian Airports Company (EAC)

The Arab Republic of Egypt

Special Assistance for Project Implementation (SAPI)

for

Borg El Arab International Airport Modernization Project

Final Report

February 2012

Japan International Cooperation Agency (JICA)

Japan Airport Consultants, Inc.
Narita International Airport Corporation (NAA)
Joint Venture

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List of Abbreviations

Abbreviation	Full Text
A	
A	Airbus (Aircraft maker)
ACI	Airports Council International
ADI	Airport Data Intelligence
ADP	Aeroport de Paris
ADPm	Aeroport de Paris management
AFTSIZ	Alexandria Free Trade & Special Investment Zone
AIP	Aeronautical Information Publication
Alex	Alexandria
ALY	Alexandria-Nozha International Airport (IATA code)
Arr.	Arrival
ASW	Aswan International Airport (IATA code)
ATA	Actual Time for Arrival
ATD	Actual Time for Departure
AVIT	Aviation Information Technology
B	
B	Boeing (Aircraft maker)
BeA	Borg El Arab
BeA	(Aircraft maker)
BHS	Baggage Handling System
BOJV	Besix-Orascom Joint Venture
BOT	Build-Operate-and-Transfer
C	
CAA	Civil Aviation Authority
CAC	Cairo Airport Company
CAI	Cairo International Airport (IATA code)
CAPMAS	Central Agency for Public Mobilization and Statistics
CBR	California Bearing Ratio
CCO	Central Control Operation
CCR	Constant Current Regulators
CCTV	Close Circuit Television
CEO	Chief Executive Officer
CEPC	Cairo Electricity Production Company
CHT	Chiller Plant & Water Tank Building
CIA	Central Intelligence Agency
CIQ	Customs, Immigration and Quarantine
Code	Certificated Airport Category by ICAO
C-SAT	City for Science research and Technology
CTB	Cargo Terminal Building
D	
DD	Detail Design
Dep.	Departure
DF/R	Draft Final Report
DHC	(Aircraft maker)
Dom.	Domestic
DVD	Digital Versatile Disk
DVOR/DME	Doppler VHF Omni-Directional Radio Beacon / Distance Measuring Equipment

List of Abbreviations

Abbreviation	Full Text
E	
E	Embraer (Aircraft maker)
EAC	Egyptian Airports Company
ECAA	Egyptian Civil Aviation Authority
ECG	Engineering Consultants Group S.A.
EDEPC	east Delta Electricity Production Company
EDS	Explosives Detection System
EEHC	Egyptian Electricity Holding Company
EETC	Egyptian Electricity Transmission Company
EGP	Egyptian Pound
EGYPT AIR	Egypt Air Holding Company
EHCAAN	Egyptian Holding Company for Airports and Air Navigation
E-JUST	Egypt-Japan University of Science and Technology
EMA	Egyptian Meteorological Authority
ENR	Egyptian National Railways
ER	Extended Range (Type of Aircraft Performance)
ERJ	Embraer Jet (Type of Aircraft)
ETA	Estimated Time for Arrival
ETD	Estimated Time for Departure
EU	European Union
EUR	Euro
F	
F	Fokker (Aircraft maker)
FAA	Federal Aviation Administration
Ferry	Aircraft Delivery without passenger carriage
FLT	Flight
G	
GBP	Great Britain Pound
GDP	Gross Domestic Product
GOPP	General Organization of Physical Planning (Egypt)
H	
HBE	Borg El Arab International Airport (IATA code)
HQ	Headquarter
HRG	Hurghada International Airport (IATA code)
I	
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IC/R	Inception Report
IEASM	European Institution of Underwater Archaeology
ILS	Instrument Landing System
IMF	International Monetary Fund
Int.	International
IT/R	Interim Report
J	
JAC	Japan Airport Consultants, Inc.
JBIC	Japan Bank for International Cooperation
J-CAB	Japanese Civil Aviation Bureau
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
JPY	Japanese Yen
JSUC	Japanese Supporting University Committee
JV	Joint Venture

List of Abbreviations

Abbreviation	Full Text
K	
L	
L	Left Runway (Position of Runway)
18L/36R	Direction and Position of Runway (18/36 means direction from 180 deg. to 360 deg.)
LC	Legacy Carriers
LCC	Low Cost Carriers
LJ	Large Jet
Lower-Egypt	Northern territory of Egypt
LR	Long Range (Type of Aircraft Performance)
LXR	Luxor International Airport (IATA code)
M	
MCA	Ministry of Civil Aviation
MD	McDonnell Douglas (Aircraft maker)
MDEPC	Middle Delta Electricity Production Company
ME	The Middle East
METI	Ministry of Economy, Trade and Industry (Japan)
MEXT	Ministry of Education, Culture, Sports, Science and Technology (Japan)
MHUUD	Ministry of Housing, Utilities and Urban Development (Egypt)
MJ	Middle Jet
MoA	Ministry of Agriculture (Egypt)
MOD	Ministry of Defense
MOEE	Ministry of Electricity and Energy (Egypt)
MOFA	Ministry of Foreign Affairs (Japan)
MoHE	Ministry of Higher Education (Egypt)
MoIC	Ministry of International Cooperation (Egypt)
MoCIT	Ministry of Communication and Information Technology (Egypt)
MoT	Ministry of Transport
MS	Egypt Air (IATA Airline code)
MuCSAT	Mubarak City for Science research and Technology
MWRI	Ministry of Water and Irrigation (Egypt)
N	
N/A	Not Applicable
NAA	Narita International Airport Corporation
NACO	Netherlands Airport Consultants B.V
NACTO	National Civil Aviation Training Organization (Egypt)
NANSC	National Air Navigation Service Company
NAT	National Authority for Tunnels (Egypt)
NOTAM	Notice to Air Men
NREA	New and Renewable Energy Authority (Egypt)
NUCA	New Urban Communities Authority (Egypt)
O	
OAG	Official Airlines Guide
O&D	Origin and Destination
ODA	Official Development Assistance
O&M	Operation and Management
ORASCOM	An Egyptian private construction company
P	
PALS	Precision Approach Light System
PAPI	Precision Approach Path Indicator
PBB	Passenger Boarding Bridge
PCCP	Portland Cement Concrete Pavement
PPP	Public Private Partnership
PSS	Primary Substation
PTB	Passenger Terminal Building
PTS	PTS Substation

List of Abbreviations

Abbreviation	Full Text
R	
R	Right Runway (Position of Runway)
REP	Replacement of aircraft parking stand
RUB	Russian Ruble
RVR	Runway Visual Range
RWY	Runway
S	
SALS	Simple Approach Lighting System
SAPI	Special Assistance for Project Implementation
SAPROF	Special Assistance for Project Formation
SAR	Saudi Arabian Riyal
SJ	Small Jet
SMS	Safety Management System
SODIC	Sixth of October Development and Investment Company
SSH	Sharm El Sheikh International Airport (IATA code)
ST.	Aircraft Parking Stand
STA	Scheduled Time for Arrival
Star Alliance	A Global Airline's Union
STD	Scheduled Time for Departure
T	
T	Terminal (T1 means Terminal 1)
U	
UAE	United Arab Emirates
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
Upper-Egypt	Southern territory of Egypt
USD	United States Dollar
V	
VFR	Visual Flight Rules
VIP	Very Important Person
W	
WDEPC	West Delta Electricity Production Company
WDIL	Wind Direction Indicator Lights
WG	Working Group
WMO	World Meteorological Organization
WTO	World Trade Organization

Chapter 1

Introduction

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Chapter 1. Introduction

1.1. Preface

Japan International Cooperation Agency (JICA) extended an ODA Loan to the Government of The Arab Republic of Egypt, in the amount of Japanese Yen 5,732 million to facilitate the Borg El Arab International Airport Modernization Project (the "Project").

The Project facilities were completed in October 2010, and the airport operations commenced in December 2010. The Project now falls in a Defect Liability Period when any defects for which the Contractor is liable shall be remedied by him not later than November 2011.

Air traffic in the region has kept dramatically increasing and nominal capacity initially designed for the Project (1 million passengers) has been reached. In response to the request from Egyptian Airports Company (EAC), JICA decided to dispatch a Study Team to update air traffic demand forecast, to study how the Project facilities can be utilized to their maximum extent possible, and to assess the capacity limit of the completed facilities (the "Study"). If the air traffic demands and requirements in the foreseeable future are assessed to surpass the capacity limit of the completed facility, further airport development will be considered through this Study.

1.2. Outline of the Study

1.2.1. Objective of the Study

Objectives of the Study are to:

a) Identify chronological changes (from 2004; SAPROF Study) in socio-economic and industrial conditions at Alexandria, Egypt or in neighboring Middle-East countries;

b) Analyze whether the said changes have resulted in the change in the surrounding conditions (from SAPROF Study) being the basis of the Project; and

c) Analyze possible option for future direction, toward which Borg El Arab International Airport is recommended to develop.

1.2.2. Area of the Study

The study area covers the entire Egypt.

1.2.3. Scope of the Study

Scope of the Study is identified as shown in Table 1.2-1.

Table 1.2-1 Scope of the Study

[A]	1st Work in Japan	[A-1] Collection and Analysis of Related Data and Information
		[A-2] Identification of Objective, Scope of Work, List of Information required, Outline of local Condition, and Scheduling for the Study
		[A-3] Preparation of Inception Report (IC/R)
		[A-4] Discussion with JICA-Tokyo (on IC/R)
		Inception Report (IC/R)
[B]	1st Work in Egypt	[B-1] Discussion with JICA-Egypt (on IC/R)
		[B-2] Presentation and Discussion of IC/R
		[B-3] Data Collection, Survey and Identification of Current Situation
		[B-4] Air Traffic Forecast, and Demand vs. Capacity Analysis
		[B-5] Wrap-up with JICA-Egypt (on the 1st outcome obtained in Egypt)
[C]	2nd Work in Japan	[C-1] Report to JICA-Tokyo (on the 1st outcome obtained in Egypt)
		[C-2] Follow-up Data and Information (being collected with Egyptian partners)
		[C-3] Continuation Work of [B-4]
		[C-4]Recommendation to maximize the Project-effect
		[C-5] Identification of further input to be obtained in Egypt
		[C-6] Preparation of Interim Report (IT/R)
		[C-7] Wrap-up with JICA-Tokyo (on IT/R)
		Interim Report (IT/R)
[D]	2nd Work in Egypt	[D-1] Presentation and Discussion of IT/R
		[D-2] Preparation of Conclusion & Recommendation
		[D-3] Wrap-up with JICA-Egypt (on Conclusion & Recommendation)
[E]	3rd Work in Japan	[E-1] Discussion with JICA-Tokyo (on Conclusion & Recommendation)
		[E-2] Preparation of Draft Final Report (DF/R)
		[E-3] Wrap-up with JICA-Tokyo (on DF/R)
		Draft Final Report (DF/R)
[F]	3rd Work in Egypt	[F-1] Presentation and Discussion of DF/R
		[F-2] Fine tuning and Confirmation of overall contents of the Study
[G]	4th Work in Japan	[G-1] Preparation of Final Report

1.3. Work Procedure of the Study

1.3.1. Study Organization

The Study Team is composed of 6 experts as listed below:

a. Team Leader: Tadashi AOI

b. Deputy Team Leader: Shin MITSUI

c. Airport Planner: Takeshi NISHIKIORI

d. Airport Management Specialist: Hidenari SHINOMURA

e. Airport Development Planner: Yasuhiro OKAMOTO

f. Coordinator / Assistant Airport Planner: Tsuyoshi KIDOAKI

Organization of the Study Team is shown in Figure 1.3-1.

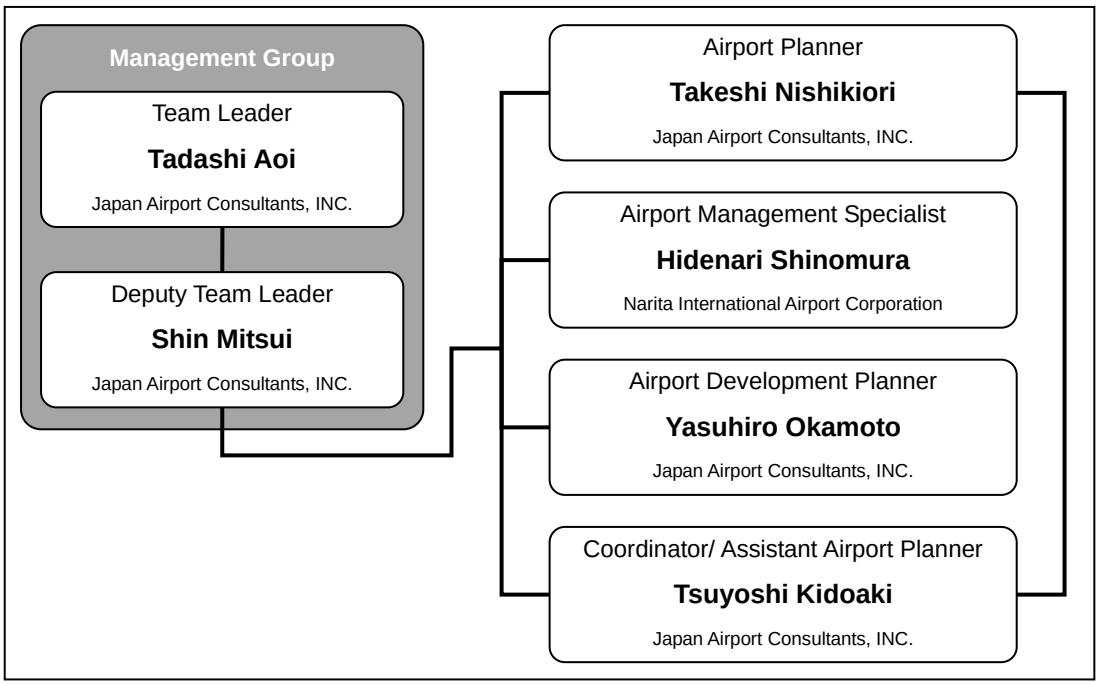

Figure 1.3-1 Organization of Study Team

1.3.2. Work Flowchart

Work Flowchart for the Study is shown in Figure 1.3-2.

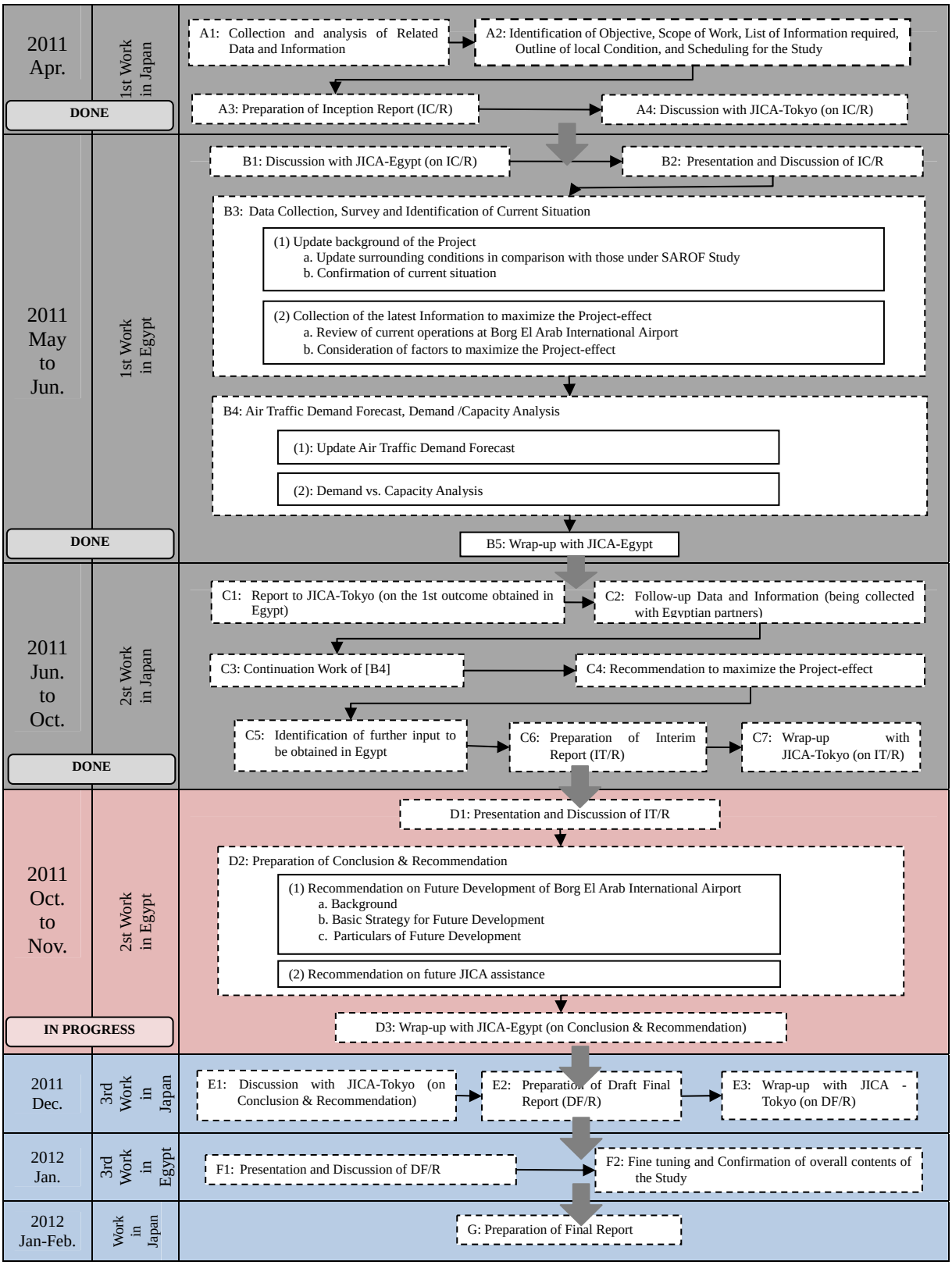

Figure 1.3-2 Work Flowchart for the Study

1.3.3. Work Schedule

Contract of the Study was conducted on April 12, 2011. The entire works consist of the first to third work in Egypt and Japan respectively with total man-months of 14.82, to be completed on February 29, 2012.

The following events, listed in Table 1.3-1, were held during the 1st to third Works in Egypt.

Table 1.3-1 Work schedule of the Study (During 1st to 3rd Works in Egypt)

Contract Date	2011/4/12	
1st Work in Egypt	**2011/5/20 ~ 2011/6/18**	
Inception Report submission	2011/5/22	
Meeting with JICA Egypt office	2011/5/22	Meeting was held at JICA Egypt office.
Kick-off Meeting	2011/5/22	Meeting was held at EHCAAN[1)].
EAC Airport Inspections	2011/5/29 ~ 6/1	Sharm El Sheikh, Hurghada, Luxor and Aswan
Questionnaire to Departure Passengers	1st: 2011/6/12 ~ 6/18 2nd: 2011/7/10 ~ 7/16 3rd: 2011/8/7 ~ 8/13	
Courtesy Visit to Ministry of Civil Aviation	2011/5/23	
Courtesy Visit to Ministry of International Cooperation	2011/5/23	
Courtesy Visit to Japan Embassy in Cairo	2011/5/23	
Meeting with travel agent (A. travel)	2011/5/26	Meeting was held at A. travel HQ in Alexandria.
Meeting with Cairo Airport Company	2011/6/2	Meeting was held at CAC[2)] HQ in Cairo.
Meeting with Air Arabia Egypt	2011/6/13	Meeting was held at Air Arabia Egypt office in Borg El Arab.
Meeting with Ground Handling Company (ZAS)	2011/6/13	Meeting was held through telephone at SAPI office in Borg El Arab International Airport, Administration Building.
Meeting with Egypt Air Holding Company	2011/6/14	Meeting was held at Egypt Air Holding Company in Cairo.
Meeting with Cargo forwarder (Suntra Express)	2011/6/16	Meeting was held at Suntra Express HQ in Cairo.

2nd Work in Egypt	**2011/10/23 ~ 2011/12/2**	
Meeting with EAC chairman	2011/10/26 2011/11/22	Meeting was held at EAC HQ.
Meeting with JICA Egypt office	2011/10/27 2011/11/14 2011/11/20	Meeting was held at JICA Egypt office.
Meeting with E-JUST [3)]	2011/11/3	Meeting was held at E-JUST office at Borg El Arab.
Interim Report submission	2011/11/23	
Meeting with EAC for Interim reporting	2011/11/23	Meeting was held at EHCAAN.
3rd Work in Egypt	**2012/1/13 ~ 2012/1/22**	
Meeting with EAC chairman	2012/1/15 2012/1/17	Meeting was held at EAC HQ.
Meeting with JICA Egypt office	2012/1/15	Meeting was held at JICA Egypt office.
Courtesy Visit to Japan Embassy in Cairo	2012/1/16	
Courtesy Visit to Ministry of International Cooperation	2012/1/17	
Draft Final Report submission	2012/1/18	
Meeting with EAC for Draft Final reporting	2012/1/18	Meeting was held at EHCAAN.

[1)] EHCAAN: Egyptian Holding Company for Airport and Air Navigation

[2)] CAC: Cairo Airport Company

[3)] E-JUST: Egypt-Japan University of Science and Technology

Chapter 2

Background of the Project

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Chapter 2. Background of the Project

2.1. History of the Project

2.1.1. Necessity of the Project

Located along the Mediterranean, Alexandria, the second largest city next to Cairo, is currently served by two (2) airports, namely Alexandria-Nozha International Airport and Borg El Arab International Airport, as shown in Figure 2.1-1.

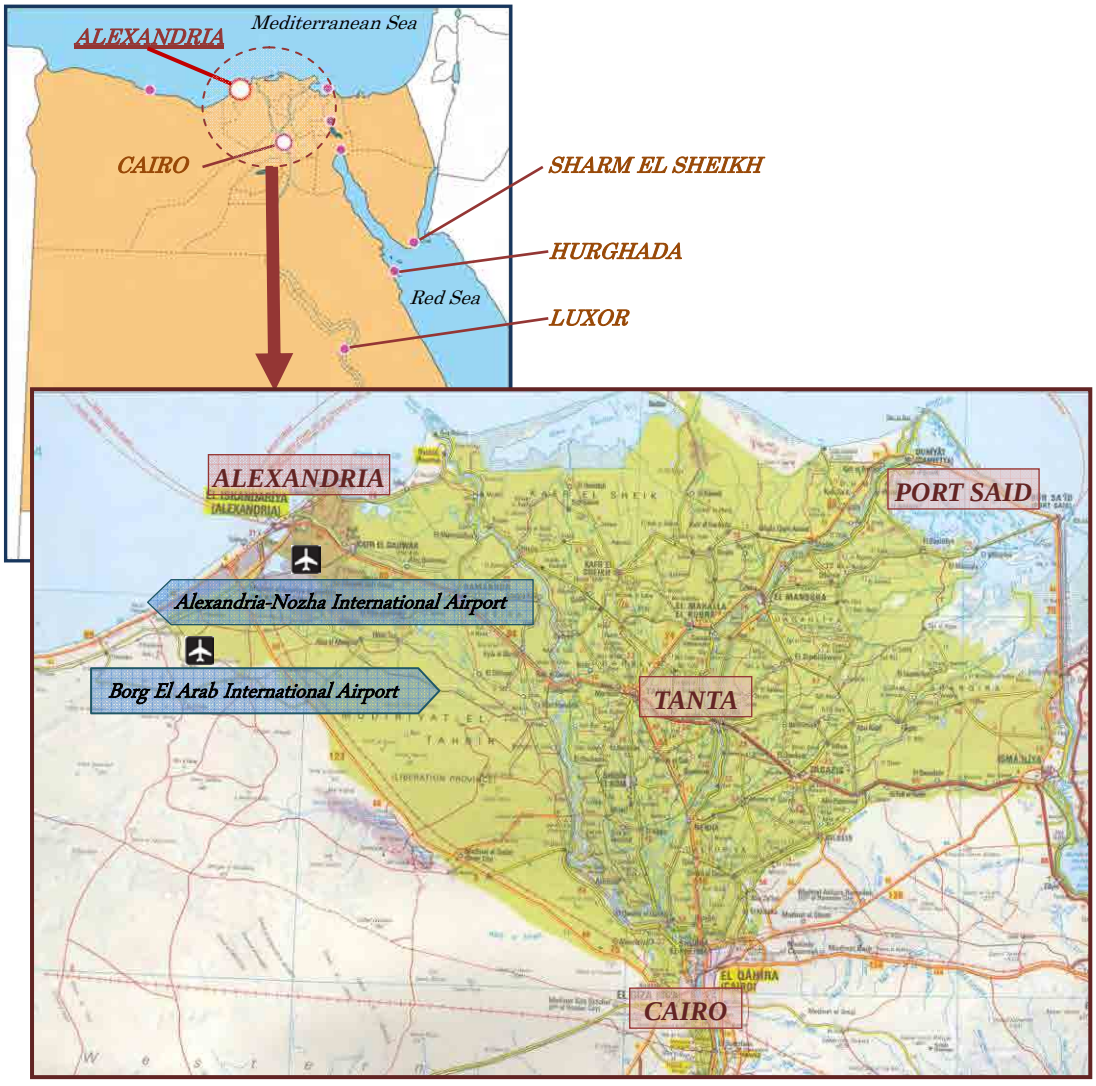


Figure 2.1-1 Locations of Alexandria-Nozha and Borg El Arab International Airports

Alexandria-Nozha International Airport operational since 1945, is conveniently located in Alexandria downtown, however is situated at 2 m below water level of the adjacent Lake Maryut, and the airport subsoil is saturated and a large amount of ground water (1,000 tons/hour) being pumped up for 24 hours a day. This made the pavement of either Runway 04/22 (2,200 m in length) or Runway 18/36 (1,800 m) very weak, where only small jet (e.g. A-320, B737 or smaller) can barely make regional international flights with payload restriction. Its small antique passenger terminal building has a common entrance hall for

international check-in and domestic departure/arrival, only 1 baggage claim carousel for international arrival, only 2 passport control desks, which are not only congested but are far below international standards in terms of safety, security and level of services to the passengers. This airport is surrounded by roads, canals (of higher water levels), and residential area all around, and therefore no way to expand.

Meanwhile, Borg El Arab International Airport (the "Airport") is located 45 km to the west from Alexandria city center. Property of the Airport is sub-divided into two premises, namely of 2,260 ha for Ministry of Defense (MOD) and 1,220 ha for Egyptian Airports Company (EAC). The Airport was established in 1990s originally to cater for a joint-use by military and civil aviation, with its 3,400-m long runway, apron, control tower, fire station, a primary passenger terminal (2,500 m^2), road and car parks, and other infrastructures built by EAC in the premise of MOD. The Airport commenced its initial civil aviation operations from 2000, so as to alleviate traffic congestion and hence to reduce a risk of aircraft accident at Alexandria-Nozha International Airport.

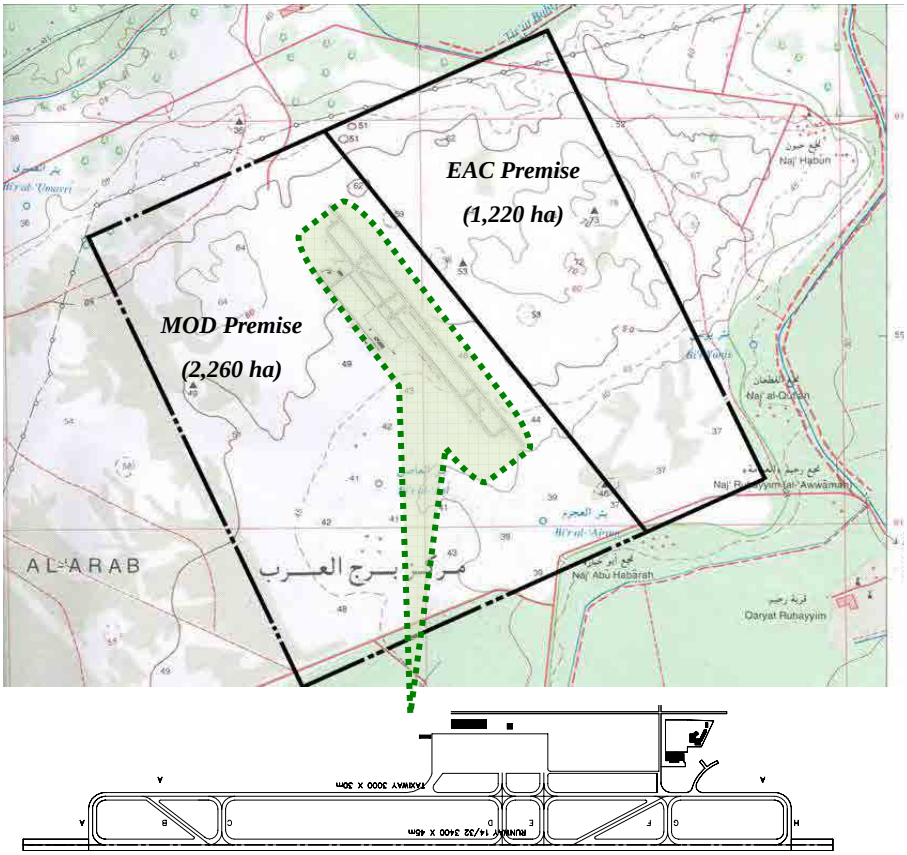


Figure 2.1-2 Property and Initial Layout of Borg El Arab International Airport (as of 2004)

In 2004, EAC requested technical and financial assistance from the Government of Japan, to construct a new civil aviation facility complex in the premises of EAC. In response to the request from EAC, JICA (formerly JBIC) dispatched its Study Team for the Special Assistance for Project Formation (SAPROF).

2.1.2. SAPROF Study in 2004

SAPROF Study was conducted in 2004, based on the data and information on the surrounding conditions available for Alexandria region and/or entire Egypt, as of 2002, consisting of the following:

- Socio-economic indices;
- Industrial products' data;
- Tourism data (numbers of visitors, origin and destination) and development plans;
- Road, railway and sea transportation network;
- Aviation industries, network and traffic volumes (passengers, cargos, aircraft movements, by airports); and
- Airport developments, planed as of 2002.

Based on the SAPROF Study, a Loan Agreement in the amount of Japanese Yen 5,732 Million for the Borg El Arab International Airport Modernization Project (the "Project") was signed in March 2005 between MCA and JICA.

2.1.3. Design and Completion of the Project

After signing of the Loan Agreement, the consulting services for Detailed Design, Assistance in Bidding and Construction Supervision was conducted by a group of consultants, namely Japan Airport Consultants, Inc. (JAC), Engineering Consulting Group S.A (ECG), and Netherlands Airport Consultants B.V (NACO) Joint Venture (JENJV).

After the successful Bidding Process, construction of the Project was entrusted to Besix-Orascom Joint Venture (BOJV).

The facilities completed through the Project in the premise of EAC by the end of 2010 are, passenger and cargo terminal buildings, control tower, fire fighting & rescue station, administration building, taxiway and apron pavements, airfield lights and signs, power supply, water supply, telecommunication, sewage treatment system, among others. Fuel farm, catering building, ground handlers' maintenance yards were built by private sectors.

Locations of the Project facilities were chronologically changed as shown in Figure 2.1-3.

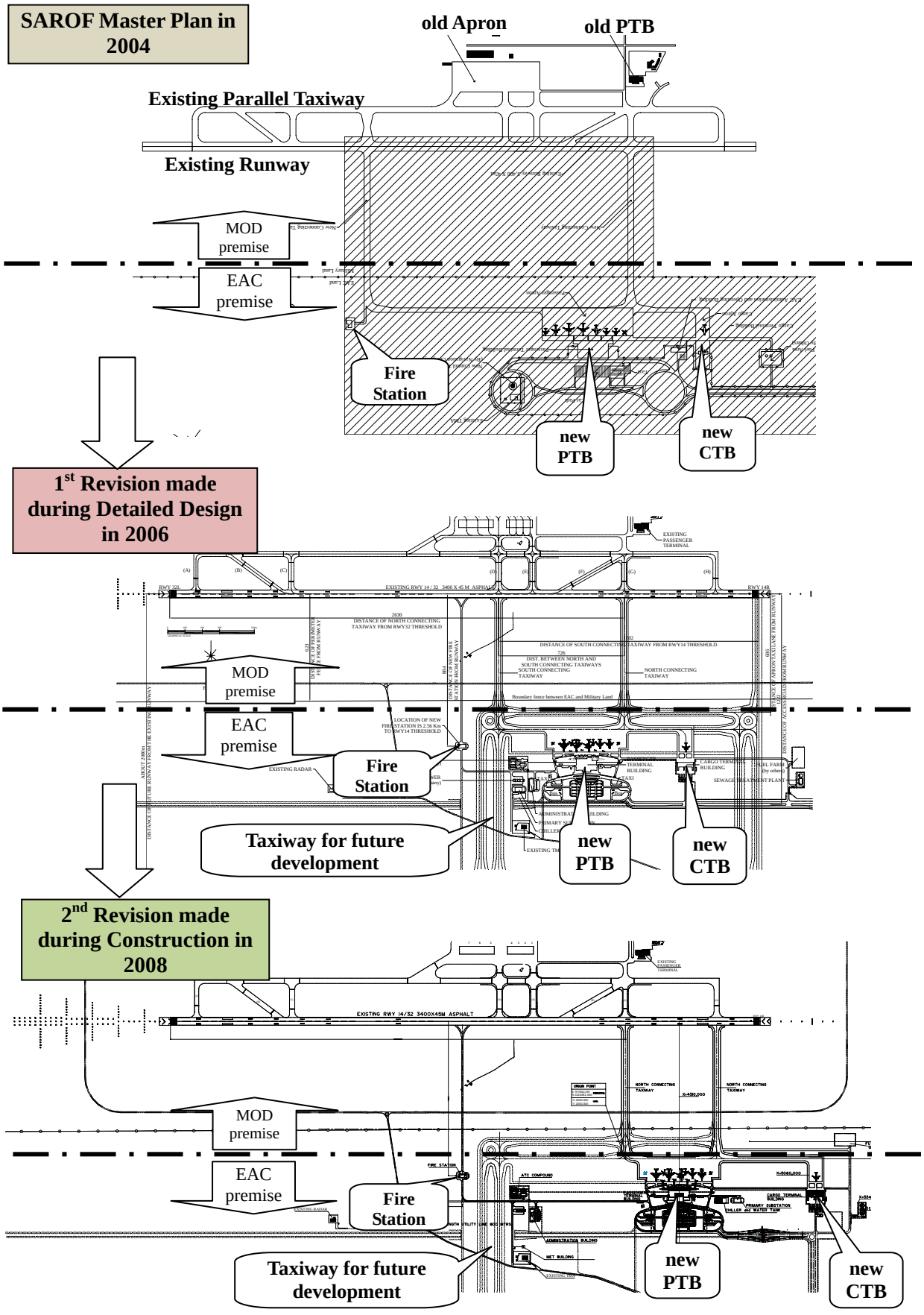


Figure 2.1-3 Chronological Change in Borg El Arab International Airport Layout Plan

The changes in the master plan from SAROF Study are summarized as follows:

1) 1st revision

During the detailed design of the Consulting Services in 2006, location of Fire Station was changed to comply with ICAO regulation for the response time of fire fighting vehicle, but locations of Passenger Terminal Building (PTB) and Cargo Terminal Building (CTB) were maintained as proposed in the SAPROF Study.

Passenger Terminal Building

The 20,840 m^2 gross floor area which was studied in SAPROF(2004) has been modified due to the introduction of an Inline Baggage Security System at basement (713 m^2) and additional Air Handling Unit area at rooftop (870 m^2). In addition a Utility tunnel is incorporated into the design to facilitate access for maintenance of all main services (1,444 m^2). Totally 3,027 m^2 has been added to the original SAPROF designed floor area.

Cargo Terminal Building

The 890 m^2 gross floor area which was studied in SAPROF(2004) has been modified due to increased administration area and storage area to allow for sufficient movement of handling equipment. Further outdoor storage area on the left and right sides of the building with high walls and a visitors waiting area were added.

2) 2nd revision

During early stage of the construction process due to the then instruction from higher Authority, the locations of PTB and CTB were moved to the north by 600 -700 m, as a result, those were situated at northern end of the existing runway. Also, entry direction of the access road was changed perpendicularly, due to a land acquisition problem with the local government.

Capacity of the PTB originally planned through SAPROF Study was 1million passengers per annum to sum up the air traffic in the existing 2 airports (Alexandria-Nozha and Borg El Arab) for the year 2014. Meanwhile, the number of actual passengers handled dramatically increased, and exceeded 1.7 million in 2010.

2.2. Socio-Economic Situation in Egypt

2.2.1. General

Egypt has a vast territory of 995,867.77 km^2 (including Sinai Peninsula, according to the Statistical Year Book 2010, CAPMAS) and is situated at the northeast extremity of the African Continent along Mediterranean. It has been playing an important role as entry to Africa and as center of trade and culture in the Middle East and North Africa.

In April 2008, the governorate territories of Cairo Metropolitan (Cairo and Giza) were divided into Cairo, Giza, Helwan and 6th of October governorates. As seen in the following figure, Egypt has 29 governorates (provinces). A governorate is further sub-divided into four tiers; namely "Region", "City", "District" and "Village".

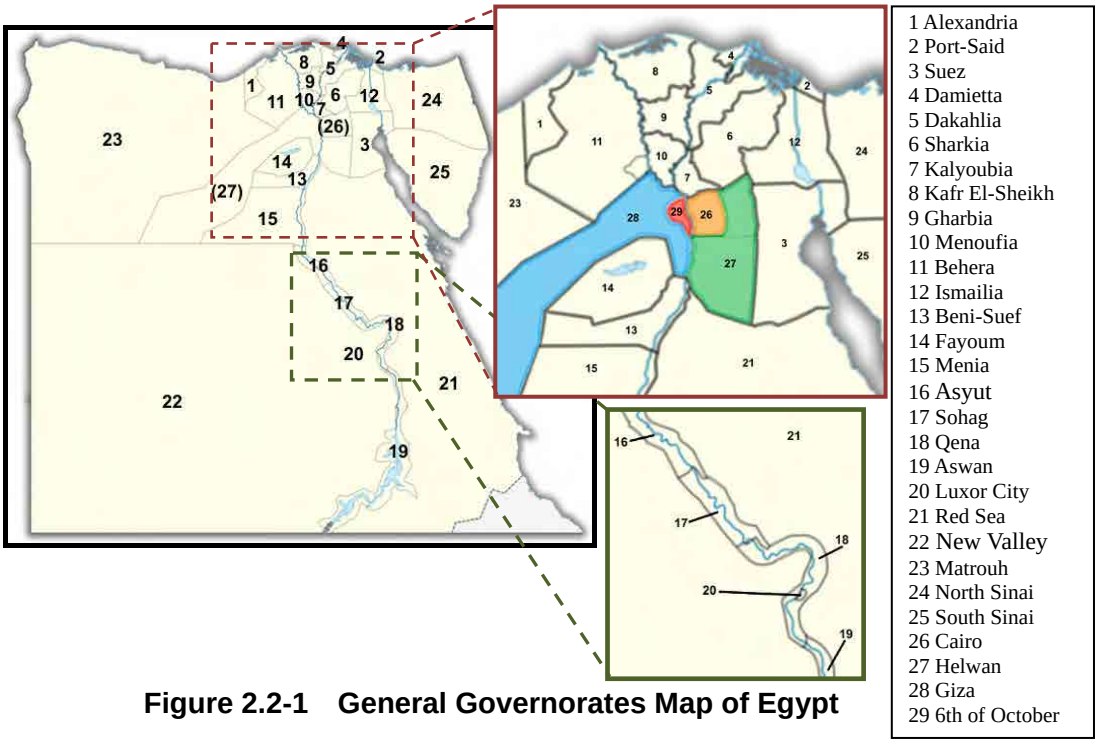


Figure 2.2-1 General Governorates Map of Egypt

The territory of Egypt is divided into 5 major regions, namely, Lower-Egypt, Middle-Egypt, Upper-Egypt, Canal and Sinai, each is generally described as follows:

- ✓ The Lower-Egypt region consists of 10 governorates in the area of northern territory from Cairo and western territory from the Suez Canal.
- ✓ The Middle-Egypt region consists of 4 capital metropolitan governorates including Cairo, Giza, Helwan and 6th of October. This region has been playing a role of the capital metropolitan of Egypt, and its territories were re-organized from 2 to 4 governorates in 2008.
- ✓ The Upper-Egypt consists of 10 governorates in southern territory of Egypt and has the largest area among the regions in Egypt. The area is mostly a part of Sahara Desert, and the population in this region is concentrated in the bank area of the Nile River.

- ✓ The Canal region is located in the eastern territory of Egypt, having the world's important international canal "the Suez Canal".
- ✓ The Sinai region consists of 2 governorates located in the Sinai Peninsula.

Area and capital of Governorates in Egypt are listed in Table 2.2-1.

Table 2.2-1 List of Governorates in Egypt

No.	Name of Governorate	Area (Km^2)	Capital
1	Alexandria	2,300.0	Alexandria
2	Port-Said	1,345.0	Port Said
3	Suez	9,002.2	Suez
4	Damietta	910.3	Damietta
5	Dakahlia	3,538.2	Mansura
6	Sharkia (Sharqia)	4,911.0	Zagazig
7	Kalyoubia (Qalyubia)	1,124.3	Banha
8	Kafr El-Sheikh	3,466.7	Kafr El-Sheikh
9	Gharbia	1,942.3	Tanta
10	Menoufia (Monufia)	2,499.0	Shibin El-Kom
11	Behera (Beheira)	9,826.0	Damanhur
12	Ismailia	5,068.0	Ismailia
13	Beni-Suef	10,954.0	Beni Suef
14	Fayoum (Faiyum)	6,068.0	Faiyum
15	Menia (Minya)	32,279.0	Minya
16	Asyout (Asyut)	13,720.0	Asyut
17	Suhag (Sohag)	11,218.1	Sohag
18	Qena	8,920.0	Qena
19	Aswan	62,726.0	Aswan
20	Luxor City	2,955.3	Luxor
21	Red Sea	120,000.0	Hurghada
22	El-Wadi El-Gidid (New Valley)	440,098.0	Kharga
23	Matrouh (Matruh)	166,563.0	Marsa Matruh
24	North Sinai	28,992.0	Arish
25	South Sinai	31,272.0	El-Tor
Detail Figures in 4 Governorates of Cairo Metropolitan (Calculated by present territories)			
26	(New) Cairo	374.0	Cairo
27	Helwan	903.5	Helwan
28	(New) Giza	12,892.0	Giza
29	6^{th} of October		6^{th} of October city
	Total of 4 Metropolitan Governorates	14,169.5	
	TOTAL of Nation	**995,867.8**	
Cairo Metropolitan (Calculated by former territories)			
(26)	*(Former) Cairo*	*3,085.0*	*Cairo*
(27)	*(Former) Giza*	*13,184.0*	*Giza*
	Total of Cairo Metropolitan	*16,269.0*	

[Source] Statistical Year Book, October 2010, CAPMAS.

2.2.2. National Economy

Steady growth of the Gross Domestic Products (GDP) of more than 5 % has been continued since 1995 and the GDP in 2010 reached 1,207 Billion Egyptian Pounds (equivalent to US$ 218 billion) in the current price, which is the highest value among African countries. This is due to the revenues from Suez Canal and the booming cultural heritage tourism industry. GDP per capita(2010) in the current price was 15,509 Egyptian Pound (equivalent to USD 2,800).

Chronological changes in GDP and GDP per capita are shown in Table 2.2-2

Table 2.2-2 Gross Domestic Products of Egypt

	Volume			Growth rate			Remarks		
	GDP Constant prices (2002)	Population	GDP per capita Constant prices (2002)	GDP Constant prices (2002)	Population	GDP per capita Constant prices (2002)	GDP Current prices	GDP Current prices	GDP per capita Current prices
	LE Billion	Persons Million	LE				LE Billions	USD Billions	LE
1995	266	57	4,666				204	60	3,585
1996	278	58	4,785	4.9%	2.3%	2.5%	229	68	3,942
1997	295	59	4,966	5.9%	2.1%	3.8%	257	76	4,330
1998	317	61	5,226	7.5%	2.2%	5.2%	287	85	4,735
1999	337	62	5,429	6.1%	2.1%	3.9%	308	90	4,961
2000	355	63	5,604	5.4%	2.1%	3.2%	340	99	5,373
2001	367	65	5,675	3.5%	2.2%	1.3%	359	95	5,544
2002	379	66	5,741	3.2%	2.0%	1.2%	379	88	5,741
2003	391	67	5,810	3.2%	2.0%	1.2%	418	81	6,204
2004	407	69	5,933	4.1%	1.9%	2.1%	485	79	7,074
2005	425	70	6,074	4.5%	2.0%	2.4%	539	90	7,693
2006	454	71	6,372	6.8%	1.9%	4.9%	618	107	8,663
2007	487	74	6,610	7.1%	3.2%	3.7%	745	130	10,120
2008	521	75	6,932	7.2%	2.2%	4.9%	896	162	11,908
2009	546	77	7,105	4.7%	2.1%	2.5%	1,042	189	13,570
2010	574	78	7,375	5.1%	1.3%	3.8%	1,207	218	15,509
1995-2002	5.2%	2.1%	3.0%						
2003-2010	5.6%	2.1%	3.5%						
Remark	AAGR	AAGR	AAGR						

[Source] Population by CAMPAS, GDP by IMF

Table 2.2-3 shows the macro balance of the national economy of Egypt from the resource-based and usage-based view points. The total amount of resources / usages has grown nearly 3 times from 2002/03 to 2009/10. National economy resources and usages are shown in Table 2.2-3 below.

Table 2.2-3 National Economy Resources and Usages since 2002/03 till 2009/10

	2002/03	2004/05	2006/07	2008/09	2009/10
Resources	**519.3**	**714.1**	**1,004.2**	**1,371.5**	**1,527.4**
GDP at Factor Production Cost	390.6	506.5	710.4	994.1	1,150.6
Net In-direct Taxes	26.9	32.0	34.4	48.1	56.0
Commodities & Services Imports	101.8	175.6	259.4	329.3	320.8
Usages	**519.3**	**714.1**	**1004.2**	**1,371.5**	**1,527.4**
Final Private Consumption	304.9	385.3	539.2	793.1	899.8
Final Government Consumption	52.9	68.6	84.4	118.3	134.7
Investments	68.1	96.5	155.3	197.1	231.8
Changes in Inventory	2.4	0.3	0.0	2.9	3.5
Commodities & Services Exports	91.0	163.4	225.3	260.1	257.6

[Source] Statistical Year Book, October 2011, CAPMAS

Remarks: All amounts are show in Current Prices, Billion Egyptian Pounds

Exchange rate against USD has been stable for the past five years, while inflation and unemployment rates kept a high level, as shown in Table 2.2-4.

Table 2.2-4 Exchange rate, Inflation and Unemployment Rates in Egypt

	Rate			Difference from previous year		
	Exchange rate	Inflation	Unemployment rate	Exchange rate	Inflation	Unemployment rate
	LE per USD	% change	% of total labor force			
1995	3.40	9.4%	11.2%			
1996	3.39	7.1%	9.5%	▲ 0.004	▲2.3%	▲1.7%
1997	3.39	6.2%	8.7%	▲ 0.004	▲0.9%	▲0.8%
1998	3.41	5.0%	8.0%	0.015	▲1.1%	▲0.7%
1999	3.41	3.7%	7.7%	0.006	▲1.3%	▲0.3%
2000	3.53	2.8%	9.0%	0.119	▲0.9%	1.3%
2001	4.04	2.4%	8.8%	0.507	▲0.4%	▲0.2%
2002	4.60	2.4%	10.1%	0.561	0.0%	1.2%
2003	5.83	3.2%	11.3%	1.233	0.8%	1.2%
2004	6.16	8.1%	10.5%	0.330	4.9%	▲0.7%
2005	5.75	8.8%	11.5%	▲ 0.408	0.7%	0.9%
2006	5.66	4.2%	10.9%	▲ 0.095	▲4.6%	▲0.6%
2007	5.57	11.0%	9.2%	▲ 0.092	6.8%	▲1.7%
2008	5.39	11.7%	8.8%	▲ 0.179	0.8%	▲0.4%
2009	5.51	16.2%	9.5%	0.119	4.5%	0.7%
2010	5.59	11.7%	9.0%	0.080	▲4.5%	▲0.5%
1995-2002	3.65	4.9%	9.1%			
2003-2010	5.68	9.4%	10.1%			
Remark	Average	Average	Average			

2.2.3. Population

The population of Egypt has increased from 57 million in 1995 to 78 million in 2010. The great majority of it is living along the Nile Delta.

Because of the rapid population growth (i.e. average annual growth rate of 2.2 %), about 50 % of the Egyptian population is under 30 years old. 90% of the population is distributed along the Nile River (including the Nile Delta) and the majority (38 million) is living in Lower Egypt (from the Northern part of the Nile Delta up to the Mediterranean, including Alexandria).

The population of Middle Egypt (Cairo, Giza, Helwan and 6th of October) is 15 million as shown in Table 2.2-5

According to the latest forecast of future population of Egypt by CAPMAS (Central Agency for Public Mobilization and Statistics), the population of Egypt would steadily grow. In the medium-case of estimation total Egyptian population is expected to be 84.9 million in 2015, and 91 million in 2020 respective.

This growing speed is expected to keep for the coming 10 years at an annual average growth rate of 1.55% by 2020, against the current annual average growth rate of 2.2% for the last 10 years.

Table 2.2-5 Chronological Changes in the Population by Governorates in Egypt

(Thousand.person)

Area	Governorate	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Average Annual Growth Rate
Lower Egypt	Alexandria	3,543	3,604	3,661	3,724	3,790	3,856	3,919	4,165	4,238	4,316	4,438	2.3%
	Behera	4,299	4,386	4,470	4,558	4,647	4,732	4,820	4,802	4,903	5,006	5,206	1.9%
	Kafr-ElSheikh	2,383	2,424	2,467	2,511	2,557	2,609	2,654	2,653	2,708	2,766	2,875	1.9%
	Gharbia	3,632	3,696	3,765	3,830	3,899	3,968	4,039	4,055	4,136	4,215	4,347	1.8%
	Monufia	2,963	3,022	3,081	3,142	3,202	3,260	3,321	3,309	3,381	3,453	3,580	1.9%
	Damietta	986	1,004	1,026	1,049	1,070	1,093	1,116	1,112	1,137	1,165	1,211	2.1%
	Dakahlia	4,533	4,621	4,707	4,800	4,893	4,984	5,078	5,044	5,139	5,277	5,440	1.8%
	Sharkia	4,644	4,749	4,855	4,967	5,071	5,177	5,283	5,426	5,545	5,665	5,876	2.4%
	Kalyoubia	3,547	3,619	3,694	3,765	3,836	3,908	3,981	4,300	4,395	4,491	4,636	2.7%
	Matrouh	239	244	252	259	226	274	280	327	335	345	372	4.5%
	Sub-Total	30,768	31,370	31,979	32,604	33,192	33,861	34,491	35,194	35,917	36,700	37,981	2.1%
Middle Egypt	Cairo	7,216	7,335	7,444	7,571	7,708	7,840	7,968	7,989	6,935	7,062	7,302	
	Giza	5,147	5,254	5,368	5,471	5,577	5,689	5,800	6,365	3,230	3,289	3,148	
	Helwan	-	-	-	-	-	-	-	-	1,768	1,804	1,866	
	6 October	-	-	-	-	-	-	-	-	2,683	2,743	3,062	
	Sub-Total	12,363	12,589	12,813	13,042	13,284	13,529	13,768	14,353	14,616	14,899	15,378	2.2%
Upper Egypt	Fayoum	2,184	2,242	2,292	2,347	2,399	2,448	2,502	2,547	2,612	2,681	2,803	2.5%
	Beni-Suef	2,037	2,086	2,134	2,177	2,222	2,269	2,318	2,321	2,378	2,437	2,540	2.2%
	Minya	3,642	3,725	3,830	3,921	4,009	4,100	4,190	4,212	4,319	4,420	4,607	2.4%
	Asyout	3,081	3,160	3,241	3,315	3,390	3,462	3,535	3,487	3,570	3,653	3,800	2.1%
	Suhag	3,415	3,510	3,587	3,666	3,736	3,812	3,890	3,792	3,871	3,956	4,124	1.9%
	Qena	2,667	2,727	2,789	2,849	2,906	2,965	3,024	3,036	3,108	3,174	2,738	0.3%
	Luxor	388	396	403	410	418	426	433	462	470	479	1,043	10.4%
	Aswan	1,039	1,053	1,069	1,087	1,106	1,127	1,146	1,197	1,222	1,244	1,292	2.2%
	Red Sea	170	173	177	181	185	189	193	292	297	304	313	6.3%
	ElWadi ElGidid	153	157	160	164	168	171	175	189	193	197	204	2.9%
	Sub-Total	18,776	19,229	19,682	20,118	20,539	20,968	21,406	21,535	22,040	22,544	23,464	2.3%
Canal	Port-Said	501	509	517	525	533	542	550	577	588	598	617	2.1%
	Suez	448	458	465	475	486	495	505	519	530	543	563	2.3%
	Ismailia	781	799	817	837	856	875	895	966	991	1,015	1,057	3.1%
	Sub-Total	1,731	1,765	1,799	1,836	1,874	1,912	1,950	2,061	2,109	2,156	2,237	2.6%
Sinai	North Sinai	278	285	293	301	309	316	325	349	359	369	385	3.3%
	South Sinai	59	61	62	64	65	67	68	151	152	154	157	10.2%
	Sub-Total	337	345	355	364	374	383	393	500	511	523	542	4.9%
Total		63,975	65,298	66,628	67,965	69,264	70,653	72,009	73,644	75,194	76,822	79,602	2.2%

[Source] Statistical Year Book, October 2010, CAPMAS.

Chronological change in population and share of Alexandria Governorate against national total are shown in Table 2.2-6.

Table 2.2-6 Chronological Changes in Alexandria's share of Total Population

	2000	2002	2004	2006	2008	2010	2011
Alexandria	**3,542,663**	**3,661,131**	**3,790,062**	**3,919,290**	**4,238,100**	**4,362,168**	**4,437,560**
National Total	63,974,724	66,627,610	69,303,902	72,008,901	75,193,567	77,775,247	79,602,650
Share	5.54%	5.49%	5.47%	5.44%	5.64%	5.61%	5.57%

[Source] Statistical Year Book, October 2011, CAPMAS

The population at Alexandria has been growing at a higher pace than the national average and in 2011 it represented 5.57% of Egypt's population. The age of the population is somewhat above the national average and a group of people over 45 years of age live in the governorate.

Table 2.2-7 Alexandria's Population Age (in 2006)

	Age 0-1	Age 1-5	Age 5-15	Age 15-45	Age 45-60	Age 60-	Total
Alexandria	**25,816 (0.63%)**	**319,539 (7.75%)**	**725,925 (17.60%)**	**2,114,094 (51.26%)**	**629,525 (15.27%)**	**308,970 (7.49%)**	**4,123,869 (100.00%)**
Cairo City	55,556 (0.82%)	490,947 (7.26%)	1,177,597 (17.42%)	3,420,366 (50.61%)	1,044,293 (15.45%)	569,822 (8.43%)	6,758,581 (100.00%)
Total	628,523 (0.86%)	7,090,397 (9.74%)	15,362,718 (21.10%)	36,287,538 (49.85%)	9,001,097 (12.36%)	4,427,758 (6.08%)	72,798,031 (100.00%)

[Source] Statistical Year Book, October 2009, CAPMAS

Over 99% of people live in urban areas of Alexandria.

Average number of Households is 3.8 at Alexandria Governorate, being the same as Cairo as shown in Table 2.2-8.

Table 2.2-8 Alexandria's Sex and Households (in 2006)

	Households	Population	Male	Female	M / F	Average No. of Household
Alexandria	**1,071,582**	**4,099,348**	**2,093,129**	**2,006,219**	**1.043**	**3.8**
Urban	1,063,396 (99.24%)	4,060,267 (99.05%)	2,072,659 (99.02%)	1,987,608 (99.07%)	1.043	3.8
Rural	8,186 (0.76%)	39,081 (0.95%)	20,470 (0.98%)	18,611 (0.93%)	1.100	4.8
Cairo City	**1,783,335**	**6,687,961**	**3,393,486**	**3,294,475**	**1.030**	**3.8**
Urban	1,783,335 (100%)	6,687,961 (100%)	3,393,486 (100%)	3,294,475 (100%)	1.030	3.8
Total	**17,289,299**	**72,349,119**	**36,942,147**	**35,406,972**	**1.043**	**4.2**
Urban	7,844,852 (45.37%)	30,974,151 (42.81%)	15,778,093 (42.71%)	15,196,058 (42.92%)	1.038	3.9
Rural	9,444,447 (54.63%)	41,374,968 (57.19%)	21,164,054 (57.29%)	20,210,914 (57.08%)	1.047	4.4

[Source] Statistical Year Book, October 2009, CAPMAS

2.2.4. Employment

As observed in Table 2.2-9 to Table 2.2-11, the people in Alexandria work in a fairly diversified group of services but mainly in the manufacturing, construction, transportation and communication businesses. This is explained because large numbers of industries located in the area and the large population that lives in the city.

Table 2.2-9 Estimated Employees by Industrial Categories (in 2010)

Job Categories	Cairo		Alexandria		TOTAL	
	Employees	Share	Employees	Share	Employees	Share
Agriculture, Hunting and Forestry	10,700	0.51%	72,800	5.92%	6,727,600	28.23%
Mining, Quarrying and Manufacturing	374,600	17.80%	249,300	20.27%	2,928,600	12.29%
Energy and Water	50,900	2.42%	38,000	3.09%	416,600	1.75%
Construction and Building	207,400	9.86%	134,500	10.94%	2,694,000	11.31%
Transportation, Information and Communications	624,700	29.69%	344,400	28.00%	4,375,800	18.36%
Food and Housing service	118,900	5.65%	60,200	4.89%	669,200	2.81%
Insurance, Finance, Real estate and Rent	84,100	4.00%	27,900	2.27%	378,000	1.59%
Technical and Science	86,200	4.10%	33,900	2.76%	396,500	1.66%
Public, Social Security and Military	207,800	9.88%	72,800	5.92%	1,856,700	7.79%
Education	181,800	8.64%	10,300	0.84%	2,092,300	8.78%
health and Social activities	70,400	3.35%	42,700	3.47%	611,800	2.57%
Amumesemnt and Arts	17,000	0.81%	6,800	0.55%	103,800	0.44%
Others	69,800	3.32%	36,300	2.95%	578,300	2.43%
	2,104,300	100.00%	1,229,900	100.00%	23,829,200	100.00%

[Source] Statistical Year Book, October 2011, CAPMAS

Number of Government employees is 17.3% of the total employees in Alexandria.

Table 2.2-10 Employees in Government and Public Sectors (in 2007)

	Population in 2007	Employees in 2007	Employees in Government and Public Sectors			Growth Rate For 2 years
			2005	2006	2007	
Alexandria	4,162,381	1,171,100	201,294	190,317	199,388	- 0.09%
			(Share of Population)		4.79%	
			(Share of Employees)		17.03%	
Cairo City	7,985,549	2,105,500	1,622,990	2,451,997	2,539,211	56.45%
			(Share of Population)		31.80%	
			(Share of Employees)		120.35%	
Total	73,608,492	21,723,700	4,832,984	5,578,930	5,657,583	17.06%
			(Share of Population)		7.69%	
			(Share of Employees)		26.04%	

[Source] Statistical Year Book, October 2009, CAPMAS

Current labor force of Egypt is 26.2 million as shown in Table 2.2-11. According to the latest labor force statistics, un-employment rate in Egypt is 9.0 %.

Table 2.2-11 Annual Estimates of Labor Force in Egypt

	2000	2002	2004	2006	2008	2009	2010
Labor Force	**18,901,100**	**19,876,800**	**20,871,300**	**22,878,200**	**24,651,300**	**25,353,400**	**26,180,000**
Male	14,701,800	15,533,900	15,879,000	17,767,100	19,120,000	19,410,300	20,140,000
Female	4,199,300	4,342,900	4,992,300	5,111,100	5,531,300	5,943,100	6,040,000
Employed	17,203,100	17,856,200	18,717,500	20,443,600	22,507,300	22,975,300	23,829,000
Un-employed	1,698,000	2,020,600	2,153,900	2,434,500	2,144,000	2,377,900	2,351,000
Un-employment rate	**8.98%**	**10.17%**	**10.32%**	**10.60%**	**8.75**	**9.40%**	**9.00%**

[Source] Statistical Year Book, October 2011, CAPMAS

Due to the recent economic growth in Middle-East and Arab regions and the present unfavorable situation of labor market in Egypt, it has been estimated that approximately 6.5 million Egyptians are working abroad, especially in Arab countries (4.8 million) as shown in Table 2.2-12.

Table 2.2-12 Estimated Egyptian Migrants Abroad (in 2009)

Total			**6,475,517**
Arab Countries			**4,789,359**
Libya	2,000,000	Iraq	15,000
Saudi Arabia	1,300,000	Bahrain	12,000
Jordan	525,000	Yemen	10,300
Kuwait	480,000	Syria	10,000
U.A.E.	260,000	Maghreb	8,000
Qatar	88,500	Sudan	2,000
Oman	45,000	Tunisia	500
Lebanon	38,000	Mauritania	159
Africa			**2,445**
Asia			**6,073**
Australia			**106,000**
Europe			**790,799**
N/S America			**780,841**

[Source] The Ministry of Manpower and Immigration

The Gulf countries such as Qatar, UAE, Kuwait, Bahrain, Jordan and Saudi Arabia are popular destinations of Egyptian migrants for finding job opportunities. These countries are facing at shortage of labor force to maintain economic growth thereby receiving huge number of foreign workers and their families.

For example, the ratio of immigrants against the total national populations in 2005, in Qatar was 75.9% in UAE. 71.4%, in Kuwait 62.11 %, and in Saudi Arabia 25.25 %, respectively according to the latest estimation of international statistics.

Table 2.2-13 Estimated Immigrants in Arab Countries (in 2005)

Country	Estimated Immigrants	Immigrants Share of Total Population
Qatar	637,000	75.90%
U.A.E.	3,212,000	71.40%
Kuwait	1,669,000	62.11%
Palestinian Territories	1,68,000	45.38%
Bahrain	295,000	42.22%
Jordan	2,225,000	39.01%
Israel	2,661,000	37.87%
Saudi Arabia	6,361,000	25.25%
Oman	628,000	24.46%
Lebanon	657,000	16.96%
Libya	618,000	10.56%
Syria	985,000	5.17%
Egypt	166,000	0.22%

[Source] International Migration 2006, UN Department of Economic and Social Affairs

2.2.5. Housing

The city of Alexandria is well known to be the major tourism destination for people living in the Cairo Region. Many visitors from Cairo own their houses and/or apartments in the city that they use only during the summer vacation. Between 25 and 30% of houses and apartments in Alexandria remain vacant for 8 months through the year.

Population is said to be almost doubled in Alexandria during the summer months adding strain to public utilities and roads.

Table 2.2-14 Housing Investments by Sectors

(Million Egyptian Pounds)	2002/03	2004/05	2006/07	2008/09	2009/10
Public Investments	972 (20%)	677 (10%)	1,074 (10%)	3,027 (27%)	5,124 (31%)
Private Investments	3,905 (80%)	5,899 (90%)	9,520 (90%)	8,090 (73%)	11,382 (69%)
Total Investments	4,877	6,576	10,593	11,117	16,506

[Source] Statistical Year Book, October 2011, CAPMAS

The number of total buildings or housings in Alexandria is not much less than that in Cairo, although population of Cairo is almost twice as many as Alexandria. One reason is because the size of apartment in Alexandria is generally smaller than Cairo, but another reason is that many Egyptian owns second houses unoccupied along Mediterranean coast, as shown in Table 2.2-15.

Table 2.2-15 Distribution of Buildings by Using Purpose (Estimation in 2006)

	Total Buildings	Housing	Work	Housing & Work	Unoccupied	Other
Alexandria	**386,812**	**253,986**	**20,293**	**35,261**	**67,795**	**3,782**
Cairo City	426,392	297,025	30,230	63,047	26,434	2,103
National Total	11,151,223	8,606,983	479,945	435,956	1,406,508	67,868

[Source] Statistical Year Book, October 2009, CAPMAS

Table 2.2-16 Distribution of Buildings by Type (Estimation in 2006)

	Alexandria	**Share (%)**	Cairo	Share (%)	Total	Share (%)
Apartment block	**106,494**	**25.4**	163,794	37.1	1,209,977	10.4
House	**213,281**	**50.9**	215,098	28.7	5,455,326	47.1
Country House	**1,783**	**0.4**	2,767	0.6	3,661,358	31.6
Villa	**21,986**	**5.2**	4,936	1.1	98,123	0.8
Chalet	**12,010**	**2.9**	63	0.0	41,447	0.4
Work Building	**15,723**	**3.8**	20,023	4.5	345,078	3.0
Mall	**64**	**0.0**	135	0.0	975	0.0
Shop or more	**9,776**	**2.3**	12,023	2.7	184,976	1.6
Kiosk	**4,275**	**1.0**	5,655	1.3	76,050	0.7
Hut or Tent	**1,420**	**0.3**	1,898	0.4	77,913	0.7
Others	**31,986**	**7.6**	15,402	3.5	442,849	3.8
Total	**418,798**	**100.0**	441,794	100.0	11,594,072	100.0

[Source] Statistical Year Book, October 2009, CAPMAS

2.2.6. Industry and Trade

1) Agriculture

The agricultural industry in Egypt has been developed and enhanced Egyptian economy as an important industry since long time ago. The agriculture industry has been generally developed in whole Egypt, but major agricultures are developed in the Nile Delta area.

According to the statistics for agricultural industry in Egypt, in total 123.6 million tons of crop production were grown amounting to a value of 108.7 billion Egyptian Pounds in 2009.

For other agricultural products, 18.2 million heads of livestock exist and producing 5.6 million tons of milk production.

Table 2.2-17 Agriculture Production in Egypt

Items	**2002**	**2004**	**2006**	**2008**	**2009**	**2010**	**Remarks**
Winter crops Production (thousand tons)	83,913	83,376	77,225	78,360	75,965	77,558	Wheat, Beans, Onion, Garlic, Sugar beet, Vegetables and others
Summer crops Production (thousand tons)	42,374	44,202	48,010	49,263	47,652		Cotton, Rice, Maize, Potatoes, Sesame, Vegetables and others
Estimated Livestock (thousand heads)	16,612	17,265	17,957	19,154	18,232		Cows, Buffaloes, Sheeps, Goats and Camels
Milk Production (thousand tons)	4,210	4,682	5,787	5,980	5,624		Cows, Buffaloes, Goats

[Source] Statistics in 2011, The Ministry of Agriculture and Land Reclamation

Fishery is also having important impact on Egyptian economy, by 1.1 million tons of catch of fish with earnings of 11.7 billion Egyptian Pounds.

Table 2.2-18 Fish Production in Egypt

Fisheries Location (thousand tons)	2002	2004	2006	2008	2009	Remarks
Sea	132.5 (16.5%)	111.4 (12.9%)	119.6 (12.3%)	136.3 (12.8%)	127.8 (11.7%)	Mediterranean Sea and Red Sea
Northern Lakes	133.8 (16.7%)	132.9 (15.3%)	108.4 (11.2%)	109.1 (10.2%)	113.1 (10.3%)	El-Manzala, El-Boroullos, Edco and Maryuott
Coastal Plains	3.3 (0.4%)	2.4 (0.3%)	4.1 (0.4%)	5.5 (0.5%)	5.6 (0.5%)	El-Bardwiel and Port Foad Saltern
Internal Lakes	34.9 (4.4%)	41.9 (4.8%)	38.8 (4.0%)	43.5 (4.1%)	53.6 (4.9%)	Karoun, El-Rian, Nasser, El-Morra & El-Temsah, Suez-Canal and others
Internal Water	120.9 (15.1%)	105.0 (12.1%)	105.0 (10.8%)	79.7 (7.5%)	87.3 (8.0%)	The Nile River and its branches
Fishery Cultivations	376.0 (46.9%)	471.5 (54.5%)	595.1 (61.3%)	693.8 (65.0%)	705.5 (64.6%)	Farms, Canal & Drainages and Rice fields
Total	801.5	866.0	970.9	1,067.6	1,092.9	

[Source] Statistics in 2011, The Ministry of Agriculture and Land Reclamation

Total value of agriculture production including plant, livestock, insect and fish, has reached 189.4 billion Egyptian Pounds (equivalent to 2.46 trillion Japanese yen) in 2009.

Table 2.2-19 Total Value of Agriculture Production in Egypt (Income)

(thousand Egyptian Pounds)	2003/04	2005/06	2007/08	2008/09	Remarks
Total of Plant Production	65,098,531	78,424,562	109,792,395	108,657,504	
Field Crops	42,541,495	48,906,582	73,566,708	69,827,237	
Other Crops	22,557,036	29,517,980	36,225,687	38,830,267	Vegetables, Fruits
Total of Livestock Production	39,199,121	49,570,614	64,940,436	68,987,324	
Total of Insect Production	109,172	118,479	119,932	132,250	
Total of Fish Production	7,428,346	9,305,434	10,814,352	11,660,753	
Total	**111,835,170**	**137,419,089**	**185,667,115**	**189,437,831**	

[Source] Statistics in 2011, The Ministry of Agriculture and Land Reclamation

2) Petrochemical

Petrochemical is one of the most important industries that boost Egyptian economy. Oil refinery and gas mining are widely spread in Egypt, but a large number of petrochemical establishments (factories) for oil refining are concentrated in the north-coast of Egyptian territory such as Alexandria and Port Said. The latest statistics shows that an amount of 11,405 million Egyptian Pounds was earns at 33 mining sites in 2008/09.

31.3 million tons of petrochemical and 46.7 million tons of natural gas products were produced in 2009/10 as shown in Table 2.2-20 below.

Table 2.2-20 Petrochemical Production in Egypt

(thousand tons)	2001/02	2003/04	2005/06	2007/08	2009/10
Oil Refinery					
Butane / Propane	473	894	1,523	1,904	1,681
Gasoline / Naphtha	5,205	6,948	7,221	7,943	7,583
Kerosene / Jet Fuel	1,828	2,459	2,467	2,571	2,167
Gas Oil / Diesel Oil	5,809	8,602	8,690	9,141	8,814
Fuel Oil	10,242	10,577	11,692	11,960	10,144
Asphalt	882	1,032	997	922	930
Total of Oil Refinery	24,439	30,512	32,590	34,441	31,319
Natural Gas Production					
Natural Gas	19,605	23,615	38,374	42,878	46,686

[Source] General Authority of Petrol

2.2.7. Transportation

1) Railways

Egypt has the oldest history of railway developments in Africa and Middle-East regions since 1854. The first railway development stated from Alexandria and reached Cairo in 1856. After the first development of railways in Egypt, its network expanded quickly, and more than 3,000km of the network was established by year 1940. Further expansion of the rail network has been made mainly in the Nile Delta area from Cairo. Almost all railway networks in Egypt are being operated by Egyptian National Railways (ENR), a governmental transportation management organization. At present, ENR is in services with 5,138 km, and its network includes major traffic line from Aswan in south (upper-Egypt) to Alexandria in north (lower-Egypt). Since railway network developed, railways have been taking a role of major transportation in Egypt until now. According to the latest statistics by ENR, they carried 291 million passengers in 2008/09 and 7.9 million tons of freight in 2006/07, accounting for about 40% of total domestic passenger movements and about 10% of total domestic cargo movements.

Table 2.2-21 Related Statistics on National Railway Network

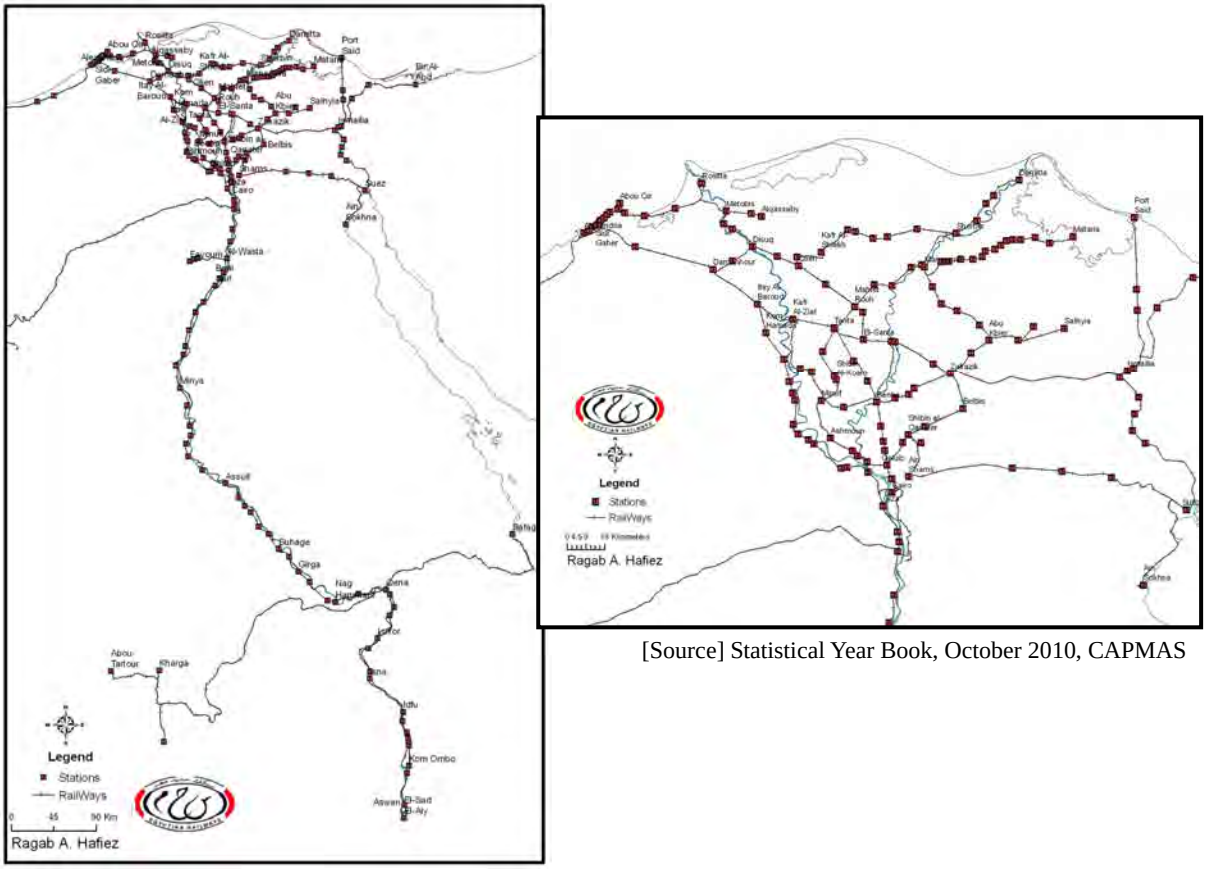
	2001/02	2003/04	2005/06	2007/08	2008/09
Daily Available Seats	744,500	678,127	614,650	544,257 (2006/07)	
Line Network (Km)	5,063	8,038	5,128	5,138	5,138
Annual Passengers (Million)	450.7	418.1	435.6	374.5	291.6
Passengers / Km (Million)	39,083	52,682	54,884	50,181	
Annual Cargo (Million Tons)	11.9	12.3	10.5	7.9 (2006/07)	

[Source] Statistical Year Book, October 2011, CAPMAS

ENR Trains at Alexandria-Sidi Gabel Station

Recently renovated Cairo-Ramses Station

Figure 2.2-2 Egyptian National Railways



[Source] Statistical Year Book, October 2010, CAPMAS

Figure 2.2-3 Route Map of Egyptian National Railways

The nationwide railway network is playing an important role of domestic transportation since the fares are set in an affordable level for local citizens, however modernization of the facilities has not well progressed. This situation and slow developments are caused by serious accidents and various related problems on scheduled operations, train facilities, passenger services and comfort.

Aside from the ENR network, several Street-Cars (Trams) are in service in Cairo metropolitan area and Alexandria city, and 2 lines of Subways (Cairo Metro) are also available in Cairo city. The Cairo Metro is the only Subway developed in African region, operated by Cairo Metro Organization under ENR.

The development of the Metro network in Cairo has been aimed to improve in-city traffic

conditions and solve serious traffic problems in Cairo metropolitan area due to recent concentration of the population and traffic. Currently, the Metro carried more than 690 million passengers per annum in 2008/09, so it means daily about 2 million passengers in average were using the Metro.

Table 2.2-22 Passengers on Cairo Metro Network

	2001/02	2003/04	2005/06	2007/08	2008/09
Annual Passengers (Million)	681.3	552.7	710.0	716.8	690.3

[Source] Statistical Year Book, October 2011, CAPMAS

[Source] ENR

Figure 2.2-4 Map of Existing Route of Cairo Metro

At present, the Metro is serving 2 lines in Cairo. The first developed line (The Red Line, Line 1) is serving 43.5km network between Helwan and New El Marg. The development of the Red Line was financially assisted by France and the phase-1 section opened in 1985. The second developed line (The Yellow Line, Line 2) is in service from Shubra El Kheima to El Mounib with 20 stations on 21.5km network. Operation system of the Yellow Line is installed through financially assistance from Japan. Phase-1 section in 8km was opened in 1996 and the development of this line completed in 2005. And other new 2 lines (Lines 3 and 4) are being implemented to be ready in services. Line 3 will open its phase-1 section in 2011 and Line 4 has just started the construction recently.

2) Road

The road system in Egypt consists of the National Roads including major highways and the Local Roads managed by local governorates. Total length of the road network, paved and unpaved, in Egypt reached 113,451 km. 89.1% of the total national road network is paved but the ratio of paved roads in Alexandria region does not reach the national average.

Table 2.2-23 Overview of Road Network in Egypt (in 2010)

(Km)	National Paved roads	Major routes	Local Paved roads	Total of Paved roads	Un-paved roads	Ratio of Paved road
Alexandria	603	403 (66.8%)	3,211	3,814	1,049	72.5%
Cairo	1,520	617 (40.6%)	21,469	22,030	1,820	91.7%
Nation Total	23,619	6,741 (28.5%)	78,638	102,257	11,194	89.1%

[Source] Statistical Year Book, October 2011, CAPMAS

6,741 km of national roads are composed of national major routes such as highways which have a width of 12m or more. Most highway networks are intensively developed in the Nile Delta area between Cairo and surrounding local cities and a part of highways are consisting of Egyptian section of North-African International Highway which connects Egypt and Morocco. The road traffic for domestic passenger movement recorded 12.8 billion passengers/km in 2008 according to the statistics of the World Bank.

As shown in Table 2.2-24, a total of 5.7 million vehicles were registered in whole Egypt in 2010. For the latest 5 years from 2005 to 2010, the total number of licensed vehicles has increased by 56.0%, and individually 5-year growth of private cars was 60.5%, buses 43.9%, trucks 27.4%, and motorcycles 137.4%.

Table 2.2-24 Statistics on Licensed Vehicles by Type

Type of Vehicles	2005	2006	2007	2008	2009	2010	Growth Rate for 5 years
Private Car	1,757,102	1,909,149	2,075,869	2,206,823	2,437,543	2,820,242	60.5%
Taxi	320,471	328,273	309,784	316,293	308,254	249,087	-22.3%
Bus	72,354	79,163	81,656	92,625	100,006	104,131	43.9%
Lorry, Truck and Tractor	750,951	790,159	804,611	861,845	916,422	956,719	27.4%
Government and Public Car	132,961	133,823	130,866	128,234	133,564	137,732	3.6%
Motorcycle	578,978	645,893	793,107	995,781	1,166,481	1,374,775	137.4%
Others	50,071	67,351	43,973	55,035	75,225	71,699	43.2%
Total	3,662,888	3,953,811	4,239,866	4,656,636	5,137,495	5,714,385	56.0%

[Source] Statistical Year Book, October 2011, CAPMAS

Half of the total licensed vehicles in Egypt are registered in Cairo, Giza and Alexandria governorates as shown in Table 2.2-25 below.

Table 2.2-25 Share of National Total of Licensed Vehicles in Major Governorates

(in 2010)	Cairo	Giza	Alexandria	Red Sea	N/S Sinai	Total
Private Car	1,245,623	421,420	344,123	18,853	9,171	2,820,242
	44.2%	14.9%	12.2%	0.7%	0.3%	100.0%
Taxi	111,652	24,548	23,449	3,508	3,156	349,087
	32.0%	7.0%	6.7%	1.0%	0.9%	100.0%
Bus	41,949	6,680	10,110	2,739	1,815	104,131
	40.3%	6.4%	9.7%	2.6%	1.7%	100.0%
Lorry, Truck and Tractor	179,614	50,962	83,477	9,241	12,154	956,719
	18.8%	5.3%	8.7%	1.0%	1.3%	100.0%
Government and Public Car	31,645	11,719	6,276	2,019	1,739	137,732
	23.0%	8.5%	4.6%	1.5%	1.3%	100.0%
Motorcycle	225,207	126,124	25,718	8,013	6,282	1,374,775
	16.4%	9.2%	1.9%	0.6%	0.5%	100.0%
Others	15,394	1,971	9,000	1,249	7,500	71,699
	21.5%	2.7%	12.6%	1.7%	10.5%	100.0%
Total	1,851,084	643,424	502,153	45,622	41,817	5,814,385
	31.8%	11.1%	8.6%	0.8%	0.7%	100.0%

[Source] Statistical Year Book, October 2011, CAPMAS

Recently, the route network and pavement condition of the roads have been improved gradually, however its pace has fundamentally not caught up with the rapidly growing traffic and increasing vehicles. The developments of road network and alternative transportations to solve current chronic traffic congestions in major cities are expected.

3) Air

Domestic air traffic in Egypt has been growing year by year, and it reached 6.2 million passengers in 2009. This figure shows 41.6 % increasing vs. the record in 2001. Since the commencement of air traffic network development in Egypt in the 1920s, air transportation has been one of major means of domestic transportation. Air passenger statistics on domestic carried for the last 9 years are shown in Table 2.2-26 below.

Table 2.2-26 Chronological Changes in Domestic Air Passenger and Cargo of Egypt

2001	2002	2003	2004	2005	2006	2007	2008	2009
Air passengers carried (Domestic)								
4,389,163	4,526,688	4,180,814	4,621,310	4,888,146	4,988,262	5,829,044	6,688,999	6,215,870
Year on Year	103.1%	92.4%	110.5%	105.8%	102.0%	116.9%	114.8%	92.9%
Vs. 2001	103.1%	95.3%	105.3%	111.4%	113.6%	132.8%	152.4%	141.6%
Air freight (Million tons/Km, Domestic)								
239	249	239	242	287	309	207	195	180
Year on Year	104.2%	96.0%	101.3%	118.6%	107.7%	67.0%	94.2%	92.3%
Vs. 2001	104.2%	100.0%	101.3%	120.1%	129.3%	86.6%	81.6%	75.3%

[Source] The World Bank

For the past decade, the total number of international and domestic air passengers carried in Egypt has been almost doubled from 20.5 million in 2000 to 40 million in 2010, with an average annual growth of some 7 %. Especially, the growth of air traffic in the Red Sea area (Sharm El Sheikh and Hurghada) and Alexandria area (Alexandria-Nozha and Borg El Arab)

is remarkable. Overview and more detail analysis of Air Transportation in Egypt are presented in Chapter 3.1.

4) Sea and River

Major seaports in Egypt are Red Sea Port, Damietta, Port Said & El Arish, and Alexandria & Dekhiela. Red Sea Port is located in the eastern coastal side of Egyptian territory and used as multi-purposes port base of cargo and passenger services in this area. About 18.5 million tons of cargo and 2.1 million passengers were handled at Red Sea Port in 2010. The other three (3) seaports are located in the Mediterranean coast of northern Egypt and handling more than 80% of international marine cargo in Egypt. The largest sea port is Alexandria & Dekhiela seaport which handled 49.5 million tons of cargo and 508 thousands passengers per annual in 2010.

Table 2.2-27 Statistics on Major Sea Ports in Egypt

		Red Sea				
	Year	2006	2007	2008	2009	2010
	No. of Vessels	6,045	6,296	6,208	5,713	6,289
Cargo & Containers (tons)	Unloaded	6,497,000	7,355,000	7,766,000	8,332,000	10,326,000
	Loaded	7,836,000	7,007,000	5,968,000	6,898,000	8,222,000
	Total	14,333,000	14,362,000	13,734,000	15,230,000	18,548,000
Passengers (pax)	Arrival	1,503,000	1,374,000	1,213,000	1,049,000	1,065,000
	Departure	1,314,000	1,361,000	1,241,000	1,060,000	1,054,000
	Total	2,817,000	2,735,000	2,454,000	2,109,000	2,119,000
		Damietta				
		2006	2007	2008	2009	2010
	No. of Vessels	3,207	3,270	3,196	3,523	3,533
Cargo & Containers (tons)	Unloaded	12,489,000	13,016,000	14,244,000	16,408,000	16,628,000
	Loaded	12,789,000	12,466,000	12,358,000	12,930,000	12,284,000
	Total	25,278,000	25,482,000	26,602,000	29,338,000	28,912,000
Passengers (pax)	Arrival	0	0	0	0	0
	Departure	0	0	0	0	0
	Total	0	0	0	0	0
		Port Said				
		2006	2007	2008	2009	2010
	No. of Vessels	6,804	7,694	9,058	7,749	7,729
Cargo & Containers (tons)	Unloaded	13,017,000	12,773,000	15,020,000	16,133,000	18,927,000
	Loaded	14,292,000	13,647,000	15,860,400	16,972,200	19,448,000
	Total	27,309,000	26,420,000	30,880,400	33,105,200	38,375,000
Passengers (pax)	Arrival	134,000	71,000	71,000	105,000	159,000
	Departure	136,000	76,000	76,000	110,000	150,000
	Total	270,000	147,000	147,000	215,000	309,000
		Alexandria				
		2006	2007	2008	2009	2010
	No. of Vessels	5,304	5,544	5,809	6,592	6,281
Cargo & Containers (tons)	Unloaded	26,140,000	31,890,000	33,176,000	36,634,000	39,520,000
	Loaded	13,792,000	13,412,000	11,722,000	8,849,000	9,992,000
	Total	39,932,000	45,302,000	44,898,000	45,483,000	49,512,000
Passengers (pax)	Arrival	156,000	196,000	193,000	260,000	253,000
	Departure	153,000	193,000	192,000	257,000	255,000
	Total	309,000	389,000	385,000	517,000	508,000

[Source] Statistical Year Book, October 2011, CAPMAS

The detailed statistics on the marine cargo and passenger handled in 4 major sea ports are shown in Table 2.2-27. Passengers handled at these seaports are mostly tourists from European region. Red Sea port is focused for internal tourism movement between the Sinai

Peninsula and the Red Sea, and Alexandria port is used for tourist from abroad such as Greece, France, Italy and other international origins including global cruise.

At present, according to the database of CIA (Central Intelligence Agency, U.S.), 3,500 km in length of river transportation network is existing in Egypt. This figure is composed of the Nile River, Lake Nasser, Alexandria-Cairo Waterway, and other numerous smaller canals in Nile Delta. And also the Suez Canal (193.5 km including approaches) is included therein. Recently, the Ministry of Transport is considering to establish and renovate water transport network using the Nile River and several existing facilities to avoid road traffic congestions.

2.2.8. Tourism

Egypt is one of the most popular tourism destinations in the world. Since long years ago, Egypt has been developed as the tourism attractive place and received huge number of tourists from all over the world. The number of international tourist arrivals was 4.4 million in 2001 and increased to 11.9 million in 2009, with an average annual growth rate of some 13%. Through various sectors on tourism industry, total receipts on tourism has taken important position of national industrial revenues, and recoded 11.8 billion USD, as shown in Table 2.2-28.

Table 2.2-28 Chronological Changes in International Tourism of Egypt

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Tourism arrivals (Thousands)	4,357	4,906	5,746	7,795	8,244	8,646	10,610	12,296	11,914
Year on Year		112.6%	117.1%	135.7%	105.8%	104.9%	122.7%	115.9%	96.9%
Vs. 2001		112.6%	131.9%	178.9%	189.2%	198.4%	243.5%	282.2%	273.4%
Receipts (current Million USD)	4,119	4,133	4,704	6,328	7,206	8,133	10,327	12,104	11,757
Year on Year		100.3%	113.8%	134.5%	113.9%	112.9%	127.0%	117.2%	97.1%
Vs. 2001		100.3%	114.2%	153.6%	174.9%	197.5%	250.7%	293.9%	285.4%

[Source] The World Bank

Table 2.2-29 Chronological Changes in International Tourists Distribution by Regions

(thousands)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	4,648	5,192	6,045	8,104	8,608	9,083	11,091	12,835	12,536	14,731
Arab Countries	972	1,128	1,322	1,496	1,703	1,922	1,960	1,955	1,879	2,092
Share	20.9%	21.7%	21.9%	18.5%	19.8%	21.2%	17.7%	15.3%	15.0%	14.2%
Europe	3,132	3,584	4,204	5,920	6,120	6,260	7,939	9,622	8,416	11,177
Share	67.4%	69.0%	69.5%	73.1%	71.1%	68.9%	71.6%	75.0%	67.1%	75.8%
America	252	171	188	257	298	340	430	486	489	563
Share	5.4%	3.3%	3.1%	3.2%	3.5%	3.7%	3.9%	3.8%	3.9%	3.8%
Others	292	309	331	431	487	561	762	772	1,752	899
Share	6.3%	6.0%	5.5%	5.3%	5.7%	6.2%	6.9%	6.0%	14.0%	6.2%

[Source] Statistical Year Book, October 2010, CAPMAS

The origins of international tourists to Egypt are shown in Table 2.2-29. Constantly more than 70% (or 11.2 million in 2010) of foreign tourists are Europeans. The Europeans used to focus on the tourism areas in the Red Sea coastal resorts including Sharm El Sheikh and

Hurghada, and historical cities such as Luxor and Aswan.

The majority of tourists enter Egypt by air as popular transportation mean. Currently, 85.6% of the international passengers used air transportation to access Egypt as shown in Table 2.2-30 below.

Table 2.2-30 Chronological Changes in Tourist Distribution by Arrival Transportation

(thousands)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	4,648	5,192	6,045	8,104	8,608	9,083	11,091	12,835	12,536	14,731
By Air	3,800	4,280	4,841	6,736	7,210	7,611	9,436	10,960	10,774	12,616
Share	81.8%	82.4%	80.1%	83.1%	83.8%	83.8%	85.1%	85.4%	85.9%	85.6%
By Sea	451	437	455	487	598	660	749	854	801	957
Share	9.7%	8.4%	7.5%	6.0%	6.9%	7.3%	6.8%	6.7%	6.4%	6.5%
By Land	397	475	749	881	800	812	906	1021	961	1,158
Share	8.5%	9.1%	12.4%	10.9%	9.3%	8.9%	8.2%	8.0%	7.7%	7.9%

[Source] Statistical Year Book, October 2011, CAPMAS

As a part of the important tourism attractions in Egypt, following 7 world heritages (6 cultural heritages and 1 natural heritage) which are registered by UNESCO (United Nations, Educational, Scientific and Cultural Organization) exist in whole Egypt. Several places of these heritages are surely famous for tourism attractions in Egypt.

Especially, the Pyramids in Giza, ancient temples in Luxor and ancient monuments in Aswan are placed as the symbols of Egyptian tourism. However, some of other heritages are facing a crisis of collapse due to financial and maintenance problems such as in Abu Mena heritage in Borg El Arab City, located just beside the airport in Alexandria region.

Table 2.2-31 List of Registered World Heritages in Egypt

Title	Heritage Type	Registered Year	Criteria *	Area	Location
Abu Mena	Cultural	1979	(iv)	183 ha	Alexandria
Ancient Thebes with its Necropolis	Cultural	1979	(i, iii, vi)	7,390 ha	Qena
Historic Cairo	Cultural	1979	(i, v, vi)	524 ha	Cairo
Memphis and its Necropolis (The Pyramids Fields from Giza to Dahshur)	Cultural	1979	(i, iii, vi)	16,359 ha	Giza
Nubian Monuments from Abu Simbel to Philae	Cultural	1979	(i, iii, vi)	374 ha	Aswan
Saint Catherine Area	Cultural	2002	(i, iii, iv, vi)	60,100 ha	South Sinai
Wadi Al-Hitam (White Valley)	Natural	2005	(viii)	20,015 ha	Faiyum

[Source] World Heritage Center, UNESCO

Figure 2.2-5 Abu Mena World Heritage (Alexandria)

The availability of hotels in Egypt is shown in Table 2.2-32 below. The following record shows that 143,932 rooms and 266,737 beds were available in 1,446 hotels in 2008. These figures have been chronologically unchanged and stable. The figures of "Floating Hotels" in the Table mean the Nile River cruising ships.

Table 2.2-32 Hotel Capacity of Egypt

Item		2004	2005	2006	2007	2008
Hotels & Resorts	Number	1,307	1,278	1,273	1,280	1,230
	Rooms	111,428	116,151	126,421	133,624	131,476
	Beds	211,803	218,283	237,768	249,414	242,831
Floating Hotels	Number	178	164	149	149	216
	Rooms	10,034	9,915	8,895	9,187	12,456
	Beds	19,450	19,935	17,407	17,564	23,906
Total	Number	1,485	1,442	1,422	1,429	1,446
	Rooms	121,462	126,066	135,316	142,811	143,932
	Beds	231,253	237,318	255,175	266,978	266,737

[Source] The Ministry of Tourism

Annual average occupancy rate of hotels in Egypt is shown in Table 2.2-33, in which the national average in 2007 was 63% (the figures in 2008 are neglected because of the then economic crisis). Occupancy rate at Alexandria was 58 %, while those at Cairo, Giza, South Sinai (Sharm El Sheikh) and Red Sea (e.g. Hurghada) were remarkably higher (more than 70 %). The rate at Aswan was quite low.

Table 2.2-33 Chronological Changes in Hotel Occupancy

(%)	2001	2002	2003	2004	2005	2006	2007	2008
Average	**57**	**51**	**59**	**68**	**63**	**60**	**63**	**56**
Cairo	72	68	63	72	68	73	78	48
Giza	63	60	49	60	58	64	76	52
Alexandria	60	47	36	36	39	70	58	39
South Sinai	65	70	65	72	67	61	73	74
Red Sea	68	69	64	75	68	69	79	53
Luxor	56	46	37	45	49	54	61	44
Aswan	42	33	25	29	31	31	29	33

[Source] The Ministry of Tourism

Chapter 3

Update of Surrounding Conditions for the Project

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Chapter 3. Update of Surrounding Conditions for the Project

3.1. Outline of Civil Aviation Sector in Egypt

3.1.1. General

Egypt has been playing an important role as an "hub" of transportation and trade in Middle East and North Africa region ever since. Now, Cairo International Airport is one of the most important air transportation gateways to North Africa, and the second largest airport in African continent, next to Johannesburg at South Africa. As air transportation industry in Egypt has been developed since long time ago, Egypt Air, one of the oldest airlines in the world, has expanded its own air network to all over the world from their hub, Cairo International Airport.

As of now, air transportation in Egypt is served by 18 Egyptian airlines, including Egypt Air. The Egypt Air consists of 7 airlines including Egypt Air Airlines, Egypt Air Express, Egypt Air Cargo and other local airlines (See Chapter 3.2.3 Airlines in Egypt for detail). The Egypt Air is operated as a governmental company under control of the Ministry of Civil Aviation (MCA) as a shareholder, and handling a large air transportation business based on the national strategy.

Domestic air transportation in Egypt has also played an important role due to difficulty in developing surface transportations in such a large territory and desert. As of now, 22 airports are under operation for civil aviation in whole Egypt.

Cairo Airport Company (CAC) and Egyptian Airports Company (EAC), both under the umbrella of the MCA are operating all civil aviation airports. The CAC is an operator of Cairo International Airport and EAC is operating 19 local airports. EAC owns another 2 airports which have consigned to private investors based on BOT contract.

For other purpose, 22 airfields (including 2 civil-military joint-use airfields and 4 airfields unknown detail) are owned or operated by private companies such as petroleum developers and 26 airbases are owned by the military.

Lately, volumes of air transportation in Egypt have increased owing to successful business model expansion of Low Cost Carriers (LCCs) from Middle East and Europe. Concerting with this situation, several airports in Egypt have started various developments to establish, expand or renovate their own facilities.

3.1.2. Air Transportation Statistics for whole Egypt

The latest air transportation statistics for whole Egypt is shown in Table 3.1-1.

Nation's premier airport, the Cairo International Airport, handled 16.15 million air passengers (13.22 million international and 2.92 million domestic) in 2010. In terms of the air passenger volume, the Cairo International Airport is the 2nd busiest airport in Africa, next

to Johannesburg (18.38 million in 2010), and the 3rd busiest in the Middle East next to Dubai (47.2 million in 2010) and Jeddah (17.9 million in 2010). The Cairo International Airport is recognized worldwide as a foothold for the both regions.

The next busiest airport in Egypt is the Sharm El Sheikh International Airport, the latest traffic of which was 8.69 million passengers (7.63 million international and 1.05 million domestic) in 2010.

The 3rd busiest airport is the Hurghada International Airport that handled 8.06 million passengers (7.48 million international and 0.58 million domestic) in 2010.

Both Sharm El Sheikh and Hurghada International Airports are known as main entries to the Red Sea resorts, where more than 95% of international passengers were foreigners travelling through chartered (non-scheduled) flights directly from Europe and Russia. The numbers of passengers at the both airport in 2000 were 2 to 3 million, and their traffic demand were rapidly growing owing to the widely-spread marine tourism resources.

The 4th busiest airport is the Luxor International Airport that handled 1.93 million passengers (0.95 million international and 0.99 million domestic) in 2010. The number of passengers at Luxor has been kept constant, i.e. about 2 million for the past decade.

The number of passengers at Aswan Airport in 2010 was 0.95 million. In the past, the number of passengers at Aswan once recorded 2.36 million in 2000, but halved in 2001to about 1million and afterward constant for the consecutive 10 years. The reason was clarified that, although the number of tourists yearly visited to Aswan has been almost constant, most of them tended to choose Nile River Cruise ship on their way back to Luxor after the cruiser services were developed.

The most remarkable increase in passenger volumes for the past decade has been observed in the two (2) Alexandrian airports, namely at Alexandria - Nozha and Borg El Arab. Combined number of passengers in 2000 was 350 thousand, which has sharply grown to 1.68 million in 2010 with an annual average growth rate of 17%.

Domestic scheduled flights are being operated mainly between Cairo and tourism destinations such as Luxor, Sharm El Sheikh, Hurghada, Aswan, and Alexandria.

Table 3.1-1 Overview of Air Traffic at the Major Airports in Egypt (2001 to 2010)

Airport	Annual Passengers													Aircraft Movement in 2010	Average annual growth of Pax
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010				
	Combined Total (International and Domestic Passengers)										Total	International	Domestic.		
(1) Cairo	8,942,539	8,318,643	8,392,670	8,337,152	9,534,069	10,218,369	10,778,097	12,577,456	14,360,029	14,378,842	16,135,898	13,215,914	2,919,984	155,298	6.08%
EAC Airports															
(1) Sharm El Sheikh	2,100,393	2,068,866	2,915,532	3,418,808	4,590,778	4,750,089	5,052,705	6,415,017	7,747,422	7,419,467	8,682,279	7,633,500	1,048,779	64,336	15.25%
(2) Hurghada	3,186,339	2,926,148	3,040,457	3,396,354	4,574,531	4,524,022	4,832,530	5,945,254	6,741,017	6,728,291	8,059,849	7,478,488	581,361	56,526	9.72%
(3) Aswan	2,355,531	1,080,700	833,766	843,357	1,167,276	1,032,398	874,014	979,034	1,106,809	863,795	954,287	32,734	921,553	13,032	-8.64%
(4) Luxor	2,269,691	1,893,221	1,635,421	1,651,924	2,123,898	2,256,729	2,032,790	1,976,152	2,160,462	1,847,201	1,934,547	946,129	988,418	24,223	-1.59%
(5) Alex/Borg El Arab	91,623	169,622	117,907	138,645	79,091	119,773	230,225	233,762	187,598	371,154	709,961	706,833	3,128	7,312	22.72%
(6) Alex / Nozha	254,905	195,809	303,898	310,445	412,276	489,439	572,817	728,630	1,102,497	1,097,905	972,022	886,949	85,073	19,364	14.32%
(7) Asyut (Assiut)	25,317	31,668	47,033	43,840	62,046	72,367	88,691	130,718	327,918	257,122	312,964	282,931	30,033	4,014	28.59%
(8) Taba	2,731	10,821	40,764	67,279	102,744	149,760	209,953	305,577	452,592	340,147	437,443	413,301	24,142	4,777	66.13%
(9) Marsa Matrouh	22,300	16,183	28,332	18,921	19,255	20,661	41,592	50,019	42,294	71,479	114,923	94,409	20,514	1,278	17.82%
(10) Sohag															
(11) El Arish	2,628	24,210	15,101	14,494	11,931	23,588	15,122	3,256	389	5,024	10,055	9,708	347	661	14.36%
(12) Shark El Owainat	1,722	4,138	3,134	3,210	3,076	3,950			380					266	
(13) Saint Catherine	1,627	842	161	82	598	1,440	921	861	746	744	796	21	775	123	-6.90%
(14) Abu Simbel	1,238,585	828,131	546,540	541,224	759,161	650,286	498,573	537,091	632,942	448,576	489,309	249	489,060	5,683	-8.87%
(15) Port Said	18,427	17,790	18,746	26,570	36,228	51,144	53,779	51,806	42,746	30,196	39,108	49	39,059	9,537	7.82%
(16) El Tor	1,323	6,163	1,738	8,945		11,926								146	
(17) El Dakhla	6,224	2,773		804	33				82	576	1,326		1,326	34	-14.33%
(18) El Kharga	11,648	10,273	10,217	9,591	174		1,762	3,431	4,388	4,277	6,223		6,223	290	-6.08%
(19) 6th of October														984	
(20) Marsa Alam		2,239	169,600	270,927	430,014	435,300	500,155	642,807	819,885	938,858	1,182,256	1,141,771	40,485	9,722	
(21) El Alamein						226	17,723	28,800	39,228	31,092	23,889	22,571	1,318	643	
Total of EAC Airports	11,591,014	9,289,597	9,728,347	10,765,420	14,373,110	14,593,098	15,023,352	18,032,215	21,409,395	20,455,904	23,931,237	19,649,643	4,281,594	221,967	7.52%

3.1.3. Government Sector and Airport Operators

Ministry of Civil Aviation (MCA) consists of five (5) major organizations, namely Egyptian Civil Aviation Authority (ECAA), Egyptian Holding Company for Airports and Air Navigation (EHCAAN), Egypt Air Holding Company (EGYPT AIR), Egyptian Meteorological Authority (EMA) and National Civil Aviation Training Organization (NCATO) as shown in Figure 3.1-1.

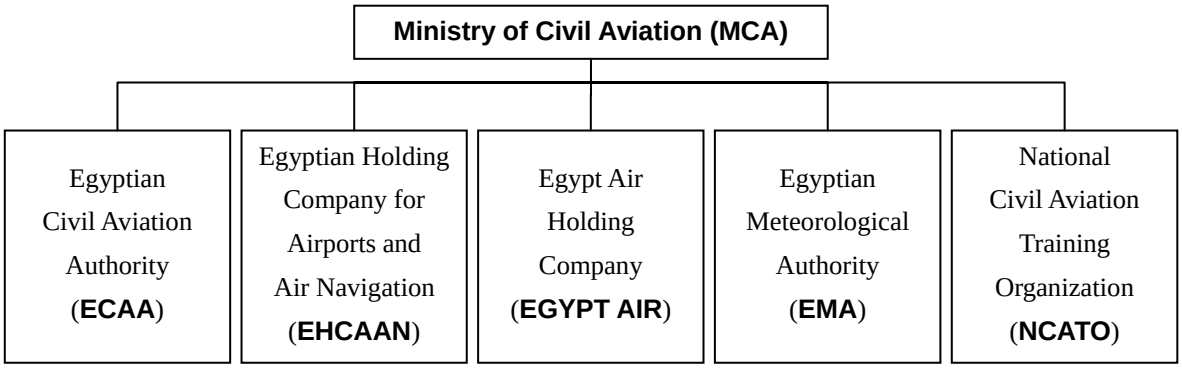


Figure 3.1-1 Structure of Civil Aviation Related Government Sector in Egypt

These organizations have independent jurisdiction under the MCA. Among these organizations, the Egyptian Holding Company for Airports and Air Navigation (EHCAAN) is playing an important role for the development and operation of the airports, air navigation aids and air traffic control.

EHCAAN has four subsidiary companies, namely Cairo Airport Company (CAC), Egyptian Airports Company (EAC), National Air Navigation Service Company (NANSC) and Aviation Information Technology (AVIT) as shown in Figure 3.1-2.

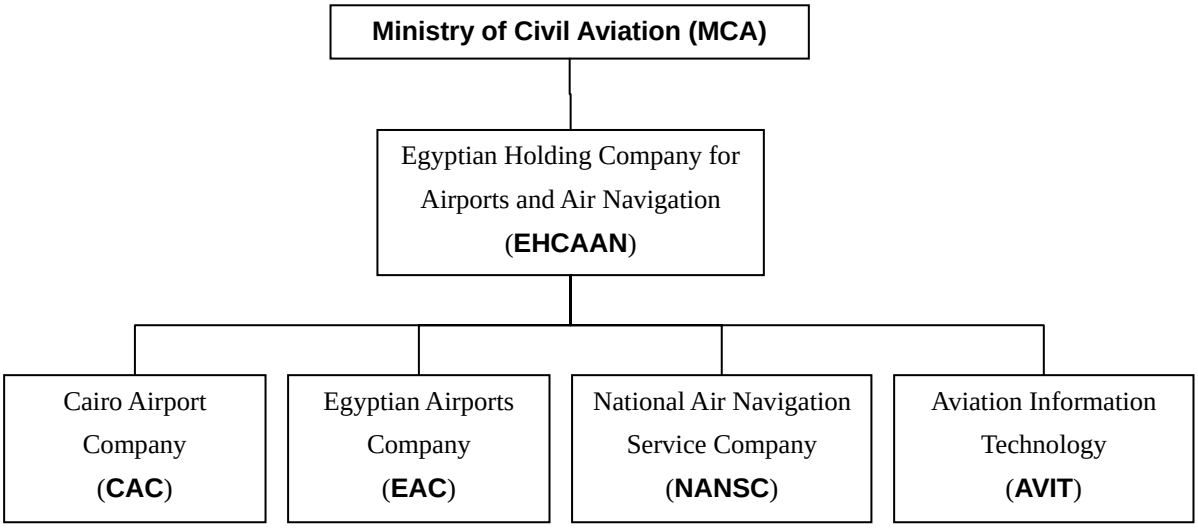


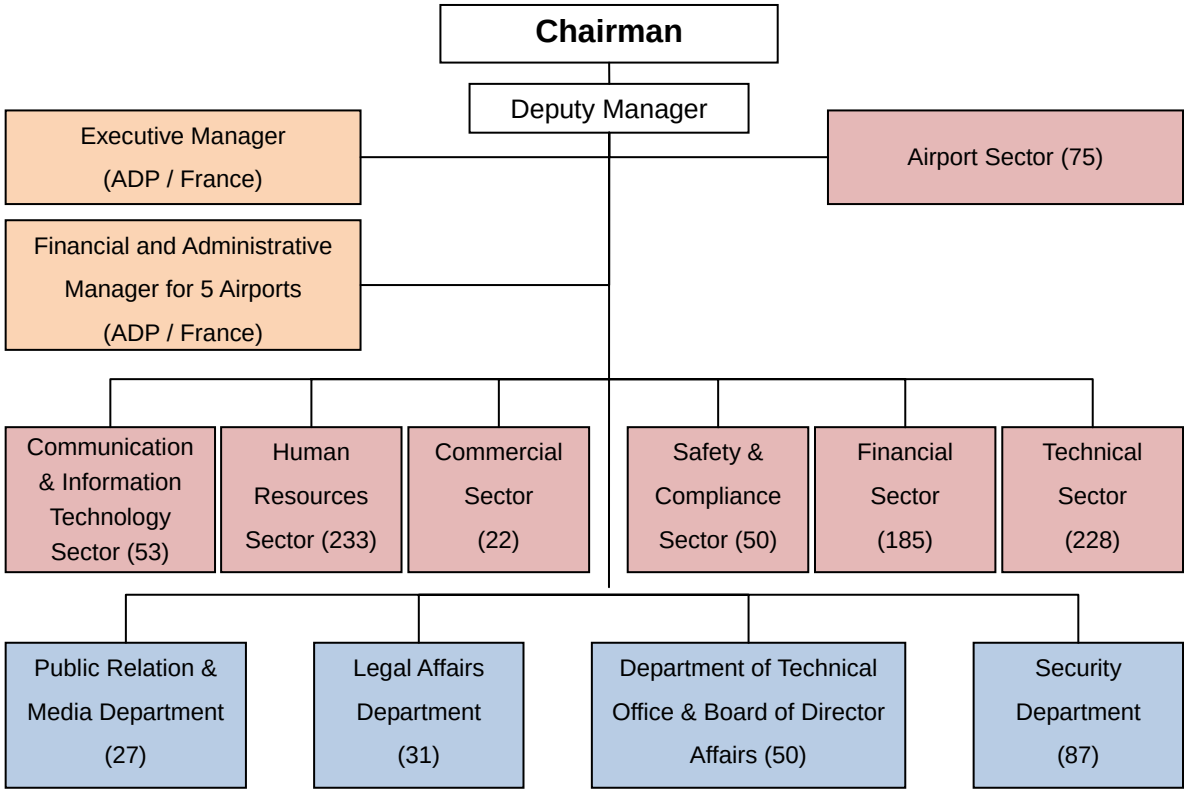
Figure 3.1-2 Structure of EHCAAN

Main functions of these companies under EHCAAN are,

- CAC operates Cairo International Airport,
- EAC operates the other 21 airports in Egypt,
- NANSC provides air navigation and air traffic control services in the airports for civil aircraft, which are operating in whole Egypt,
- AVIT provides air traffic information related to civil aircraft operations by IT technology.

3.1.4. Organization of Egyptian Airports Company (EAC)

The structure of EAC is shown in Figure 3.1-3.



[Remarks] Figures in ( ) show number of staff belonging to each of the sectors and departments.

Figure 3.1-3 Structure of Egyptian Airports Company (EAC)

The Chairman is representing the entire organization and the deputy manager (practically called Vice Chairman) is handling and managing all EAC's businesses.

Under the Chairman are seven major sectors grouped, namely Airport Sector, Information Technology Sector, Human Resources Sector, Commercial Sector, Safety & Compliance Sector, Financial Sector and Technical Sector.

Under these major sectors are four departments functioned, namely Public Relations & Media Department, Legal Affairs Department, Department of Technical Office and Board of Director Affairs and Security Department.

EAC had a 7-year contract with Aeroport de Paris (ADP) to assist in the operation and management of five major airports. ADP was delegating an executive manager to the EAC head quarter and financial & administrative managers to five airports. The contract between EAC and ADP will be expired in the end of 2011.

3.1.5. Airports in Egypt

1) Civil Aviation / Public Airport

Currently 22 airports are in operations for the civil aviation in Egypt.

The Cairo International Airport is owned and operated by the Cairo Airport Company (CAC). The Egyptian Airports Company (EAC) is operating and in possession of 19 airports. Two other airports are consigned to private investors under BOT contract.

Egyptian AIP differentiate the airports into three categories, namely as “Primary Airports”, “Secondary Airports” and “National Airports”.

Primary Airports are serving the international flight operations. Eight airports, namely Cairo, Sharm El Sheikh, Hurghada, Aswan, Luxor, Alexandria - Nozha and Borg El Arab, and Marsa Alam are categorized as Primary Airports. Secondary Airports are mainly serving domestic flights but several international operations are also available. Seven airports in various places of Egypt such as Asyut, Taba, El Arish, Shark El Owainat, Saint Catherine, and Port Said are categorized as Secondary Airports. The other six airports, which are serving only domestic operations, are grouped as National Airports.

EAC’s airports are further classified into three categories, namely “International Airport”, “Domestic - International Airport” and “Domestic Airport”. Other airports are categorized as “Training Airport” or “BOT Airport”. The location and classification of Civil Airports are shown in Figure 3.1-4 and Table 3.1-2.

2) Other Airports

At present, 16 airfields are owned and operated by private companies, and two of them are jointly used for private and military purpose (detail information of four airfields are not available). In general these private airfields have only short and narrow runways with length less than 2,000 m and basic and primitive facilities.

According to the study results of JICA, 26 military airbases are established in Egypt. Most of them are concentrated around Cairo and in the North Delta of the Nile River. Location and demarcations classification of private and military airports are shown in Figure 3.1-5 and Table 3.1-3, and Table 3.1-4.

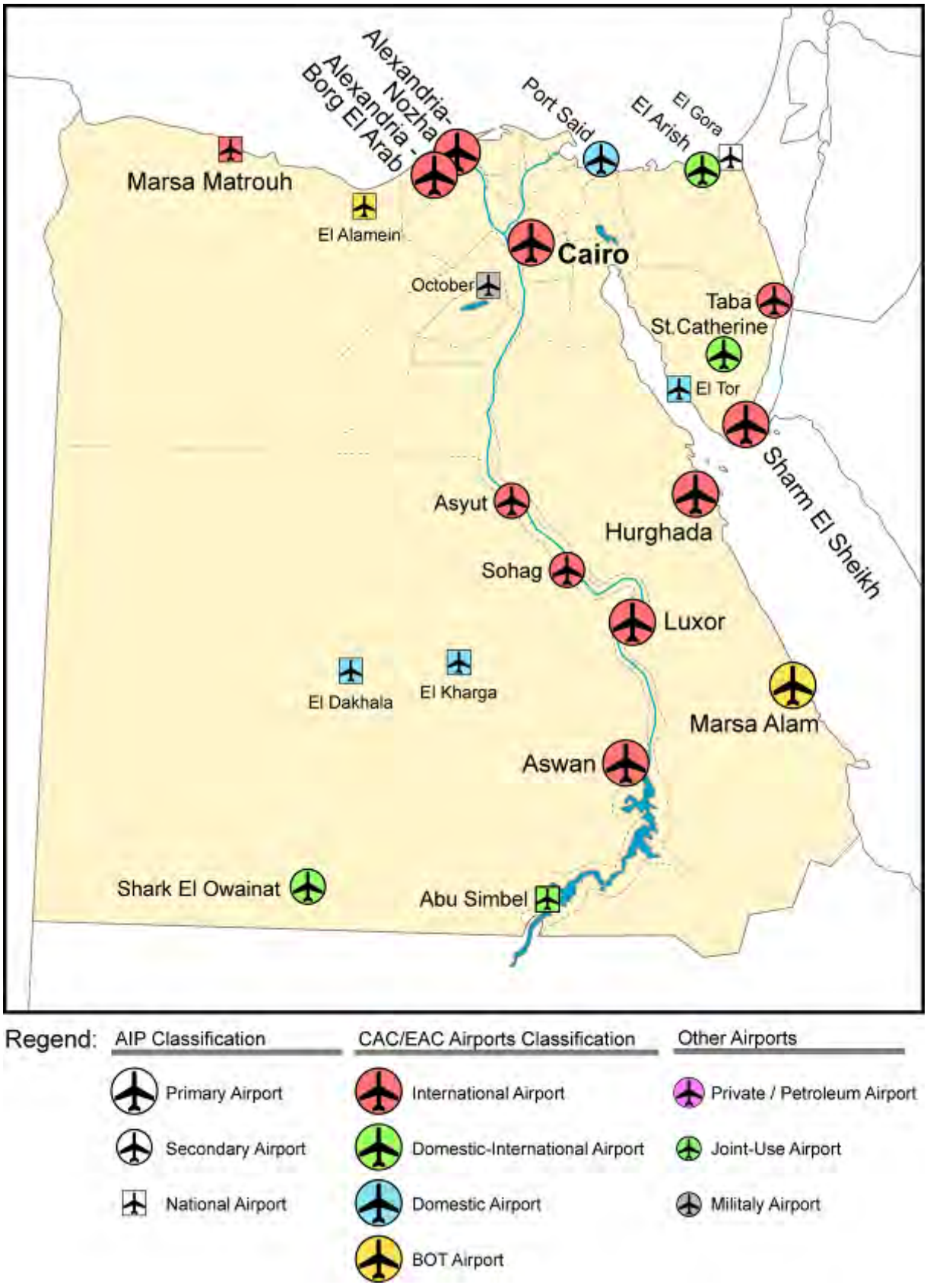


Figure 3.1-4 Location of Civil Airports in Egypt

Table 3.1-2 List of Civil Airports in Egypt

Airport	ICAO Code	IATA Code	AIP Classification	EAC Classification	Operator / Investor	Runway (m) [Direction] Length x Width
Airport Operated by CAC						
(1) Cairo	HECA	CAI	Primary		CAC	[05R/23L] 4,000 x 65 [05C/23C] 3,999 x 60 [05L/23R] 3,301 x 60 [16/34] 3,178 x 60
Airports Operated by EAC						
(01) Sharm El Sheikh	HESH	SSH	Primary	International	EAC	[04L/22R] 3,081 x 45 [04R/22L] 3,081 x 45
(02) Hurghada	HEGN	HRG	Primary	International	EAC	[16/34] 4,000 x 45
(03) Aswan	HESN	ASW	Primary	International	EAC	[17/35] 3,402 x 45
(04) Luxor	HELX	LXR	Primary	International	EAC	[02/20] 3,000 x 45
(05) Alexandria / Borg El Arab	HEBA	HBE	Primary	International	EAC	[14/32] 3,400 x 45 [14R/32L] 411 x 45 [14S/32S] 411 x 45
(06) Alexandria / Nozha	HEAX		Primary	International	EAC	[04/22] 2,201 x 45 [18/36] 1,801 x 30
(07) Asyut (Assiut)	HEAT	ATZ	Secondary	International	EAC	[13/31] 3,019 x 45
(08) Taba	HETB	TCP	Secondary	International	EAC	[04R/22L] 4,000 x 45 [04L/22R] 4,000 x 45
(09) Marsa Matrouh	HEMM	MUH	National	International	EAC	[06/24] 3,000 x 45 [15/33] 3,000 x 45
(10) Sohag	HEMK	HMB		International	EAC	[15/33] 3,000
(11) El Arish	HEAR	AAC	Secondary	Domestic-Int'l	EAC	[16/34] 3,019 x 45
(12) Shark El Owainat	HEOW	GSQ	Secondary	Domestic-Int'l	EAC	[01/19] 3,500 x 45
(13) Saint Catherine	HESC	SKV	Secondary	Domestic-Int'l	EAC	[17/35] 2,115 x 36
(14) Abu Simbel	HEBL	ABS	National	Domestic-Int'l	EAC	[15/33] 3,000 x 45
(15) Port Said	HEPS	PSD	Secondary	Domestic	EAC	[10/28] 2,349 x 45
(16) El Tor	HETR	ELT	National	Domestic	EAC	[10/28] 3,000 x 45
(17) El Dakhla (Dakhla Oasis)	HEDK	DAK	National	Domestic	EAC	[15/33] 2,489 x 45
(18) El Kharga	HEKG	UVL	National	Domestic	EAC	[18/36] 3,500 x 45
(19) 6th of October (October)	HEOC	-	National	Training	EAC	[01/19] 2,000 x 35
(20) Marsa Alam	HEMA	RMF	Primary	BOT	EMAK Marsa Alam	[15/33] 3,000 x 45
(21) El Alamein	HEAL	DBB	-	BOT	Kato Investment	[13/31] 3,499 x 45

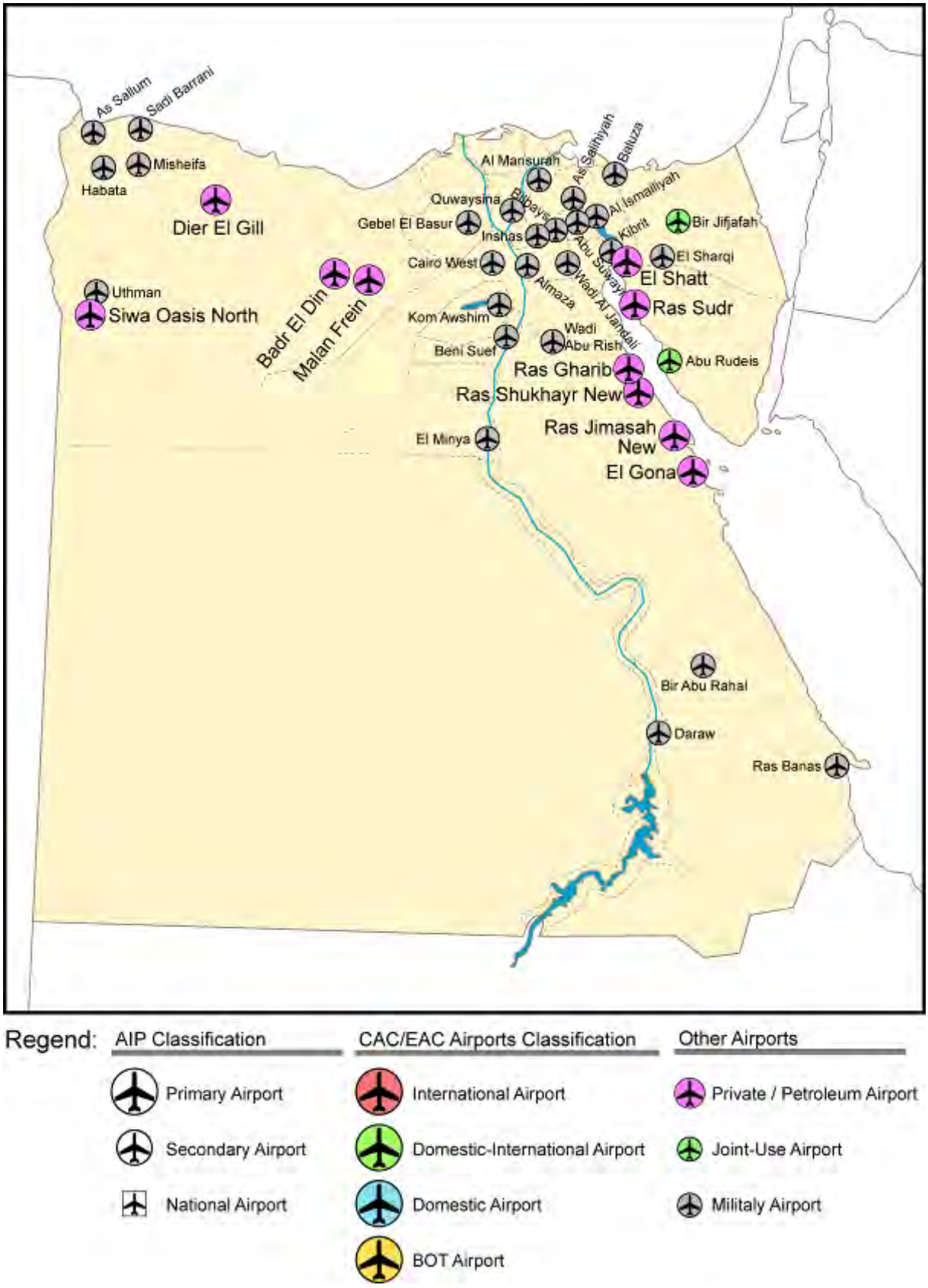


Figure 3.1-5 Location of Private and Military Airports in Egypt

Table 3.1-3 List of Private Airports in Egypt

Airport	ICAO Code	IATA Code	Classification	Operator / Investor	Runway (m) [Direction] Length x Width
Private / Other Civil Airports					
(01) Abu El Ghradieq	-	-	Petroleum	GUPCO	[14/32] 1,830 x 40
(02) Badr El Din (Badr-3)	-	-	Petroleum	BAPETCO	[13/31] 2,000 x 43
(03) Deir El Gill	-	-	Civil (Unknown)		[13/31] 2,006 x 30
(04) El Gona	HEGO	HGO	Petroleum	ORASCOM	[16/34] 1,600 x 30
(05) El Gora	HEGR	EGH	Civil (Unknown)		[08/26] 2,400 x 30 [17/35] 2,400 x 45
(06) El Shatt	-	-	Petroleum		[16/34] 700 x 15
(07) Giza / Embaba	HEEM	-	Civil (Unknown)		1,134
(08) Khalda Mleiha	-	-	Petroleum	AGIBA KHALDA	[13/31] 2,000 x 45
(09) Malan Frein	-	-	Private		[14/32] 1,753 x 31
(10) Ras Gharib	-	-	Petroleum		[18/36] 1,440 x 70 [14/32] 1,000 x 70 [06/24] 800 x 70
(11) Ras Jimasah New	-	-	Civil (Unknown)		[14/32] 2,388 x 45
(12) Ras Shakeir	-	-	Private		2,207
(13) Ras Shukhayr New	-	-	Petroleum	GUPCO	[15/33] 2,134 x 30
(14) Ras Sudr	HERS	-	Petroleum		[01/19] 1,800 x 15
(15) Siwa Oasis North	-	-	Civil (Unknown)		[16/34] 1,800 x 45
(16) Zeit Bay (Gebel El Zeit)	-	-	Petroleum	SUCO	[14/32] 2,400 x 50
Joint-use Airports between Civil and Military					
(01) Abu Rudeis	-	AUE	Military / Petroleum		[13/31] 1,990 x 46
(02) Bir Jifjafah (Refidim / Bir Gifgafa)	-	-	Military / Civil		[15/33] 2,512 x 45
Other Airports (No detail Information)					
(01) Al Farafra	HEFR	-			
(02) Al Wahaat Al Baharia	-	-			
(03) New Valley	HENV	UVL			
(04) Ras an-Naqb	-	RAF			

Table 3.1-4 List of Military Airports in Egypt

Airport	ICAO Code	IATA Code	AIP Classification	Operator	Runway (m) [Direction] Length x Width
Military Airports / Air Bases					
(01) Almaza	HEAZ		Secondary	Military	[05/23] 1,194 x 50 [18/36] 2,050 x 45
(02) Al Ismailiyah	-	-		Military	[13/31] 3,217 x 45
(03) Al Mansurah	-	-		Military	[14/32] 2,769 x 40 [17,35] 2,758 x 40
(04) Abu Suwayr	-	-		Military	[09/27] 2,972 x 45 [11/29] 2,960 x 45
(05) As Salihiyah	-	-		Military	[02C/20C] 3,004 x 40 [02R/20L] 2,998 x 45 [02L/20R] 3,004 x 40
(06) As Sallum (Alam Barghut)	-	-		Military	[13/31] 1,998 x 40
(07) Baluza	-	-		Military	[07/25] 1,679 x 17
(08) Beni Suef	HEBS	-		Military	[01/19] 3,525 x 46 [06/24] 3,000 x 40
(09) Bilbays	-	-		Military	[04/22] 3,499 x 46 [09R/27L] 2,499 x 46 [09L/27R] 1,554 x 46 [17R/35L] 1,567 x 46 [17L/35R] 3,036 x 49
(10) Bir Abu Rahal	-	-		Military	[14/32] 3,006 x 40
(11) Cairo West	HECW	CWE		Military	[10/28] 2,781 x 45 [16/34] 2,974 x 60
(12) Daraw	-	-		Military	[16/34] 2,896 x 21
(13) El Minya	-	-		Military	[16R/34L] 3,000 x 40 [16L/34R] 3,000 x 35
(14) El Sharqi	-	-		Military	[07/25] 799 x 60
(15) Gebel El Basur (El Birijat)	-	-		Military	[15/33] 3,025 x 40 [18/36] 3,221 x 40
(16) Habata	-	-		Military	[16R/34L] 3,007 x 40 [16L/34R] 2,998 x 40
(17) Inshas	-	-		Military	[04/22] 2,585 x 43 [09/27] 2,635 x 40
(18) Kibrit	-	-		Military	[14R/32L] 2,684 x 40 [14L/32R] 2,684 x 45
(19) Kom Awshim	-	-		Military	[15/33] 2,392 x 40 [16/34] 2,767 x 41
(20) Misheifa	-	-		Military	[16R/34L] 3,003 x 41 [16L/34R] 3,004 x 30
(21) Quwaysina	-	-		Military	[16/34] 2,760 x 35
(22) Ras Banas	-	-		Military	[13R/31L] 2,999 x 45 [13L/31R] 3,027 x 30 [15/33] 2,905 x 40
(23) Sidi Barrani	-	-		Military	[16R/34L] 3,012 x 40 [16L/34R] 3,012 x 40
(24) Uthman	-	-		Military	[11/29] 2,999 x 38
(25) Wadi Abu Rish	-	-		Military	[02R/20L] 3,013 x 32 [02L/20R] 3,013 x 37
(26) Wadi Al Jandali (Al Qatamiyah)	-	-		Military	[01/19] 3,231 x 40 [02/20] 3,353 x 40

3.2. Current Situation of Civil Aviation Sector

3.2.1. Airports in Alexandria Region

1) Comparison of Flight Schedules in Alexandria Region

Air traffic demand in Alexandria region has rapidly grown in both numbers of the passengers and the aircraft movements after the SAPROF study was completed in 2004. In comparison of the air traffic volume at the Alexandria 2 airports in 2003 (i.e. basis of SAPROF study) with that in 2010, the passengers have increased by 374.5% and so with the aircraft movements by 529.3%.

For more detail analysis for JICA study, all commercial flight schedules of 2 airports are compared in this clause. The detail of comparative demand analysis between demand forecast in SAPROF study and recent actual record shall be referred in Chapter 4 below.

a) Number of Weekly Flights

Abovementioned tables are shown a comparison of weekly flight schedule of winter season 2003 and 2010. In the year 2003, the maximum number of flight in the week is Wednesday which is 36 flights. On the other hand, minimum number of flight is Saturday which is 6 flights. The numbers of flight are 6 times between peak day and off peak day. In the year 2010, there are 40 to 64 flights per day. Difference between peak day and off peak day is decreased to 1.6 times. It means number of flight per week is distributed in a week. In this period, fluctuation of domestic flight is small, but fluctuation of international flight is remarkable then number of flight increased. The total number of flight per week from 2003 to 2010 increased from 134 to 358. It is still in increase tendency.

In the background of increasing of air traffic demand in Alexandria region, there are starting of LCC flight and increasing of seasonable workers. In addition to this background, the demand and necessity of 2 airports in Alexandria have increased, the reason is that airports which have enough facilities for scheduled flight are few numbers in the Lower Egypt where population is concentrating, and Cairo airport restricts to LCC flight.

Most of operating airline at Alexandria-Nozha International Airport is Egypt Air. Air Arabia currently called LCC representatively is operating at Borg El Arab International Airport.

Figure 3.2-1 Comparison of Number of Weekly Flights in 2003 and 2010

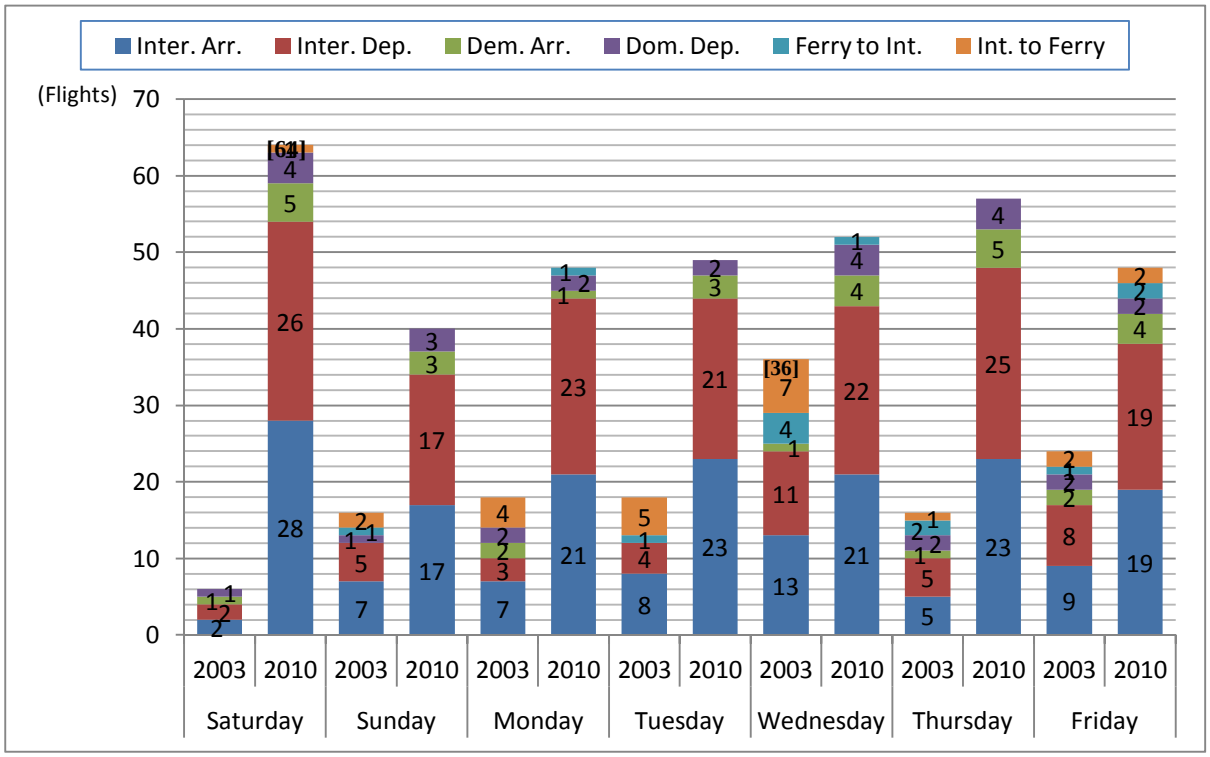
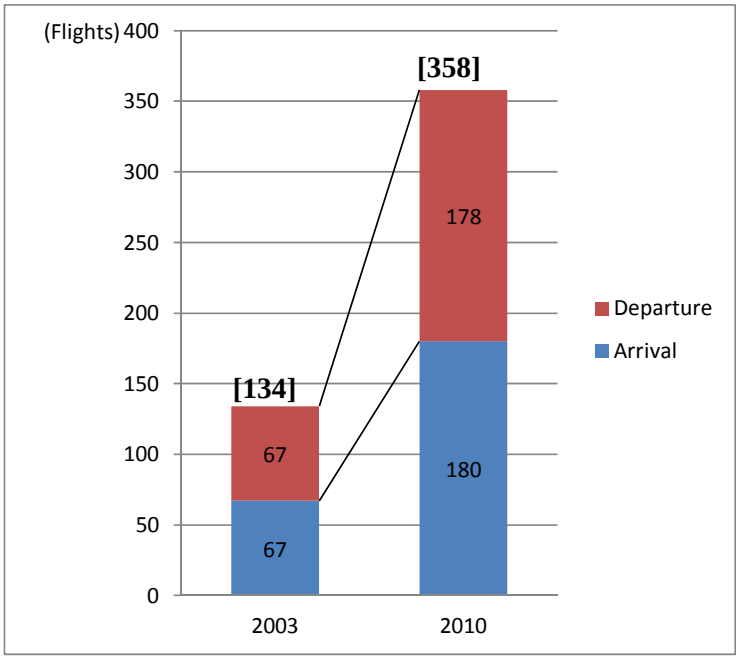


Figure 3.2-2 Comparison of Weekly Total Flights



Note: A detail of flight schedule is referred to the appendix.

b) Comparison of the Destination/ Origin of each Airline

The number of Airlines is increased to 19 at 2010 from 7 at 2003. This cause is the movement of LCC in the Alexandria region. By this phenomenon is conducted to increasing of number of passenger that the cause of available destinations in Europe and Middle East area from Alexandria region increased. The passenger category of LCC's target in the Middle East which mainly rises in recent years is seasonable worker and passenger who have no experience of using air transportation. Positively, Alexandria region is comfortable market for abovementioned business situation. Specially, the flight between the countries where economic growth is remarkable along the Mediterranean Sea such as Dubai, Kuwait and so on, and the flight between the cities of the Saudi Arabia area for a pilgrimage, are increase. LCC reclaims such demand which existed potentially in this region.

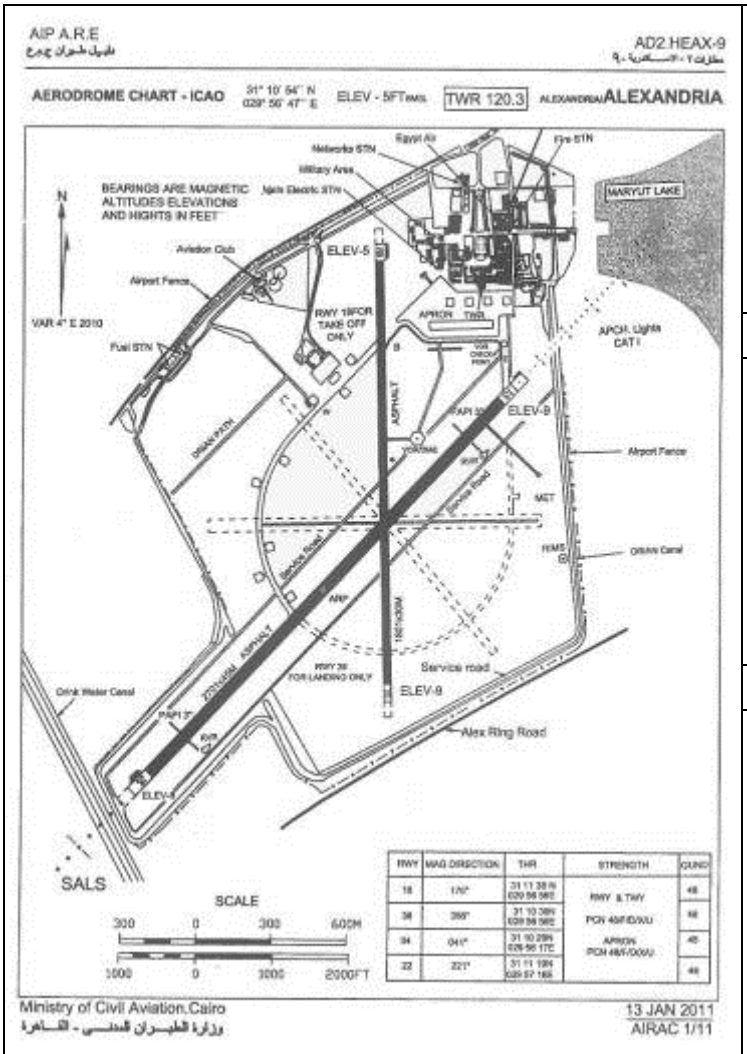
Table 3.2-1 Number of Airlines and Destinations in 2003 and 2010

	Airline	
No.	2003	2010
1	British Airways	Air Arabia
2	Egypt Air	Air Libya
3	Kuwait Airways	Antonov airlines
4	Libyan Airlines	Bahrain Air
5	Lufthansa	Buraq Air
6	Olympic Air	Egypt Air
7	Saudi Arabian	Etihad Airways
8		Fly Dubai
9		Gulf Air
10		Jezeera Airways
11		Kuwait Airways
12		Libyan Airlines
13		NAS Air
14		Qatar Airways
15		Royal Jordanian Airlines
16		Saudi Arabian
17		Thomsonfly
18		Turkish Airlines
19		Universal Airlines

	Destination	
No.	2003	2010
1	Abu Dhabi	Abu Dhabi
2	Addis Ababa	Ahmadabad
3	Aswan	Al Arish
4	Athens	Amman
5	Beirut	Bahrain
6	Bengazi	Beirut
7	Cairo	Bengazi
8	Damman	Borg El Arab
9	Dubai	Cairo
10	Frankfurt	Casablance
11	Jeddah	Damman
12	Kuwait	Doha
13	London	Dubai
14	Luxor	Hurghada
15	Riyadh	Istanbul
16	Sharm El Sheikh	Jeddah
17		Khartoum
18		Kuwait
19		London
20		Luxor
21		Manchester
22		Nozha
23		Riyadh
24		Sedan
25		Sharjah
26		Sharm El Sheikh
27		Tripoli

2) Alexandria – Nozha International Airport

Alexandria - Nozha International Airport, which commenced its operations in 1945, is conveniently located in Alexandria downtown, however is situated at 2 m below water level of the adjacent Lake Maryut, which results in its entire subsoil saturated and a large amount of ground water (1,000 tons/hour) pumped up for 24 hours a day. This made the pavement of either Runway 04/22 (2,200 m in length) or Runway 18/36 (1,800 m) very weak, where only small jet (e.g. A-320, B737 or less) can barely make regional international flights with payload restriction. Its small antique passenger terminal building has a common entrance hall for international check-in and domestic departure/arrival, only 1 baggage claim carousel for international arrival, only 2 passport control desks, which are not only congested but are far below the international standards in terms of safety, security and level of services to the passengers. This airport is surrounded by roads, canals (of higher water levels), and residential areas all around, so no way to expand.



AIP

Antique Terminal Building

Common entrance and domestic exit

Weak subsoil conditions

Figure 3.2-3 Particulars of Alexandria - Nozha International Airport

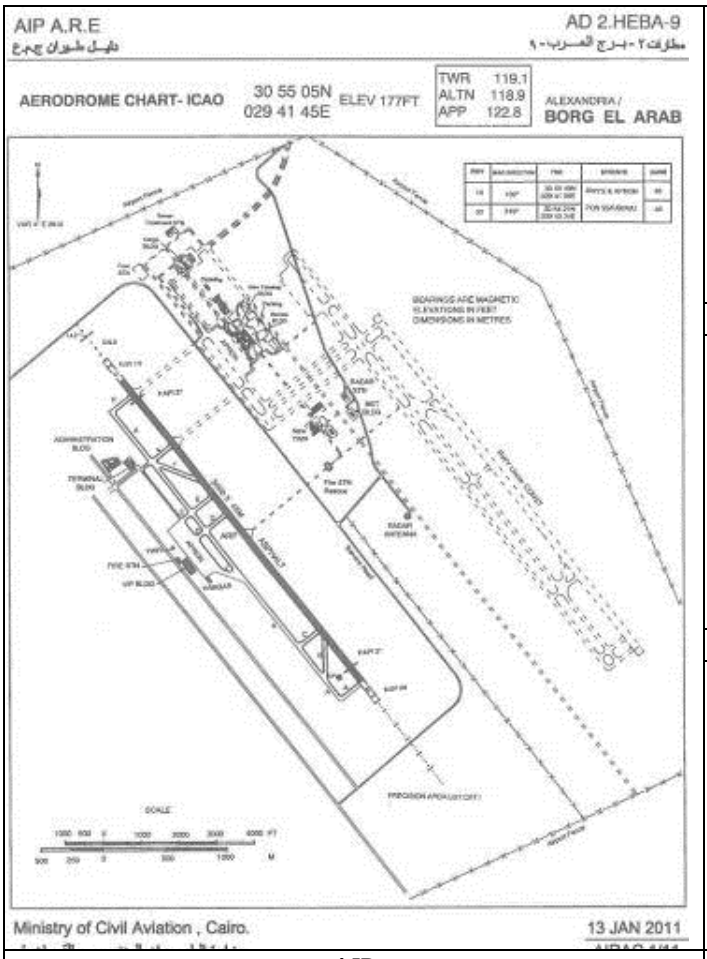
3) Borg El Arab International Airport

Borg El Arab International Airport is located at 45 km west from Alexandria city center. The airport was established in 1990s originally to cater for a joint-use by military and civil aviation, with its 3,400-m long runway, apron, control tower, fire station, a primary passenger terminal (2,500 sq.m), road and car parks, and other infrastructures built by EAC in the premise of MOD.

The Airport commenced its initial civil aviation operations from 2000, so as to alleviate traffic congestion and hence to reduce a risk of aircraft accident at Alexandria - Nozha International Airport. In 2004, EAC requested technical and financial assistance from the Government of Japan, to construct a new civil aviation facility complex in the premises of EAC. The facilities completed through the Project in the premise of EAC by the end of 2010 are, passenger and cargo terminal buildings, control tower, fire & rescue station, administration building, taxiway and apron pavements, airfield lights and signs, power supply, water supply, telecommunication, sewage treatment system, among others. Fuel farm, catering building, ground handlers' maintenance yards were built by private sectors.

In December 2011, all commercial flights in Alexandria region are operated from / to Borg El Arab International Airport after closure of Alexandria – Nozha International Airport. Currently, most of flights are operated at new passenger terminal building (Terminal 1), however 3 airlines (Al Masria Universal Airlines, Libyan Arab Airlines and Air Libya) are still exiting at old terminal building in the premise of Military of Defense. This situation is based on the consideration of operation at new passenger terminal building to avoid operational troubles and passenger risks in its initial operation.

Old terminal building was initially established as a part of military property and rented for commercial flight operations by EAC since started commercial flights at the Airport in 2000. EAC plans to return its facilities to the Military of Defense in near future based on the original condition of airport development.



AIP

Passenger Terminal

Entrance Hall

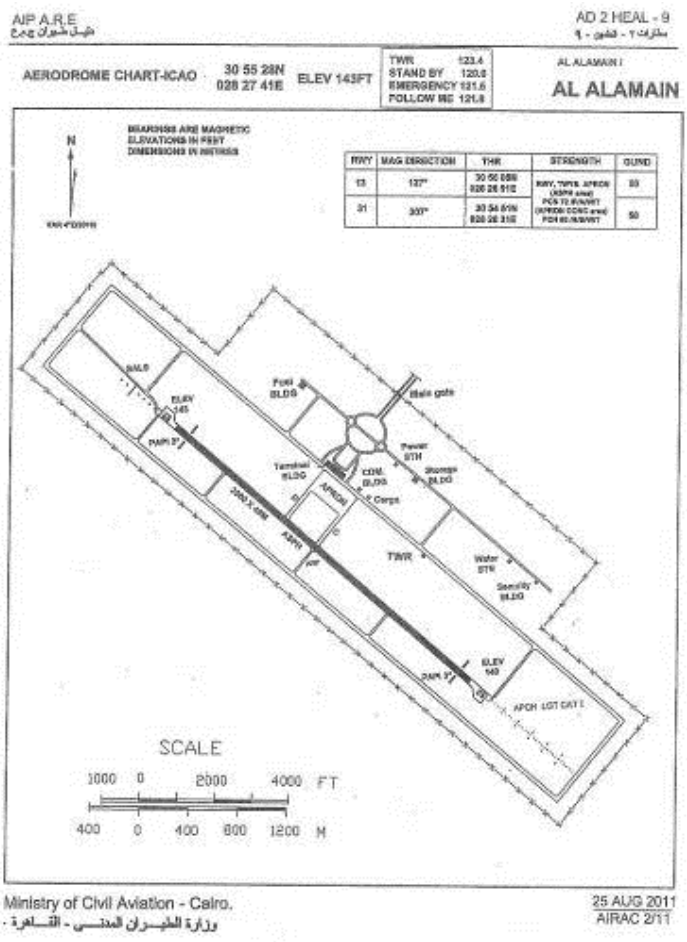
Landside

Figure 3.2-4 Particulars of Alexandria – Borg El Arab International Airport

4) El Alamein International Airport

El Alamein International Airport has been established in 2006, at 70 km west from Borg El Arab International Airport and 20 km south of Alamein city. The Airport has a 3,500-m long runway, aircraft parking apron of 60,000 m^2 to accommodate 9 medium-sized aircraft including A300 series. A single-story passenger terminal building has floor area of 3,750 m^2. The Airport is owned by EAC but operated by a private investor based on BOT contract.

The Airport is not serving scheduled flights but only international chartered flights which are flying from South Europe such as Italy, France or Spain, and carrying tourists for the resort destinations such as Alamein and Mediterranean beach resort, named "Marina".



AIP

Facade of Passenger Terminal Building

Satellite Photo of PTB Area

Control Tower and Related Facilities

Figure 3.2-5 Particulars of El Alamein International Airport

3.2.2. Other Airports in Egypt

1) Cairo International Airport

As of April 2011, Cairo International Airport is accommodating 48 airlines as scheduled flight operators. Due to the temporary closure of Terminal 2 now being renovated, some airlines originally operated at Terminal 2 were obliged to move to Terminal 1. At present, totally 37 airlines are being operated at Terminal 1.

Terminal 3 is strategically accommodating 9 Star Alliance member airlines including Egypt Air, so that connecting flights or code-share operations among the member airlines are efficient thus convenient to the end users.

The air route network from/to Cairo International Airport is expanding to 11 domestic and 83 overseas destinations. All domestic flights are operated by Egypt Air and Egypt Air Express, and international flights are connected to 30 destinations in Middle East region, 26 destinations in Europe and Russia regions, 18 destinations in Africa region, 8 destinations in Asia region, and 1 destination in North America.

Among these destinations, Egypt Air group has its own air network to 64 international destinations over the world. In addition, Cairo International Airport is receiving numerous chartered flights of 16 airlines mainly from Europe and Russia regions. All chartered flights are accommodated at Terminal 1.

Table 3.2-2 Number of Destinations from Cairo International Airport

		Airlines	Egypt	Middle-East	Europe Russia	Africa	Asia	North-America	Total
Domestic Passenger Flight Destinations	Total	2	11						11
	(Egypt Air)	(2)	(11)						(11)
International Passenger Flight Destinations	Total	48		30	26	18	8	1	83
	(Egypt Air)	(2)		(19)	(21)	(17)	(6)	(1)	(64)
International Cargo Flight Destinations	Total	11		6	15	4	1	0	26
	(Egypt Air)	(1)		(1)	(8)	(2)	(0)	(0)	(11)

[Source] Cairo International Airport website

(Remarks) Figures in ( ) show the number of destinations operated by Egypt Air Group.

11 cargo airlines including Egypt Air Cargo are operating cargo freighter service from Cairo International Airport to 26 international destinations in Middle East, Europe, Africa and Asia regions.

CAC opens new seasonal passenger terminal building in September 2011, and the terminal accommodates seasonal demands such as pilgrimage travelers. However several developments including new 4th runway and seasonal terminal building to enlarge its capacity has been completed, currently Cairo International Airport does not plan to accommodate LCCs through these developments due to the governmental regulation.

CAC, an airport operator of Cairo International Airport, executed a contact in 2004 with Fraport for assistance in operation and management of the airport. The contract with Fraport contains delegation of 3 executives from Fraport to assist airport operation and management throughout the contract duration of 8 years.

CAC has launched a new strategy to increase the revenue from non-aeronautical sectors from 2004. In 2010, the airport could create more than 400 million Egyptian Pounds revenue from non-aeronautical sectors, which is doubled compared with the same revenue in 2005.

	
Façade of Terminal 1 – Hall 1	Façade of Terminal 1 – Hall 3
	
Façade of Terminal 2 (Before Renovation)	Façade of Terminal 3
	
Departure Entrance Lobby of Terminal 3	Check-in Counter Hall of Terminal 3

Figure 3.2-6 Scenes of Cairo International Airport

2) Sharm El Sheikh International Airport

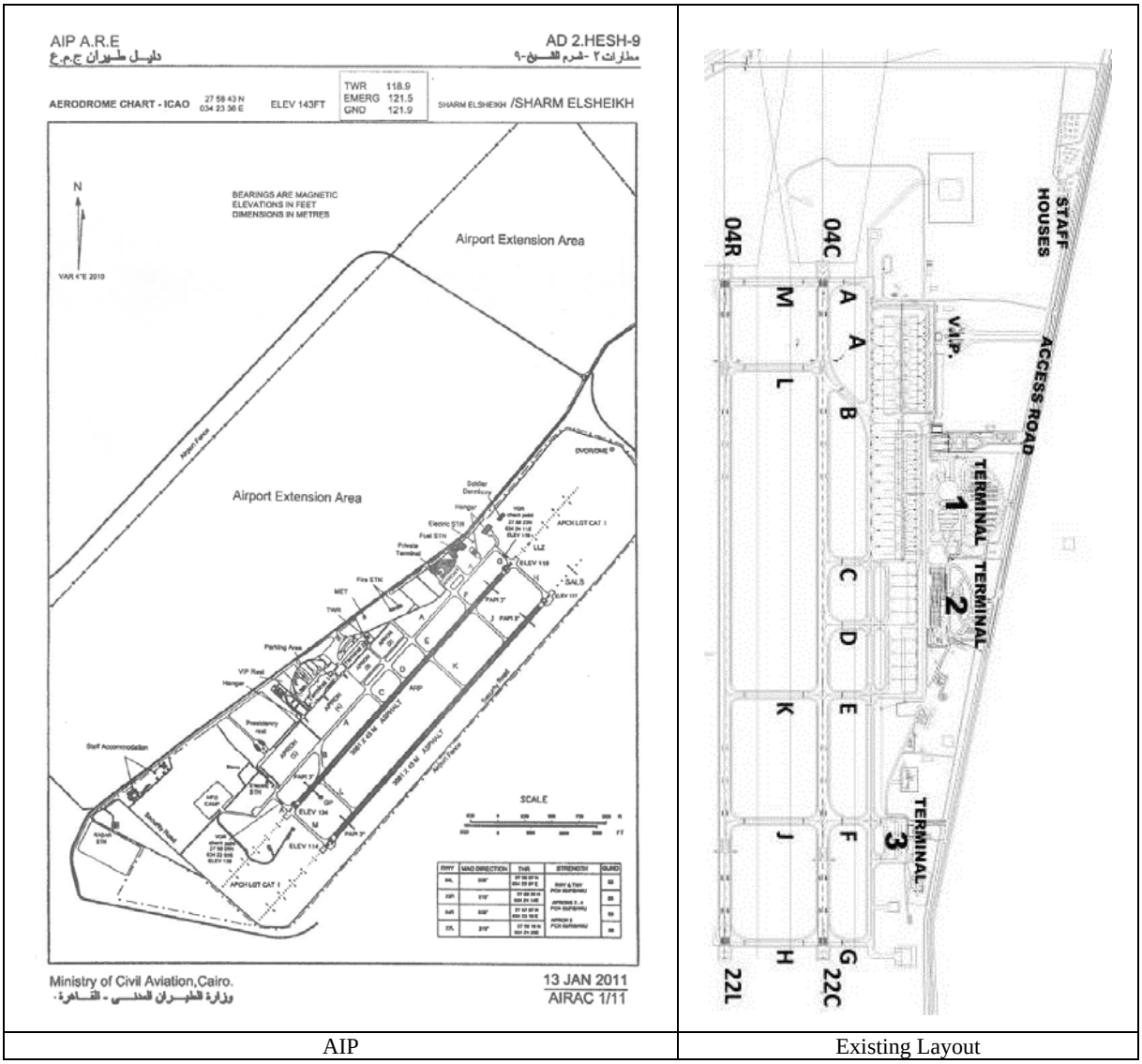
Sharm El Sheikh Airport is located at Sinai Peninsula, where popular beach resort is extended along the coastal apex of Red Sea and Aqaba Bay.

The Airport has 2 runways, 3 passenger terminals, 5 separate aprons to provide 46 aircraft stands. Air traffic demand at the airport has been drastically growing, i.e. 8 times for the past 5 years.

The number of total passengers in 2010 was 8.7 million, almost 90 % of which are international passengers. Among the total number of passengers, Russian accounted for 29 %, followed by British (22 %), and Italian (14 %).

In the history, the original passenger terminal (currently called T3) and runway 04L/22R were handed over from Israel in 1982 after the end of Sinai occupation. The original terminal (currently called T3) has a floor area of approximately 1,300 m^2, which is currently used by general aviation and private flights (e.g. petroleum services).

Two (2) runways in closed parallel configuration, namely RWY 04L-22R and RWY04R-22L, are in operation. Both runways are 3,081 m long and 45 m wide with 7.5-m wide full strength shoulders on both sides, and the runway strips are 3,201 m long and 300 m wide, to meet the requirements for Code 4E runway of ICAO. The separation between the two runways is 450 m. The both runways are being extended by 500 m to the north-east.



AIP | Existing Layout

Figure 3.2-7 AIP and Layout of Sharm El Sheikh International Airport

The terminal 2 (T2) and runway 04R/22L were completed in mid. 90's. The Terminal 2 (T2)

has been expanded to the present floor space of approximately 21,000 m^2 (including the Air Mall). The entire T2 is now being used for international operations by all foreign airlines. Major functions available are: 6 security (X-ray + walkthrough) check booths before check-in hall, 20 check-in counters, 10 passport control booths for departing passengers, 12 passport control booths and 6 baggage claim conveyors for arriving passengers.

	
6 Security-Check Booths before Check-in Hall	Airside Façade
	
20 Check-in Counters	Passenger Departure Congestion
	
12 Passport Control Counters for Arrival	6 Baggage Claims for International

Figure 3.2-8 Terminal 2 at Sharm El Sheikh International Airport

The Terminal 1 (T1), opened in 2007, has a floor space of approximately 44,000m^2, where Egypt Air (and Egypt Air Express) is handling all international and domestic passengers. Major functions available are: 6 security (X-ray + walkthrough) check booths before check-in hall, 40 check-in counters, 16 passport control booths and 5 security check positions for departing passengers, and 20 passport control booths and 5 baggage claim conveyors (4 for international, and 1 for domestic) for arriving passengers. The development of Terminal 1 was financed by the World Bank, and design works were done by Lebanese consultant firm. The construction was contracted with a Saudi Arabian contractor.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>40 Check-in Counters</td><td>Security-Check and 16 Passport Control Counters</td></tr>
<tr><td rowspan="2">  </td><td>  </td></tr>
<tr><td>5 Baggage Claim Conveyors</td></tr>
<tr><td>International Departure Waiting Lounge</td><td> 
Domestic Bus Gate for Arrival</td></tr>
</table>

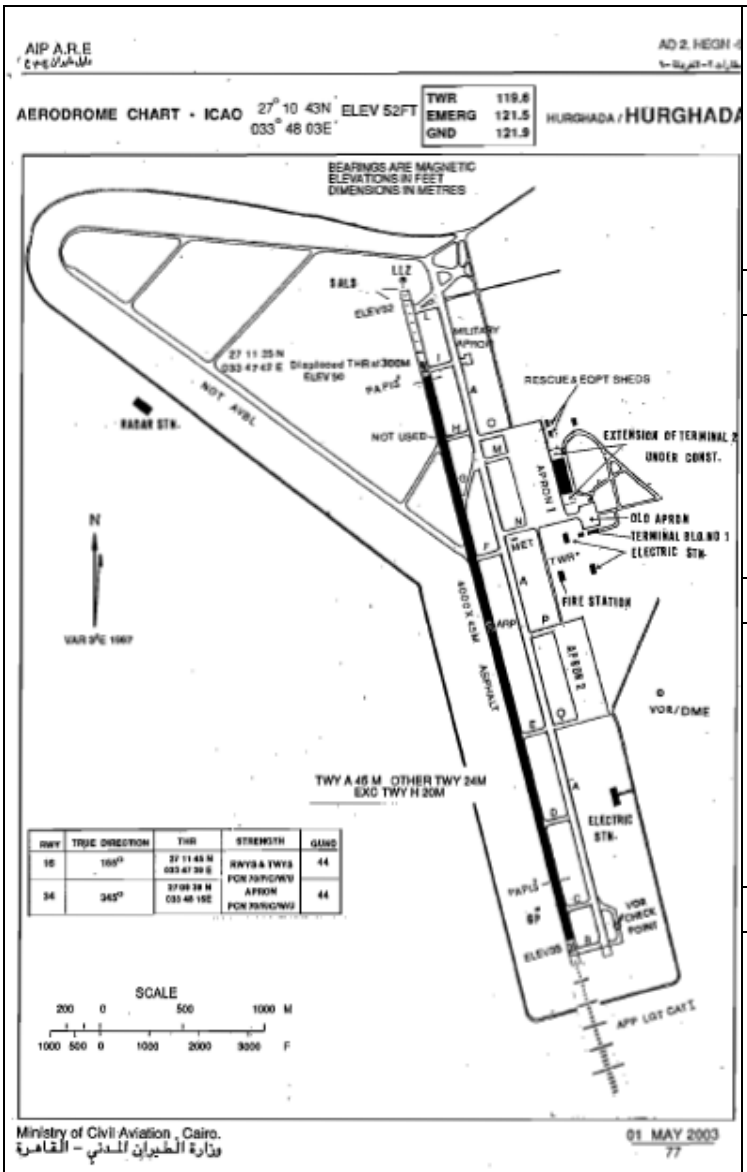
Figure 3.2-9 Terminal 1 at Sharm El Sheikh International Airport

3) Hurghada International Airport

Hurghada International Airport is located along the Red Sea coast on the opposite side of Sharm El Sheikh.

The Airport has currently only one terminal building in which more than 8 million passengers were busily handled in 2010, more than 90 % of which were international passengers. Among the total number of passengers, Russian accounted for 34 %, German 20%, and Polish 7%.

The number of passengers has been continuing to grow, owing to wide variety of marine tourism resources and attraction. The Airport has been developed and expanded by EAC continuously. Since 2008, the existing terminal facilities were expanded. The expansion project included additional check-in counters to be totally 38 counters, departure gates to be 15 gates, X-ray facilities to be 11 machines and a new VIP hall. The project has been completed in 2010 with the cost of 155 million US Dollars, and the capacity of the airport increased up to 7.5 million passengers per annum through these developments.



AIP

Departure Hall

Expanded Departure Lounge

Concession in original tent terminal

38 Check-in Counters

Figure 3.2-10 Ongoing Expansion at Hurghada International Airport

4) Luxor International Airport

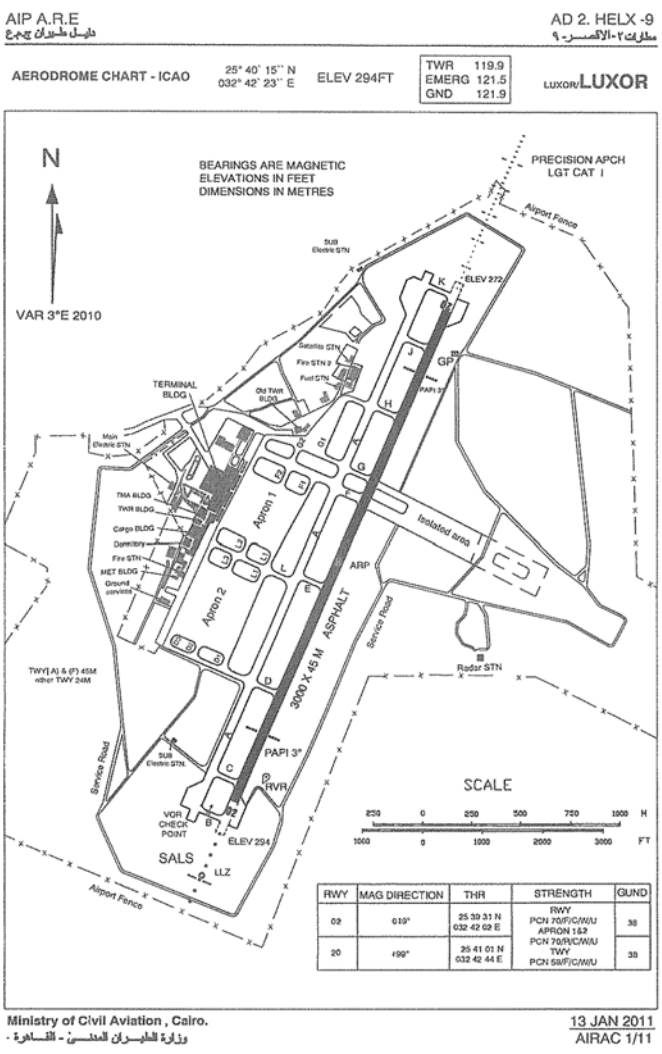
The Airport is located on the east bank of the Nile River and at 10 km from the city center.

Population in Luxor city is only 479,000 (in former Luxor governorate in 2009 before governorates reorganization), but the city constantly attracting many international tourists owing to its numerous great heritages. Constantly around 2 million passengers have been handled at Luxor International Airport since year 2000. The latest number of annual passengers was1.93 million (0.95 million for international and 0.99 million for domestic) in 2010.

Among the total number of passengers, British accounted for 19 %, French 15 %, Germany and Spanish 7 %.

The airport facility includes a runway of 3,500 m in length and 45 m in width, full-length parallel taxiway, 2 aircraft parking aprons and passenger terminal building of approximately 50,000 m^2 in floor area. The passenger terminal building is designed for handling international and domestic tourism passengers with spacious check-in hall and large area of commercial facilities.

JICA study team inspected the airport through its survey and evaluated that the facilities were well maintained to meet highly comfortable level especially for the tourism visitors to Luxor city from abroad.



AIP

Passenger Terminal Building

Check-in Counters

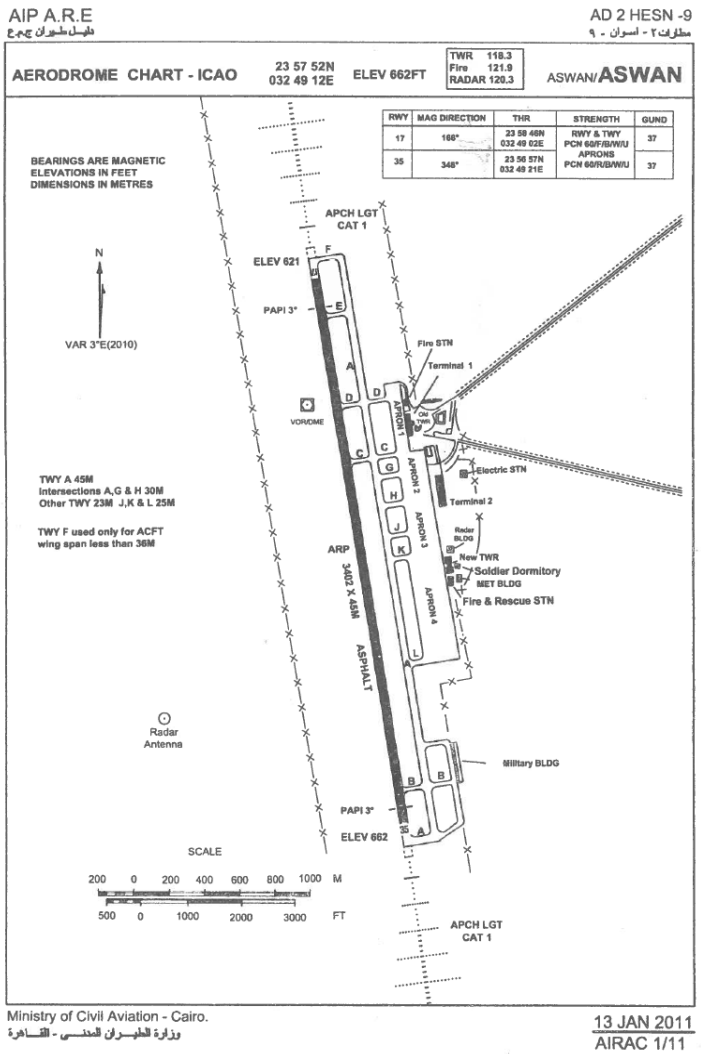
Departure Waiting Lounge

Figure 3.2-11 Particulars of Luxor International Airport

5) Aswan International Airport

Aswan is one of major tourism destinations in upper-Egypt. About 1,000 km far from Cairo, the city is famous as the beginning place of the Nile Cruise. Aswan International Airport is located on the west side of Aswan city, near the Temple Philae, Aswan dam and High dam.

The Airport has a 3,400-m long runway with full-length parallel taxiway, 2-story passenger terminal building of approximately 34,000 m^2 floor area, 5 aprons of open stands, control tower, fire and rescue station, among others.



AIP

Passenger Terminal Building

Entrance Hall & Check-in Counters

Departure Waiting Lounge

Figure 3.2-12 Particulars of Aswan International Airport

For the past decade, passenger traffic at the airport has decreased due to strategic changes of major tourism route. According to the interview from the airport, nowadays most international tourists to Aswan used to arrive by domestic flight, but take Nile River Cruise to return to Luxor, after luxury cruise ship with heritage hopping services have been developed. In comparison, the number of passengers once reached 2.36 million in 2000 but decreased to 0.95 million in 2010.

28% of the total passengers are Spanish, and 97 % of the total passengers use domestic flight mainly from Cairo.

3.2.3. Airlines in Egypt

The Egypt Air Holding Company (EGYPT AIR) has seven subsidiary companies including Egypt Air Express, which is flying short-haul international and almost all domestic routes by small jets, Egypt Air Cargo for cargo freighter operations, Egypt Air Catering for servicing in-flight or in-airport meals, and two companies related to Egypt Air flight operations.

Egypt Air is operating widely international flights over the world from Cairo International Airport. Egypt Air is the main operator, but they are operating their regional flights to short-haul destinations through Egypt Air Express using small-sized jets such as Boeing 737 or ERJ series.

As of August 2011, 18 Egyptian civil commercial airlines were in operations, which consisted of six scheduled commercial service airlines (including three Low Cost Carriers and one paper airline), one private business jet service airlines, nine charter flight service airlines and two cargo airlines. Aside from those 18 airlines, one paper airline company called Air Sinai, a subsidiary company of Egypt Air, is making flight services between Egypt and Israel under the name of Egypt Air due to political reason

Table 3.2-3 List of Egyptian Airlines

Name of Airlines	Type	IATA Code	Base Airport	Operation Started in	Cities *1	Major Founder
Egypt Air	Schedule	MS	CAI	1932	73	Government
Egypt Air Express	Schedule	MS	CAI	2007	14	Egypt Air
Egypt Air Cargo	Cargo	MS	CAI	2004	10	Egypt Air
Smart Aviation Company	Business	-	CAI	2007	-	Egypt Air
Air Cairo	Charter	MC	CAI	1997	-	Egypt Air
Cairo Aviation	Charter	-	CAI	1998	-	Egypt Air
Air Sinai	*2	4D	CAI	1982	2	Egypt Air
Air Arabia Egypt	LCC	E5	HBE	2010	7	Air Arabia
Al Masria Universal Airlines	LCC	UJ	CAI,ALY	2009	8	Private
Nile Air	LCC	NP	CAI,HBE	2010	2	Private
Air Memphis	Charter	-	CAI	1996	-	Private
Alexandria Airlines	Charter	-	ALY	2006	-	Jordan Aviation
AMC Airlines	Charter	9V	CAI	1992	-	Private
Koral Blue Airlines	Charter	K7	SSH,HRG	2007	-	Private
Lotus Air	Charter	-	CAI,SSH,HRG	1997	-	Private
Midwest Airlines	Charter	MY	CAI	1998	-	Private
Nesma Airlines	Charter	NS	SSH,HRG,CAI	2010	-	Private
Petroleum Air Service	Charter	PS	CAI	1982	-	Private *2
Tristar Air	Cargo	YS	CAI	1998	3	Private

[Source] Website of each airline

[Remarks] *1: "Cities" shows the number of destinations includes Egyptian cities as an origin.
*2: Air Sinai is a paper airlines company, a subsidiary under Egypt Air to operate flights between Israel instead of Egypt Air due to political reason.

Table 3.2-4 List of Egyptian Airline's Fleets by Size

Name of Airlines	Total Fleets	Major Fleets by Size			
		Large Jet (+300 seats)	Middle Jet (200-300 seats)	Small Jet (100-200 seat)	Regional size (-100 seats)
Egypt Air	75	A330-200 (7) A330-300 (3) A340-200 (3) B777-200ER (4) B777-300ER (6)		A320-200 (13) A321-200 (4) B737-500 (4) B737-800 (17)	
Egypt Air Express	12				Embraer 170 (12)
Egypt Air Cargo	3		A300 (4)		
Smart Aviation Company	6				Cessna Citation (5) King Air 350 (1) DHC-8 (2)
Air Cairo	4			A320 (4)	
Cairo Aviation	5		Tu-204 (5)		
Air Sinai	1	Included in Egypt Air's Fleet			
Air Arabia Egypt	3			A320 (3)	
Al Masria Universal Airlines	2			A320 (2)	
Nile Air	7			A320 (2)	
Air Memphis	6			A320 (2) DC-9 (1) MD83 (1)	F50 (2)
Alexandria Airlines	1			B737-500 (1)	
AMC Airlines	5			B737-800 (4) MD-83 (1)	
Koral Blue Airlines	3			A320 (3)	
Lotus Air	4	Latest information not available			
Midwest Airlines	3			B737-800 (3)	
Nesma Airlines	2			A320 (2)	
Petroleum Air Service *1	9 (33)				DHC-7 (4) DHC-8 (5)
Tristar Air	1		A300 (1)		

[Source] Airline Company's web site, Planespotter net, etc.

[Remarks] *1: Petroleum Air Service provides chartered helicopter transport services by 33 helicopters.

3.2.4. Recent Trend of LCC services

Recently, Low Cost Carriers (LCCs) are drastically expanding their market worldwide. Egyptian aviation market is not an exception and a large number of LCC are in operation between Egypt and Europe as well as Middle East.

It is not clearly defined "which airline is LCC?" at present, but LCCs are generally prohibited to land at Cairo International Airport due to air traffic congestion.

At present, LCCs flying from/to Egypt, are generally differentiated into two categories; namely, European LCCs on chartered basis mainly flying from Europe and Russia to the Red Sea beach resorts (including Sharm El Sheikh and Hurghada), and the other is Middle-Eastern LCCs on scheduled basis mainly flying from Middle East to Cairo's outskirts and other Egyptian cities with large population, such as Alexandria and Asyut. In addition, small numbers of LCCs are flying from Europe to Luxor and Aswan to carry tourists to famous heritage destinations.

Currently, at the both airports in Alexandria, Nozha and Borg El Arab, 20 airlines are in service, nine (9) of which are LCCs. The 9 LCCs operated at Alexandria airports are listed in Table 3.2-5.

The number of flights by those 9 LCCs accounted for 50% of the total flights operated at the two Alexandria's airports.

Table 3.2-5 List of LCC Airlines at Alexandria Airports (Nozha & Borg El Arab)

Origin Airport	Airlines	Destinations	
		No.	City
Alexandria – Nozha	Air Arabia	1	Sharjah
	Al Masria Universal Airlines	2	Jeddah
			Kuwait
	Buraq Air	1	Benghazi
	3 LCC Airlines	**4**	
Borg El Arab	Air Arabia Egypt	6	Abu Dhabi
			Beirut
			Dammam
			Istanbul (Sabiha)
			Kuwait
			Riyadh
	Air Arabia Maroc	1	Casablanca
	Fly Dubai	1	Dubai
	Jazeera Airways	1	Kuwait
	Nas Air	2	Jeddah
			Riyadh
	Nile Air	1	Jeddah
	6 LCC Airlines	**9**	

Aside from those European LCCs flying to Red Sea beach resort, Luxor or Aswan, major target of the Middle-Eastern LCCs flying to Cairo's outskirt, Alexandria and Asyut are for business travelers including seasonal overseas contract worker rather than resort demand.

Because LCCs are generally prohibited to operate at Cairo International Airport, the Middle-Eastern LCCs are obliged to operate at Alexandria or Asyut airports, even to accommodate the passengers from Cairo's outskirt.

Middle Eastern LCCs flying from/to Borg El Arab International Airport are handling mainly seasonal overseas contract workers and pilgrims bound for Middle-Eastern countries as main target. There are several agents and brokers who provide mini-bus transportation for the LCC's passengers to access from wide areas in North Nile Delta to Borg El Arab International Airport.

The "Air Arabia Group", a Middle Eastern LCC is based at Sharjah, Saudi Arabia. The group established its subsidiary LCC in Egypt named "Air Arabia Egypt" jointly with the largest Egyptian travel company "Travco". This new LCC is based at Borg El Arab International Airport, and started its operation from 2010. By July 2011, Air Arabia Egypt has been expanding its flight network to serve six destinations in Middle East and Turkey, and they will expand its network further more by acquiring further numbers of new aircraft.

Earlier, the Air Arabia Group established other subsidiary LCC in Morocco named "Air Arabia Morocco" which also currently flys to Borg El Arab from Casablanca, Morocco. In 2011, their parent LCC, "Air Arabia" started its operations between several cities in Saudi Arabia and Nohza Airport. They plan to transfer its operations to Borg El Arab International Airport soon so that efficient management / operations can be ensured.

Under such conditions, the importance of LCCs will further increase and the impact on the air traffic market in Alexandria will be significant.

Status of Egyptian LCC companies is briefly explained as tabulated in Table 3.2-6. As of now, there are eight (8) LCCs registered in Egypt, three (3) of them are serving schedule flights while five (5) are operating on charter based.

Also, the list of major foreign LCCs operating in the Egypt (excluding European LCC flying to Sharm El Sheikh and Hurghada) is shown in Table 3.2-7.

Aside from the Alexandrian's two airports (Nozha and Borg El Arab) where LCCs' market from the widely-spread North Delta and Cairo's southern outskirt is covered, the Asyut International Airport handles the same market share mainly from the Upper Egypt and Cairo's southern outskirt, both for overseas contract workers and pilgrims as their main target.

Meanwhile, the Middle-Eastern LCC named "Jazeera Airlines" has started its operation from Cairo International Airport since June 2011, even though the current government regulations do not allow LCC's to land at Cairo as mentioned earlier. This is presumably because the airport capacity at Cairo has expanded very recently through the construction of 4th runway, new seasonal terminal, or Terminal 2 renovation. Final decision to allow another LCC to land at Cairo rests on MCA.

Table 3.2-6 List of Egyptian LCCs (includes Charter based LCC)

Airlines	Base / Hub	Headquarter	Established	Fleets		Destinations			Key Person (CEO)
				No.	Type	No.	In Egypt	In other	
Air Arabia Egypt	Borg El Arab	Borg El Arab	2009	3	A320	7	Borg El Arab	Kuwait, Beirut, Dammam, Riyadh, Abu Dhabi, Istanbul (Sabiha)	
Alexandria Airlines	Alexandria (Nozha), Cairo	Alexandria	2007	1	B737-500		*[Charter]*	*[Charter]*	Hassan Aziz (Chairman)
Al Masria Universal Airlines	Cairo Alexandria (Nozha)	Cairo	2008	2	A320	8	Alexandria (Nozha), Asyut, Cairo	Kuwait, Jeddah, Abha, Buraidah, Yanbu	Hassan Aziz
AMC Airlines	Cairo	Cairo	1992	5	B737-800, MD-83	3	*[Charter] Cairo, Alexandria (Nozha), Sharm El Sheikh, Hurghada, Luxor*	*[Charter] Europe, Africa, Middle-East*	El Sayed Saber (President)
Koral Blue Airlines	Sharm El Sheikh, Hurghada	Cairo	2006	3	A320	28	*[Charter] Hurghada, Sharm El Sheikh, Cairo, Taba*	*[Charter] France (6), Italy (4), Germany (4), Poland (3), Romania (2), Sweden (2), U.K. (1), Slovenia (1), Slovakia (1)*	Sami Ayadi (General Manager)
Lotus Air	Cairo, Harghada, Sharm EL Sheikh	Cairo	1997	4			*[Charter]*	*[Charter]*	Adnan El Falah (General Manager)
Nesma Airlines	Sharm El Sheikh Hurghada	Cairo	2010	2	A320	3	Cairo *[Charter] Sharm El Sheikh, Hurghada*	Ta'if, Tabuk *[Charter] Europe, Middle-East*	Mohamed Hammad
Nile Air	Cairo	Cairo	2008	2	A320	4	Cairo, Borg El Arab	Yanbu, Qassim, Ta'if Tabuk, Jeddah	Abdullah Al Haidar

Table 3.2-7 List of Major Foreign LCCs flying from / to Egypt (Mainly from / to Cairo and Alexandria)

Airlines	Base / Hub	Headquarter	Established	Fleets		Destinations		Key Person (CEO)
				No.	Type	No.	In Egypt	
Air Arabia	Sharjah	Sharjah	2003	29	A320	66	Alexandria (Nozha), Asyut, Luxor, Sohag	Adel Ali
Air Arabia Maroc	Casablanca	Casablanca	2009	5	A320	11	Borg El Arab	Rohit Ramachandran
Buraq Air	Benghazi	Tripoli	2001	13	B737-400/-800, BeA J32, Let L-410, Il-76MD/-76TD	10	Alexandria (Nozha)	Mohaned Budeida (Chairman)
Fly Dubai	DXB	Dubai	2008	19	B737-800	45	Borg El Arab, Asyut, Luxor, Sohag	Ghaith Al Ghaith
Jazeera Airways	Kuwait	Kuwait	2005	6	A320	18	Borg El Arab, Asyut Cairo, Luxor, Sohag, Sharm El Sheikh	Stefan Pichler
Jetair fly	Brussels	Brussels	2003	16	B737-400/-500/-700/-800, B767-300ER	84	Cairo, Haughada, Luxor, Marsa Alam. Sharm El Sheikh. Taba	Elie Bruyninckx (President)
Jordan Aviation	Amman Aqaba	Amman	2000	15	A310-200/-300, A320, B727, B737-300/-400, B767-200ER	6	Alexandria (Nozha)	Mohammed Al Khashman
Livingston Energy Flight	Milan (Malpensa)	Cardano al Campo	2003	6	A321, A330-200	45	Marsa Alam, Marsa Matrouh, Sharm El Sheikh	Niki Lauda
Luxair	Luxembourg	Luxembourg	1961	17	B737-700/-800, Dash8-Q400, ERJ135, ERJ145	59	Hurghada, Sharm El Sheikh	Adrien Ney
Meridiana Fly	Rome (Fiumicino) Milan (Malpensa)	Olbia	1963	36	A319, A320, A330-200, MD-82	40	Cairo, Sharm El Sheikh	
Nas Air	JED	Riyadh	2007	15	A319, A320, ERJ190	27	Borg El Arab, Sohag, Sharm El Sheikh	Sulaiman Bin Abdullah Al-Hamdan
RAK Airways	Ras Al Khaimah	Ras Al Khaimah	2006	4	B737-400/-800, B757-200	5	Cairo	Omar Jahameh
Sama Airline	Jeddah Riyadh	Riyadh	2007	6		10	Borg El Arab, Asyut	Bruce Ashby

3.2.5. Challenges of Civil Aviation Sector in Egypt for the Future

Currently, the civil aviation sector in Egypt is facing several issues, however generally it has been developed year by year. Current issues and concerns are attributable to the rapidly increasing passengers. These situations could impact on the capacity of related facilities in the airports directly. Due to the fact that Egypt has been playing a role of regional base of air traffic since long time ago, the network of airports were well developed in the entire state. However, current growth of air traffic is becoming a cause of several difficulties, such as on the capacity of the airports.

Airport Developments to solve the capacity constraints

As stated above, major airports in Egypt have been developed since 2000s. Especially, the developments in following airports located in the Nile Delta area and coastal area of the Red Sea were implemented to accommodate the growing demands since 2000s:

- Cairo International Airport (Capital city area);
- Sharm El Sheikh International Airport, Hurghada International Airport and Marsa Alam International Airport (the Red Sea area);
- Borg El Arab International Airport and El Alamein International Airport (the Nile Delta area); and
- Luxor International Airport and Sohag International Airport (Upper Egypt area).

At these airports, several developments were implemented including establishment or expansion of passenger terminal building, aircraft parking apron, access road and transportation and other related facilities. However, the air traffic demand of these airports has been rapidly growing for the last 10 years at unexpectedly higher growth rates than forecasted. Currently Borg El Arab International Airport is also facing the same issue.

The recent unexpected increase in air traffic is basically due to the growing economy in Egypt and surrounding countries such as:

- Growth of domestic economy in Egypt;
- Growth of the labor market demand in the Middle-East countries due to current economic growth;
- Developments of tourism industry in Egypt, especially in the Red Sea coastal area; and
- Developments of Low Cost Carrier services in the Middle-East and Europe regions.

These recent changes have already effected to the civil aviation sector in Egypt. The situation is expected to continue in future according to the economic forecast by the Government of Egypt and international institutes such as the United Nations (UN) and International Monetary Fund (IMF). The rapidly growing economy has been surely

impacting on the air traffic demand in Egypt and the airport facilities will also face the capacity constraints.

As stated in Chapter 4 below, the air traffic demand in Alexandria region would possibly grow due to these situations, and the Airport is assumed to face several issues due to the increasing passengers. These issues may appear at several airports in Egypt, and these airports are already planning or implementing the next developments to accommodate the demand. As discussed in Chapter 3.3, actual examples of current developments in these airports include Cairo, Sharm El Sheikh and Hurghada airports.

The lack of the capacity of the airport facilities is common and important issues at several Egyptian airports. To be ready to accommodate growing air traffic demand is priority challenges of the airports and the civil aviation sector in Egypt, and Borg El Arab International Airport is also not an exception.

Strategy to be a "Hub" of the region

As another point of view, the civil aviation sector in Egypt shall consider to be a hub of the region. Currently, some of international airports in the Middle-East region have been developed rapidly. For example, the airports in Dubai, Abu Dhabi and Doha were already developed as the hub of the region with establishments of new airport or new terminal buildings. Although Egypt is still playing a role as the air traffic base of the region, these airports in the Middle-East region could be taking a place of the hub in North-Africa region in near future due to the economic growth and rapid development speed.

To keep the position of regional hub of air transportation, relevant bodies of the civil aviation sector in Egypt (such as MCA, EHCAAN, CAC or EAC) shall formulate future strategic plan. Following challenges shall be considered to deal with current issues:

- Prepare to accommodate increasing air passengers and air cargo at the airports;
- Develop required facilities quickly to accommodate growing demand at the airports;
- Improve service quality to meet the global standards at the airports;
- Plan future strategy to keep the position as a base of air transportation in the region; and
- Operate and manage the airports more efficiently.

3.3. Development Projects of Civil Aviation Sector in Egypt

3.3.1. Airports in Alexandria Region

Based on the current situation of growth of air traffic demand in Alexandria region, some developments to enhance air traffic in the region were implemented for the past several years after SAPROF study in 2004. Currently, 3 civil airports (2 airports mainly for scheduled commercial flights and 1 airport for charter flights) are in service in the region.

1) Alexandria – Nozha International Airport

Alexandria – Nozha International Airport has been playing an important role as the airport most conveniently-located in Alexandria downtown. However, the airport faces fundamental difficulties to continue its operations as described in "Chapter 3.1.2 - 2)" above.

EAC plans to rehabilitate the runway, for which official announcement for the closure of Alexandria – Nozha International airport was published by the Minister of Civil Aviation as a NOTAM (Notice to Air Men) on AIP (Aerodrome Information Publication) in November 2011 and the airport was closed from 1st of January, 2012 till the beginning of the year 2013.

Once the airport is closed for rehabilitation, all flight operations including for commercial, general aviation and military are suspended. According to the latest NOTAMs on AIP (published on January, 2012, as shown in below table), the airport will not available for any flight operations due to closure of the runway for maintenance what uses heavy equipment such as cranes. However that, the operations for local helicopters, emergency medical evacuation and training will be available while this rehabilitation period.

Now, all commercial airlines have already transferred to Borg El Arab International Airport. Egypt Air, the major airlines in Alexandria airports, has also moved its all operations to Borg El Arab International Airport on 1st of December, 2011.

Table 3.3-1 List of related NOTAMs of Alexandria – Nozha International Airport

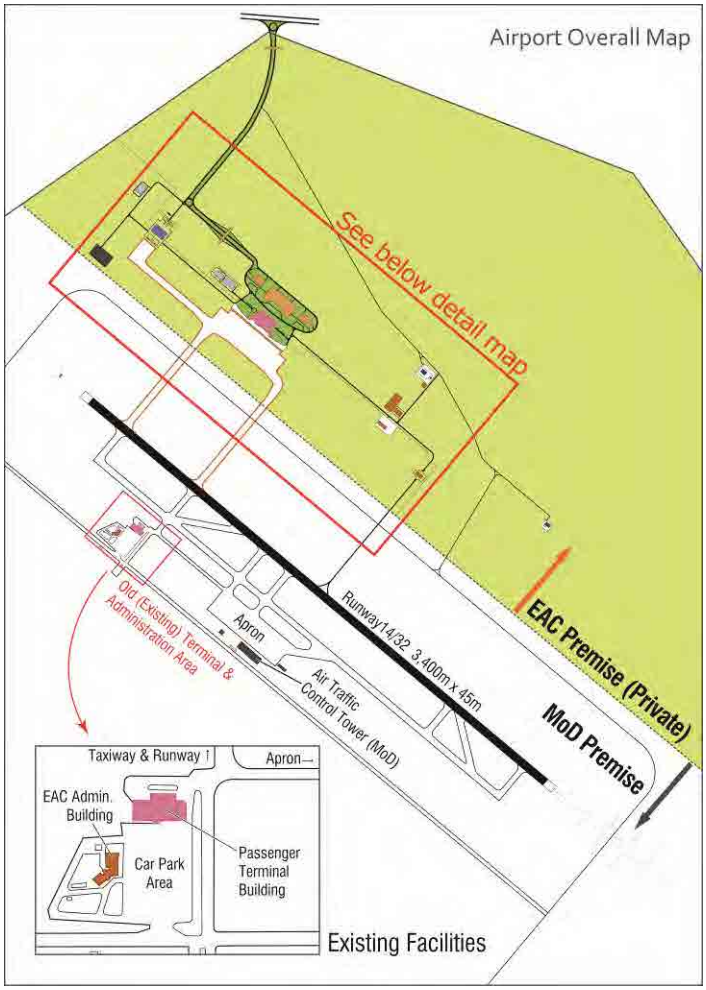
A0011/12	FROM 12/01/03 05:00 TO 13/01/01 15:35EST D) DAILY SR/SS E) AD AVBL FOR LOCAL HEL, MEDICAL EVACUATION AND TRAINING FM STAND NR 11 TO 17 ONLY.)
A0010/12	FROM 12/01/02 19:36 TO 12/12/31 22:00EST E) ACFT STAND NR 10 CLSD DUE TO WIP.)
A0358/11	FROM 11/12/04 14:03 TO 12/12/31 08:00EST E) SID AND STAR (RNAV) FOR RWY 04 AND RWY 22 SUSPENDED. IAP RNAV AVBL.)
A0331/11	FROM 12/01/01 06:00 TO 13/01/01 06:00EST E) RWY 04/22 CLSD DUE TO MAINT.))

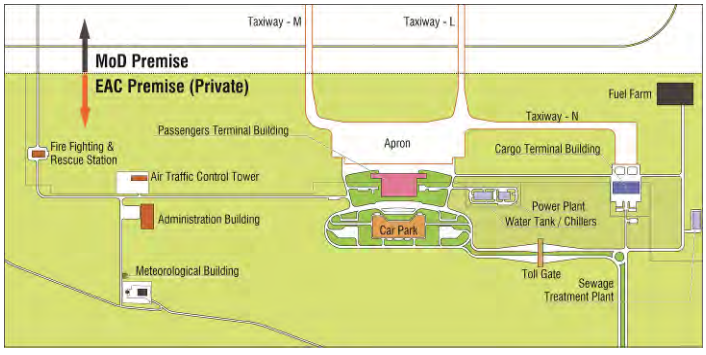
[Source] AIS JAPAN (Japan Aeronautical Information Service Center)

After completion of rehabilitation developments at Alexandria – Nozha International Airport, the airport will be used for operations of general aviation such as charter flights, private jets or company purpose flights. And all commercial airlines will remain at Borg El Arab International Airport even after completion of rehabilitation at Nozha International Airport.

2) Borg El Arab International Airport

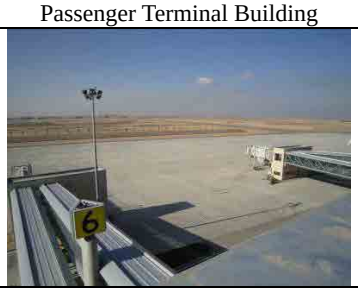
As mentioned in "Chapter 3.2.1 – 3)", the Airport has been developed as a new base of commercial air traffic in Alexandria to take place the function of Alexandria - Nozha International Airport. The developments related to new commercial operations were supported by the Government of Japan with its financial and technical assistances.





Overview Map of Developments

Passenger Terminal Building



Aircraft Parking Apron

Air Traffic Control Tower

Cargo Terminal Building

Entrance Gate

Figure 3.3-1 Major Developed Facilities at Borg El Arab International Airport

Based on the result of SAPROF study in 2004, detail design works were carried out by Japanese-Egyptian-Dutch consultants' joint venture.

In September 2007, the construction for the new facilities started in EAC premise. All developments were completed by October 2010, and new facilities including the passenger terminal building, aircraft parking apron, taxiways connected to the existing runway, air traffic control tower, approach road and related facilities at the Airport have become operational. The location and present condition of major developments in the Airport are shown in Figure 3.3-1 above.

3) El Alamein International Airport

El Alamein International Airport is located along the Mediterranean coast and at about 100km west from Alexandria city. The demand catchment area of the airport is just narrow and concentrated to focus on the demand of the tourists who visit El Alamein from European countries. At the north of the airport, several developed resorts exist. All passengers to the airport are carried by charter flights and visiting beach side resorts in El Alamein.

The airport was developed under BOT scheme and invested by private investors. SAPROF study report in 2004 mentioned about the development of the airport as a future plan, but the airport development was completed immediately afterward in 2005. The airport has 3,400-m long runway and a new passenger terminal building.

Considering the fact that the airport handles only chartered flights for small numbers of European tourist, the impact on the passenger's demand for Borg El Arab International Airport is considered to be negligible.

3.3.2. Cairo International Airport

Cairo International Airport has been continuously developed, expanded and renovated to accommodate growing air traffic demand, as follows:

a. The 4th runway was opened in 2010, the cost of which was approximately US$ 79 million. The new runway is 4,000- m long and 60-m wide with rapid exit taxiways. The new runway enabled simultaneous landing & takeoff, and increased aircraft operational capacity to hourly 100 movements.

b. The cost for construction of the New Terminal 3 completed in 2009 was approximately US$ 542 million of which 57% was financed by the World Bank. The building has a total floor area of 185,000 m^2 having 2 finger piers, 23 passenger boarding bridges, 49-51 aircraft parking bays capable of accommodating 11 million annual passengers.

c. New control tower started its operation in 2010, VFR room of which is at an elevation of 120 m.

d. New multi-story car park building with 3,000 parking spaces completed in 2010.

e. In the Terminal 1 improvement of passenger service grade consisting of upgrading of facades, re-organization of arrival and departure halls, service expansion of retail area is on-going and scheduled to be completed in 2011.

f. Inter-terminals people mover (automated monorail link) is under construction for completion by 2012. This rail-link facility will have a capacity to serve 2,000 passengers per hour per direction for convenient connection between Terminals 1 and 3 in 10 minutes. The trains will provide 2 secured areas for public (dirty area) and transfer (clean area) passengers separately on the same train.

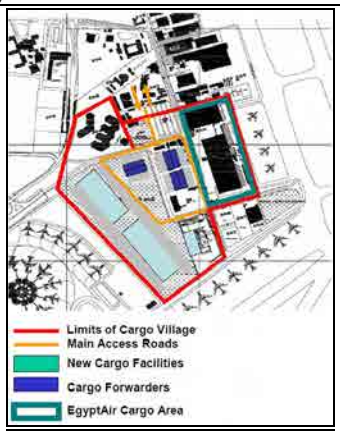
g. New cargo city to be located beside the existing cargo handling area is planned to be developed by 2013. This development project has 3 phases according to cargo master plan, and the 1st phase is scheduled to be completed in 2011.

h. Renovation of Terminal 2 has just started in 2011, and the project will finish within 36 months, i.e. by 2014. After all, the Terminal 2 will have extra boarding gates capable of accommodating A380, which will increase the terminal capacity to handle 8 million passengers per annum.

i. New Seasonal Passenger Terminal Building has opened in September 2011. The terminal has 3.2 million annual passenger capacity with 27 check-in counters, 7 departure bus gates to accommodate seasonal demand of hajj flights for pilgrimage passenger. However the terminal is designed simply such as LCC terminal, it has not plan to use for LCC flights due to the governmental regulation on LCC flights restriction to fly from / to Cairo International Airport.

a) Aerial Photo - New 4th Runway

b) Photo Terminal 3



g) Image - Air Cargo Community

h) Image - Terminal 2 Renovation

f) Image - Inter-terminal rail-link

Figure 3.3-2 Ongoing Development at Cairo International Airport

3.3.3. Major EAC Airports

1) Sharm El Sheikh International Airport

In order to cater for the future demand, Sharm El Sheikh International Airport is planned to have the new terminal building and 3rd runway to the opposite side of the existing facilities. The new terminal building will be capable of accommodating 7.5 million passengers per annum. By which the airport capacity will be doubled. The construction cost is estimated to be 350 million US Dollars in total and will be started by 2012 as originally scheduled. The new passenger terminal building is being designed by a Spanish consultant firm. The development will be financed by African Development Bank (AfDB) however its process is slightly on hold due to the Egyptian national elections.

Overview of the Terminals 1, 2, and the Proposed New Terminal

Airside facade of the Proposed New Terminal

Figure 3.3-3 Design Image of New PTB at Sharm El Sheikh International Airport

2) Hurghada International Airport

Although several expansions of Hurghada International Airport were carried out, the air traffic demand on this area has been growing faster than expected, and volume of the passengers have exceeded the design capacity of 7.5 million passengers per annum.

To cope with the situation, construction of the new passenger terminal building is ongoing as of 2011. The new terminal will be capable of accommodating additional 7.5 million passengers, the cost of which is estimated to be US$ 300 million to be completed in 36 months. The development of new passenger terminal building was financed by the Kuwait Bank and designed by Lebanese-French joint venture consultants. The construction was contracted with a Saudi Arabian contractor.

Figure 3.3-4 Design Image of New PTB at Hurghada International Airport

3.4. Tourism Industry in Alexandria Region

3.4.1. Accommodations

In Alexandria region, there are currently 4,000 rooms at 43 hotels as shown in Table 3.4-1, in which 167 rooms are located within 15 km from Borg El Arab International Airport.

Table 3.4-1 List of Hotels located around the city of Alexandria

No.	Grade Rank	Name of Hotel	Location	Rooms	Address	Contact no.	Distance From Borg El Arab Airport (km)
1	4	**Aifu Horizon Resort**	Montazah	86	Al Montazah Tower, Courinsh Rd.	(203) 5497993	80
2	4	**Windsor Palace Hotel**	City Centre	76	17, El Shohadaa St.	(203) 4808256	55
3	4	**Le Metropole Hotel**	Others	65	52,Saad Zaghloul street	34861465	55
4	4	**Mercure Romance Alexandria Hotel**	City Centre	55	303, El Gueish Av.	(203) 5836423	60
5	4	**Sofitel Cecil Alexandria Hotel**	City Centre	86	Saad Zaghloul Sq.	(203) 4874856	55
6	5	**Sheraton Montazah Hotel**	City Centre	270	El Corneish Rd.	(203) 5480550	80
7	4	**Paradise Inn Mamoura Beach Hotel**	Others	30	Maamoura Beach	35479602	85
8	4	**Hilton Green Plaza Hotel**	Others	314	Green Plaza - somoha	34209120	60
9	3	**Kaoud Sporting Hotel**	Others	99	133,El-Guiesh road	35434513	50
10	5	**Renaissance Hotel**	Water front	158	544,El-Guiesh road	35490935	70
11	5	**Helnan Palestine Hotel**	Others	232	El Montazah Palace	(203) 5475033	80
12	4	**Africana Hotel**	Borg El Arab	86	King Mariout	(203) 4550600	15
13	4	**Aida North Hotel**	Costal Road	100	el-kilo77-Alexandria Matrouh Rd.	0464102802	65
14	3	**Al Haram Hotel**	City Centre	221	162, El Gueish Av.	(203) 5464059	55
15	local	**Al Karnak**	City Centre	18	91, 26th July Rd.	(203) 4871593	55
16	3	**Al Maamoura Palace**	City Centre	75	Maamoura Beach	(203) 5473761	55
17	1	**Darwish Hotel**	City Centre	36	47, El Gueish Av.	(203) 5924846	55
18		**Delta Hotel Alexandria**	City Centre	63	14, Champolion St.	(203) 4865188	55
19	5	**Four Seasons Hotel**	City Centre	118	399, El Gueish Av. - San Stefano	(203) 5818000	65
20	3	**Geddah Hotel**	City Centre	92	137, El Gueish Av.	(203) 546 8662	55
21		**Land mark**					
22	2	**Motel King Mariout**	Borg El Arab	26	El-Farana st,King Mariout	4551434	20
23	4	**Plaza Hotel**	City Centre	125	394, El Gueish Av.	(203) 5838714	55
24	5	**Ramada Renaissance**	City Centre	158	544, El Gueish Av.	(203) 5490935	55
25	3	**San Geovanny Hotel**	City Centre	32	205, El Gueish Av.	(203) 5467775	55
26	2	**Swiss Cottage Hotel**	City Centre	48	347, El Gueish Av.	(203) 5835886	55
27	2	**Union Hotel**	City Centre	44	164, 26th July Rd.	(203) 4807771	55
28	3	**Mecca Hotel Alexandria**	City Centre	100	44,El-Guiesh Road	35923925	55
29	3	**Amoun Hotel**	City Centre	120	22 El-Nasr Street - Manshaya	34818239	55
30	5	**El Salamlek Palace Hotel**	City Centre	20	258 El-Montaza	35477999	55
31	5+	**Radisson Blu Hotel, Alexandria**	Costal Road	118	Alex West	35896000	10
32	5	**Mediterranean Azur Hotel**	City Centre	160	Kobry Stanly	35226001	55
33	3	**Cleopatra San Giovanni Hotel**	City Centre	100	160 , El-Kornish Road	35428058	55
34	5+	**Porto Marina Hotel**	Marina	338	Marina - Gate 3	19115	75
35	3	**Adham compound Hotel**	El-Kafory Road	81	King Mariout - Elkafory Road	4485882	15
36	3	**Samar Moon Hotel**	El-Bitash	48	El-Agamy - Bitash	3094930	40
37	2	**Dofil Hotel**	City Centre	42	Kobry Stanly	5454805	55
38	4	**Lagoon Hotel**	City Centre	56	Lagoon club	3814220	60
39	3	**Acacia resort Hotel**	City Centre	31	Acacia Club	3818888	60
40	2	**Hoilday Hotel**	City Centre	41	Midan Oraby - El Manshia	4803517	60
41	2	**El-Madina El-Manwara hotel**	City Centre	60	Sidi Gaber	5431294	60
42	2	**Nobel Hotel**	City Centre	40	152,El-Guiesh street	5463374	60
43	5	**ocean blue**	Marina	30 Suite	Marina - Gate 5 - Gizera 22	0464452272	80
					Total number of rooms	**4098**	

Random interviews conducted by JICA Study Team revealed that great majority (more than 75%) of the hotel guests who visited Alexandria were for business purposes.

3.4.2. Tourism Attractions

Since the 1990's the government of Egypt and archaeologists have discovered a wealth of historic sunken treasures in the bay of Alexandria and Abukir Bay. Over 2000 objects including sphinxes, statues and other objects have been mapped including pieces from the famous Alexandria Light House and Cleopatra's Palace.

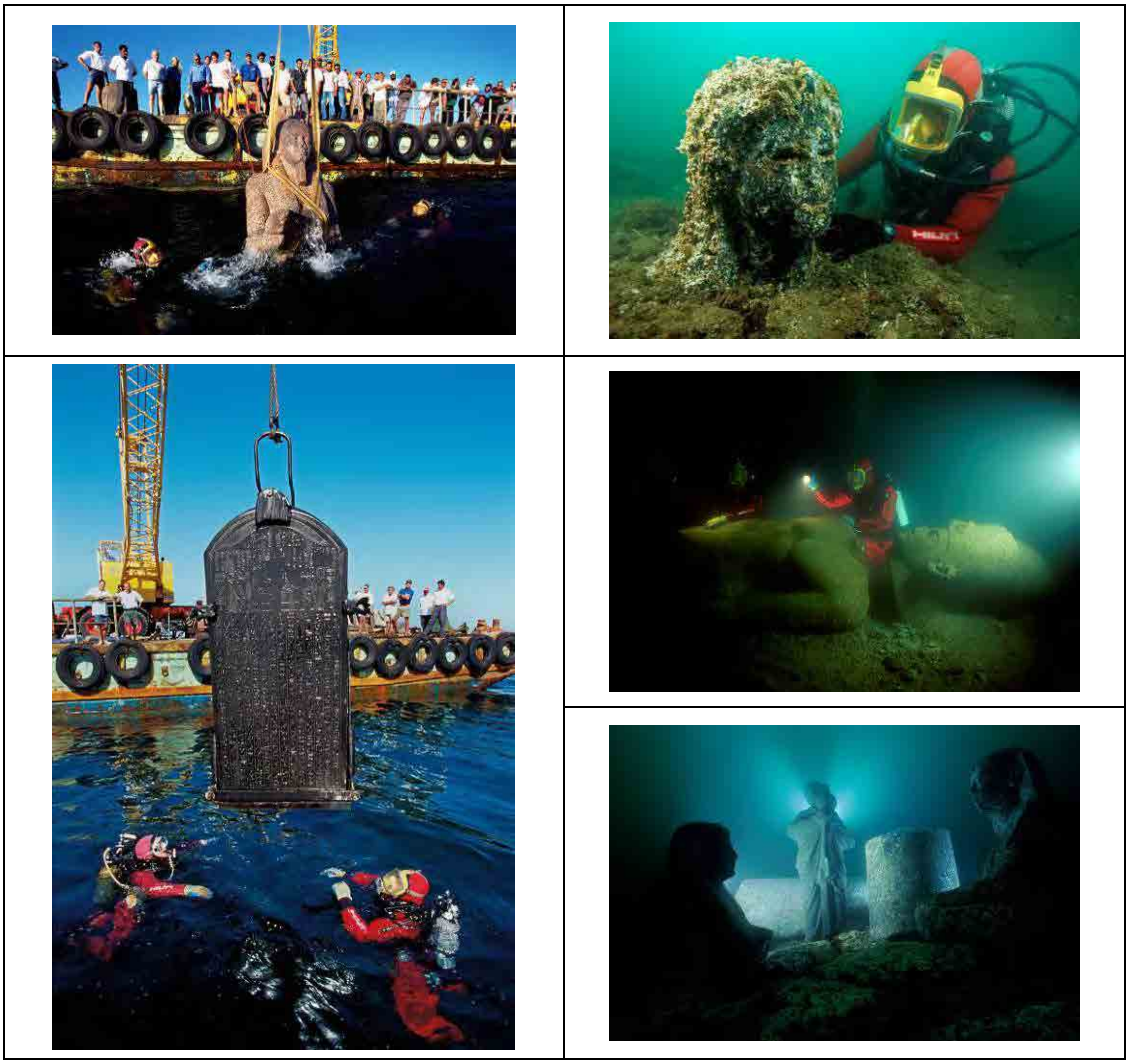


Figure 3.4-1 Sunken Treasures at Alexandria

Since 1998 the European Institution of Underwater Archaeology (IEASM) headed by French underwater archeologist, Mr. Frank Goddio has been salvaging various submerged objects from the ancient cities of Canopus and Heracleion-Tonis, offshore of Abukir Bay. These treasures have been exhibited at museums in Europe and Japan since 2006.

In 2006, UNESCO funded a study to look into the feasibility of developing an underwater museum near the New Library in Alexandria that would provide tourists with a direct underwater view of many of these objects. The proponents state that if the museum is materialized, it would provide Alexandria with a much needed unique tourist attraction that could add as many as one million annual new tourists to the city.

3.4.3. Current Development Projects for Tourism

Currently there are two major residential and commercial development projects in the proximity of the cities of Alexandria and Borg El Arab. The first major development "Alexandria West" is located just 20 minutes from Borg El Arab International Airport and includes, as shown in the figure below, hotels, schools, conference center, a university, an 18 holes golf course, malls and shops and movie theaters and several hundreds of high-end houses, villages and townhouses. Currently the Alexandria West is less than 35% completion. Its full development is expected to house over 15,000 people.

Figure 3.4-2 Master Plan of ALEX WEST Development

The city of Alexandria is not as well-known and of the interest to foreign tourists as other cities throughout Egypt like Cairo, Luxor and Aswan having historical heritage resources and Hurghada, Sharm El Sheik and Marsa Alam having marine tourism resources.

Even though the city is frequently visited by foreign tourists because of its historical and cultural attractions (library, roman ruins, museums) they rarely stay in the city for more than a day or rarely spend the night.

Most tourists come from Cairo early in the morning in comfortable tour buses and spend the entire day visiting the well-known tourist destinations. The Alexandria ground tour, is generally a part of larger tour to the rest of the major tourist destinations throughout Egypt.

Despite not being a major destination for foreign tourist, the City during the summer becomes the largest tourist destination for many Egyptians specially those living in Cairo and foreign visitors from the Middle East. During the summer Alexandria experiences the same high temperatures as many of the cities to its South and East that many want to escape but its constant cool breeze and proximity to the water make it the most attractive destination for people living in Cairo and the Middle-East.

It's estimated that during the summer season (June through September) the population of Alexandria is doubled as people from Cairo and vicinities flee the city looking for cooler temperatures. Entire families move from Cairo for the four summer months to apartments, houses and villas they own in Alexandria for this specific purpose.

Except for this type of tourism, travelers coming to Alexandria mainly travel for business or family purposes. Most travelers from/to the Middle East are workers from the Nile Delta region that work in Middle Eastern countries or travelers that fly to Saudi Arabia for pilgrimage.

(North Coastal Development)

One of the booming tourism spots in the vicinity of Alexandria is the north coast beach resort development between Alexandria and Marsa Matrouh, more specifically the area spreading over 45 km between Alexandria and El-Alamein.

It is speculated that as many as 3,000 new hotel rooms will be built in this area in next two to three years. This new development will have a major impact on the view tourists have today of Alexandria.

3.5. Infrastructure in Alexandria Region

3.5.1. Current Situation of Infrastructure

Alexandria is the 2nd largest city in Egypt having a population of 4 million. Between Cairo and Alexandria, 6th October City exists having a population of 3 million.

Between Cairo and Alexandria (through 6th October), several modes of transportations are in services including rail, road and air.

A railway link connects Cairo and Alexandria in 2 and half hours by express train. The Desert Road connects the cities in 3-hour drive, where 50-seater buses or 15-seater micro-buses are main mode of transportation for Egyptian citizens between the 2 cities. Meanwhile, air travel takes 45 minutes between the 2 cities normally.

The traffic between the cities in summer peak season is really heavy because Alexandria is a popular destination as a summer resort for Egyptian citizens. The same number as Alexandria's population (about 4 million Egyptian citizens) is staying in peak season for their long vacation.

Comparison is made for travel time and approximate price of rail, road and air transportation between Alexandria, Cairo, and 6th October City as shown in Table 3.5-1 and Table 3.5-2.

Table 3.5-1 Comparison of Transportation between Alexandria and Cairo

Mode of Transportation	City to Station	Waiting Required	Duration Of Travel	Waiting Required	Station To City	Total Duration	Price (Approx.)
Rail (Express)	0:10	0:15	2:30	0:10	0:10	3:15	50 L.E.
Road (Rent Car)	0:00	0:00	3:00	0:00	0:00	3:00	400 L.E.
Road (Mini-Bus)	0:15	0:20	2:30	0:00	0:15	3:20	25 L.E.
Air (Nozha)	0:15	0:45	0:45	0:20	0:30	2:35	250 L.E. (*1)
Air (Borg El Arab)	0:40	0:45	0:45 (*2)	0:20	0:30	3:00	250 L.E. (*3)

(Remarks) *1: Approximate fare in lowest discount ticket with advance purchase
*2: Estimated duration (same duration with from Alexandria - Nozha International Airport)
*3: Estimated fare (same fare with from Alexandria - Nozha International Airport)

Table 3.5-2 Comparison of Transportation between Alexandria and 6th October

Mode of Transportation	City to Station	Waiting Required	Duration Of Travel	Waiting Required	Station To City	Total Duration	Price (Approx.)
Rail (Express)	0:10	0:15	2:30	0:10	1:00	4:05	70 L.E. (*4)
Road (Rent Car)	0:00	0:00	2:30	0:00	0:00	2:30	400 L.E.
Road (Mini-Bus)	0:15	0:20	2:00	0:00	0:10	2:45	25 L.E.
Air (Nozha)	0:15	0:45	0:45	0:20	1:15	3:20	250 L.E. (*5)
Air (Borg El Arab)	0:40	0:45	0:45 (*6)	0:20	1:15	3:45	250 L.E. (*7)

(Remarks) *4: Bus transportation fare between Cairo and 6th October is approximated 20 L.E.
*5: Approximated fare in lowest discount ticket with advance purchase
*6: Estimated duration (same duration with from Alexandria - Nozha International Airport)
*7: Estimated fare (same fare with from Alexandria - Nozha International Airport)

The Tables suggest that any mode of transportation do not have any remarkable advantage or disadvantage.

3.5.2. Air Traffic Developments

For domestic air traffic between Cairo and Alexandria, Egypt Air and Egypt Air Express are serving domestic flights from Alexandria – Nozha International Airport to Cairo International Airport. As of 2011, domestic flights between Cairo and Alexandria are operated just once or twice a day.

Air traffic demand in Alexandria area has been rapidly growing. Combined numbers of passengers at two (2) Alexandria airports (Nozha and Borg El Arab) were 1.5 million in 2009 and 1.68 million in 2010, 5 times larger than the traffic 10 years ago (345 thousands in 2000)

95 % of the passengers used the scheduled flights to / from Middle East region, and Egyptian accounted for more than 80%.

The Borg El Arab International Airport was accepting middle to large-sized aircraft which could not land at Alexandria - Nozha International Airport and receiving newly established airlines including LCCs. After completion of the Project, most airport facilities are managed and operated by EAC and most flights have been transferred to the new terminal from the old terminal in military premises.

The old terminal facilities are planned to be turned over to the military. Most airlines are already scheduled to be transferred from Alexandria - Nozha International Airport to Borg El Arab International Airport during the closure of Nozha.

Consideration must be given to attain more convenient mode of access to the Airport by means of further improved road network, rail link service, or public bus services particularly of scheduled limousine bus for foreign tourists.

In the area around Alexandria, aside from Alexandria - Nozha and Borg El Arab International Airports, El Alamein International Airport is in service. The status of the El Alamein Airport is the 3rd airport after Alexandria - Nozha and Borg El Arab, and not a big competitor of Borg El Arab International Airport due to such remote location, non-availability of regular access, less flight frequency, as of now. Once the beach resort developments along Alamein coast completed, the Borg El Arab International Airport possibly becomes more convenient to access those beach resorts.

For other airports, Port Said Airport is located at 250 km east from Alexandria, and Marsa Matrouh Airport is located at 400 km west from Alexandria. Those airports are in service however their destinations and frequencies of flight are limited.

Borg El Arab International Airport is serving a large number of Middle Eastern LCC flights to major cities in Saudi Arabia and Gulf area with lower fares than Cairo International Airport. Passengers' access from the cities in the coast area of the Mediterranean to the Airport is smoother than going to Cairo Airport. For these reasons, Egyptian passengers even from remote area gradually tend to use Borg El Arab International Airport.

JICA study team also made a interview survey with travel agents in the study period, and found and that many travel agents are selling air tickets of LCCs flying from Borg El Arab, and these travel agents provide free bus transportation services to the Airport from local cities.

3.5.3. Road Infrastructure Developments

Alexandria area is connected with other regions via 3 major national highway networks. "Agriculture Road" and "Desert Road" connect with Cairo, and "Mediterranean Coastal Road" connects east and west of north coast of Egypt along the Mediterranean Sea, as shown in Figure 3.5-1.

Those highways have been developed, expanded and periodically renovated as the main traffic lines in Egypt.

Figure 3.5-1 Major Road Infrastructure Developments in North Delta area

1) Agriculture Road

The Agriculture Road starts from the center of Cairo to the east area of Alexandria city passing through Nile Delta area. The Road is handling vast demand of cargo transport to carry agricultural products from major agricultural production areas in Nile Delta area to Cairo, the biggest consumption market in Egypt, or Alexandria, the largest exporting hub port.

The Road is heavily congested, and in order to alleviate the congestion, a bypass road is now being construction to the west of the existing Agriculture Road (See Figure 3.5-1)

2) Desert Road

The Desert Road is the most important trunk line in Egypt, connecting between the west end of Cairo/Giza area, the west part of Cairo metropolitan, through 6th October City, and the west of Alexandria, that pass through the east end of Sahara Desert.

Originally, the Road was constructed for handling growing demand on Agriculture Road, and as the traffic on the traffic of Desert Road further increased, the Desert Road has been continuously rehabilitated to date. Current development includes expansion of traffic lanes from 3 to 4 on both directions, pavement rehabilitation, and construction of flyover for U-turn traffic, replacing the existing U-turn lane on grade.

The Desert Road has currently a small entry gate, located some 5 km to the east of the entrance gate of Borg El Arab International Airport, thus, it may become a part of access route to the Airport in future.

3) Mediterranean Coastal Road

The "Mediterranean Coastal Road" was developed from east to west of Egyptian north coast. The Road is starting from Port Said, north-east of Egypt, up to Marsa Matrouh, north-west of Egypt, passing Alexandria and El Alamein. This Road handles surface cargo and trade demand transported between Alexandria and various cities of petroleum and mining production situated along Mediterranean coast.

The Road will constitute a part of "North-Africa International Highway" which will become an inter-state connecting road along Mediterranean cities between Egypt and Morocco.

At present, the part of Mediterranean Coastal Road in Egypt is temporary in service through using the existing inter-city roads with several connecting new traffic lines. Those will be developed, modified or improved eventually to be a part of the "Inter-State Mediterranean Coastal Road".

3.5.4. Railway Developments

Alexandria, as the largest port of entry to Egypt, has been traditionally developed as the base of transportation of people, trade and industry for long time. The first railway network in Egypt was developed in Alexandria to handle these demands.

To date, the railway network has been continuously playing an important role in Alexandria area.

ENR Network in Alexandria

The main railway station in Alexandria is "Mahatet Masr Station" where services for various directions by Egyptian National Railways (ENR) are originated or destined. Sidi Gabel Station located in the new city center at eastern Alexandria, is under renovation to be the new main station in Alexandria to serve higher quality of service and comfort.

The ENR network is diverged from both of Mahatet Masr Station and Sidi Gabel Station to Abu Qir direction for north-east, Port Said direction for east, Tanta and Cairo direction for south, and Marsa Matrouh direction passing through the City of Borg El Arab. The train service frequencies other than Cairo direction are still low and inconvenient, and some are served with 3rd class car as local train. Other ENR's branch link was established between the stations nearby Alexandria harbor passenger terminal located on the west of Alexandria.

The rail link of ENR between Cairo and Alexandria is known as the most important trunk line in Egypt. At present, ENR is providing frequent express train service between Cairo and Alexandria every 1 hour, with an introduction of new rolling stocks imported from foreign countries (e.g. Spain, Italy and France).

A part of express trains is served up to Luxor with sleeping train facility, which is popularly included in package tours for foreign tourists.

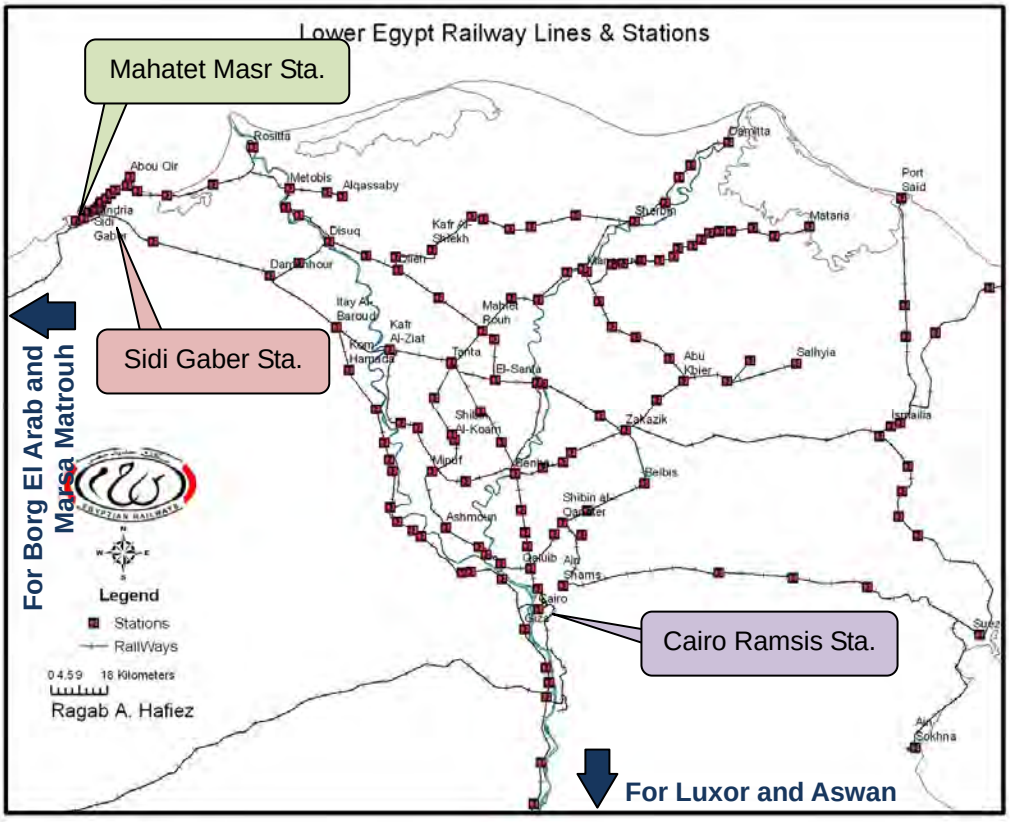


Figure 3.5-2 ENR Network in Lower Egypt

Tram Network in Alexandria

Several street car (Tram) lines are in service in Alexandria city. The Tram network has been expanded throughout the city lengthwise and crosswise in the past, and is utilized by Egyptian citizens at low fare. As of 2011, the Tram network connects between the old downtown of Alexandria near Mahatet Masr Station and the new downtown area in east of Alexandria, with 2 different operation lines, however, the other lines have been gradually abolished upon development of bus service network and private cars.

The rail link network for cargo transporting from the port is still active and expanding in all directions of the city, because Alexandria port is the largest port for trade and industries in Egypt.

Scene of Egyptian Trains ENR

Tram Train in Alexandria Downtown

Figure 3.5-3 Railways in Alexandria

Future Development of Railways

Modernization of the main trunk line between Cairo and Alexandria with an introduction of a new high-speed rail link is under study. The feasibility study to connect the 200-km distance between the two cities within 1 hour has been assisted by Italian Government. Some news sources reported about the possibility to introduce Japanese high-speed train system, the Shin-Kansen, however, it will take a long time until any decision on this matter which is made by relevant authorities.

New Line to New Borg El Arab City

The new ENR line development project is on-going in the west area of Alexandria as of 2011. The new line would connect Alexandria city with New Borg El Arab City where new industrial areas and University were developed. The project includes improvement of subsoil conditions and doubling the existing track, and construction of a new track to New Borg El Arab City diverging from the station near Borg El Arab International Airport. This new line is expected to be utilized for the access to Borg El Arab International Airport since it is located only 5 km away from the Airport.

New rail truck in New Borg El Arab City
(Industrial Area)

New Station at New Borg El Arab City
(Opened)

Station in New Borg El Arab City
(under construction)

Figure 3.5-4 New Rail line to New Borg El Arab City

3.5.5. Water Transport Developments

Alexandria is located in an estuary of the Nile River, and the west end of Nile Delta area. The Nile River runs through the country of Egypt from south to north. The river enters Egypt after Sudan boundary, and passes Aswan High Dam, Luxor, Cairo and other major cities in Egypt.

The Ministry of Transport of Egypt is planning to utilize the Nile River for establishing a water transportation network. According to the plan, the network would be established from Cairo to Alexandria (220 km), Cairo to Damietta (up to the east end of Nile Delta at a distance of 240 km), Cairo to Aswan (Upper Egypt at a distance of 960 km) and Aswan to Wadi Halfa (up to the Sudan boundary at a distance of 350 km). After completion of this development, the total network of water transportation will reach 1,850 km.

At present, Ather El Nabi Port at the suburb of Cairo and Nhafa Port at the south edge of Alexandria are under development. Ather El Nabi Port would have about 57,000 m^2 area and Nhafa Port would have 14,840 m^2 area facilities.

Once the development completed, a part of agricultural products from mass farming area located between Cairo and Alexandria would be transported by this water transportation network instead of road traffic.

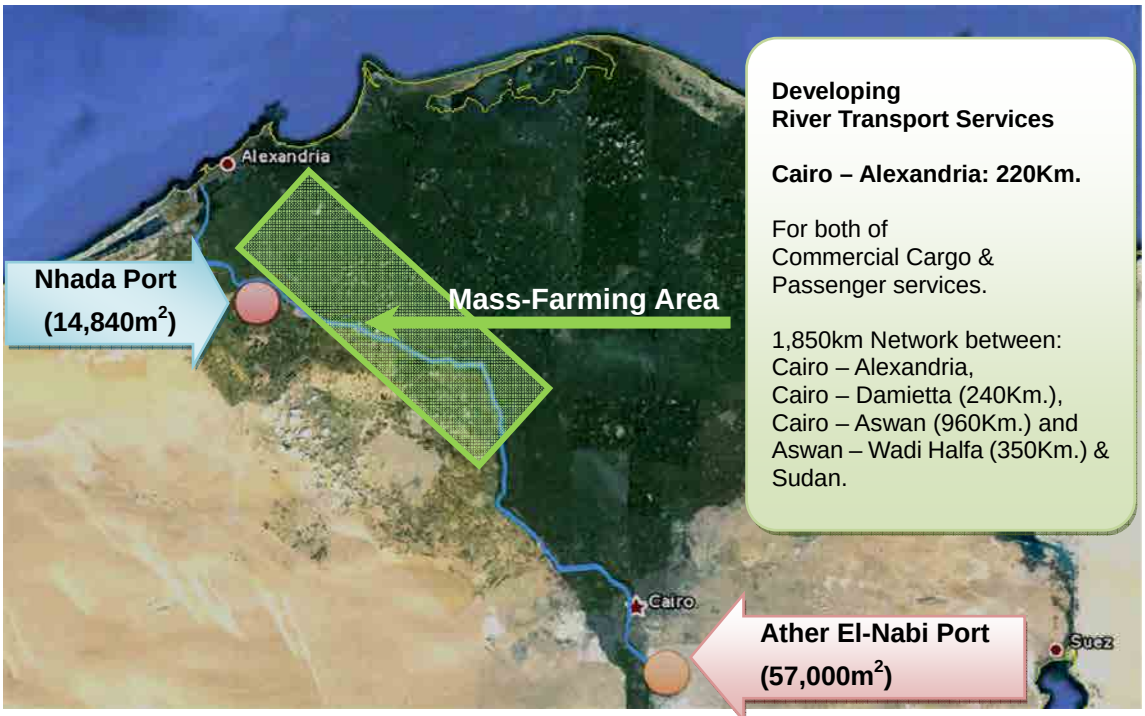


Figure 3.5-5 Water Transportation Development (Between Cairo and Alexandria)

3.5.6. Sea Port Developments

Alexandria is the 2nd largest city in Egypt and the largest trade base city in Egypt at the same time. Great majority of export and import freights in Egypt are handled at two (2) international gateway seaports, namely, "Alexandria Port" and "Dekhiela Port".

These 2 seaports in Alexandria are handling 74% of the total international trading amount in Egypt as of 2009, creating 58 billion US Dollars in total tax amount, and 5.58 billion US Dollars in port revenue. The number of annual ships handled is approximately 6,000.

Alexandria Port located near city center is handling passenger ships, marine transport containers, living stocks, grain and oil.

On the other side, Dekhiela Port located in the west area of Alexandria Ports is handling coal, bulk liquid, petrochemical products, grain and marine transport containers.

Alexandria Port is equipped with facilities for handling marine transport containers, and marine traffic control tower and shipyards.

Although main function is for cargo handling and trading, the Alexandria Port is also accommodating a large demand of passenger ship service. The new passenger terminal, upon its opening, accommodated about 200 thousand passengers in 2009.

Alexandria Passenger Ship Terminal

Terminal Entrance Hall and Departure Hall

Main Gate and Ships Berth

Figure 3.5-6 Seaport at Alexandria

At present, other major port facilities are being renovated or rehabilitated step by step, which will contribute to enhancing the functions of Alexandria Port.

In close vicinity of the two (2) Alexandria's seaports, Borg El Arab International Airport was developed with modern facilities including cargo terminal.

According to the interview from international cargo forwarder, currently most international cargoes undergo customs clearance in both of Alexandria ports or Cairo International Airport. Particularly, industrial and agricultural goods produced in Alexandria area undergo customs clearance at Alexandria ports, and then are transported to Cairo International Airport by land transportation to load the aircraft. Therefore, once simple and speedy customs clearance systems and good surface transportation network become available at Borg El Arab International Airport, the Airport could possibly attain a status of connecting cargo hub to handle the demand of sea-and-air cargoes in a good collaboration with Alexandria's seaports.

3.6. Industrial Development in Alexandria Region

The Egyptian government and the private sector have embarked in a series of major infrastructure, commercial, residential and industrial developments around the cities of Alexandria and Borg El Arab and its surrounding areas that could potentially have a major impact on the markets served by Borg El Arab International Airport.

The government's strategy to improve the overall economic condition of its citizens by providing better infrastructure, better education, better jobs and quality of life has also been accompanied by support from the private sector with the development of various multimillion dollar commercial and industrial development projects in the area.

3.6.1. Current Situation of Industry and Trade in Alexandria Region

The city of Alexandria is well known as being the main location of major industries in Egypt. Alexandria and its immediate surrounding area account for nearly 40% of Egypt's industry and 60% of its foreign trade.

Alexandria is producing 60% of Egyptian total of textile industry, 40% of its petroleum and petrochemical industry, 35% of its food processing industry, 30% of its plastic, 16% of telecommunication, 15% of information technology, and 15% of its pharmaceutical industry.

3.6.2. Industrial Development Plans at Borg El Arab

In the airport surrounding area of the City of Borg El Arab, several industrial development projects have been planned since about 20 years ago. Borg El Arab City Area is located 45 km to the west of Alexandria City and playing a role of new industrial base in Alexandria region.

However several development projects are planned or implemented or completed in whole Alexandria region, currently, the position of Borg El Arab City is becoming more important in the industrial sector of the region.

As a core area of the city, "Borg El Arab City" is placed in the center of its area, and its population is about 113 thousand according to the national mobilization statistics in 2006.

Currently, Borg El Arab City Area can be divided into 2 major areas. One is old down town of Borg El Arab called Borg El Arab City. Borg El Arab City is generally playing its role as the residential area in a suburb of Alexandria.

The other city is "New Borg El Arab City", located 10 km to the south of old down town of Borg El Arab. Main industrial activities in this area are played at New Borg El Arab City and that city has been developed as a completely new urban development.

The location of the city and the Airport is shown as Figure 3.6-1 below. The city is located

about 10 km to the west of the Airport and people can access to the Airport in about 15 minutes from the city. The north of the area is called Borg El Arab City, and the south of the area has been developed as New Borg El Arab City.

Figure 3.6-1 Map of Borg El Arab City

The new urban development at New Borg El Arab City is implemented within 15,200 acres (approx. 61.5 km^2) of land. The master planning and total area development have been implemented by the Ministry of Housing, Utilities and Urban Development. Currently, the New Urban Communities Authority, under the ministry is taking a major role of managing the developments in this area. The new city would consist of industrial, commercial, residential and educational establishments. Majority of the developments in the city are conducted by private industrial sector building their private factories or warehouses. And a large number of developments or establishments in private industrial sector have been constructed.

Currently, more than 600 factories are located in this area, and major categories of industry include the followings, according to interview to the Chamber of Commerce in Borg El Arab City by JICA study team:

- Petrochemical;
- Steel and Metal processing;
- Machine parts manufacturing;
- Fertilizer and Agricultural Chemicals;
- Institute and research; and
- Agriculture and Food processing.

These industrial factories in this area were developed or established by private sector including foreign investors especially from the Middle-East countries. And some of factories were transferred from Alexandria to New Borg El Arab because of the tax holidays offered for new developments by relevant authority.

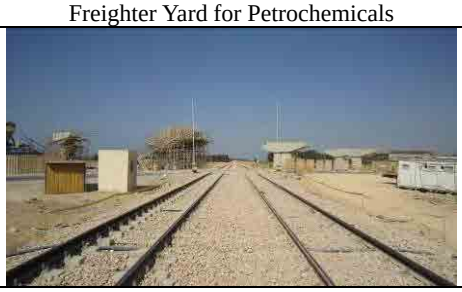
Moreover, some of the factories are doing businesses with Russian or other European companies at the special territories dedicated for each country in the area. Although the developments have been continuously implemented, several foreign factories in this area, especially small companies, are facing difficulties to maintain their business due to unstable political situation and the end of tax holidays.

In New Borg El Arab City, several infrastructure developments are on-going to attract or accommodate industrial demands. Especially rail and road infrastructures are being developed rapidly. As of October 2011, the rail link between Alexandria and New Borg El Arab opened and operation has been started. However, although the rail operation started, the developments of related infrastructures such as crossover bridges and new stations are yet to be completed.

New Rail Line and Industrial Factories

Freighter Yard for Petrochemicals

Interchange (Road on Rail)



Crossover the rail (under construction)

Figure 3.6-2 Infrastructure Developments in New Borg El Arab City

For other future developments, New Borg El Arab City has a lot of pans. The major developments are listed in Table 3.6-1 to Table 3.6-3 below.

Table 3.6-1 List of Development Plan at Borg El Arab City Area (Page 1/3)

No.	Project	Progress	Development Year	Completion Target Year	Executing Body	Detail Contents of the Project	Location	Financed by	Total Budget
1	**Amusement / Entertainment Park**		After 2017	2022	Private	Amusement city contain gate,tickets,management,15 adventure game, 2 restuarants, 3 cafee,children garden and male & femail bathrooms.	Suggested lands in the city		55 milion EGP
2	**Theme Parks**		After 2017	2022	Private	Consist of 4 gardens reprents Egypt's civilization & it's scientists at the age of the pharoanic,greek,romanic ,Arabic/islamic & modern periods.	Suggested lands in the city		30 million EGP
3	**Construction of 200rooms & 4 stars Hotel to serve the Int. Borg El Arab Airport**		After 2017	2022	Private	200rooms & 4 stars Hotel (Restuarants,attached cafees,swimming pool,Gim , Memories shops & Tennis course.	Suggested lands in the city		40 million EGP
4	**Central Regional Park**		After 2017	2022	Government	Central Regional Park contains all the Mediterranean sea' plants	Suggested lands in the city	MoA	25 million EGP
5	**Medical City**		After 2017	2022	Private	Public Hospital (200 beds , external clincs for different specializations,rehabilitation center,laporatories.	West development area		300 million EGP
6	**Festivals & Exhibitions' City**		After 2022	2027	Government	3 Suites for 4000m2 area & external show areas , services area (restuarants , cafees, bathrooms)	Suggested lands in the city	Exhibtion Authority	75 million EGP
7	**Construction of 200 rooms for Businessmen Hotel (4-5 stars)**		After 2022	2027	Private	200 rooms for Businessmen Hotel (4-5 stars) , restuarants ,attached cafees,swimming pool,Gim , Memories shops & Tennis course.	Centeral axis		40 million EGP
8	**Zoo**		After 2022	2027	Private	Small zoo contain 50 kinds of animals which represent the Mediterranean sea environment.	Suggested lands in the city		25 million EGP
9	**Hotel , tourist ,amusing resort for the sportive games**		After 2022	2027	Private	600 rooms Hotel resort , open sport playground for basketball,vollyball ,olympic swimming pool , squash and supplementary services like retuarants & cafees.	Sportive Clubs area		100 million EGP
10	**Cinemas & Theaters' Complex**		After 2022	2027	Private	Cinema : capacity 50 chair , cinema and theater room : capacity of 200 person + supplementary services (restuarants , cafees)	Suggested lands in the city		30 million EGP
11	**200 rooms Hotel to serve the northern coast**		After 2027	2032	Private	200 rooms Hotel to serve the northern coast ,restuarants ,attached cafees,swimming pool,Gim , Memories shops & Tennis course.	Suggested lands in the city		40 million EGP
12	**International 18 Golf course**		After 2022	2027	Private	International 18 Golf course with social club , restuarants & attached cafees.	Distinguished Housing Area		30 million EGP
13	**Regional & International Conference Center**		After 2027	2032	Private	International Conference Center contain main hall with capacity of 1000 chair + 2 halls each with capacity 500 chair + 2 halls each with capacity of 250 chair + supplementary services.	Suggested lands in the city		50 million EGP
14	**Hyper Market**		After 2027	2032	Private	Commercial complex contain large coomercial shop (6000m2) , 30 shops each 50m2 in addition to restuarants , cafees & supplemntary services complex.	Suggested lands in the city		25 million EGP
15	**Aquatic & Fish park Museum**		After 2027	2032	Government	Main hall 10000m2 contain show interface,glass basins attached with restaurant ,cafee, open show basins for the external show .	Suggested lands in the city	Alexandria Univ.+ Marine Science Institute	25 million EGP

[Source] Borg El Arab City

Table 3.6-2 List of Development Plan at Borg El Arab City Area (Page 2/3)

No.	Project	Progress	Development Year	Completion Target Year	Executing Body	Detail Contents of the Project	Location	Financed by	Total Budget
16	**Educational Economy & Scientific Research Projects**								
	*** Extension of Alexandria University & Private Universities**		Alex: From 2012 Private: From 2012	Alex: 2027 Private: 2032	Government + Private	Accommordating 189,000 student 2032, because of the small size of the existed university , it will expected to accommodate 50-60% from this unvirsities in Borg El Arab city,	Universities area		1,392 million EGP
	*** Cultural Centers**		After 2022	2027	Government + NGO	Specialzed libraries as Arts, Multimedia and Microfilm.Archieve & documentary services for the participatig foreign country. Training centers for computer, languages& job market qualifications.	Centeral axis		135 milliom EGP
	*** Egyptian Japanese University**	In progress	Designing	2015	JICA / MoHE	Including new university campus development for accommordating 3,000 students, dormitory houese for the teachers and students, and commercial facilities for the population.	New Borg El Arab City (10Km west of the Airport)	JICA / MoHE	2.15 billion JPY (from Japan) 10 billion JPY (from Egypt)
	*** Mubarak city for Scientific Research**	Completed	Completed		Government + Arab & Foreign Investors	Advanced technological knowledge entities specializing in science and technology to maximize productivity for all sectors of the Egyptian economy. Integrated clusters in the field of scientific research with both public and private universities and academic research through local and international cooperation programs.	Universities area		145 million EGP
	*** National Technological Science City**		After 2022	2032	Government + Arab & Foreign Investors	Advanced technological knowledge entities specializing in science and technology to maximize productivity for all sectors of the Egyptian economy. Integrated clusters in the field of scientific research with both public and private universities and academic research through local and international cooperation programs.	Universities area		556 million EGP
	*** Alexandria Library Branch**			2022	Government + Arab & Foreign Investors	Providing a huge space for learning,providing many kinds of information through (books,periodicals,maps,multimedia,electronic resourses, permenant & temporary shows.	Universities area		108 million EGP
	*** Training Center**			2022	Government + Arab & Foreign Investors	Creating new opportunities for the technical learning. Increasing the training level, rehabitaliation ,current & futur industrial labour competition .Creating advanced center for the educational ,technical , technological services on the national & regional level.	Adjacent to the Airport, Universities Area, Technological Valley at the north economic area		190 million EGP
	*** Smart Village**		After 2017	2032	Government + Arab & Foreign Investors	Bussiness Park , Administrative complex , commercial centers, global communication center & technological center.	Adjacent to the Airport, Railway station, Scientific research park	Government + Arab & Foreign investors	756 million EGP
17	**Smart Village Technological Services Projects**								
	*** Construction of Communication Network inside the closed urban communities**		After 2012	2017	National sector for Communication Arrangement	Utilization of the modern communication networks . Entering new technology & training for new caders to deal with it.	Smart Village	Specialized Co. + Egyptian Investors	3,500 EGP per line
	*** Information Technology Institute**		Suggested Since 2004		MoIC	Entering new technology & training for new caders to deal with it.	Smart Village	Arab Leage + MoIC	10 million EGP
	*** Advanced Researches' Center**		Suggested			Using IBM to develop new algorithms to apply technological visibilty by using the computer to follow up the moving object, analysing the scenes.	Smart Village	IBM Co. + MoIC + Arab Leage	50 million EGP

[Source] Borg El Arab City

Table 3.6-3 List of Development Plan at Borg El Arab City Area (Page 3/3)

No.	Project	Progress	Development Year	Completion Target Year	Executing Body	Detail Contents of the Project	Location	Financed by	Total Budget
18	**Road Projects**								
	*** Paving the internal roads of the city**		Suggested	Depending on the Budget	Private + Domestic Socity + Borg El Arab City	Improving the Connectivity & increasing the communication. Saving the time , effort& facilitate the movement all over the city.	Internal road network		33.4 ~ 123.6 million EGP (123.6/70.9/ 87.8/33.4)
	*** Construction of (8) overhead crossings (Bridges)**			5 plans	Private + Domestic Socity + Borg El Arab City	Solving all the problems of road interception with railway lines.	Centeral axis		9 ~ 21 million EGP (21.0/12.0/9.0)
	*** Construction of (2) mass transport stations**		4 years	2 stages	Private + Domestic Socity + Borg El Arab City	Organising the traffic in the city Raising the quality of the public transportation . Saving the time , effort, money and increasing the productivity.	Centeral axis		4 million EGP
	*** Railway Extension**		Suggested	15 years	Private + Domestic Socity + Borg El Arab City + National Railway	Continouity of the movement of the passengers by the railway. Raising the quality of public transportation operation Saving the time , effort, money and increasing the productivity.	Extension of railway to the Airport		8.6 ~ 14.6 million EGP (8.6/14/6/10.0)
	*** Construction of Railway Station**		The 3rd of 5 years National Development Plan	3 years	Private + Domestic Socity + Borg El Arab Set+ Railway inistitution	Continouity of the movement of the passengers by the railway. Raising the quality of public transportation operation Saving the time , effort, money and increasing the productivity.	Centeral axis		4 million EGP
19	**Irrigation & Water Projects.**								
20	**Sanitation Projects**			5 years	Borg El Arab City + MoH	Saving enough pure water Protecting the public health. Meet the needs of the city of the water.	Sanitation station		360 million EGP
21	**Hard waste projects**			5 years	Private Cleaning Companies	Collecing all waste objects. Cleaning of the streets & squares in the city transfer all the wase outside the city Protection of the public health	New Borg El Arab City		23 million EGP
22	**Electrical Projects**		From 2012	2017	West Delta Electricity Co. + MoEE	Building the Electrical Cabalilities to support the needs of the city . Completing the electrical infrastructure. Providing new job opportunities.	South Borg El Arab City		616 million EGP
23	**Communication & Information Technology Projects**		From 2012	2017	MoIC + Investors	Reducing the technological illiteracy - Activating the electronic government	New Borg El Arab City	MoIC + Investors	115 million EGP

[Source] Borg El Arab City

3.6.3. New Borg El Arab Industrial Park

In Borg El Arab city, 10 km west of Borg El Arab International Airport, as part of its economic and development policy the government has decided to develop a major new urban, educational, commercial and industrial center within 15,200 acres of land. This new area is referred to as the New Borg El Arab City that includes 8 residential areas, 4 industrial areas and several areas reserved for educational and commercial purposes.

The government recently added another 172 acres of land to the east of the original 15,200 acres in the vicinity of Borg El Arab International Airport. This new area is to be used mainly for industrial development. The new city is about 25% built, its 4 industrial areas and 2 of its eight residential areas are complete. It also houses the Science Research and Technology Applications (C-SAT) within a 250 acre area, including proposed assembly of 12 research institutes directed to the development and renovation of industry. C-SAT is about 25% complete having inaugurated in 2,000 three of its 12 planned research centers.

3.6.4. Free Trade Zones in Alexandria Region

The city and its surroundings host several industrial zones:

- ✓ to the southeast at Kafr-El Dawar and Siouf, fourteen major cotton and rayon textile mills; and
- ✓ to the west and southeast, petroleum and petrochemical refineries, cement and chemical plants and the Dekhelia iron and steel mills..

The paper and copper works industry can be found to the west of the city. In addition to the continuous growth and expansion of these industries the government and the private sector are also developing various industrial projects in the vicinity of the cities of Alexandria and Borg El Arab that could potentially impact aviation markets from Borg El Arab International Airport in particular cargo markets.

Two of the most important projects are the Alexandria Free Trade & Special Investment Zone (AFTSIZ) located in El-Amreya 20 km east of Borg El Arab International Airport and the enhancements to the mass agricultural and farming areas between Tanta and Alexandria.

The AFTSIZ hosts over 250 industrial and warehousing companies. Located in an area of about 890 acres of land, it boasts various industries including textile and apparel, petrochemical, chemical, food processing, liquid gas and companies that provide support and equipment to oil exploration companies. The AFTSIZ continues to expand and attract new businesses.

The enhancements projects to the agricultural and farming areas located at south of Alexandria have been set in motion for the purpose of increasing the agricultural productivity of this areas thus generating better and larger volumes of consumable products

for local and foreign markets.

With the opening of Borg El Arab International Airport and its modern cargo facility it can be expected that some of this new additional production will be transported through the new airport.

3.6.5. Other Major Industrial Developments in the Catchment Area of the Airport

1) 6th of October City and Around

6th of October City (or called as October 6 City) is newly developed urban cosmopolitan city in the west end of Sahara desert. The city is located 20 km to the west of Giza and 40 km to the west from Cairo downtown and the city is placed as the capital of 6th of October governorate.

The governorate was divided from Giza governorate in 2008 with the total area of about 400 $km^{2.}$ The population of the governorate was reaching to about 3 million in 2010, and the population of 6th of October City, the capital of the governorate was estimated about 500 thousand .

The development of new urban city in this area started in the end of 1970s to accommodate concentrating population in the capital city of Cairo. The city has been developed as completely new city based on its master plan in the desert.

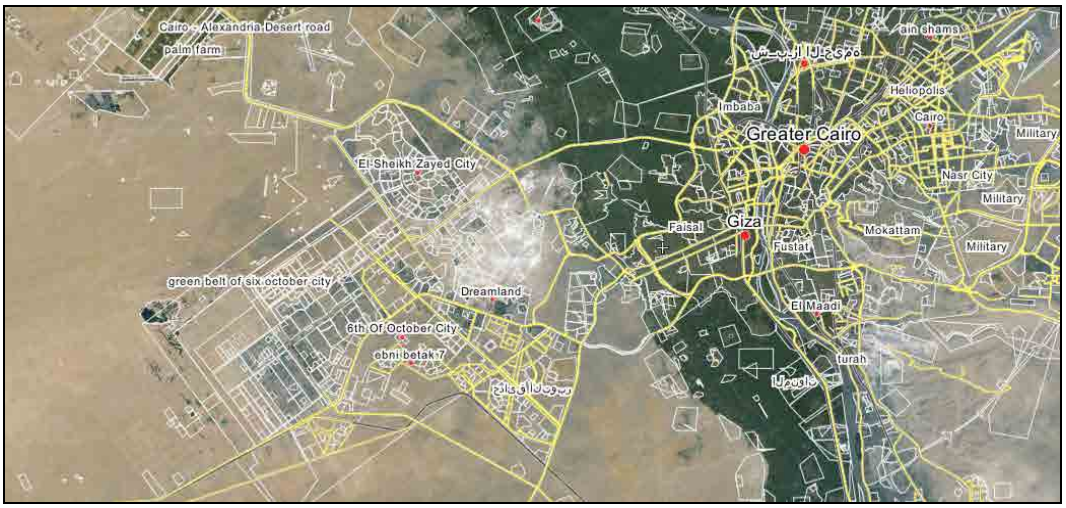


Figure 3.6-3 Location Map of 6th of October City

The city has been developed by each divided district to specific developers and investors. As major developed areas in 6th of October City, following developments were established:

- Sheikh Zayed City;
- SODIC West Cairo Land (Including Beverly Hills, Forty West, Allegria, The polygon and other developments);

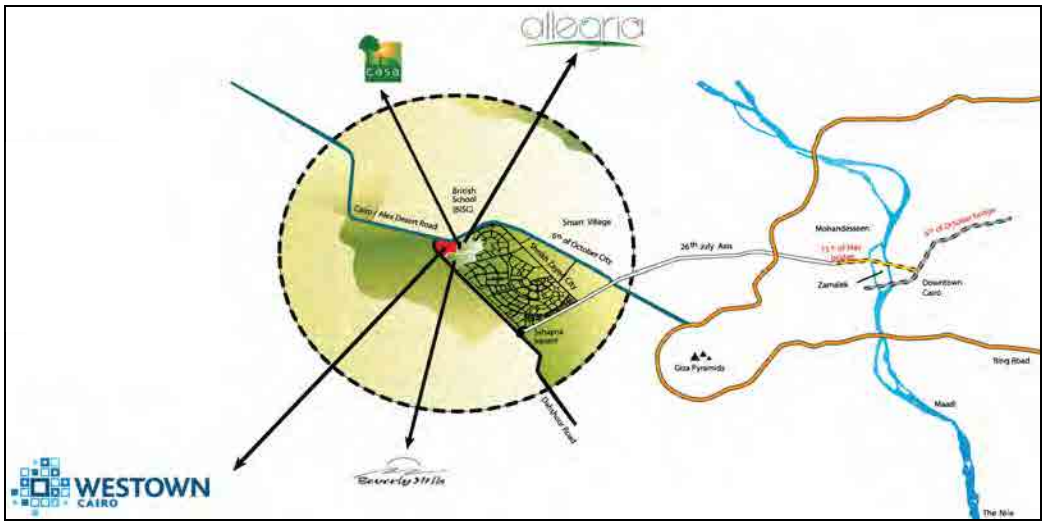
- Dreamland;
- Smart Village; and
- Other developments.

These development districts are connected with Cairo through Cairo-Alexandria Desert Road. It could be possible to reach Cairo in 1 to 1.5 hours and to Alexandria in about 2 hours. Most of developments are considered based on their advantageous location to access to the Desert Road and the Ring Road which are connected to Cairo or to Alexandria.

In addition to above developments for residential and commercial needs, industrial developments have also been implemented since the establishment of city. Currently, heavy industry and chemical processing industry has become a major industry in the area of 6th of October, due to its close location to the large market such as Cairo, and convenient access to Alexandria for export and import.

SODIC West Cairo Land

SODIC West Cairo Land is developed by Sixth of October Development and Investment Company (SODIC). The district of SODIC has the total area of about 5 km^2 and developed for commercial and residential purposes. SODIC was established in 1996 as a public joint stock real estate development company with a capital of 100 million Egyptian Pounds. Since the company establishment, SODIC has implemented Beverly Hills and Forty West, residential and commercial developments, Allegria, a high-class residential development, and other several commercial developments in the City.



[Source] SODIC

Figure 3.6-4 Map of SODIC Developments in 6th of October

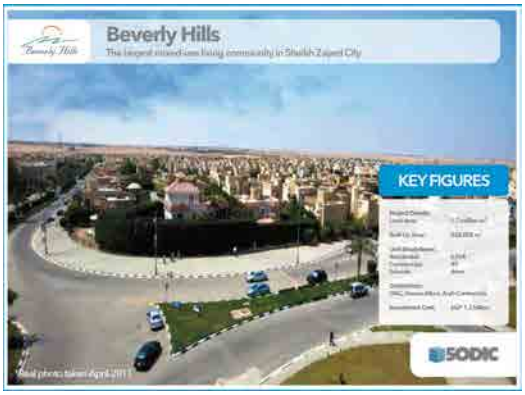
These developments are just keys of actual example of the developments in 6th of October City. As one of the examples, the developments by SODIC have created more than 15,000 population in addition to the original residents. These new urban developments, especially for residence, could have big impact on people's mobilization and traffic.

Table 3.6-4 List of SODIC Developments in 6th of October

Project	Land Area ('000s m^2)	Building Unit Area ('000s m^2)	Units	Cost excl. Land (Million EGP)	Project Yype
Beverly Hills	1,740	924	2,985	1,200	Mixed-use
Forty West	35	49	130	443	Mixed-use
Allegria	2,700	545	1,224	2,700	Residential
The Polygon	33	69	276	927	Commercial
Desinopolis	116	156	220	550	Commercial

[Source] The SODIC Fact Book

Map of SODIC West Cairo Land



Scene of Beverlly Hills in the City

[Source] The SODIC Fact Book

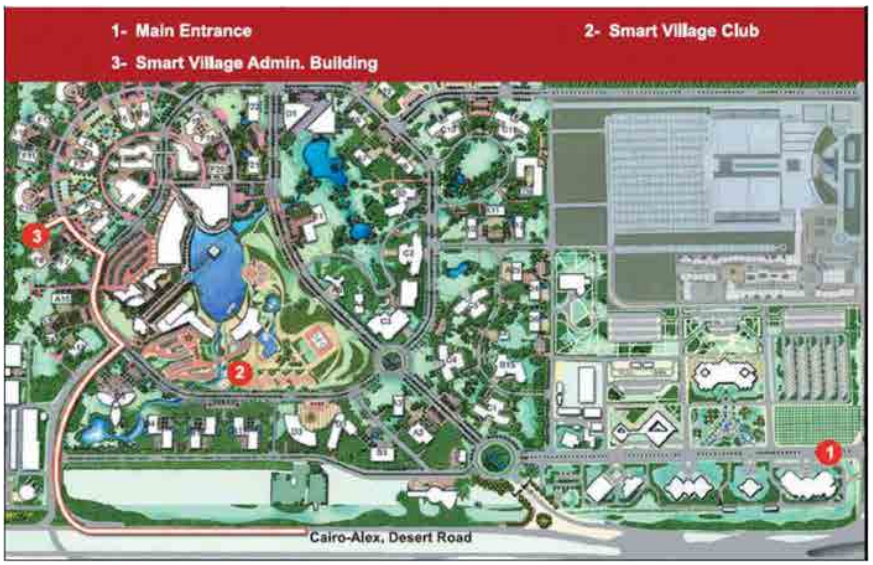
Figure 3.6-5 Photos of SODIC Developments in 6th of October

Smart Village Cairo

Smart Village Cairo is developed for leading and fostering branded chain of technology cluster and business parks on the local and regional level at a district of 6th of October City as the new base of innovative research and advanced technology industry. In 2001, a development company, named as Smart Villages Company was founded as a successful model of Public-Private Partnership (PPP) investment model with 80% ownership by the private sector and 20% by the Ministry of Communications and Information Technology.

In the total area of about 3 km^2 in 6th of October City, Smart Village Cairo was launched in 2003 as the first fully operational technology cluster and business park in Egypt.

To date, in the Smart Village Cairo, development of 50 operational buildings with total office space of 377,000 m^2 were completed and 28 buildings are under construction with total office space of 192,000 m^2. As of January 2010, more than 28,000 employees conduct their business at Smart Village Cairo.



[Source] Engineering Consultants Group S.A.

Figure 3.6-6 Master Plan of Smart Village Cairo


Smart Village Center Building



Think Tank Building




Business Office Building




Conference Center Building

[Source] Smart Village Company

Figure 3.6-7 Photos of Major Buildings at Smart Village Cairo

Currently, following major global companies have established their offices at Smart Village Cairo:

- Electronics & Computer (Ericsson, HP, Nokia-Siemens Network, etc);
- Communications (Etisalat, Mobinil, Telecom Egypt, Vodafone, etc);
- Finance & Investment;
- Engineering Services (Dar Al-Handasah, Engineering Consultants Group, etc);
- Ministries and Authorities; and
- Universities and Institutes (Microsoft Innovation Center, etc)

At present, Smart Village Company is also conducting to establish new Smart Villages in Alexandria and Damietta.

2) Overview in Across of the Country

Currently, several huge developments are on-going in whole areas of Egypt. Especially the developments regarding transportation, urban as well as water treatment and energy are being implemented to provide adequate services.

Transportation developments have been implemented specifically in Greater Cairo to solve heavy traffic congestion. Currently, 2 additional metro lines are under construction.

A large number of urban developments are also being implemented in whole Egypt. These developments are basically carried out by private sectors with financing by foreign investors especially from the Middle-East countries. The developments in 6th of October City, as stated above, is one of these urban developments.

Regarding other infrastructure developments, wastewater treatment plants and energy infrastructures are being developed across the country. As recently trend, the developments for wind farm and solar power generation plant are increasing due to the global needs on renewable energy from ecology viewpoints.

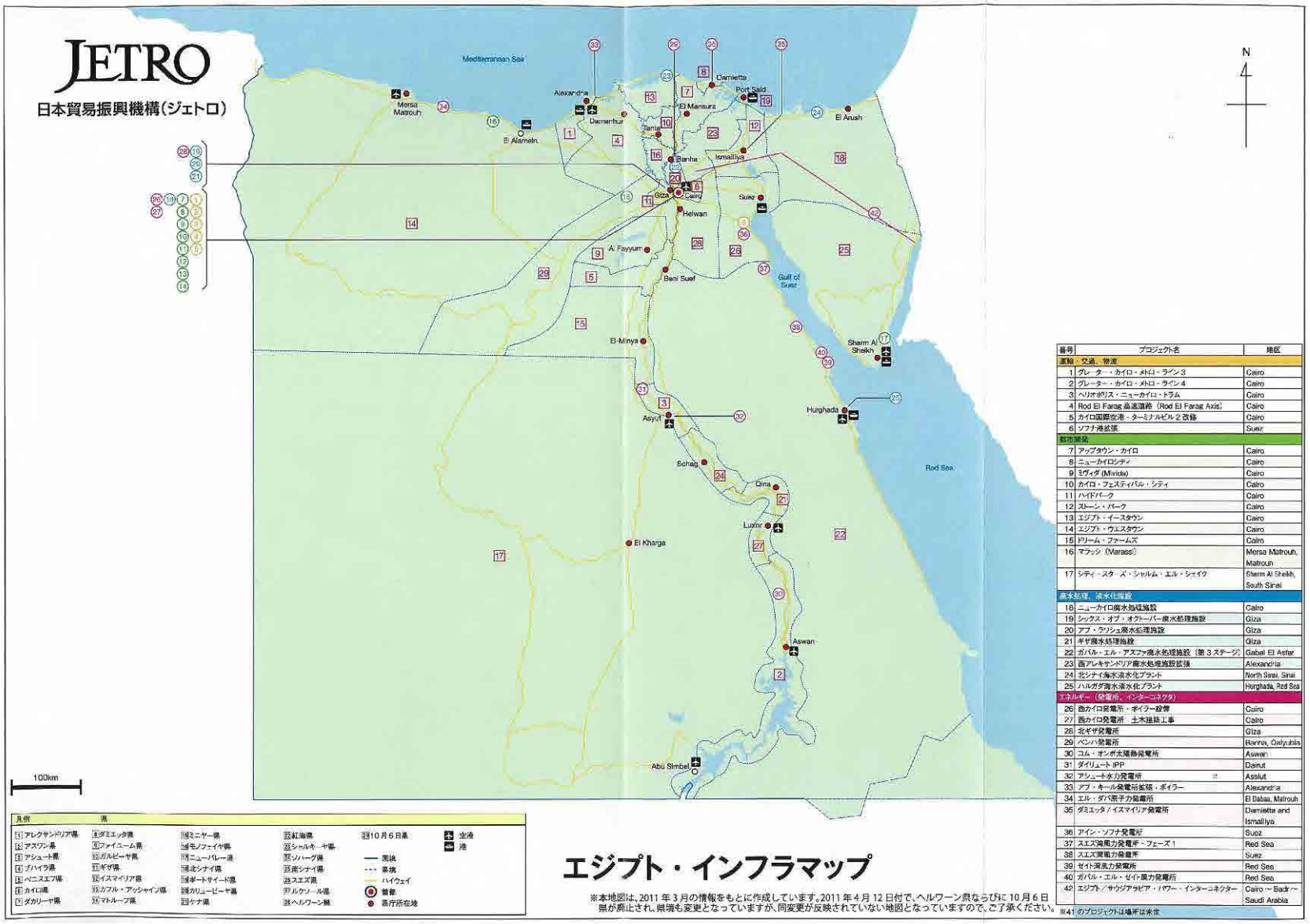
Major infrastructure developments in whole Egypt are listed in Table 3.6-5 below and placed on Figure 3.6-8.

Table 3.6-5 List of Major Infrastructure Developments in whole Egypt

No.	Project	Area	Executing Agency	Estimated Budget	Completion Year
Transportation					
01	Greater Cairo Metro - Line 3	Cairo	MoT - NAT	3.0 billion	2019
02	Greater Cairo Metro - Line 4	Cairo	MoT - NAT		2020
03	Heliopolis New Cairo Tram	Cairo	GOPP		2014
04	Road El Farag Axis Expressway	Cairo	MHUUD	1.0 billion	2014
05	Cairo International Airport – Terminal 2 Renovation	Cairo	EHCAAN	0.4 billion	2014
06	Sokhna Port Expansion	Suez	ME investor	1.3 billion	2011
Urban Development					
07	Uptown Cairo	Cairo	Private	2.2 billion	2011~
08	New Cairo City	Cairo	Private	9.0 billion	2023
09	Mivida	Cairo	Private	1.0 billion	2016
10	Cairo Festival City	Cairo	Private	9.0 billion	2020
11	Hyde Park (Gargen Hights)	Cairo	Private	7.0 billion	2012
12	Stone Park	Cairo	Private	1.1 billion	2012
13	Egypt Eastown	Cairo	SODIC	1.6 billion	2017
14	Egypt Westown	Cairo	SODIC	2.4 billion	2018
15	Dream Farms	Cairo	Private	2.6 billion	2011
16	Marassi	Marsa Matrouh, Matrouh	Private	1.7 billion	2013
17	City Stars - Sharm El Sheikh	Sharm El Sheikh, South Sinai	Private	0.3 billion	2018
Water Treatment and Desalination					
18	New Cairo – Wastewater Treatment Plant	Cairo	NUCA	0.5 billion	2012
19	6th of October – Wastewater Treatment Plant	Giza	MHUUD		2012
20	Abu Rawash – Wastewater Treatment Plant	Giza	MHUUD		2013
21	Nahia – Wastewater Treatment Plant	Giza	MHUUD	0.1 billion	2012
22	Ghabal El Asfar – Wastewater Treatment Plant (Stage3)	Ghabal El Asfar	MHUUD	0.3 billion	2012
23	West Alexandria – Wastewater Treatment Plant Expansion	Alexandria	MHUUD	55 million	2012
24	North Sinai – Desalination Plant	North Sinai, Sinai	MHUUD		On-going
25	Hurghada - Desalination Plant	Hurghada, Red Sea	MHUUD		Planning
Energy (Power Plant and Inter-Connector)					
26	West Cairo – Power Plant (Boiler Equipment)	Cairo	CEPC	0.1 billion	2011
27	West Cairo – Power Plant (Civil Works)	Cairo	CEPC	0.1 billion	2011
28	North Giza – Power Plant	Giza	CEPC	1.4 billion	2014
29	Banha – Power Plant	Banha, Qalyubia	MDEPC		2014
30	Kom Ombo – Solar Power Generation Plant	Aswan	NREA	0.7 billion	2017
31	Dairut – IPP	Dairut	EETC		2014
32	Asyut – Hydroelectric Power Plant	Asyut	MWRI	0.5 billion	2017
33	Abu Qir – Power Plant Expansion (Boiler)	Alexandria	WDEPC	0.4 billion	2012
34	El Dabba – Nuclear Power Plant	El Dabba, Matrouh	MOEE	4.0 billion	2019
35	Damietta / Ismailia – Power Plant	Damietta / Ismailia	MOEE	0.7 billion	2011
36	Ain Sokhna – Power Plant	Suez	EDEPC	2.0 billion	2014
37	Suez Bay – Wind Farm (Power Generation Plant, Phase1)	Red Sea	NREA		2012
38	Suez Bay – Wind Farm (Power Generation Plant)	Suez	EETC		2014
39	Gulf of Zeit – Wind Farm (Power Generation Plant)	Red Sea	NREA	0.5 billion	2013
40	Gabar El Zeito – Wind Farm (Power Generation Plant)	Red Sea	MOEE	0.9 billion	2013
41	Egypt IPP		EEHC		Planning
42	Egypt-Saudi Arabia Power Inter Connector	Cairo – Badr – Saudi Arabia	MOEE	1.5 billion	2015

[Remarks] Abbreviations of Executing Agencies are shown in the attached list.

[Source] Map of Infrastructure, JETRO –Cairo Center



番号	プロジェクト名	地区
運輸・交通、物流		
1	グレーター・カイロ・メトロ・ライン 3	Cairo
2	グレーター・カイロ・メトロ・ライン 4	Cairo
3	ヘリオポリス・ニューカイロ・トラム	Cairo
4	Rod El Farag 高速道路（Rod El Farag Axis）	Cairo
5	カイロ国際空港・ターミナルビル 2 改修	Cairo
6	ソフナ港拡張	Suez
都市開発		
7	アップタウン・カイロ	Cairo
8	ニューカイロシティ	Cairo
9	ミヴィダ（Mivida）	Cairo
10	カイロ・フェスティバル・シティ	Cairo
11	ハイドパーク	Cairo
12	ストーン・パーク	Cairo
13	エジプト・イースタウン	Cairo
14	エジプト・ウエスタウン	Cairo
15	ドリーム・ファームズ	Cairo
16	マラッシ（Marassi）	Mersa Matrouh, Matrouh
17	シティ・スターズ・シャルム・エル・シェイク	Sharm Al Sheikh, South Sinai
廃水処理、造水化施設		
18	ニューカイロ廃水処理施設	Cairo
19	シックス・オブ・オクトーバー廃水処理施設	Giza
20	アブ・ラワシュ廃水処理施設	Giza
21	ギザ廃水処理施設	Giza
22	ガバル・エル・アスファ廃水処理施設（第 3 ステージ）	Gabel El Asfar
23	西アレキサンドリア廃水処理施設拡張	Alexandria
24	北シナイ海水淡水化プラント	North Sinai, Sinai
25	ハルガダ海水淡水化プラント	Hurghada, Red Sea
エネルギー（発電所、インターコネクタ）		
26	西カイロ発電所・ボイラー設備	Cairo
27	西カイロ発電所　土木建築工事	Cairo
28	北ギザ発電所	Giza
29	ベニハ発電所	Beniha, Qalyubia
30	コム・オンボ太陽熱発電所	Aswan
31	ダイリュート IPP	Dairut
32	アシュート水力発電所	Asslut
33	アブ・キール発電所拡張・ボイラー	Alexandria
34	エル・ダバ原子力発電所	El Dabaa, Matrouh
35	ダミエッタ / イスマイリア発電所	Damietta and Ismailiya
36	アイン・ソフナ発電所	Suez
37	スエズ湾風力発電所・フェーズ 1	Red Sea
38	スエズ運風力発電所	Suez
39	ゼイト湾風力発電所	Red Sea
40	ガバル・エル・ゼイト風力発電所	Red Sea
42	エジプト／サウジアラビア・パワー・インターコネクター	Cairo ～ Badr ～ Saudi Arabia

Figure 3.6-8　Map of Infrastructure Developments in Egypt

3.7. Egypt-Japan University of Science and Technology (E-JUST)

3.7.1. General

The New Borg El Arab City will also house the Egypt-Japan University of Science and Technology (E-JUST), a major technical cooperation project created in close coordination between the governments of Egypt and Japan. The university new campus will be constructed within a 150 acre plot of land adjacent to City for Science research and Technology (C-SAT, former called as MuCSAT) and will cater to 1,120 undergraduate, 420 master and 210 doctorate degree students and a 168 faculty in the Faculty of Engineering and a 1,250 business school students and 132 faculties for a grand total of 3,000 students and 300 faculties in the future. The university will include administrative and classroom buildings as well as a building for dormitories for 500 students.

General condition of higher education in Egypt

Current situation of higher education in Egypt consists of 37 universities including 19 governmental universities and 18 private universities. Before entering to the university, pre-university education (primary and secondary educations) is served for about 16 million students in whole Egypt through by approximately 400,000 class rooms in 43,000 schools. In the pre-university education, about 809,000 teachers are teaching at the schools however other 300,000 teachers are working abroad. At present, the system of higher education in Egypt has been facing several difficulties such as a gap between labor market needs and graduates skills, over-population in the universities, and growing demand for education quality.

For instance, Cairo University, the largest and highest university in Egypt, receives more than 250,000 students. Even the medical department of the university, there are 1,500 students in each grade. This means that the students are not able to obtain satisfactory environment for education.

Alexandria University is also in the same situation as Cairo University, the university receives 200,000 students in total. Due to current governmental regulation for higher education, the university districts are fixed for each university, the students can take an entrance examination of a specific university fixed by districts. This system makes it difficult to access the universities at their own request which are located in other regions or governorates, however the governmental universities are free for education.

As of now, 95% of total university students are in the governmental universities. Due to these difficult situations on higher education system in Egypt, the demand for developing education quality and satisfactory education environment is growing day by day.

E-JUST could surely contribute to such demand through providing high quality education which is different from other universities.

3.7.2. Footsteps of E-JUST Project

The project to establish E-JUST was commenced through collaboration between Japan and Egypt in year 2005. Since starting preparation for the project, E-JUST has been watched by educational society in Japan and Egypt with interest as one of the important and innovative projects for the higher education in Egypt and Arab region. And the project was expected to improve current situation and problem on higher education in Egypt. The footsteps of the project are shown in Table 3.7-1.

Table 3.7-1 Footsteps of E-JUST Project

September, 2005	The idea of university establishment was officially proposed to the Government of Japan by the Ministry of International Cooperation (MoIC) and Ministry of Higher Education (MoHE) based on discussions since the Arab-Japan Dialogue forum in 2003.
March, 2006	Preparation of the first opportunity study by Egypt, and agreement on the name of E-JUST was commenced.
October, 2008	Record of Discussion between Egypt and Japan for E-JUST establishment was signed in Tokyo.
March, 2009	The bilateral agreement to establish E-JUST was signed by Egypt and Japan.
May, 2009	The President of Egypt endorsed the bilateral agreement by act 149/2009.
February, 2010	First student intake and the first academic semester started in the temporary campus of MuCSAT.
June, 2010	The opening ceremony was held at Smart Village in Cairo on June 3, 2010.

[Source] E-JUST Project Office

3.7.3. Current Situation of E-JUST

Since February 2010, E-JUST has started to receive the students on master and doctor courses in the graduated school and the number of students in E-JUST has increased to 70 to date.

All classes of E-JUST are currently opened at City for Science research and Technology (C-SAT) central building and surrounding dormitory houses in New Borg El Arab City as their temporary campus.

Figure 3.7-1 C-SAT in New Borg El Arab City (Temporary E-JUST Campus)

Currently, E-JUST has already opened 6 engineering departments under 3 schools in the

Faculty of Engineering however totally 7 departments will be established in February 2012. All currently-opened courses are supported by Japanese major universities and professors to provide higher educational opportunity to the students.

Japanese Supporting University Committee (JSUC) which is organized by 12 major Japanese governmental and private universities is taking part in supporting operation and education program of E-JUST through dispatching their professors based on JICA technical cooperation scheme.

Table 3.7-2 Supporting Structure for E-JUST Education Program

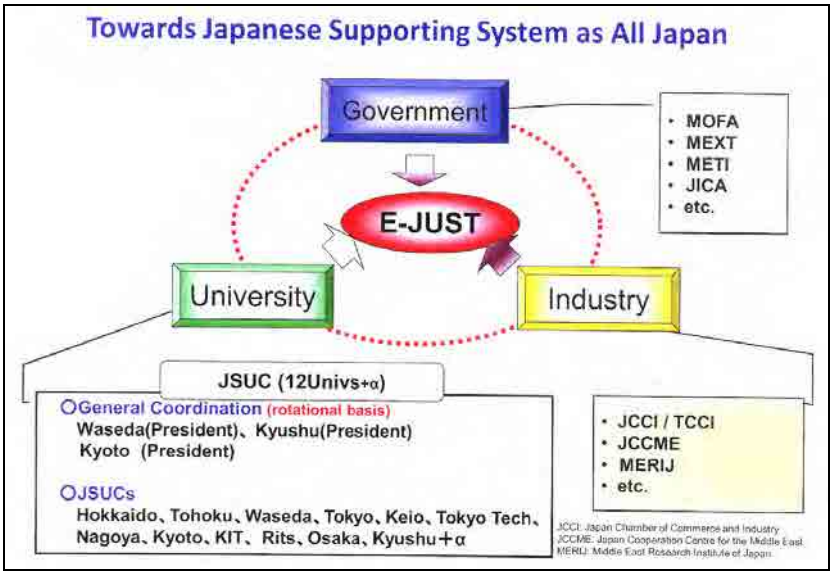
Faculty	School	Department	Main Program Supporting Univ.		JSUC
Faculty of Engineering	Electronics, Communications and Computer Engineering School	Electronics and Communications Engineering	Kyushu Univ.		
					Hokkaido Univ.
		Computer Science and Engineering	Waseda Univ.		Tohoku Univ.
					Waseda Univ.
	Innovative Design Engineering School	Mechatronics and Robotics Engineering	Waseda Univ.		Tokyo Univ.
					Keio Univ.
		Industrial Engineering and System Management	Tokyo Institute of Technology		Tokyo Institute of Technology
					Nagoya Univ.
		Material Science and Engineering	Kyoto Univ.		Kyoto Univ.
					Kyoto Institute of Technology
	Energy and Environmental Engineering School	Energy Resources and Environmental Engineering	Tokyo Institute of Technology		Ritsumeikan Univ.
					Osaka Univ.
		Chemical and Petrochemical Engineering	Kyoto Univ.		Kyushu Univ.

[Remarks] Green marked : started Feb.2010 / Orange marked : started Sep.2010 / Violet marked : started Feb.2011
Pink Colored University is Governmental University / Blue Colored University is Private University

[Source] E-JUST Project Office

Moreover, the operations and educational programs of E-JUST are fully supported by the government, universities and private industry sectors of Japan. As stated, Japanese Supporting Universities Committee (JSUC) is supporting the operations and educational programs of E-JUST through dispatching specialists and professors from member universities. On the other hand, the government of Japan has organized related governmental ministries including Ministry of Foreign Affairs (MOFA), Ministry of Education, Culture, Sports, Science and Technology (MEXT) and Ministry of Economy, Trade and Industry (METI) to assist E-JUST project. At the same time, private industrial sectors in Japan are also joining cooperation group for E-JUST. This E-JUST project is placed as one of high priority cooperation projects in Japanese society, which is fully educational international cooperation project between Japan and developing country, and all related sectors are collaborating to

assist in implementing the project. And on the government side, Japan International Cooperation Agency (JICA) is playing its role as center to organize related the governmental agencies, universities and private sectors. Basic cooperation structure for project implementation of all Japanese sectors is shown in Figure 3.7-2 below.



[Source] E-JUST Project Office

Figure 3.7-2 Cooperation Structure for E-JUST Project of Japan

E-JUST has been established and operated based on its basic concepts shown in Figure 3.7-3 below. Basically E-JUST is inviting the students who have graduated from 19 government universities in whole Egypt and requesting higher education skills including English ability. This requirement is for maintaining education quality of E-JUST to be provided unlike education program Egyptian universities ever offered.

[Source] E-JUST Project Office

Figure 3.7-3 Basic Concepts of E-JUST

For the cooperation between Japan and Egypt to establish E-JUST, the Government of Japan and the Government of Egypt have signed the agreement to implement the project on October

13, 2008. According to this agreement, the project will continue till October 12, 2013. And JICA is to place an executing agency for E-JUST on Japanese side to supply educational and research equipment and dispatch the experts and professors. The Government of Japan, JICA and Japanese universities would provide related assistants including dispatching 7 specialists to implement the project, a total of 34 professors per year for educational program providing, a total of 14 man-month experts per year to assist special subjects, receiving 10 teachers and administrative officers from Egypt to Japan in every year, supplying special educational and research equipment and related cost, as JICA activities. However these figures are based on the actual record and current plan as of November 2011. The total amount for the project is estimated at about 2.15 billion Japanese Yen.

3.7.4. On-going Developments and Future Plans

As of October 2011, E-JUST is opening their educational programs at C-SAT building and surrounding dormitory houses functions as temporary campus. Most of laboratories and researching room for the students and teachers and administration offices are set in dormitory houses, and the president room and some researching equipment are located in C-SAT temporary campus.

New Campus Developments

The new campus building development is still under process to receive the approval of the state council for contacting basic design of new building. In 2009, E-JUST launched an international competition for architectural concept design of their new campus, 75 participants from Japanese and Egyptian architectural firms applied to this competition. Finally, a Japanese architectural design firm, named Arata Isozaki and Associates Co. Ltd. was selected as the first prize in 2010. His awarded concept design perspective image is shown below.

[Source] Arata Isozaki & Associates (Isozaki-Arata Design Atelier)

Figure 3.7-4 Awarded Concept Design Perspective of E-JUST New Campus

Related Development Projects

Currently, JICA is conducting the development of solar-power generation facility in adjoining land of new E-JUST campus through JICA environmental grant aid scheme. This solar generation facility will be developed in the area of E-JUST Club and Mall (commercial facilities for the students and teachers of E-JUST), which is located 1km away from the new E-JUST campus and nearby dormitory house area. At present, a Japanese consultant firm is designing the facilities.

[Source] JICA Study Team

Figure 3.7-5 Project Advertising Board of E-JUST Club and Mall

Educational Program Developments

As stated above, educational programs of E-JUST are supported by Japanese universities. E-JUST is providing all educational opportunities in line with Japanese lecture system, i.e. stratified- structural education scheme. At present, E-JUST has already established a graduated school and received about 70 students. After completion of new campus facilities, E-JUST will establish departments for bachelor's degree courses.

Currently, almost all the students being education at E-JUST consist of teaching-students who already graduated from the governmental universities in whole Egypt and assist classes and researches under their professors.

3.7.5. Social and Economic Impact from E-JUST Project

Currently, the developments of new E-JUST campus and related facilities such as dormitory houses are under process or construction in various places in New Borg El Arab City. However present population of E-JUST campus is still small in number, once the project complete, the number of population related to E-JUST will increase to around 5,000 to 6,000 including 3,000 to 3,600 students. Consequently, related commercial area should be developed to catch the demand on their life activities. As stated above, commercial mall for E-JUST students and teachers is under consideration. Such related commercial developments are expected to be implemented in and around the university to meet the life

requirements of its campus. These commercial developments could impact on local society and economy through creating new economic activities.

On the other hand, the educational programs and schemes of E-JUST are really unique unlike usual Egyptian universities. According to the result of interview with the Chamber of Commerce in New Borg El Arab City's industrial park by JICA study team, E-JUST's innovative research activities are focused and expected to have an opportunity of industry-university cooperation among factories, industries and laboratories which are located in surrounding area. Because major type of industries in New Borg El Arab City consists of petrochemical, parts supply, newly high-tech research and foods, once joint industry-university research projects start among them, the industrial sector could receive the result and know-how of researching in E-JUST, and E-JUST could have opportunities of positively research, verification, production and providing their results of researching through know-how exchange between industry sector and the university. So, it could take an advantage of industries in the area over surrounding regions. In the future, if these activities could be realized smoothly, the area would become one of the innovative models as a science research city in the Middle-East region.

Once these projects complete, it could also lead to the movement of people, products and funds to / from the area and E-JUST. In case E-JUST and New Borg El Arab City become a center of research and industry, the movement of people and products will surely use Borg El Arab International Airport which is most conveniently located in the vicinity of E-JUST. Hence, developments of the area and E-JUST are tightly linked with the demand of Borg El Arab International Airport.