

MINISTRY OF HOUSING, UTILITIES
& URBAN DEVELOPMENT (MOHUUD)
GENERAL ORGANIZATION FOR
PHYSICAL PLANNING (GOPP)

JAPAN INTERNATIONAL
COOPERATION AGENCY (JICA)

**THE STRATEGIC URBAN DEVELOPMENT MASTER PLAN STUDY
FOR A SUSTAINABLE DEVELOPMENT
OF THE GREATER CAIRO REGION
IN THE ARAB REPUBLIC OF EGYPT**

FINAL REPORT

VOLUME 2: MAIN REPORT

(STRATEGIC URBAN DEVELOPMENT MASTER PLAN)

AUGUST 2008

**NIPPON KOEI CO., LTD.
KATAHIRA & ENGINEERS INTERNATIONAL**

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PREFACE

In response to a request from the Government of Arab Republic of Egypt, the Government of Japan decided to conduct “The Strategic Urban Development Master Plan Study for a Sustainable Development of the Greater Cairo Region in the Arab Republic of Egypt”, and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA dispatched a study team headed by Mr. YAMADA Koji of Nippon Koei Co., Ltd. to Egypt between February 2007 and June 2008 and consisting of Nippon Koei Co., Ltd. and Katahira & Engineers International.

In collaboration with the Government of Egypt, the JICA study team conducted field surveys and formulated the Strategic Urban Development Master Plan for the Greater Cairo Region. The JICA study team held discussions with concerned officials of the Government of Egypt and carried out the Pre-feasibility Study for the Western Development Corridor. Upon returning to Japan, the JICA study team conducted further studies and prepared this final report.

I hope that this report will contribute to the sustainable development of the Greater Cairo Region and to the enhancement of the friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the concerned officials of the Government of Egypt for their close cooperation and assistance extended to the study team.

August 2008

HASHIMOTO Eiji

Vice President

Japan International Cooperation Agency

August 2008

Mr. HASHIMOTO Eiji
Vice President
Japan International Cooperation Agency
Tokyo, Japan

Subject: Letter of Transmittal

Dear Sir,

We are pleased to submit herewith the Final Report of “The Strategic Urban Development Master Plan Study for a Sustainable Development of the Greater Cairo Region in the Arab Republic of Egypt”. This study was conducted by Nippon Koei Co., Ltd. in association with Katahira & Engineers International, under a contract to JICA during the period from February 2007 to June 2008. The report comprises a Summary (Volume 1) and Main Report (Volume 2) for the Strategic Urban Development Master Plan for the Greater Cairo Region, plus a Summary (Volume 3) and Main Report (Volume 4) for the Pre-feasibility Study for the Western Development Corridor.

The report sets out recommendations for policies to improve the living environment in the Greater Cairo Region. These recommendations reflect the results of the Strategic Urban Development Master Plan and the Pre-feasibility Study for the Western Development Corridor.

We would like to take this opportunity to express our sincere gratitude to your Agency and the Ministry of Foreign Affairs. We are also most grateful for the cooperation and assistance from the concerned officials in Egypt, the JICA Egypt Office, and the Embassy of Japan in Egypt. The Final Report is the fruit of excellent collaboration between all participants in this study.

Yours faithfully,

YAMADA Koji

Team Leader, JICA Study Team

The Strategic Urban Development Master Plan
Study for a Sustainable Development of the
Greater Cairo Region in the Arab Republic of
Egypt

Preface

Letter of Transmittal

TABLE OF CONTENTS

INTRODUCTION.....	I-1
Background of the Study.....	I-1
Objectives of the Study.....	I-1
Study Area and Administrative Settings.....	I-2
Approach to the Study.....	I-5
CHAPTER 1 CAIRO'S ROLE IN THE COUNTRY AND THE REGION.....	1-1
1.1 Socio-Economic Profile of Egypt.....	1-1
1.1.1 Population and its Distribution.....	1-1
1.1.2 Economic and Industrial Development Index.....	1-8
1.1.3 Social Development Index.....	1-15
1.1.4 Sixth Five-Year Plan (2007/2008-2011/2012).....	1-17
1.1.5 Conclusion related to Socio-Economy in Egypt.....	1-20
1.2 Regional Context and Role of Cairo.....	1-21
1.2.1 Socio-Economic Profile of the Region.....	1-21
1.2.2 Urban, Industrial, and Transportation Development in the Region....	1-24
1.2.3 Analysis and Conclusion related to Regional Context and Role of Cairo.....	1-28
1.3 Summary of Cairo's Role in the Country and Region.....	1-29
CHAPTER 2 EXISTING CONDITIONS, CONTEXT AND ISSUES OF THE STUDY AREA.....	2-1
2.1 Natural Setting and Environment.....	2-1
2.1.1 Meteorological Conditions.....	2-1
2.1.2 Topography and Morphology.....	2-1
2.1.3 Geology.....	2-2
2.1.4 Hydrogeology.....	2-3
2.1.5 Watercourses and Waterways.....	2-4
2.1.6 Natural Vegetation and Wildlife.....	2-5
2.1.7 Conclusion related to Natural Setting and Environment.....	2-5

2.2	Socio-Economy	2-6
2.2.1	Socio-Economic Profile of the Study Area	2-6
2.2.2	Population.....	2-6
2.2.3	Economic Activities and Social Development	2-15
2.2.4	Conclusion related to Socio-Economic Conditions	2-17
2.3	Overview of Urban Development	2-18
2.3.1	Existing Long Range Urban Development Plan for GCR	2-18
2.3.2	Legal Framework and Organizations for Urban Planning and Urban Development.....	2-20
2.3.3	Past Endeavours and Outstanding Issues in Long Range Urban Development Plans for GCR.....	2-24
2.4	Urbanization Trend.....	2-28
2.4.1	Historical Context.....	2-28
2.4.2	Recent Changes in Urbanized Area in Study Area between 2001 and 2007.....	2-31
2.4.3	Urbanization Trends in Historical Perspective.....	2-34
2.4.4	Urbanization of Main Agglomeration, Villages & Small Towns, and New Urban Communities.....	2-36
2.4.5	Conclusion Related to Urbanization Trend	2-40
2.5	Land Use.....	2-42
2.5.1	Present Land Use	2-42
2.5.2	Characteristics of Specific Land Use Categories	2-47
2.5.3	Conclusion Related to Land Use	2-56
2.6	Living Environment in the Study Area.....	2-58
2.6.1	People’s Perception on Living Environment.....	2-58
2.6.2	Characteristics and Context by Planning Zone	2-70
2.6.3	Informal Area.....	2-160
2.6.4	Environmental Pollution and Hazards	2-164
2.7	Housing and Utilities.....	2-168
2.7.1	Housing	2-168
2.7.2	Water Supply	2-171
2.7.3	Wastewater Treatment.....	2-191
2.7.4	Solid Waste.....	2-206
2.7.5	Power Supply.....	2-224
2.7.6	Analysis and Conclusion related to Housing and Utilities.....	2-236
2.8	Main Challenges and Assets	2-238
2.8.1	Overview of SWOT Analysis for the Study Area.....	2-239
2.8.2	Over-concentration in the Main Agglomeration.....	2-241

2.8.3	Insufficient lands for New Business Activities	2-242
2.8.4	Improper Management of Natural and Cultural Resources	2-242
2.8.5	Imperfect Living Environment	2-243
CHAPTER 3	GOAL, DEVELOPMENT STRATEGIES, AND SPATIAL DEVELOPMENT PLAN FOR THE STUDY AREA	3-1
3.1	Goal, Objectives, and Development Strategies.....	3-1
3.1.1	Goal for Cairo 2027	3-1
3.1.2	Objectives and Development Strategy.....	3-2
3.2	Population Projection and Direction of Future Urbanization	3-4
3.2.1	Population Projection until 2027	3-4
3.2.2	Future Growth Pattern.....	3-6
3.3	Planning Framework	3-8
3.3.1	Planning Framework of the Study Area until 2027	3-8
3.3.2	Distribution of Population, Employment, and Student until 2027	3-10
3.4	Sub-sector Strategy.....	3-19
3.4.1	Contents of Sub-sector Strategies.....	3-19
3.4.2	Living in Cairo (Living Environmental Improvement)	3-21
3.4.3	Working in Cairo (Socio-Economic Development).....	3-32
3.4.4	Connecting in Cairo	3-40
3.4.5	Managing Natural Environment (Conservation of Natural Resources).....	3-46
3.4.6	Designing Sustainable City (Well-balanced Urban Development)	3-49
3.5	Key Diagram in 2027	3-55
3.6	Proposed General Land Use Plan in 2027	3-56
3.7	Identified Projects	3-58
CHAPTER 4	URBAN TRANSPORTATION PLAN	4-1
4.1	General Conditions of Urban Transportation.....	4-1
4.1.1	Existing Transportation Facilities.....	4-1
4.1.2	Details of Existing Plans and On-going/Planned Transit Projects	4-18
4.2	Planning Principles for Urban Transportation	4-22
4.3	Demand Forecast.....	4-23
4.3.1	Methodology.....	4-23
4.3.2	Model	4-33
4.4	Future Traffic Demand	4-40
4.4.1	Total Trip Generation by Private and Public Mode	4-40

4.4.2	Trip Distribution	4-44
4.5	Assessment of the CREATS Study.....	4-46
4.5.1	Summary of the CREATS Study	4-46
4.5.2	Assessment Procedure for Demand Capacity Balance by Cross Section.....	4-48
4.5.3	Hard Projects	4-52
4.5.4	Soft Projects	4-62
4.6	Proposed Plan and Its Verification	4-64
4.6.1	Proposed Plan	4-64
4.6.2	Verification	4-66
4.6.3	Conclusion.....	4-69
CHAPTER 5 KEY RECOMMENDATIONS AND THE WAY FORWARD		5-1
5.1	Proposal of Development Corridors.....	5-1
5.1.1	Structure of Sub-Sector Strategies and Development Corridor	5-1
5.1.2	Planning for the Western Development Corridor	5-3
5.2	Proposal of Master Plan Implementation Structure	5-4
5.2.1	Capacity Development for Master Plan Formulation and Update	5-4
5.2.2	Enhancement of Coordination of GOPP for Master Plan Implementation.....	5-4
5.3	Other Proposals for Major Projects.....	5-5
5.3.1	Study on Informal Areas with Inventory Surveys	5-5
5.3.2	Planning for Preservation and Vitalization of Historic Area of Cairo ..	5-5
5.3.3	Planning for Relocation of Unfavorable Large Scale Facilities.....	5-6
ANNEX	LIST OF ZONES IN THE STUDY AREA	A-1

LIST OF TABLES

Table 1	Administrative Units, Land Area, and Population in the Study Area.....	I-2
Table 1.1.1	GDP Structure by Sector in the Country in 1981/1982 and 2006/2007 (%)	1-10
Table 1.1.2	Seven Socio-Economic Development Pillars in the Long-Term Vision 2022	1-17
Table 1.1.3	Goals proposed in the Long-Term Vision 2022	1-17
Table 1.1.4	Proposed Main Axes and Development Strategy in the Sixth Five-Year Plan	1-18
Table 1.1.5	Proposed Goals of the Sixth Five-Year Plan.....	1-18
Table 1.2.1	Category of Industrial Zone	1-25
Table 2.2.1	Major Socio-Economic Indicators of the Study Area in 2006	2-6
Table 2.2.2	Existing Population in the Study Area in 1996-2006	2-9
Table 2.2.3	Population Distribution by Built-up Area in the Study Area in 1996 and 2006 (1,000)	2-10
Table 2.2.4	Number of Students by Education Level in the Study Area in 2006.....	2-17
Table 2.3.1	Definition of Spatial Plans specified in the New Law for Urban Planning, Building Control, and Urban Harmony.....	2-23
Table 2.3.2	MOHUUD Investment through the New Urban Community Authority as a % of the Ministry's Total Investments	2-24
Table 2.4.1	Historic Trends in Population of GCR	2-31
Table 2.4.2	Procedures for Land Cover Analysis	2-32
Table 2.4.3	Land Cover Categories	2-32
Table 2.4.4	Land Area by Land Cover Categories in 2001 and 2007.....	2-33
Table 2.4.5	Area which was converted into Urban Area in 2001-2007.....	2-33
Table 2.4.6	Changes of Built-up Area in NUC between 2001 and 2007	2-40
Table 2.5.1	Land Use and Cover Categories.....	2-42
Table 2.5.2	Land Area by Land Cover Categories	2-44
Table 2.5.3	Overview of Existing Factories Registered by MOTI.....	2-48
Table 2.5.4	Number of Constructed Factories and Work Opportunities in NUC in 2007	2-49
Table 2.5.5	Number of Factories and Work Opportunities under Construction in NUC in 2007	2-50

Table 2.5.6	Main Historical Resources in Study Area.....	2-53
Table 2.5.7	List of Main Ongoing and Planned Projects.....	2-55
Table 2.6.1	Number of Sample for household and Number of Interviewed Household.....	2-58
Table 2.6.2	Number of Samples for Enterprises including Syndicates.....	2-59
Table 2.6.3	Sampling Method applied for Opinion Poll Survey.....	2-59
Table 2.6.4	Urban Development Typology in the Study Area.....	2-70
Table 2.6.5	Characteristics and Context of Planning Zone 1.....	2-75
Table 2.6.6	Characteristics and Context of Planning Zone 2.....	2-82
Table 2.6.7	Characteristics and Context of Planning Zone 3.....	2-88
Table 2.6.8	Characteristics and Context of Planning Zone 4.....	2-95
Table 2.6.9	Characteristics and Context of Planning Zone 5.....	2-101
Table 2.6.10	Characteristics and Context of Planning Zone 6.....	2-107
Table 2.6.11	Characteristics and Context of Planning Zone 7.....	2-112
Table 2.6.12	Characteristics and Context of Planning Zone 8.....	2-117
Table 2.6.13	Characteristics and Context of Planning Zone 9.....	2-122
Table 2.6.14	Characteristics and Context of Planning Zone 10.....	2-127
Table 2.6.15	Characteristics and Context of Planning Zone 11.....	2-131
Table 2.6.16	Characteristics and Context of Planning Zone 12.....	2-136
Table 2.6.17	Characteristics and Context of Planning Zone 13.....	2-141
Table 2.6.18	Characteristics and Context of Planning Zone 14.....	2-146
Table 2.6.19	Characteristics and Context of Planning Zone 15.....	2-151
Table 2.6.20	Characteristics and Context of Planning Zone 16.....	2-156
Table 2.6.21	Type Informal Areas in the Study Area.....	2-162
Table 2.6.22	Contradictory Informal Settlement Statistics for Cairo, Giza, and Qaliobeya.....	2-163
Table 2.6.23	Financial and Economic Indicators of 21 Polluted Factories and Six Highly Polluted Factories.....	2-165
Table 2.6.24	Highly-polluting Large Factories to be Relocated in the Study Area ..	2-167
Table 2.7.1	Comparison of Annual Growth Rate of Urban Population and Urban Housing Stock by Governorate in 1986-1996.....	2-168
Table 2.7.2	Number of Housing Units Built During 5th Five Year Plan 2002-2007 in Three Governorates.....	2-168
Table 2.7.3	Residential Units (accumulated) in New Urban Community Report till 31/3/2007.....	2-169
Total 2.7.4	Publicly-Built Housing Units in Egypt by Implementing Entity 1982-2005.....	2-169
Table 2.7.5	Housing Tenure Status in GCR.....	2-170
Table 2.7.6	Preferred Financial Source for Purchased Housing Units.....	2-170

Table 2.7.7	Water Utility District under GCWSC	2-174
Table 2.7.8	Existing Water Purification Plants in the Study Area.....	2-174
Table 2.7.9	Water Supply Balance in the Study Area (2007).....	2-176
Table 2.7.10	Water Quality Standards in Egypt	2-178
Table 2.7.11	Present Per Capita Consumption for Residential Usage	2-179
Table 2.7.12	Present Water Demand for Residential Usage in the Study Area (2007).....	2-179
Table 2.7.13	Water Demand Criteria for Industrial Water Usage	2-179
Table 2.7.14	Present Water Demand for Industry (2007)	2-180
Table 2.7.15	Total Water Demand in the Study Area (2007)	2-180
Table 2.7.16	Water Tariff by GCWSC.....	2-181
Table 2.7.17	Future Water Purification Capacity in the Study Area	2-182
Table 2.7.18	Assumed Increasing Rate of per Capita Consumption.....	2-184
Table 2.7.19	Estimated Water Demand for Residential Usage (2027).....	2-184
Table 2.7.20	Estimated Water Demand for Industry (2027)	2-185
Table 2.7.21	Estimated Water Demand (2027)	2-186
Table 2.7.22	Future Water Supply Balance in the Study Area (2027).....	2-187
Table 2.7.23	Comparison between Water Demand and Water Supply Capacity in 2027	2-188
Table 2.7.24	Existing Wastewater Treatment Plant in the Study Area	2-193
Table 2.7.25	Water Quality Standards for Treated Wastewater Discharge to Drains	2-196
Table 2.7.26	Water Quality Standards for Industrial Wastewater Discharge to Sewage System.....	2-196
Table 2.7.27	Wastewater Generation in the Study Area (2007)	2-198
Table 2.7.28	Wastewater Tariff	2-199
Table 2.7.29	Future Wastewater Treatment Capacity in the Study Area	2-200
Table 2.7.30	Estimated Wastewater Generation (2027)	2-202
Table 2.7.31	Comparison between WW Generation and Wastewater Treatment Capacity in 2027.....	2-203
Table 2.7.32	Final Disposal Site in the Study Area.....	2-211
Table 2.7.33	Compost Plant in the Study Area	2-211
Table 2.7.34	Amount of Budget for MSWM in the Study Area	2-216
Table 2.7.35	Estimated Quantity of Disposed MSW into Landfill (Unit: 1000 ton)	2-219
Table 2.7.36	Electric Power Production in Egypt (2005/2006)	2-226
Table 2.7.37	List of Electric Power Stations of CEPC (2005/2006).....	2-226
Table 2.7.38	Electricity Transmission in Greater Cairo (2005/2006)	2-227
Table 2.7.39	Medium and Low Voltage Grids of NCEDC and SCEDC (June 2006)	2-229
Table 2.7.40	Electricity Tariff Structure and Ratio of Customer (2006)	2-229

Table 2.7.41	Fuel for Electricity Production in Egypt (2005/2006).....	2-230
Table 2.7.42	Environmental Impact of Electricity Production Plant (during Sep.2007)	2-231
Table 2.7.43	Historical Trend and Forecast for Sectors.....	2-232
Table 2.7.44	Electricity Demand of the Study area.....	2-233
Table 2.7.45	Outline of Ongoing Projects	2-234
Table 2.8.1	Advantages and Disadvantages of Mega City	2-238
Table 3.2.1	Advantages and Disadvantage of Three Alternatives for Future Growth Pattern	3-8
Table 3.3.1	Planning Framework of the Study Area until 2027	3-10
Table 3.3.2	Methodology for Distribution of Workers in the Secondary Industry....	3-15
Table 3.3.3	Methodology for Distribution of Workers in the Tertiary Industry.....	3-16
Table 3.3.4	Methodology for Distribution of Students in the Study Area	3-17
Table 3.4.1	Existing Housing Stock in the Study Area.....	3-21
Table 3.4.2	Housing Demand in the Study Area until 2027 (1,000 units).....	3-22
Table 3.4.3	Housing Demand in New Urban Communities till 2027 (1,000 units)..	3-24
Table 3.4.4	Housing Demand Comparison by Vacancy Rate Escalations in NUCs ..	3-24
Table 3.4.5	Housing Demand with Vacancy Rate and Income Group in GCR.....	3-25
Table 3.4.6	Housing Supply Indicators.....	3-26
Table 3.4.7	Low Cost Housing in case of 6th of October NUC.....	3-26
Table 3.4.8	Criteria of Slum Area Upgrading by the Government.....	3-28
Table 3.4.9	Identification and Classification of GCR Informal Areas	3-28
Table 3.4.10	Candidates for Pilot Informal Improvement Projects.....	3-30
Table 3.4.11	Candidate Sites for Relocation and Alternative Function after Relocation for 21 Highly-Polluted Large Factories	3-35
Table 3.4.12	Cultural Heritages listed on World Heritages	3-36
Table 3.4.13	Development Concept for 2027	3-37
Table 3.4.14	Characteristics of Four Clusters	3-41
Table 3.4.15	Example of Transport-Oriented Urban Development in Other Cities....	3-44
Table 3.4.16	Example of Land Acquisition for Transport-Oriented Urban Development	3-46
Table 3.4.17	Example of Planning Standard for Open Spaces	3-48
Table 3.4.18	Land Area and Population Density within Urban Growth Boundary	3-51
Table 3.4.19	Hierarchy of Statutory Urban Plan.....	3-52
Table 3.4.20	Existing Planning Standards for Land Subdivision.....	3-53
Table 3.6.1	Definition of Land Use Category	3-56
Table 3.7.1	Identified Projects in Sub-sector Strategies (1/3).....	3-59

Table 4.1.1	Metro Line Operating Data for CMO.....	4-2
Table 4.1.2	Share of Types of Tickets Sold.....	4-3
Table 4.1.3	Annual O&M and Depreciation Cost and Total Expenditure	4-3
Table 4.1.4	Construction Phases of Metro Line 2	4-4
Table 4.1.5	Passenger Volume/Day for Each Station on Metro Line 1	4-5
Table 4.1.6	Passenger Volume/Day for Each Station on Metro Line 2	4-6
Table 4.1.7	Number of Passenger and Suburban Trains in the Greater Cairo Area	4-6
Table 4.1.8	Number of Passenger/Day on Each Line for 2005/2006	4-7
Table 4.1.9	Estimated Number of Buses in the Fleet	4-8
Table 4.1.10	Estimated Passenger Transport Share.....	4-8
Table 4.1.11	Recommended CREATS Policies on Road Structure/Traffic Management/Environmental Measures with Functional Classification.	4-10
Table 4.1.12	Average Daily Traffic (ADT) on the Main Road Network.....	4-11
Table 4.1.13	Average Daily Traffic (ADT) on Major Arterial Highways	4-11
Table 4.1.14	CREATS Programs	4-18
Table 4.1.15	Phased Implementation Plans for Metro Line 3.....	4-19
Table 4.1.16 (a)	Operational and Technical Specification of Metro Line 1 / Line 2.....	4-20
Table 4.1.16 (b)	Operational and Technical Specification of Metro Line 3.....	4-21
Table 4.3.1	Projected Population of Greater Cairo (Over 6 Years of Age) for 2007 - 2027	4-24
Table 4.3.2	Projected Number of Employed Primary Industry Workers for 2007 - 2027	4-24
Table 4.3.3	Projected Number of Employed Secondary Industry Workers for 2007 - 2027	4-25
Table 4.3.4	Projected Number of Employed Tertiary Industry Workers for 2007 - 2027	4-25
Table 4.3.5	Projected Number of School Students (Secondary and Technical School) for 2007 - 2027	4-26
Table 4.3.6	Projected Number of University Students for 2007 - 2027	4-26
Table 4.3.7	Passenger Car Units (PCU).....	4-28
Table 4.3.8	Road Capacity Assumptions	4-29
Table 4.3.9	Link Free Flow Speed.....	4-29
Table 4.3.10	Vehicle Occupancy Factors (Passengers/Vehicle).....	4-30
Table 4.3.11	Peak Hour Traffic Volumes and Times of the Peak Hour for Different Counting Stations	4-31
Table 4.3.12	Monthly Income Indicator and Car Ownership	4-31
Table 4.3.13	Yearly Change of Car Ownership.....	4-32
Table 4.3.14	Daily Motorized Trip Generation Rates by Household Category.....	4-35

Table 4.3.15	Motorized Trip Generation Adjustment for Population Density.....	4-35
Table 4.3.16	Special Generators of Motorized Trips.....	4-36
Table 4.3.17	Attraction Model Coefficients for HBW	4-36
Table 4.3.18	Attraction Model Coefficients for Non-HBW	4-37
Table 4.3.19	Gravity Model Parameters	4-37
Table 4.3.20	Modal Split Calibration Parameters	4-38
Table 4.3.21	Mode Specific Coefficients.....	4-39
Table 4.4.1	Trips Generated by Public and Private Mode (Person Trip Base)	4-41
Table 4.4.2	Person Trip Generation by Sector Zone	4-42
Table 4.4.3	Comparison of JICA Study Team and CREATS Generation (PCU Base)	4-42
Table 4.4.4	Vehicle Trips Generated by Sector Zone	4-43
Table 4.5.1	Prioritized Top Twenty CREATS Projects.....	4-48
Table 4.5.2	Congestion Rates of 26th of July and 15th of May.....	4-49
Table 4.5.3	Maximum Capacity of the Metro, LRT and Buses	4-49
Table 4.5.4	Summary of Demand Capacity Balance Results	4-53
Table 4.5.5	Transport System Characteristics	4-59
Table 4.5.6	Supposed Transportation Capacity on New Cairo Line according to the demand forecast value in 2027/2017	4-60
Table 4.5.7	Number of Private Buses and Public Buses.....	4-64
Table 4.6.1	Advised Revision of CREATS Plan	4-69
Table 5.1.1	Direct and Indirect Contribution of Development Corridor to Sub-Sector Strategies.....	5-1

LIST OF FIGURES

Figure 1	Location Map of the Study Area	I-2
Figure 2	Administrative Setting of the Study Area	I-3
Figure 3	Administrative Setting in the Central Part of the Study Area (Enlarged)	I-3
Figure 4	Classification of Built-up Area in the Study Area	I-4
Figure 5	Workflow for Formulation of the Master Plan.....	I-6
Figure 1.1.1	Total Population and Annual Growth Rate of Egypt in 1976-2006	1-1
Figure 1.1.2	Total Population of Egypt, Middle East Countries and Japan in 1970-2006	1-2
Figure 1.1.3	Birth, Death, and Fertility Rates of Egypt and Japan.....	1-2
Figure 1.1.4	Population Structure by Age Group of Egypt and Japan.....	1-3
Figure 1.1.5	Three Scenarios of Population Growth Rate in Egypt Estimated by CDC until 2021	1-4
Figure 1.1.6	Population Distribution by Region in Egypt in 1976-2006	1-5
Figure 1.1.7	Growth Rate and Incremental Population by Region in 1996-2006	1-5
Figure 1.1.8	Urban Population of Egypt in 1976-2006.....	1-6
Figure 1.1.9	Urban Population in Egypt, Middle East Countries and Japan in 1950-2005	1-6
Figure 1.1.10	Urban Population by Region to Total Urban Population in 1976-2006 ...	1-7
Figure 1.1.11	Population and Urban Population by Region in Egypt in 2006.....	1-7
Figure 1.1.12	Real GDP Growth Rates in Egypt in 1991/1992-2005/2006.....	1-8
Figure 1.1.13	GDP of Egypt and Middle East Countries in 1970-2005	1-9
Figure 1.1.14	GDP Growth Rate of Egypt and Middle East Countries in 1975-2005....	1-9
Figure 1.1.15	GDP per Capita of Egypt and Middle East Countries in 1970-2005	1-9
Figure 1.1.16	GDP and GDP per Capita of Egypt, Middle East Countries, and Japan in 2006	1-10
Figure 1.1.17	Foreign Direct Investment of Egypt and Middle East Countries in 1970-2005	1-12
Figure 1.1.18	Actual and Expected Amount of Foreign Direct Investment in Egypt...	1-12
Figure 1.1.19	Industrial Zones in Egypt.....	1-13
Figure 1.1.20	Investment and Number of Workers and Existing Establishments by Region in Egypt.....	1-14
Figure 1.1.21	Unemployment Rate by Governorate in 2006	1-15

Figure 1.1.22	Literacy Rate, Enrolment Rate, and Poverty Rate by Governorate in 2004	1-16
Figure 1.1.23	Proposed Industrial Production Value in the Sixth Five Year Plan	1-19
Figure 1.1.24	Proposed Investment Plan for Local Administration by Region in the Sixth Five Year Plan	1-19
Figure 1.1.25	Revised Growth Rate of Total Population up to 2027	1-20
Figure 1.1.26	Revised Population Projection up to 2027	1-20
Figure 1.2.1	Population Distribution by Governorate in the North Egypt Sector	1-22
Figure 1.2.2	Growth Rate and Incremental Population in the North Egypt Sector in 1996-2006	1-22
Figure 1.2.3	GRDP per Capita by Governorate in the North Egypt Sector in 2004 ...	1-23
Figure 1.2.4	Unemployment Rate by Governorate in the North Egypt Sector in 2006	1-24
Figure 1.2.5	Existing and Planned New Urban Community in the North Egypt Sector	1-25
Figure 1.2.6	Existing Industrial Zone in the North Egypt Sector	1-26
Figure 1.2.7	Existing, On-going, and Planned Transportation Network in the North Egypt Sector	1-27
Figure 1.2.8	Existing Tourism Spots in the North Egypt Sector	1-28
Figure 1.3.1	Development Growth Orientation in the North Egypt Sector	1-29
Figure 2.1.1	Location of Natural Reservation Area	2-3
Figure 2.2.1	Population of Cairo, Giza, and Qaliobeya in 1976-2006	2-7
Figure 2.2.2	Population Growth Rate of Cairo, Giza, and Qaliobeya in 1976-2006	2-7
Figure 2.2.3	Migration by Three Governorates in 1976-2006 (1,000)	2-8
Figure 2.2.4	Population Projection by Cairo Demographic Center until 2021	2-8
Figure 2.2.5	Estimated Population Growth Rate by Cairo Demographic Center until 2021	2-8
Figure 2.2.6	Population of Largest Metropolitan Areas in the World	2-9
Figure 2.2.7	Population Distribution by Built-up Area in 1996-2006	2-10
Figure 2.2.8	Incremental Population and Growth Rate by Built-up Area in 1996-2006	2-10
Figure 2.2.9	Population Distribution by Shiakha in the Study Area in 2006	2-11
Figure 2.2.10	Population Growth Rate by Shiakha in the Study Area in 1996-2006 ...	2-12
Figure 2.2.11	Existing Population by NUC in 1996 and 2006	2-12
Figure 2.2.12	Population Density by Built-up Area in the Study Area in 2006	2-13
Figure 2.2.13	Highest Population Density of Metropolitan Areas in the World	2-13
Figure 2.2.14	Population Density and Growth Rate by Built-up Area in the Study Area	2-14

Figure 2.2.15	Population Density by Shiakha in the Study Area in 2006.....	2-14
Figure 2.2.16	GRDP and GRDP per Capita in the Study Area in 1999/2000-2003/2004.....	2-15
Figure 2.2.17	Number of Factories by Main Activities Registered by IDA in Cairo, Giza, and Qaliobeya in 2004.....	2-16
Figure 2.2.18	Number of Workers by Main Activities Registered by IDA in Cairo, Giza, and Qaliobeya in 2004.....	2-16
Figure 2.3.1	Organization Chart of MOHUUD.....	2-21
Figure 2.3.2	Organization Chart of GOPP.....	2-21
Figure 2.3.3	Organization Chart of GCRUPC.....	2-22
Figure 2.4.1	Historical Change of Built-up Area.....	2-30
Figure 2.4.2	Urban Area Change between 2001 and 2007.....	2-34
Figure 2.4.3	Extension of Built-up Area in 1982, 1997 and 2007.....	2-35
Figure 2.4.4	Trend of Built-up Area and Population from 1945 to 2007.....	2-35
Figure 2.4.5	Encroachment on Agricultural Land and its Annual Rate in 1968-2007.....	2-36
Figure 2.4.6	Land Cover by Built-up Area in 2001 and 2007 (ha).....	2-37
Figure 2.4.7	Share by Land Cover of each Built-up Area in 2001 and 2007 (%).....	2-37
Figure 2.4.8	Expansion of the Built-up Area in Main Agglomeration.....	2-38
Figure 2.4.9	Expansion of the Built-up Area in Villages & Small Towns.....	2-39
Figure 2.5.1	GIS Layers on Existing Condition.....	2-43
Figure 2.5.2	Existing Land Cover 2007.....	2-46
Figure 2.5.3	Location of Major Commercial Areas in main agglomeration.....	2-47
Figure 2.5.4	Location of Industrial Areas.....	2-48
Figure 2.5.5	Land Area by Industrial Zone in the Study Area.....	2-49
Figure 2.5.6	Production Value by Industrial Area in NUCs and Public Free Zone.....	2-50
Figure 2.5.7	Location of Green and Open space.....	2-51
Figure 2.5.8	Green Area per Capita in the Study Area and Other Metropolitan Area.....	2-52
Figure 2.5.9	Location of Main Historical Resources in the Main Agglomeration.....	2-54
Figure 2.5.10	Location of Archeological Protection Area.....	2-55
Figure 2.5.11	Location of Ongoing or Planned Projects.....	2-56
Figure 2.6.1	Characteristics of Households' Respondents in the Opinion Poll Survey.....	2-60
Figure 2.6.2	Responded Households by Household Income.....	2-61
Figure 2.6.3	Advantages and Disadvantages of Current Living Area.....	2-61
Figure 2.6.4	Satisfaction with Existing Infrastructure and Social Welfare.....	2-62
Figure 2.6.5	Willingness to Move to New Urban Communities.....	2-63
Figure 2.6.6	Advantage and Disadvantage of New Urban Communities.....	2-64
Figure 2.6.7	Desirable Future Image of the Study Area for Households.....	2-65

Figure 2.6.8	Aspects to Change for Future of the Study Area.....	2-65
Figure 2.6.9	Characteristics of Responded Enterprises.....	2-66
Figure 2.6.10	Responded Enterprises by Number of Workers and Main Activities.....	2-66
Figure 2.6.11	Intention to move to New Urban Communities	2-67
Figure 2.6.12	Advantage and Disadvantage of New Urban Communities for Enterprises.....	2-68
Figure 2.6.13	Distribution of Typology in the Study Area	2-72
Figure 2.6.14	Distribution of Planning Zone in the Study Area	2-73
Figure 2.6.15	Distribution of Informal Area and Ongoing/Planned Project by GOPP2-163	
Figure 2.6.16	Location of Factories Proposed to be Relocated.....	2-166
Figure 2.7.1	Organization Chart of GCWSC.....	2-173
Figure 2.7.2	Location Map of WPPs in Study Area.....	2-175
Figure 2.7.3	Water Supply System for NUCs.....	2-177
Figure 2.7.4	Water Supply Balance in 2007	2-181
Figure 2.7.5	Comparison between Water Demand and Water Supply Capacity	2-189
Figure 2.7.6	Organization Chart of GCSDC	2-192
Figure 2.7.7	Location Map of WWTPs in Study Area.....	2-194
Figure 2.7.8	Wastewater Treatment System for NUCs.....	2-195
Figure 2.7.9	Sketch of Treatment Process Classification for Industrial Wastewater	2-197
Figure 2.7.10	Wastewater Treatment Balance in 2007	2-198
Figure 2.7.11	Comparison between WW Generation and WW Treatment Capacity	2-204
Figure 2.7.12	Typical Flow of Waste in Egypt	2-207
Figure 2.7.13	Composition of Generated MSW in Egypt: 2005	2-207
Figure 2.7.14	Classification of Generated Waste in Egypt: 2005.....	2-208
Figure 2.7.15	Location of SWW Facilities	2-210
Figure 2.7.16	Operation Areas of Zabbaleen.....	2-213
Figure 2.7.17	Organization of Electricity Sector.....	2-225
Figure 2.7.18	Location of Power Generation Plants of CEPC	2-227
Figure 2.7.19	Electric Power Grid in Egypt.....	2-228
Figure 2.7.20	Electricity Forecast in Egypt.....	2-233
Figure 2.8.1	SWOT and Main Challenges for the Study Area	2-240
Figure 3.1.1	Goal, Objective, and Development Strategy for the Study Area until 2027	3-2
Figure 3.2.1	Three Scenarios of Population Projection and Growth Rate for Three Governorates up to 2027.....	3-5
Figure 3.2.2	Population Projection and Growth Rate by Governorate up to 2027.....	3-5
Figure 3.2.3	Population Projection and Growth Rate of the Study Area until 2027.....	3-6

Figure 3.2.4	Existing Urbanization and Three Alternatives of Future Growth Pattern until 2027	3-7
Figure 3.2.5	Population Distribution by Alternatives of Future Urbanization	3-7
Figure 3.3.1	Population and Growth Rate by Built-up Area until 2027 (trend base)	3-11
Figure 3.3.2	Population Distribution by <i>Shiakha</i> in 2012	3-12
Figure 3.3.3	Population Distribution by <i>Shiakha</i> in 2017	3-12
Figure 3.3.4	Population Distribution by <i>Shiakha</i> in 2027	3-13
Figure 3.3.5	Average Population Growth Rate by <i>Shiakha</i> in 1996-2027	3-13
Figure 3.3.6	Population by Built-up Area and NUCs in 1996-2027	3-14
Figure 3.3.7	Distribution of Workers in Primary Industry in the Study Area in 2006-2027	3-15
Figure 3.3.8	Distribution of Workers in Secondary Industry in the Study Area in 2006-2027	3-16
Figure 3.3.9	Distribution of Workers in Tertiary Industry in the Study Area in 2006-2027	3-17
Figure 3.3.10	Distribution of Students in Primary and Preparatory in the Study Area in 2006-2027	3-18
Figure 3.3.11	Distribution of Students in Secondary and Higher in the Study Area in 2006-2027	3-18
Figure 3.4.1	Structure of Sub-sector Strategies, Key Diagram, and General Land Use plan for the Study Area in 2027	3-20
Figure 3.4.2	Existing Housing Stock in the Study Area	3-21
Figure 3.4.3	Projection for Housing Stock and Demand until 2027 in the Study Area	3-22
Figure 3.4.4	Projection for Housing Demand and Vacancy Rate until 2027 in the Study Area	3-23
Figure 3.4.5	Gap between Housing Stock and Occupied Units Estimates from Census 2006 in NUCs	3-24
Figure 3.4.6	Housing Stock and Demand in NUCs until 2027	3-24
Figure 3.4.7	Housing Demand by Income Group with MOP Policy until 2027	3-25
Figure 3.4.8	Income Group Interviewed by the Opinion Survey	3-26
Figure 3.4.9	Location Map of Existing Informal Areas	3-29
Figure 3.4.10	Candidates for Pilot Informal Improvement Projects	3-31
Figure 3.4.11	Sequences of “Chain Type” Urban Development	3-32
Figure 3.4.12	Proposed Business and Commercial Areas in the Study Area	3-33
Figure 3.4.13	Proposed Reorganization of Industrial Areas in the Study Area	3-36
Figure 3.4.14	Distribution of Tourism Promotion Areas	3-38
Figure 3.4.15	Schematic Planning Image of Historical Monuments	3-39
Figure 3.4.16	Measures to Vitalize NUCs	3-43

Figure 3.4.17	Conditions to be changed to shift to NUCs	3-44
Figure 3.4.18	Transport-Oriented Urban Development in the Study Area	3-45
Figure 3.4.19	Proposed Environmental Conservation Area in the Study Area in 2027	3-47
Figure 3.4.20	Peoples' Perception for Open Space in their Neighborhood	3-48
Figure 3.4.21	Proposed Green Area Network in the Study Area in 2027	3-49
Figure 3.4.22	Schematic Image of Urban Growth Boundary.....	3-50
Figure 3.4.23	Urban Growth Boundary, UDA, and UCA in the Study Area in 2027...	3-51
Figure 3.4.24	Example of Planning Permission System.....	3-54
Figure 3.5.1	Proposed Key Diagram for the Study Area in 2027.....	3-56
Figure 3.6.1	Proposed General Land Use Plan in the Study Area in 2027	3-57
Figure 4.1.1	Urban Railway Network.....	4-1
Figure 4.1.2	Urban Railway Transport Service	4-2
Figure 4.1.3	Route and Location of Stations on Metro Line 1 and Metro Line 2	4-4
Figure 4.1.4	The Existing Urban Railway Network in Greater Cairo	4-7
Figure 4.1.5	CREATS Functional Classification of Existing Road Network for the Study Area.....	4-9
Figure 4.1.6	Suburban Communities and Regional Road Network.....	4-10
Figure 4.1.7	The Ring Road Extension Plans.....	4-12
Figure 4.1.8	General Concept of the Regional Ring Road.....	4-12
Figure 4.1.9	Urban Corridor Network.....	4-13
Figure 4.1.10	Roadway Width of 20 Major Arterial Roads	4-14
Figure 4.1.11	Expressway Network for Greater Cairo	4-14
Figure 4.1.12	Summary of PCI Measurement Result on 20 Major Routes.....	4-15
Figure 4.1.13	Transport Corridor Projects	4-17
Figure 4.1.14	Route and Location of Stations in Metro Line 3	4-20
Figure 4.3.1	Traffic Zoning System (Study Area)	4-23
Figure 4.3.2	Speed-Flow Relationship.....	4-30
Figure 4.3.3	Transport Model Framework	4-33
Figure 4.3.4	Mode for Forecasting Traffic Volumes on Road Network sand Toll Expressway Networks	4-39
Figure 4.4.1	Trips Generated by Public Mode (Person Data)	4-40
Figure 4.4.2	Predicted Trip Generation for 2007, 2017 and 2027	4-41
Figure 4.4.3	Vehicle Generated Trips (PCU Base)	4-42
Figure 4.4.4	Trip Generation by Sector Zone Based on Vehicle Trip in PCU.....	4-43
Figure 4.4.5	Person Trip Demand Line by Sector Zone.....	4-45
Figure 4.5.1	Key CREATS Strategies and Projects	4-47

Figure 4.5.2	Cross Sections Applied for Demand/Capacity Assessment.....	4-49
Figure 4.5.3	Transportation Plan 2022 (CREATS + Toll Exp. way + Transportation Projects Constructed and Approved after CREATS).....	4-50
Figure 4.5.4	D/C Balance (Public Transport, Peak Hour).....	4-55
Figure 4.5.5	D/C Balance (Vehicle Movement, Peak Hour).....	4-57
Figure 4.5.6	Transport Mode based on Relationship between Traffic-density & Distance	4-59
Figure 4.5.7	Further Extension Plan on Line3 (Route Alternatives to New Cairo)....	4-61
Figure 4.5.8	Proposed Extension of Urban Expressway (Section E-12)	4-61
Figure 4.6.1	Proposed Transport Projects (Major Hardware Projects Only)	4-65
Figure 4.6.2	D/C Balance on the Proposed Network at CBD-Nasr City-New Cairo Corridor for Public Transport, Peak Hour	4-66
Figure 4.6.3	D/C Balance on the Proposed Network at CBD-Nasr City-New Cairo Corridor of Road Transport.....	4-67
Figure 4.6.4	D/C Balance on the Proposed Network at West Corridor of public transport, Peak Hour.....	4-67
Figure 4.6.5	D/C Balance on the Proposed Network at South of road transport, Peak Hour.....	4-68
Figure 4.6.6	Vehicle Traffic Assignment (2027, GCR).....	4-68
Figure 4.6.7	Vehicle Traffic Assignment (2027, Inside Ring Road).....	4-69
Figure 5.1.1	Conceptual Image of Development Corridor.....	5-2
Figure 5.2.1	Joint Coordination Body for Development Corridor	5-4

ABBREVIATIONS

AUC	American University in Cairo	ENR	Egyptian National Railway
ADT	Average Daily Traffic	EU	European Union
ATC	Automatic Train Control System	F/R	Final Report
BC	Before Christ	F/S	Feasibility Study
BOD	Biological Oxygen Demand	FDI	Foreign Direct Investment
BOT	Build, Operate and Transfer	FIRR	Financial Internal Rate of Return
BOOT	Build, Own, Operate and Transfer	GAFI	General Authority for Investment and Free Zones
CAPMAS	Central Agency for Public Mobilization and Statistics	GARBLT	General Authority for Roads, Bridges and Land Transport
CAPWO	Organization for Execution of Greater Cairo and Alexandria Portable Water and Wastewater Project	GAID	General Authority for Industrial Development
CBD	Central Business District	GCBC	Greater Cairo Bus Company
CCTV	Closed Circuit Television	GCR	Greater Cairo Region
CDC	Cairo Demographic Center	GCSDC	Greater Cairo Sanitary Drainage Company
CEPC	Cairo Electricity Production Company	GCWSC	Greater Cairo Water Supply Company
CMO	Cairo Metro Organization	GCRUPC	Greater Cairo Region Urban Planning Center
COD	Chemical Oxygen Demand	GDP	Gross Domestic Product
CREATS	Transportation Master Plan and Feasibility Study of Urban Transport Projects in Greater Cairo Region	GEM	Grand Egyptian Museum
CSC	Centralized Substation Control	GIS	Geographical Information System
CTA	Cairo Transport Authority	GOE	Government of Egypt
CTC	Centralized Train Control System	GOJ	Government of Japan
DB	Design Build	GOPP	General Organization for Physical Planning
DBO	Design Build and Operate	GRDP	Gross Regional Domestic Product
DBFO	Design Build Finance and Operate	GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
DC	Direct Current	GWWC	Giza Water and Wastewater Company
DF/R	Draft Final Report	HCWW	The Holding Company for Water and Wastewater
EDHC	Egypt Demographic and Health Survey	HFO	Heavy Fuel Oil
EEA	Egyptian Electricity Authority	HH	Household
EEAA	Egyptian Environmental Affairs Agency	HIS	Household Interview Survey
EEHC	Egyptian Electricity Holding Company	IBRD	International Bank for Reconstruction and Development (World Bank)
EETC	Egyptian Electricity Transmission Company	IC/R	Inception Report
EIA	Environmental Impact Assessment	ICT	Information Communication Technology
EIRR	Economic Internal Rate of Return	IDA	Industrial Development Authority
ENIT	Egyptian National Institute of Transport		

IDSC	Information and Decision Support Center	PC	Pre-stressed Concrete
IEE	Initial Environmental Examination	PCU	Passenger Car Unit
IPP	Independent Power Producer	pphpd	Passengers per hour per direction
IT	Information Technology	PPP	Public Private Partnership
IT/R	Interim Report	PSU	Primary Sampling Units
JBIC	Japan Bank for International Cooperation	PTPS	Public Transport Passenger Survey
JETRO	Japan External Trade Organization	R&D	Research and Development
JICA	Japan International Cooperation Agency	ROW	Right of Way
ktoe	kilo ton oil equivalent	S/W	Scope of Work
LFO	Light Fuel Oil	SDMP	Strategic Urban Development Master Plan Study (This Study)
LIM	Linear Introduction Motor	SDMP	The Strategic Urban Development Master Plan Study
LRT	Light Rail Transit	SO _x	Sulfur Oxides
MENA	Middle East and North Africa	STRASYA	Standard Urban Railway System for Asia
M/M	Minutes of Meeting	SWM	Solid Waste Management
MOF	Ministry of Finance	TOR	Terms of Reference
MOHP	Ministry of Health and Population	UCA	Urban Control Area
MOHUUD	Ministry of Housing, Utilities and Urban Development	UDA	Urban Development Area
MOI	Ministry of Investment	UGB	Urban Growth Boundary
MOIC	Ministry of International Cooperation	UNDP	United Nations Development Program
MOLD	Ministry of Local Development	UNESCO	United Nations Educational, Scientific and Cultural Organization
MOT	Ministry of Transport	UPA	Urban Planning Area
MOTI	Ministry of Trade and Industry	USAID	United States Agency for International Development
MSEA	Ministry of State for Environment Affairs	WHO	World Health Organization
MSLD	Ministry of State for Local Development	WPP	Water Purification Plant
MSW	Municipal Solid Waste	WWPT	Wastewater Treatment Plant
MSWM	Municipal Solid Waste Management		
MWRI	Ministry of Water Resources and Irrigation		
NAT	National Authority for Tunnels		
NO _x	Nitrous Oxides		
NUC	New Urban Community		
NUCA	New Urban Community Agency		
OD	Origin and Destination		
OCC	Operating Control Center		
OECD	Organisation for Economic Co-operation and Development		

MEASUREMENT

Length

mm	=	millimeter
cm	=	centimeter
m	=	meter
km	=	kilometer

GW	=	gigawatt
kWh	=	kilowatt hour
MWh	=	megawatt hour
GWh	=	gigawatt hour
ktoe	=	kiloton oil equivalent

Area

cm ²	=	square centimeter
m ²	=	square meter
ha	=	hectare
km ²	=	square kilometer

Other Measures

%	=	percent
HP	=	horsepower
°C	=	celsius degree

Volume

cm ³	=	cubic centimeter
m ³	=	cubic meter
l	=	litter

Currency

USD	=	US Dollar
LE	=	Egyptian Pound
JPY	=	Japanese Yen

Weight

mg	=	milligram
g	=	gram
kg	=	kilogram
t	=	ton
mg/l	=	milligram per liter

Time

s	=	second
min	=	minute
hr	=	hour
d	=	day
yr	=	year

Electrical Measurement

V	=	volt
kV	=	kilovolt
A	=	ampere
VA	=	voltampere
MVA	=	megavoltampere
kW	=	kilowatt
MW	=	megawatt

Exchange Rate
(As of 15 February, 2008)

US\$1 = JPY 110.0 = L.E. 5.5

INTRODUCTION

Background of the Study

In response to a request from the Government of the Arab Republic of Egypt (hereinafter referred to as “the GOE”), the Government of Japan (hereinafter referred to as “the GOJ”) decided to implement “the Strategic Urban Development Master Plan Study for a Sustainable Development of the Greater Cairo Region” (hereinafter referred to as “the Study”) within the framework of the Agreement on Technical Cooperation between the GOJ and the GOE that was signed on June 15th, 1983.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as “JICA”), the official agency responsible for technical cooperation programs, decided to undertake the Study and dispatched a JICA study team. The Study was done in close cooperation with the GOE authorities concerned with this work.

The Ministry of Housing, Utilities and Urban Development (hereinafter referred to as “MOHUUD”) is the responsible agency represented by the General Organization for Physical Planning (hereinafter referred to as “GOPP”). GOPP is the counterpart agency for the JICA Study Team and the coordinating body with the other relevant organizations for the smooth implementation of the Study. The Study was done in strongly close cooperation with the GOE concerned authorities, particularly the Greater Cairo Region Urban Planning Center (GCRUPC) of GOPP.

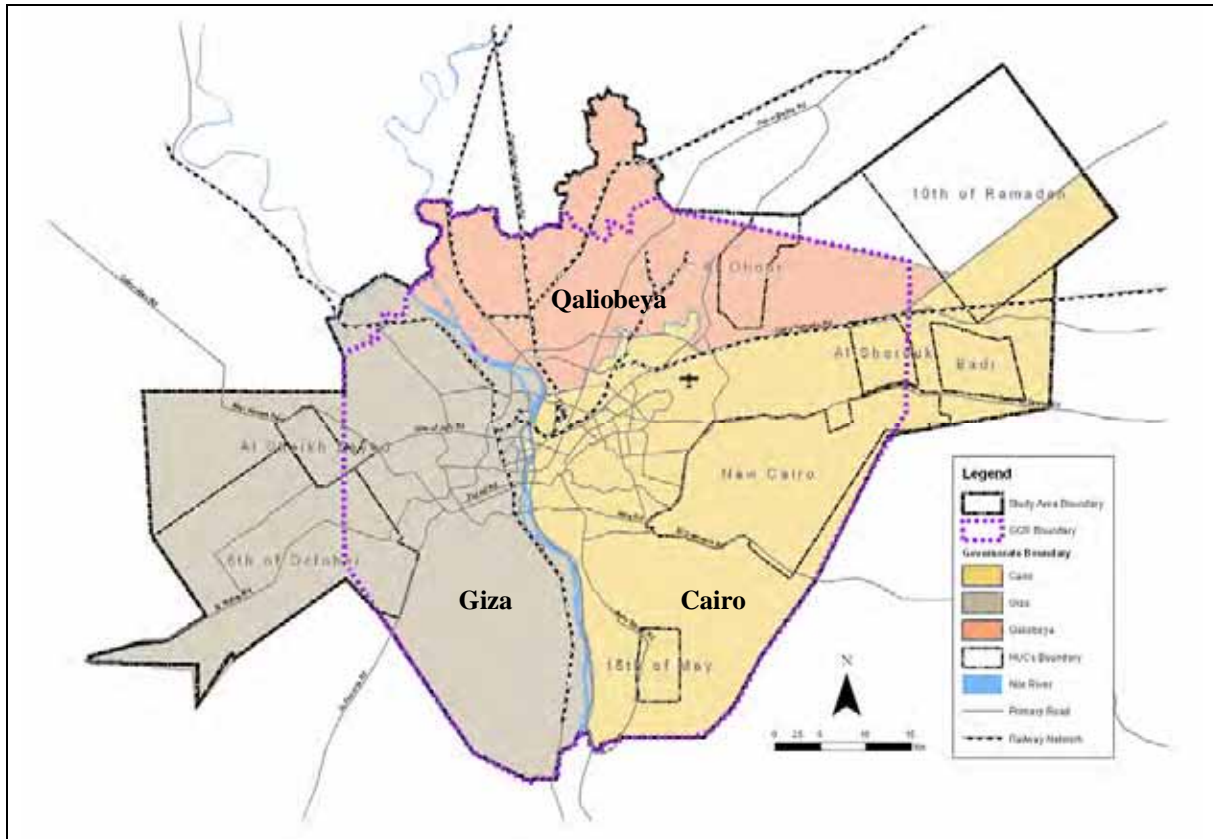
Objectives of the Study

In accordance with the Scope of Work agreed between GOPP and JICA, the objectives of the Study on the Strategic Urban Development Master Plan for a Sustainable Development of the Greater Cairo Region (GCR) in the Arab Republic of Egypt consist of the following:

- 1) To formulate a strategic development master plan for the GCR and new urban communities in the target year of 2027 to achieve sustainable social-economical development through balanced urban development:
- 2) To formulate an implementation scheme for priority development corridors, considering the effectiveness of urban development being integrated with transportation development; and
- 3) To exchange experience related to urban planning and urban development.

Study Area and Administrative Settings

The study area¹ includes Cairo governorate, part of Giza and Qaliobeya governorates, and 10th of Ramadan new urban community (NUC) as shown in Figure 1. It consists of 544 administrative units, as indicated in Figure 2². The study area covers an area of 4,367 km², as shown in the Table 1.



Source: Census, CAPMAS, 2006

Figure 1 Location Map of the Study Area

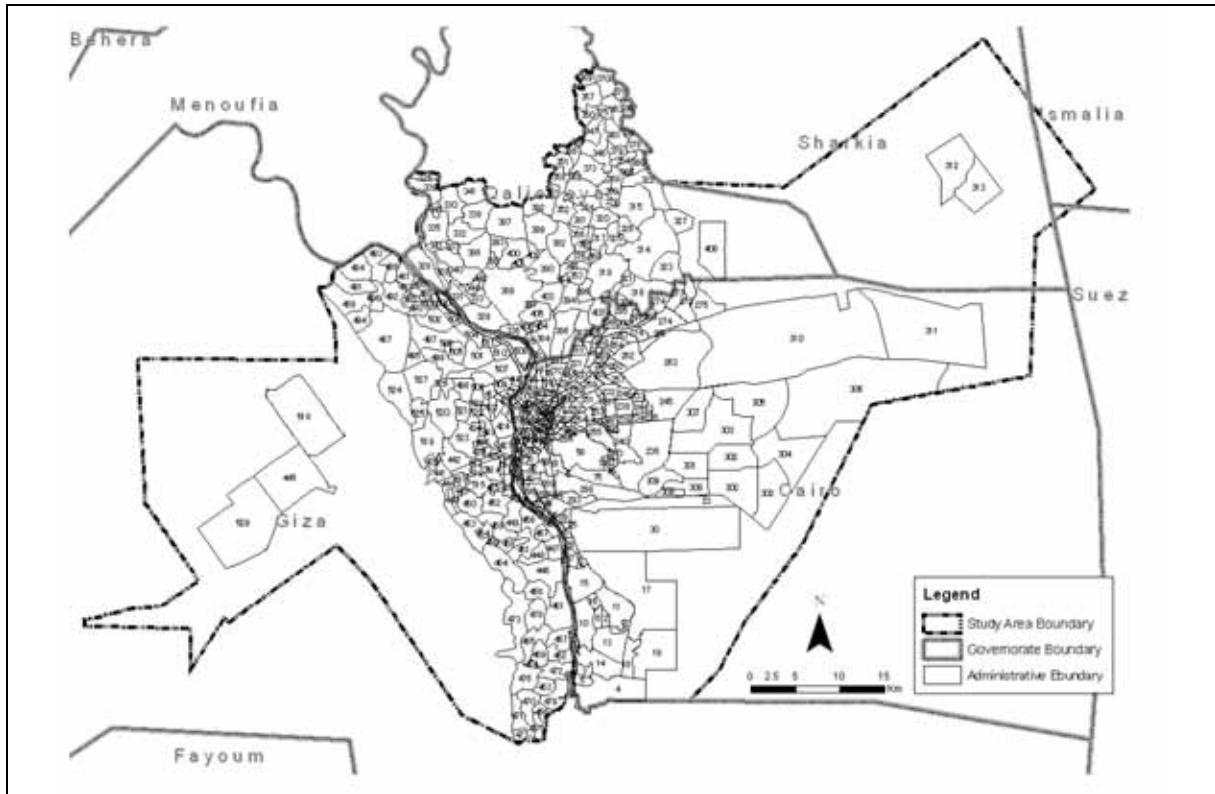
Table 1 Administrative Units, Land Area, and Population in the Study Area

Governorate	No. of Administrative Units (units)	Land Area (km ²)	Population in 2006 (1,000)
Cairo	325	1,636	7,787
Giza	95	1,550	5,131
Qaliobeya	122	788	3,059
10 th of Ramadan NUC (Sharqia)	2	393	124
Total	544	4,367	16,101

Source: Census, CAPMAS, 2006

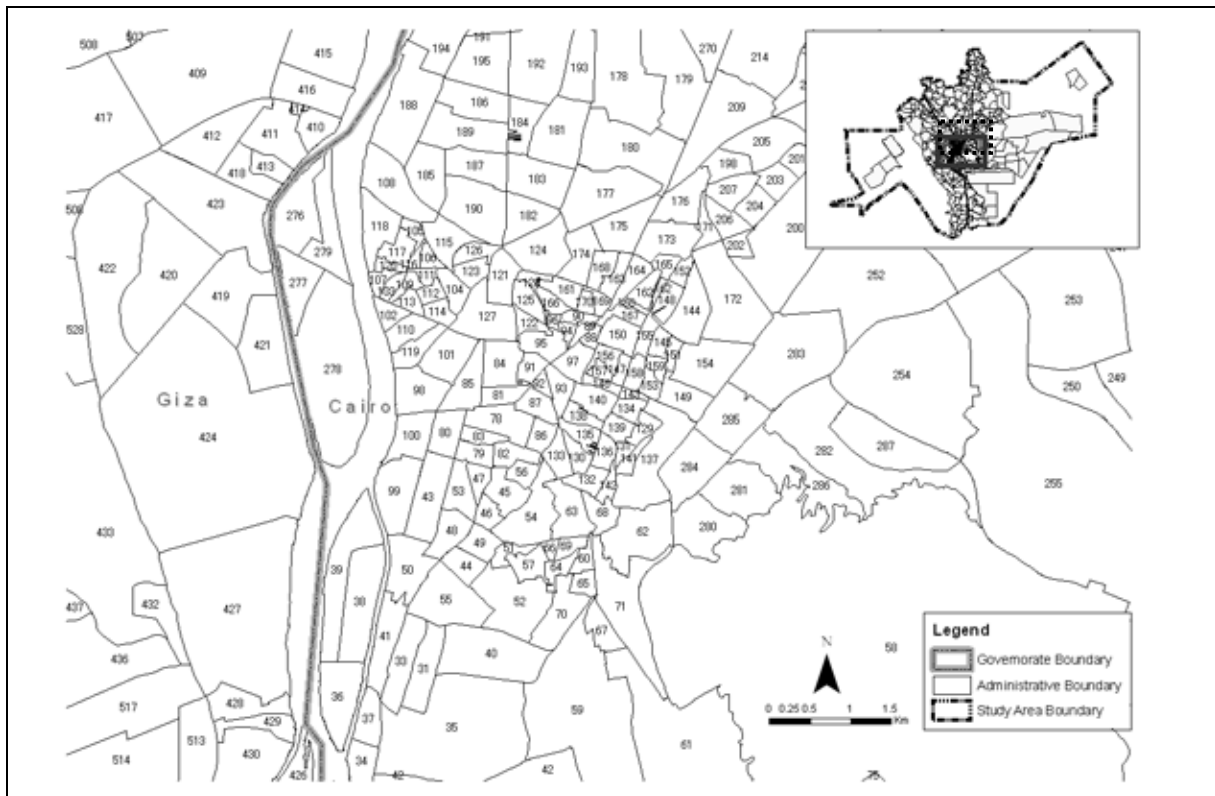
¹ In April, 2008 after the completion of the final draft report for the strategic development master plan, Cairo governorate was divided into Cairo and Helwan governorates. In addition, Giza governorate was divided into Giza and 6th of October governorates. (Presidential Decree No. 124, 2008)

² The list of *shiakha*, the minimum sub-division of the administrative unit, within the study area is prepared in annex I.



Source: Census, CAPMAS, 2006

Figure 2 Administrative Setting of the Study Area (refer to Annex)

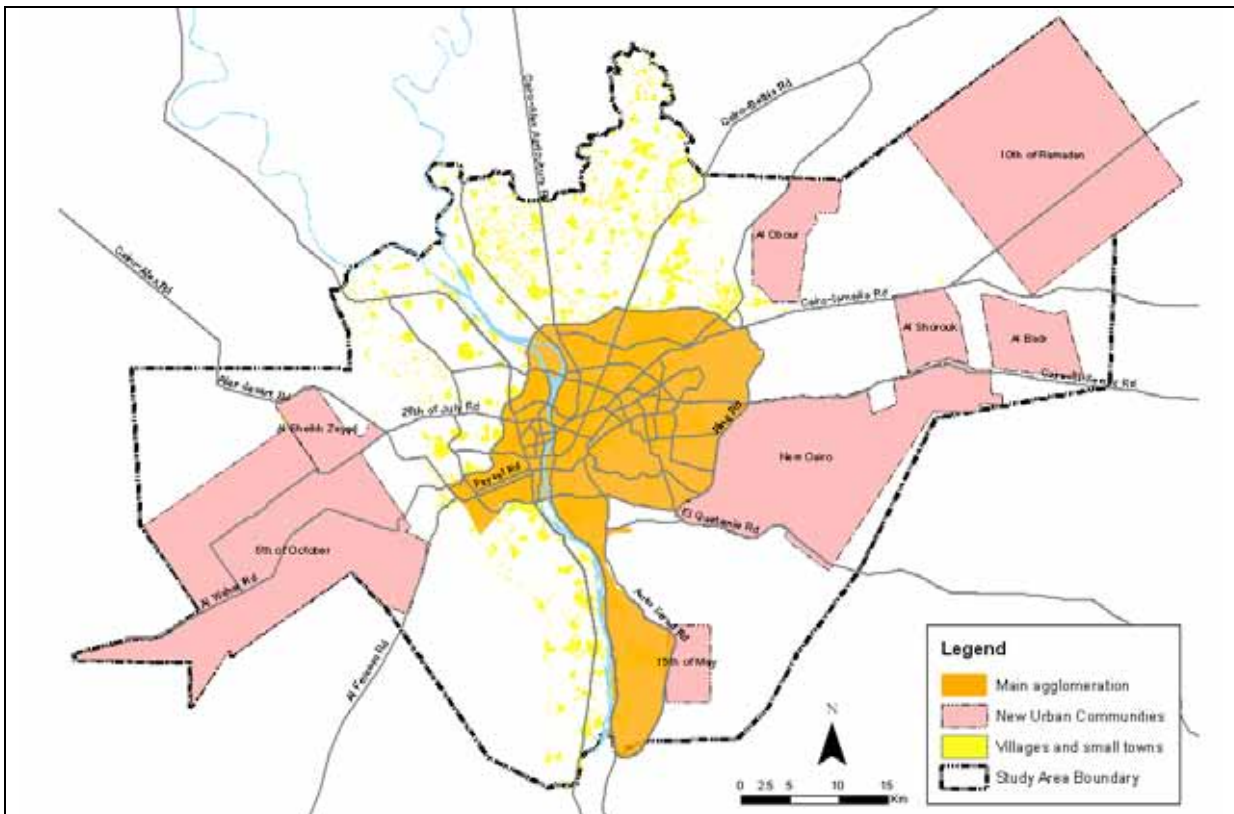


Source: Census, CAPMAS, 2006

Figure 3 Administrative Setting in the Central Part of the Study Area (Enlarged) (refer to Annex)

In the study, the existing built-up area (called urban agglomeration) was classified into three categories, as defined below. The distribution of these categorized built-up areas is shown in Figure 4.

- Main agglomeration: This covers the built-up areas within the ring road and includes the areas south of the ring road along the Nile inside the Autostrad Road.
- Villages and small towns: This refers to the villages and small towns within the agricultural area, outside the main agglomeration and the new urban communities.
- New Urban Communities: Built-up areas located in the eight new urban communities within the study area.



Source: JICA study team

Figure 4 Classification of Built-up Area in the Study Area

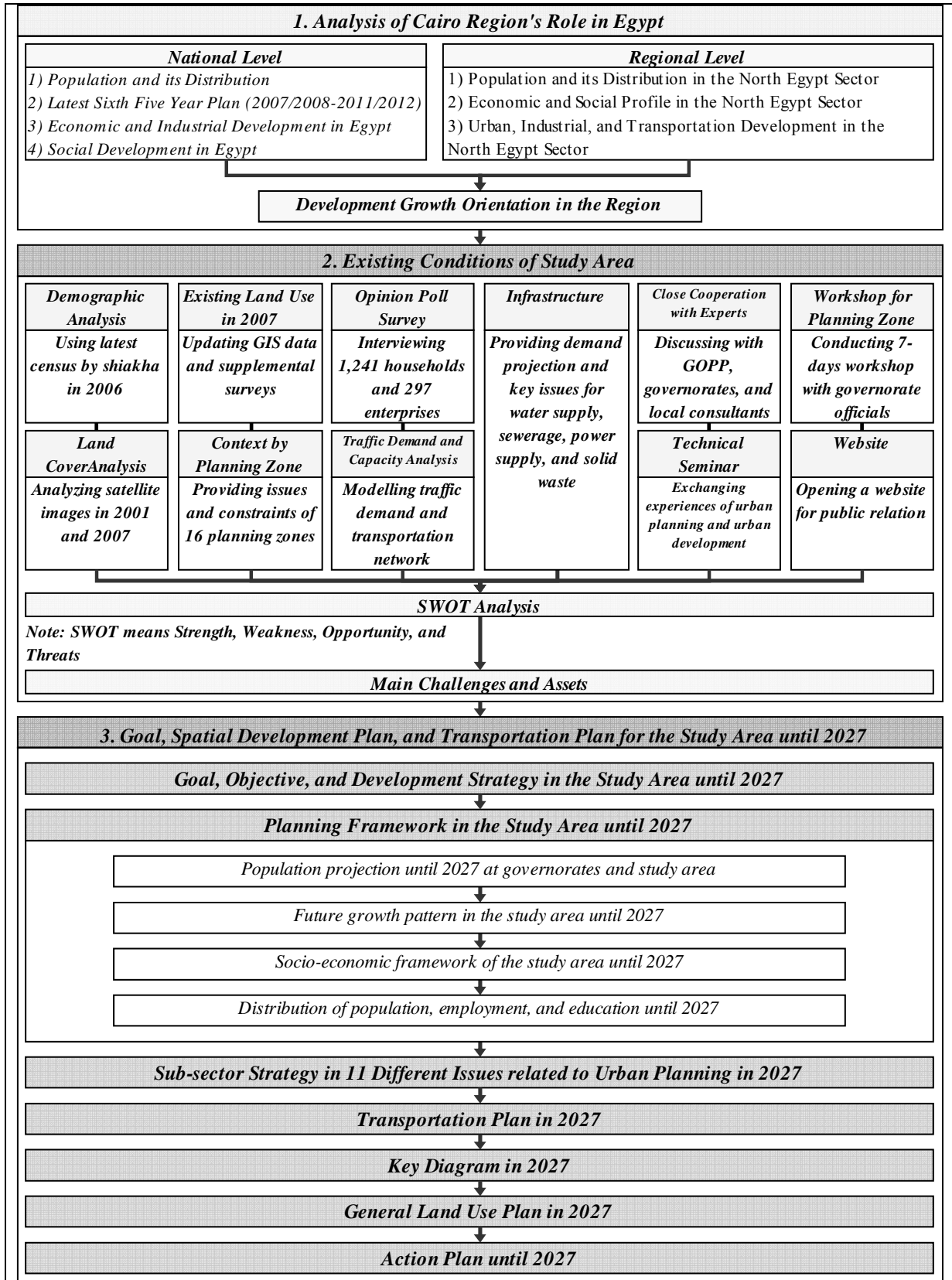
In the study, the three different areas were defined to analyze the existing conditions of the study area in the national and regional levels. Those areas are the North Egypt Sector, Cairo Region, and Greater Cairo Region as mentioned below.

- The North Egypt Sector covers two regions of Cairo and Delta and their neighboring governorates. The Delta region includes five governorates of Damietta, Dakahlia, Kafr-El-Sheikh, Gharbia, and Menoufia.
- The Cairo Region covers the whole three governorates of Cairo, Giza, and Qaliobeya.

- The Greater Cairo Region covers the main agglomeration and its surrounding areas within the study area.

Approach to the Study

Figure 5 shows the workflow of the study for preparing the master plan. It consisted of three stages: (i) to analyze the role of the Cairo Region at national and regional levels; (ii) to analyze existing conditions of the study area; and (iii) to formulate goals, spatial development plans, and transportation plans for the study area for the target year of 2027. In the second stage, the study team carried out various activities with strong cooperation from GCRUPC. These consisted of: (a) demographic analysis; (b) land cover analysis utilizing remote sensing analysis based on satellite images from 2001 and 2007; (c) analysis of existing land use; (d) analysis of the context and characteristics of 16 planning zones in the study area at the district level; (e) conducting opinion poll surveys of 1,241 households and 397 enterprises; (f) traffic demand and capacity analysis; (g) analysis of existing infrastructure; and (h) holding discussions with related authorities and governorates, including daily discussions, technical seminars, and workshops.



Source: JICA study team

Figure 5 Workflow for Formulation of the Master Plan

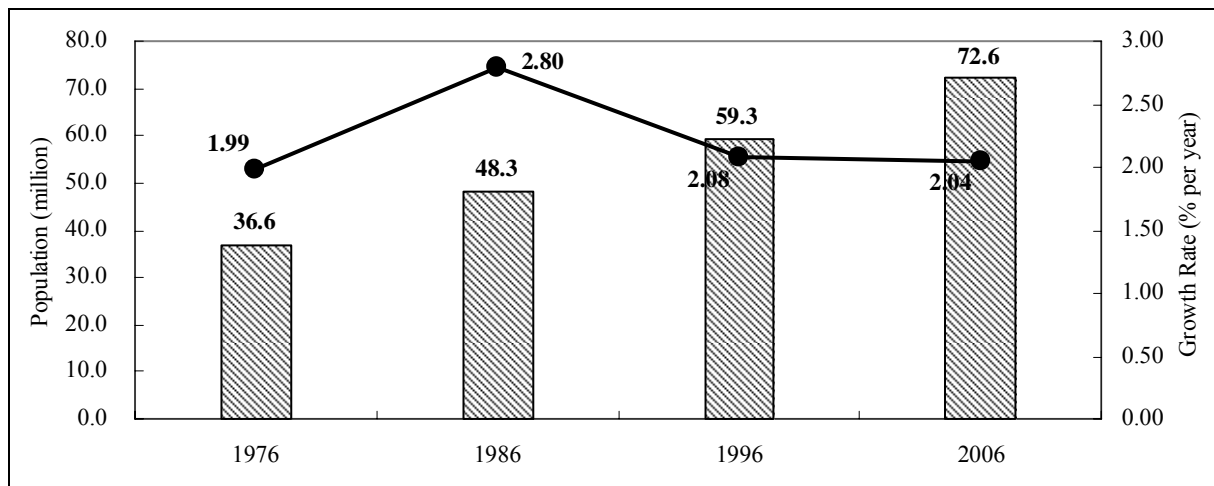
CHAPTER 1 CAIRO'S ROLE IN THE COUNTRY AND THE REGION

1.1 Socio-Economic Profile of Egypt

1.1.1 Population and its Distribution

(1) Total population and growth rate in the country

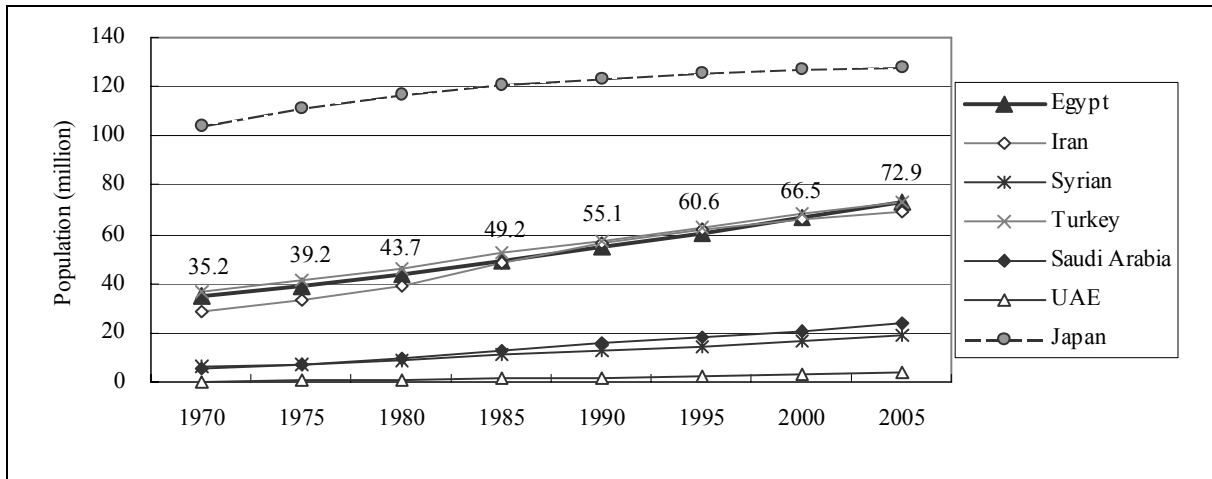
The total population of Egypt increased from 59 million in 1996 to 73 million in 2006 with an average annual growth rate at 2.04%/year, as shown in Figure 1.1.1. Over a longer term, the total population has doubled in the past 30 years. The population growth rate slowed down from 2.80%/year in 1986 to 2.08% in 1996. It has remained relatively stable since then, and was 2.04%/year in 2006. Egypt's present total population of more than 72 million is the largest among the Middle East and North African (MENA) countries, comparable only to Iran and Turkey (Figure 1.1.2).



Source: Census, CAPMAS, 2006

Note: Population of Egypt in 1996 and 2006 does not include residents outside the country.

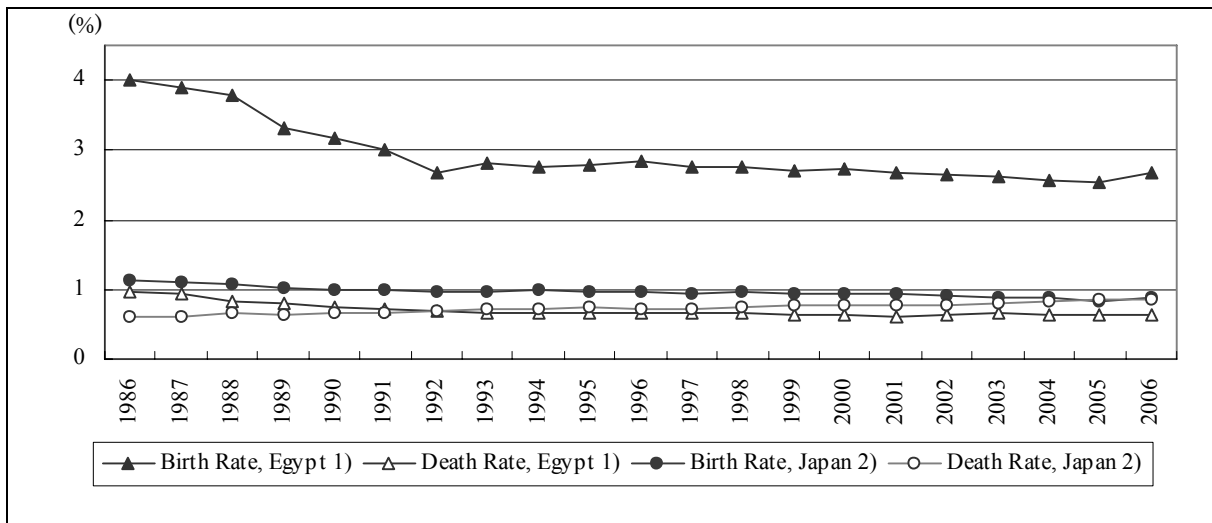
Figure 1.1.1 Total Population and Annual Growth Rate of Egypt in 1976-2006



Source: United Nations, 2007

Figure 1.1.2 Total Population of Egypt, Middle East Countries and Japan in 1970-2006

The birth rate in Egypt decreased substantially from 40 to 27 births/thousand persons during the period of 1986-2006 (Figure 1.1.3), while the death rate decreased steadily from 10 to 6 deaths/thousand persons in the same period. Due to the declining trend of birth rate compared to the relatively stable death rate, the natural growth rate will continue to decline. However, the pace of decline will be more gradual than that in the past decades.



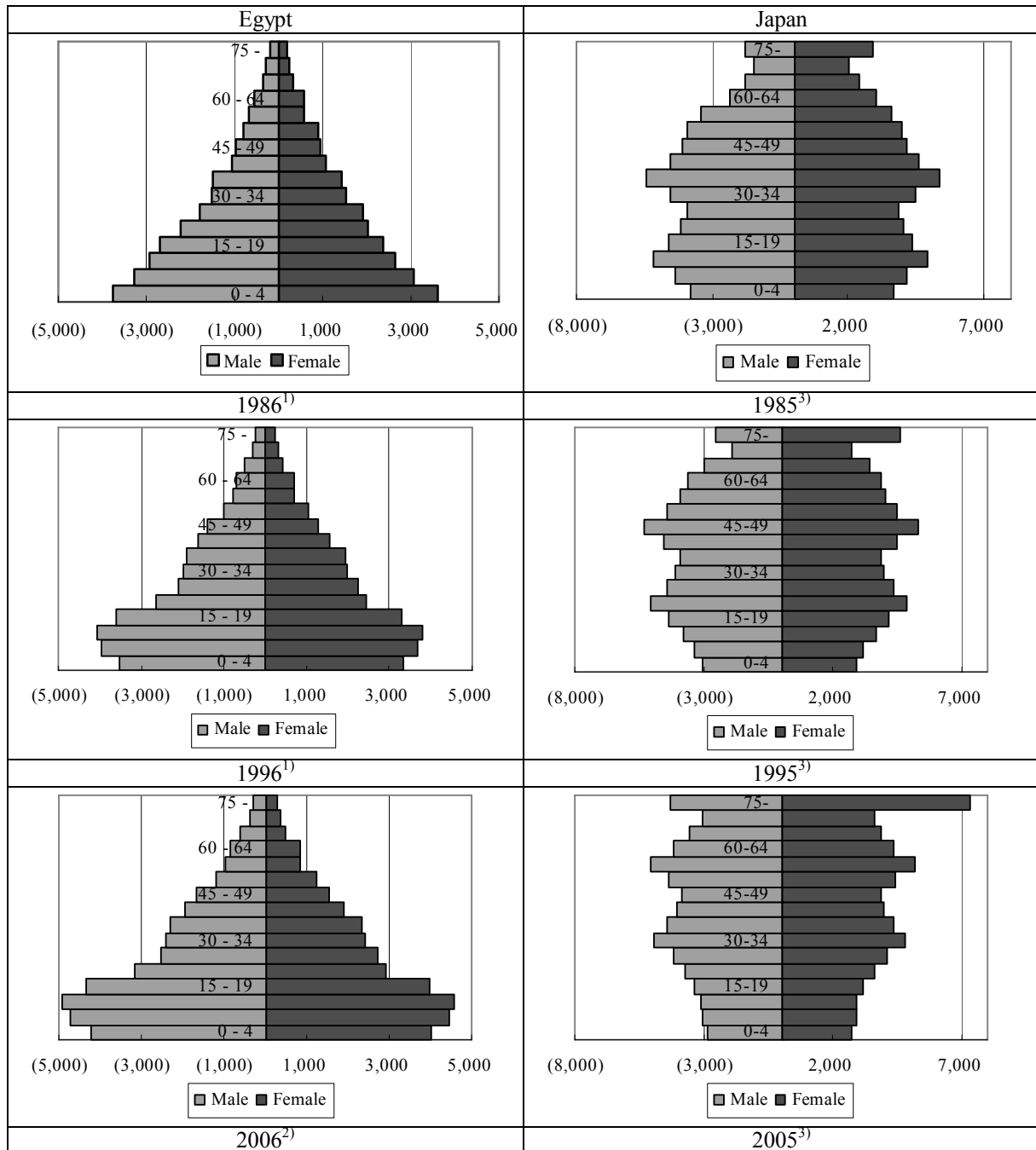
Source 1) Statistical Yearbook 2005, CAPMAS and Sixth Five-Year Plan, MOP, 2007

Source 2) Ministry of Health, Labor, and Welfare, Japan, 2006

Figure 1.1.3 Birth, Death, and Fertility Rates of Egypt and Japan

The declining birth rate and fertility rate have affected Egypt's population structure by age group. Between 1986 and 2006, the population structure changed, with the population less than five years old decreasing sharply from 15% to just 10% (Figure 1.1.4). However, by 2006, the percentage of the population in the age group of less than five years old had increased to 12%. This group is the so-called baby-boomer generation that will produce a

large number of births in the future when they reach the marriageable age. It will also provide a large potential labor force supply¹.



Source 1) Census, CAPMAS, 1996 and 2006

Source 2) Statistical Yearbook, CAPMAS, 2005

Source 3) Census, Ministry of Internal Affairs and Communication of Japan, 2005

Figure 1.1.4 Population Structure by Age Group of Egypt and Japan

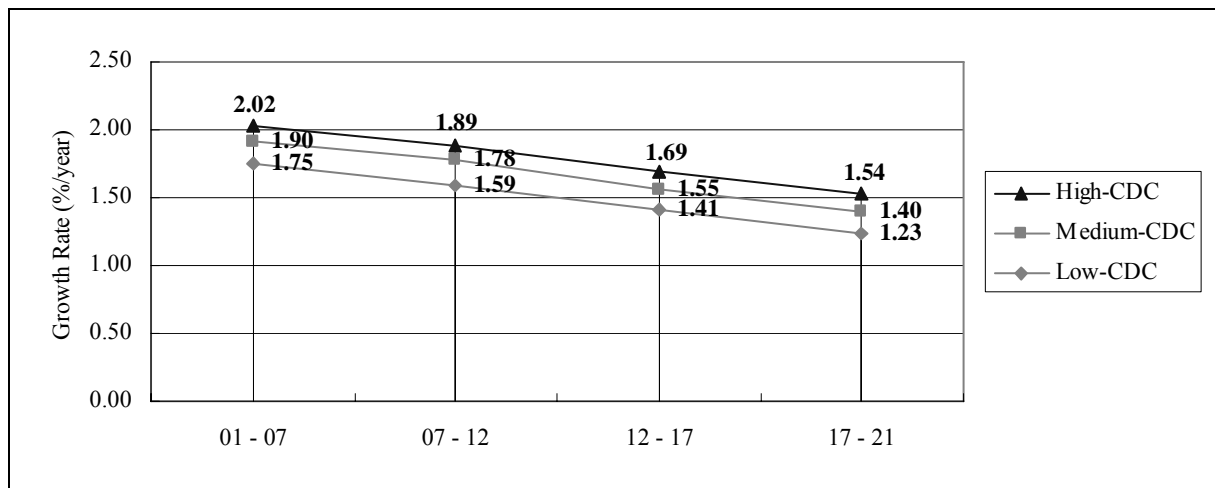
¹ From 1990s the birth rate declined to less than 1% per year in Japan. This considerable low birth rate influenced population structure by age group. In 1985 the age group of 35-39 years had the largest portion and supplied labor force and new births.

(2) Existing population projection of Egypt

One of the policy issues for the Egyptian Government is to reduce the natural growth rate. The Ministry of Planning (MOP) proposed an annual growth rate at 1.75% in the Fifth Five Year Plan and 1.9% in the latest plan (Sixth Five Year Plan). MOP further envisions a slowing down of the growth rate to 1% in their Long Term Vision 2022.

Despite a general trend for decreasing population growth rates in 1996-2006, the latest census in 2006 revealed that the population growth rate at 2.04% per year in 1996-2006 was a little higher than the one proposed in the Fifth Five-Year Plan.

Cairo Demographic Center (CDC) has prepared estimates for the total population in Egypt up to 2021 (Figure 1.1.5) using three scenarios for different growth rates. The actual growth rate between 1996 and 2006 remained at a level that is close to the “high” scenario. Considering that the birth rate and fertility rate has shifted from a steep decline to a gradual descent, the natural growth rate may continue to follow the range of the “high” case proposed by CDC



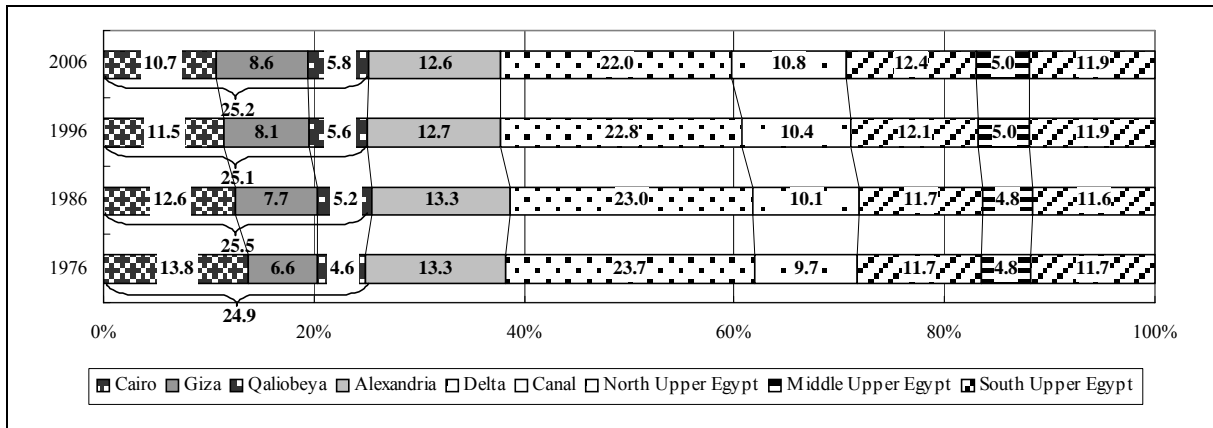
Source: Population Projection of Egypt, Cairo Demographic Center, 2001

Figure 1.1.5 Three Scenarios of Population Growth Rate in Egypt Estimated by CDC until 2021

(3) Population distribution in Egypt

With regard to the geographical distribution of population in the country, this has remained relatively stable over the last 30-years (1976-2006), as show in Figure 1.1.6. The following are the main points:

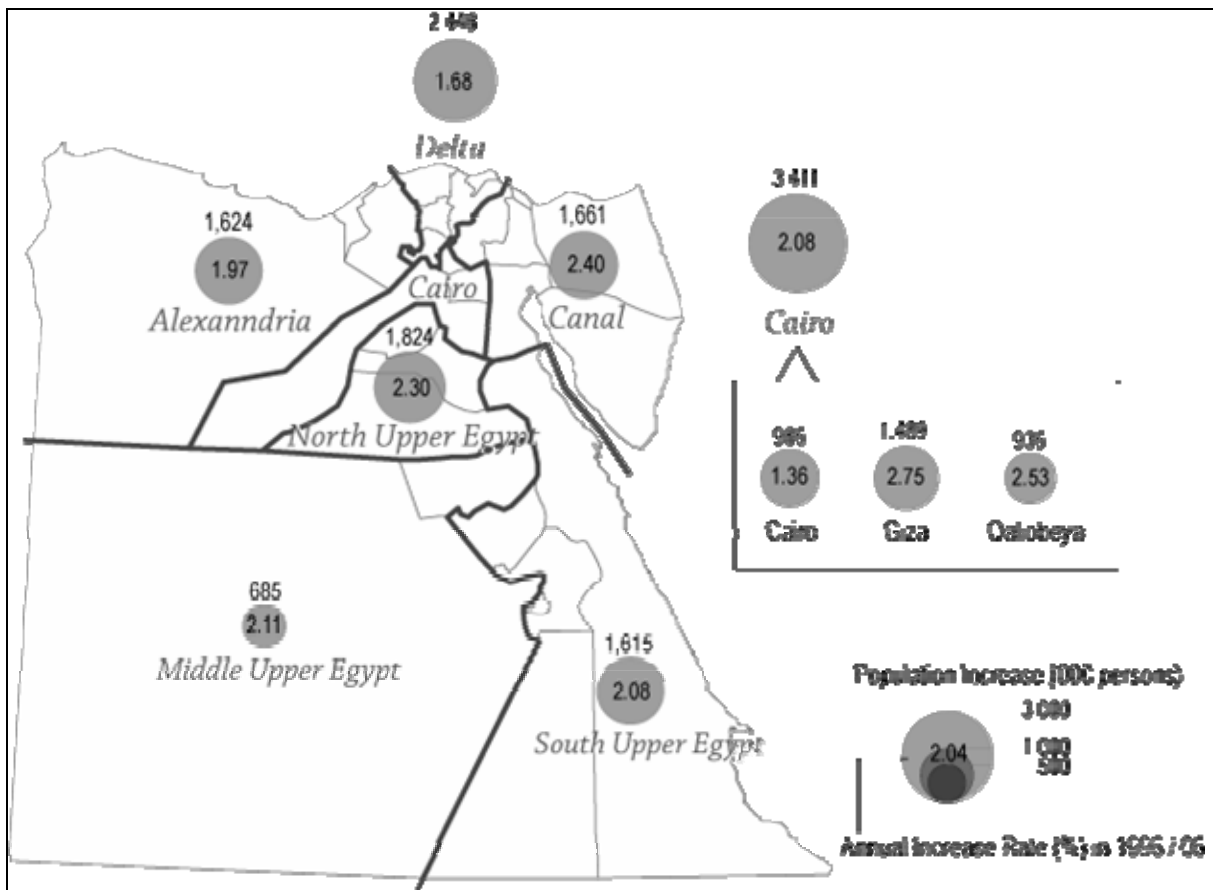
- Four regions namely Canal and three Upper Egypt regions slightly increased their share of the total population, while Lower Egypt and Frontier Governorates decreased their share.
- Alexandria and Delta regions have gradually decreased their share of the total population
- Cairo region has maintained a stable share of the total population at around 25%, even though Cairo governorate decreased its share from 13.8% in 1976 to 10.7% in 2006 and the balance shifted to neighboring governorates within the Cairo region.



Source: Census, CAPMAS, 2006

Figure 1.1.6 Population Distribution by Region in Egypt in 1976-2006

The strong attraction of population to Cairo region was revealed by the incremental population increase between 1996-2006. The incremental population increased by 3.4 million people, the largest among all the regions (Figure 1.1.7).

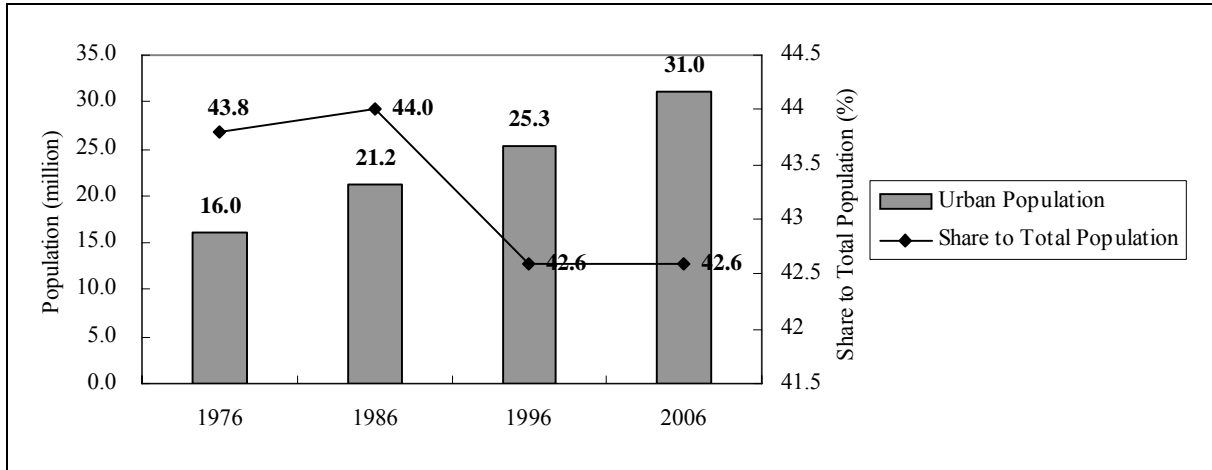


Source: Census, CAPMAS, 2006

Figure 1.1.7 Growth Rate and Incremental Population by Region in 1996-2006

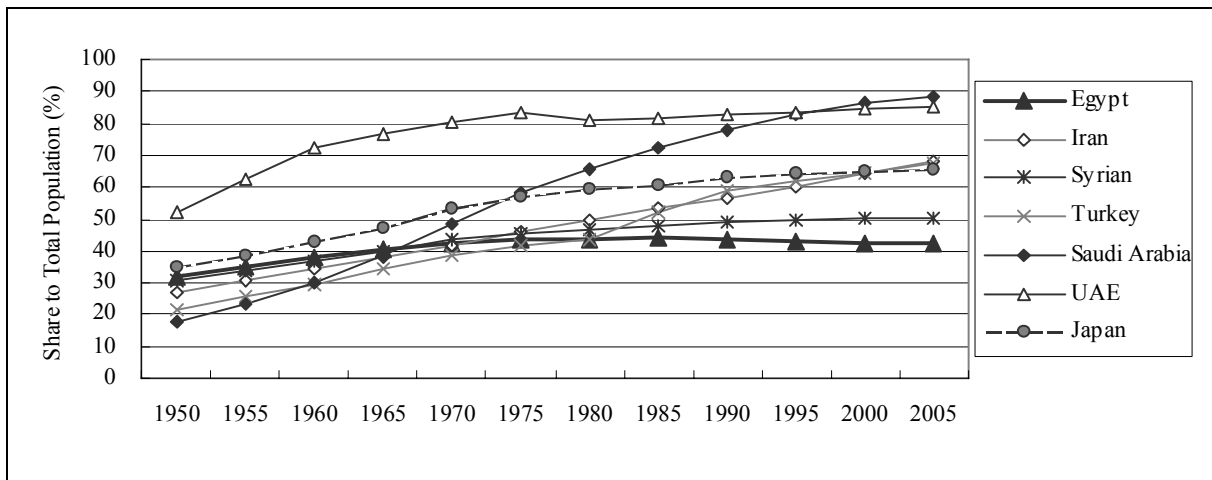
(4) Urban population in Egypt

The urban population in Egypt² increased its share of the total population between 1966-1986, and thereafter its share became stable at about 43% in the period of 1996-2006 (Figure 1.1.8). Considering that Middle East countries generally have urban population rates at above 50%, the urban population in Egypt has remained at a relatively low level³ (Figure 1.1.9).



Source: Census, CAPMAS, 2006

Figure 1.1.8 Urban Population of Egypt in 1976-2006



Source: United Nations, 2007

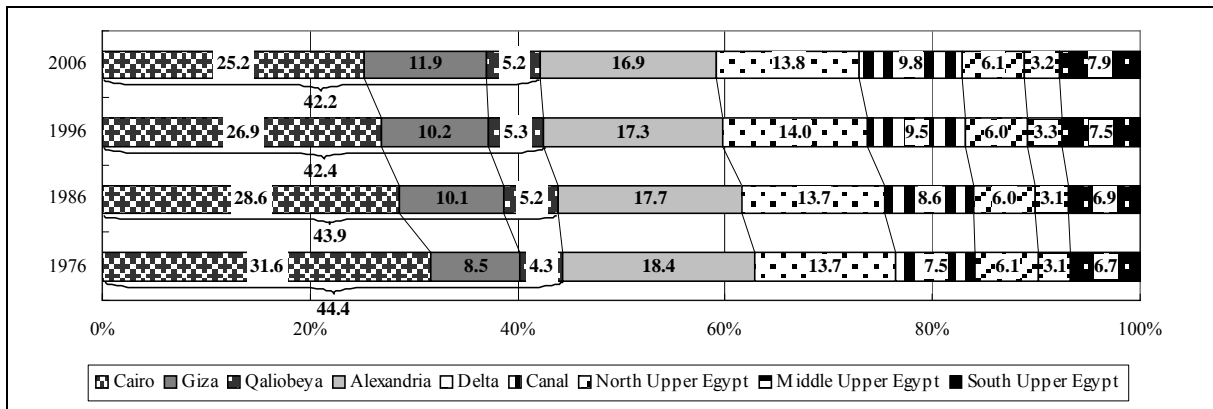
Figure 1.1.9 Urban Population in Egypt, Middle East Countries and Japan in 1950-2005

The Canal and three Upper Egypt regions increased their share of urban population compared to the urban population of Egypt in 1976-2006. Other regions reduced their share, and Cairo

² The CAPMAS Census definition of urban areas is purely administrative. Urban areas are considered to be either: (1) urban governorates – limited to Cairo, Port Said, Suez and, until recently, Alexandria, (2) agglomerations which have been declared “cities” and have a city council; and (3) the capitals of rural districts (Marakaz) and capitals of rural governorates.

³ As the definition of urban areas by CAPMAS does not recognize the size of the agglomeration’s population or population density as an urban area, number of urban population may not actually reflect actual population in urban areas accurately, while it presents the population in the administrative units at a certain level. Therefore, the stable share of urban population reveals that there is no significant population growth in the administrative units at a certain level.

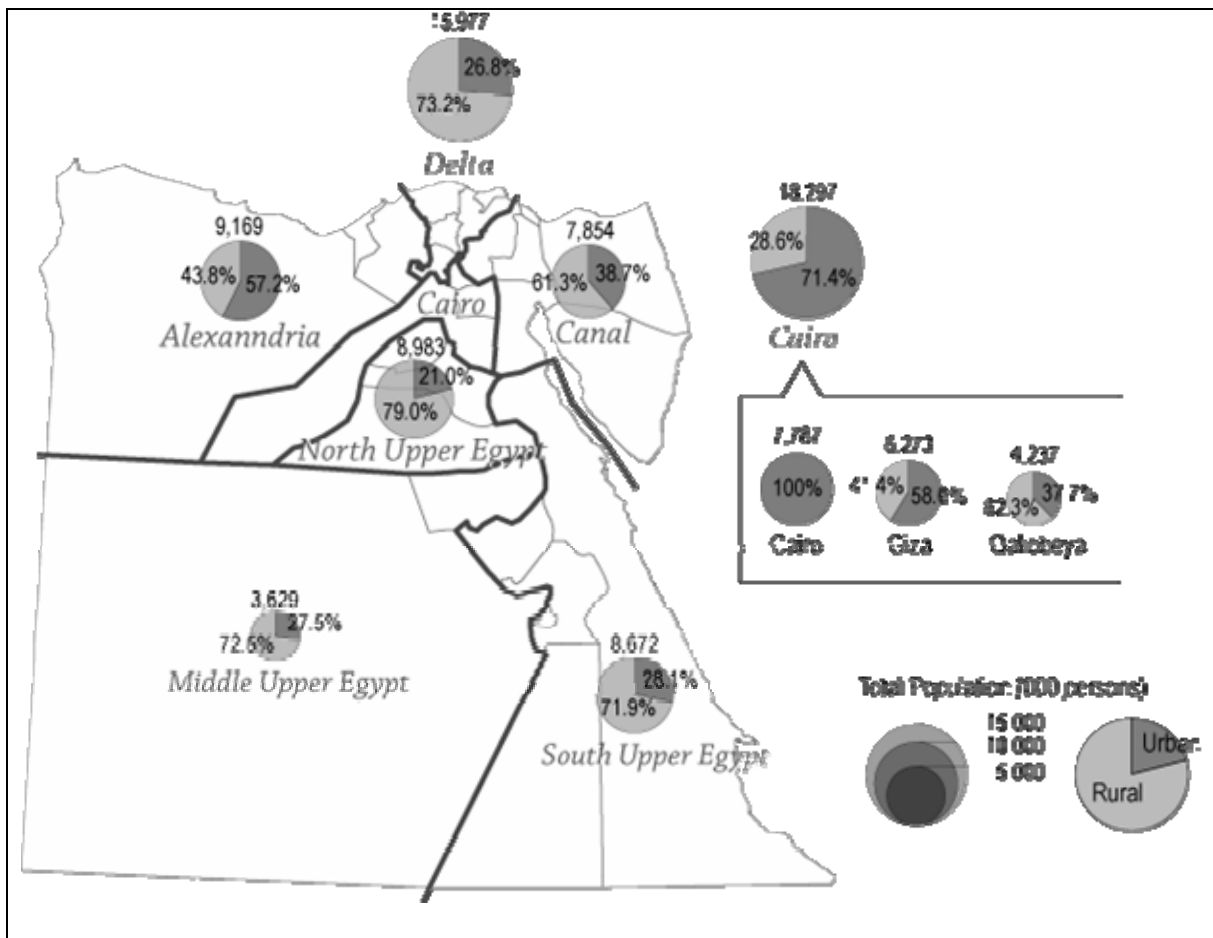
governorate in particular decreased its share from 32% to 25%, while Giza governorate greatly increased its share from 9% to 12% (Figure 1.1.10).



Source: Census, CAPMAS, 2006

Figure 1.1.10 Urban Population by Region to Total Urban Population in 1976-2006

Figure 1.1.11 summarizes the distribution of population and urban population by region. Again, the strong attraction of urban populations to the Cairo region is revealed by the incremental urban population increase.



Source: Census, CAPMAS, 2006

Figure 1.1.11 Population and Urban Population by Region in Egypt in 2006

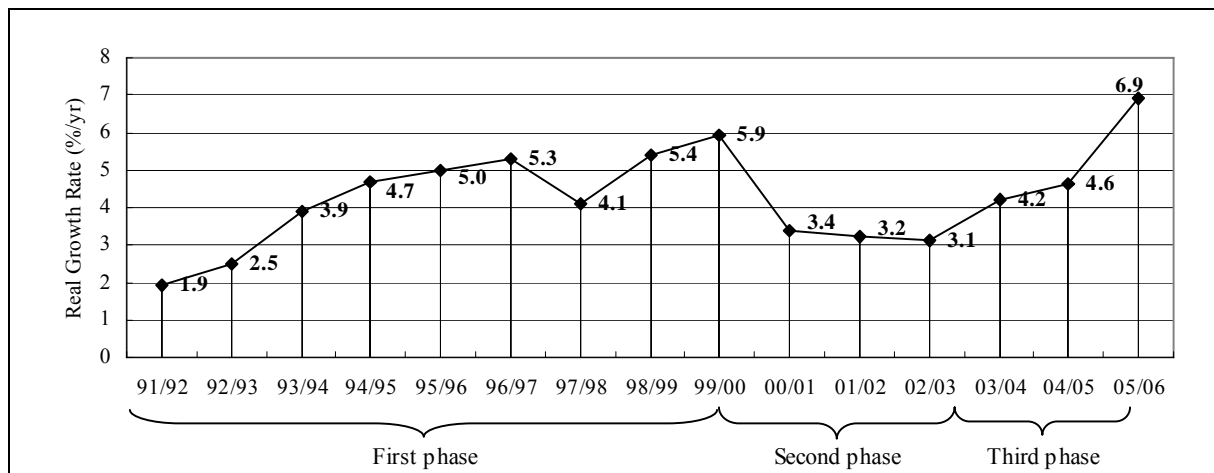
1.1.2 Economic and Industrial Development Index

(1) GDP and its growth rate in the country

The Middle East and North African region (MENA) as a whole, except for Iraq, enjoyed a growth rate of 6% in 2006, which is up from 5.6% in 2005. The Egyptian economy performed well, like many other countries of MENA, and witnessed an increase in the real GDP growth rate. This rose from 4.6% in 2004/2005 to 6.9% in 2005/2006 (Figure 1.1.12).

The Egyptian economy went through changes in the main national economic spheres since the beginning of the Economic Reform and Structural Adjustment Programs (ERSAP) in 1991. These changes can be classified into three phases:

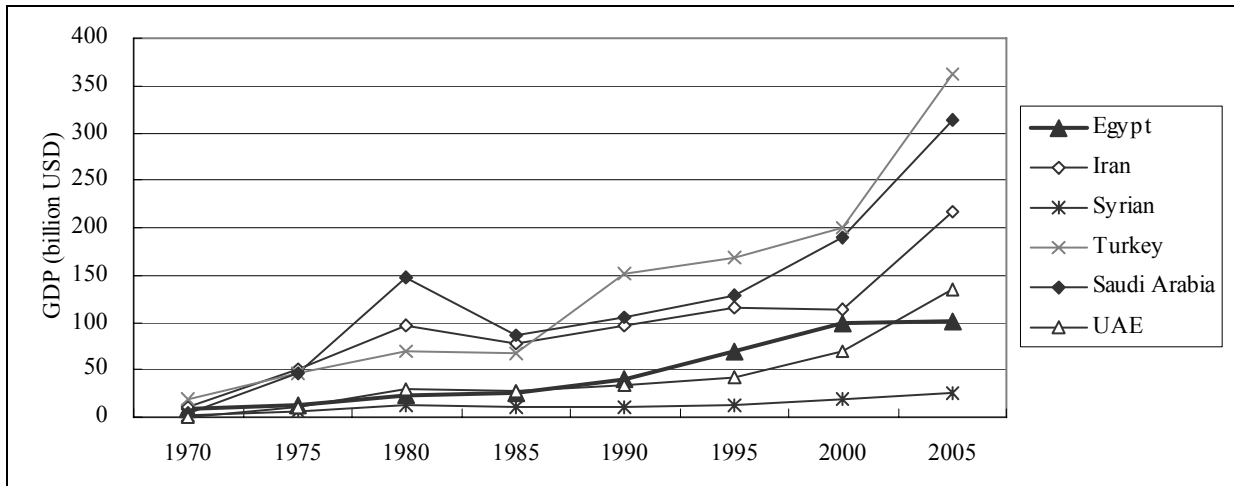
- First phase: Real GDP growth rates steadily increased during the period from 1991/1992 to 1999/2000, except the year of 1997/1998.
- Second phase: Real GDP growth rates slowed down in the period from 1999/2000 to 2002/2003.
- Third phase: Real GDP growth rates increased again due to economic reforms undertaken by the central government after 2002/2003.



Source: Egyptian Central Bank

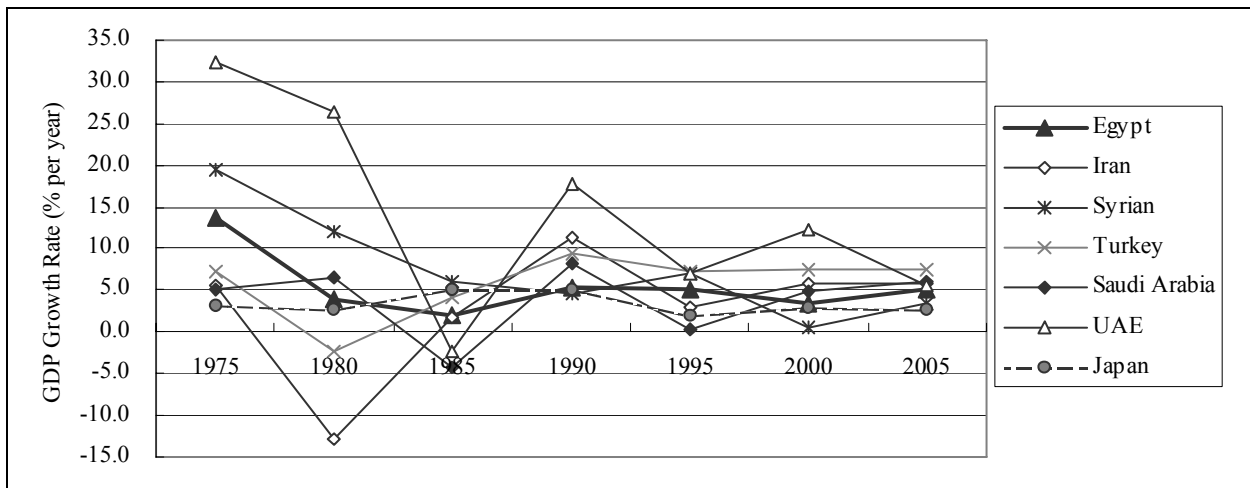
Figure 1.1.12 Real GDP Growth Rates in Egypt in 1991/1992-2005/2006

Statistics published by the United Nations in 2005 revealed that GDP in Egypt amounted to USD101 billion, which compares favorably to other Middle East countries (Figure 1.1.13 and Figure 1.1.14), though the GDP per capita was still estimated at a low level of USD1,370 (Figure 1.1.15 and Figure 1.1.16).



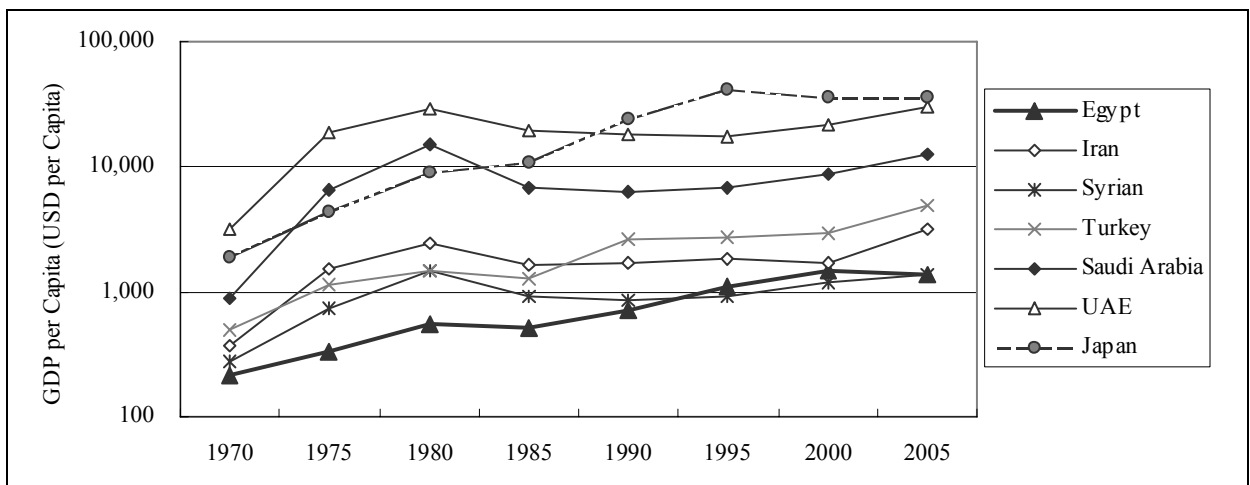
Source: United Nations, 2007

Figure 1.1.13 GDP of Egypt and Middle East Countries in 1970-2005



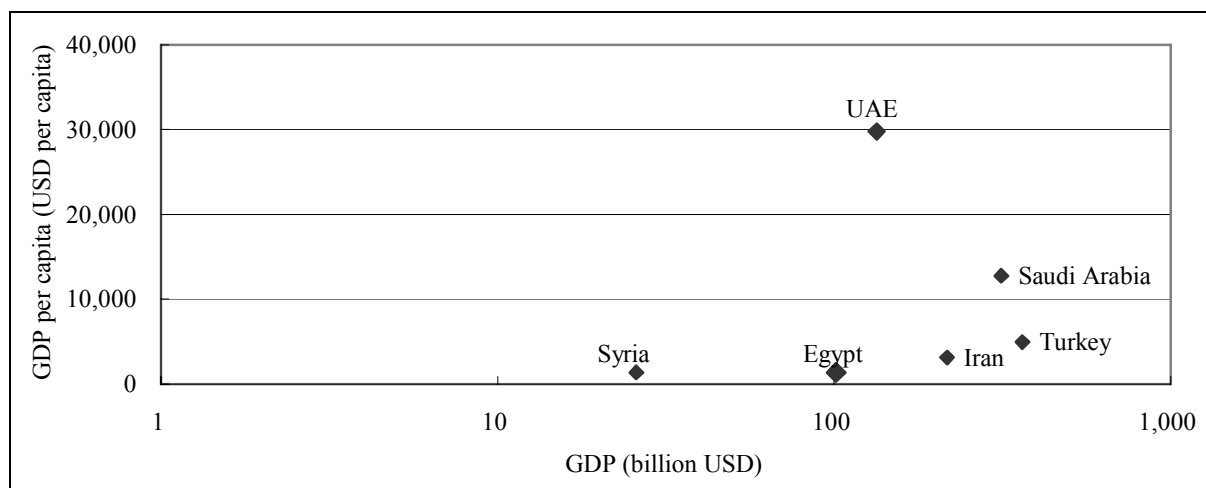
Source: United Nations, 2007

Figure 1.1.14 GDP Growth Rate of Egypt and Middle East Countries in 1975-2005



Source: United Nations, 2007

Figure 1.1.15 GDP per Capita of Egypt and Middle East Countries in 1970-2005



Source: United Nations, 2007

Figure 1.1.16 GDP and GDP per Capita of Egypt, Middle East Countries, and Japan in 2006

(2) GDP structure and leading industries of Egypt

The high GDP growth rate results primarily from secondary industry, as its share of the GDP increased from 31% to 40% in the period from 1981/1982 to 2006/2007. The manufacturing, petroleum, and natural gas sectors were considered as the leading sectors, which were followed by the tertiary industries of tourism and communications (Table 1.1.1).

Table 1.1.1 GDP Structure by Sector in the Country in 1981/1982 and 2006/2007 (%)

Industry	Economic Activity	1981/82	2006/07	Change Rate
Primary	Agriculture & Fishing	18.8	13.4	-5.4
Secondary	Manufacturing Industries	12.7	17.2	4.5
	Petroleum and Natural Gas	12.6	16.5	3.9
	Electricity	0.7	1.8	1.1
	Construction	5.4	4.2	-1.2
	Subtotal	31.4	39.7	8.3
Tertiary	Tourism	1.0	3.5	2.5
	Transportation and Storage	10.1	8.7	-1.4
	Communication		2.2	2.2
	Trade and Finance	18.9	15.2	-3.7
	Social and Personal Services	19.8	17.5	-2.3
	Subtotal	49.8	47.1	-2.7
Total		100.0	100.0	

Source: 6th Five-Year Plan, MOP, 2007

The Egyptian Government appointed two organizations to accelerate economic growth by manufacturing sector: (i) General Authority for Investment and Free Zones (GAFI) and (ii) Industrial Development Authority (IDA). The mandate of each organization is as follows:

- GAFI: A new law (No. 14 of 2004) was enacted to amend the investment law (No. 8 of 1997). The new law fundamentally changed GAFI's mandate and business establishment procedures in Egypt. GAFI, under the Ministry of Investment became the sole agency that all domestic and foreign investors needed to access in order to

establish their companies. GAFI launched a “One Stop Shop”, bringing together 32 governmental bodies, to simplify and expedite services provided to investors.

- IDA: IDA was established under the Ministry of Foreign Trade and Industry in February 2006 to remedy long-standing obstacles to new industrial investment in Egypt. IDA is also responsible for issuing licenses for operating new manufacturing industries, facilitating the acquisition of land and provision of necessary utilities at feasible prices for extensions and Greenfield projects⁴. IDA and some of the governorates are currently studying on-site basis to develop industrial zones belonging to governorates.

The Ministry of Foreign Trade and Industry publicized a policy paper entitled “The Industrial Development Strategy” (hereinafter “the Strategy”). The Strategy emphasizes three key issues for developing the Egyptian industrial base. These are: (i) industrial development through export promotion and FDI attraction; (ii) industrial productivity improvement through a set of policies and programs; and (iii) industrial structural reform from resource-based and low-tech industries to medium- and high-tech industries.

The top three exports of Egypt in 2005 (excluding petroleum) are metal products (USD5,951 million), ordinary metals and manufacturers (USD855 million), and vegetables products (USD736 million). These three sectors are being promoted for expansion of exports by improving knowledge-based technology, and improving the productivity and competitiveness with other countries. GAFI pointed out that agro-production, particularly the fresh vegetables, and textiles sectors, should be promoted to enhance exports and attract FDI. In addition, IDA identified existing sectors and promising sectors for developing export:

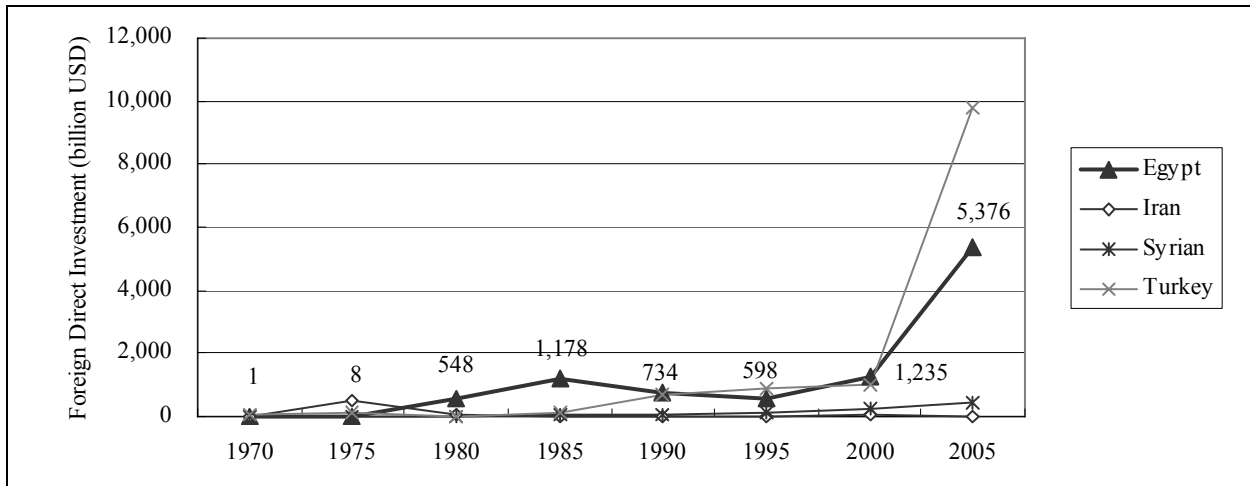
- Existing sectors: engineering, food processing, chemicals and pharmaceuticals, textiles and garments, building materials, furniture, paper and paperboard, leather.
- Promising sectors: engineering, machinery and equipment, renewable energy, labor-intensive consumer electronics, automotive components, life sciences, biotechnology, and ethnic products.

(3) Foreign Direct Investment (FDI)

Egypt has experienced stable growth in FDI since 1995 (Figure 1.1.17). The FDI in Egypt amounted to USD5,375 million in 2005, which was a relatively large amount compared with neighboring countries, and is stably growing after 2000.

⁴ Below are the guarantees and exemptions of Law No. 8 Year 1997 for Greenfield projects;

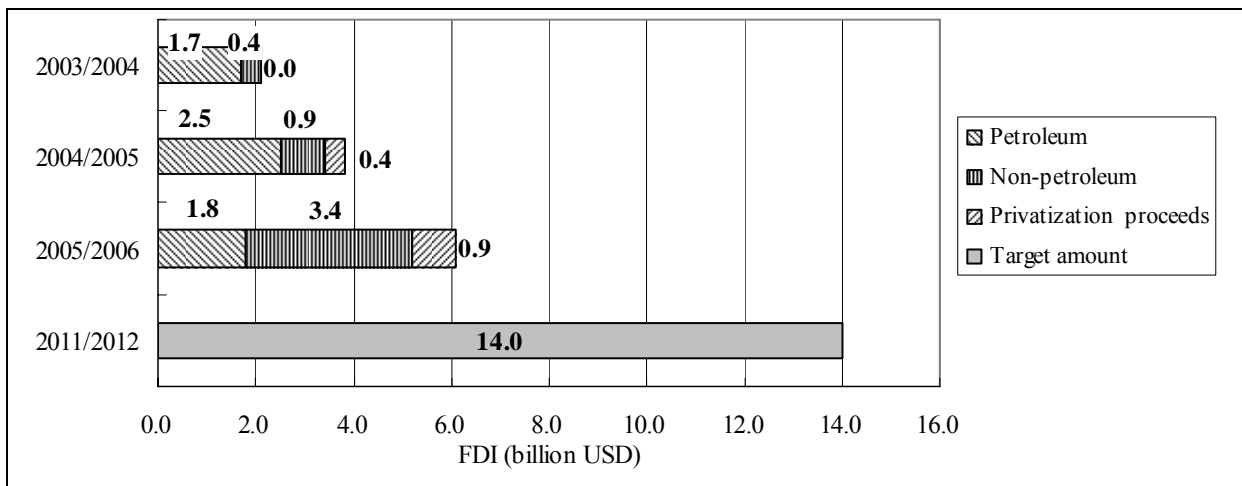
- A project could be wholly owned by foreigners,
- Guarantees against nationalization and expropriation of the project,
- Output of the project is not subject to price control,
- Projects are allowed to repatriate their capital and profits,
- Foreign experts salaries are exempt from income tax if their stay in Egypt is for less than one year,
- Imported capital assets and construction materials required to establish an approved project are subject to a unified import duty rate of 5% and others.



Source: World Bank, 2007

Figure 1.1.17 Foreign Direct Investment of Egypt and Middle East Countries in 1970-2005

FDI in Egypt has doubled between 2004/2005-2005/2006 and its structure has shifted from the petroleum to non-petroleum sector (Figure 1.1.18). The Sixth Five Year Plan of the Ministry of Planning proposes increasing FDI to USD14 billion by 2011/2012.



Source: 6th Five Year Plan, MOP, 2007

Figure 1.1.18 Actual and Expected Amount of Foreign Direct Investment in Egypt

(4) Industrial development in Egypt

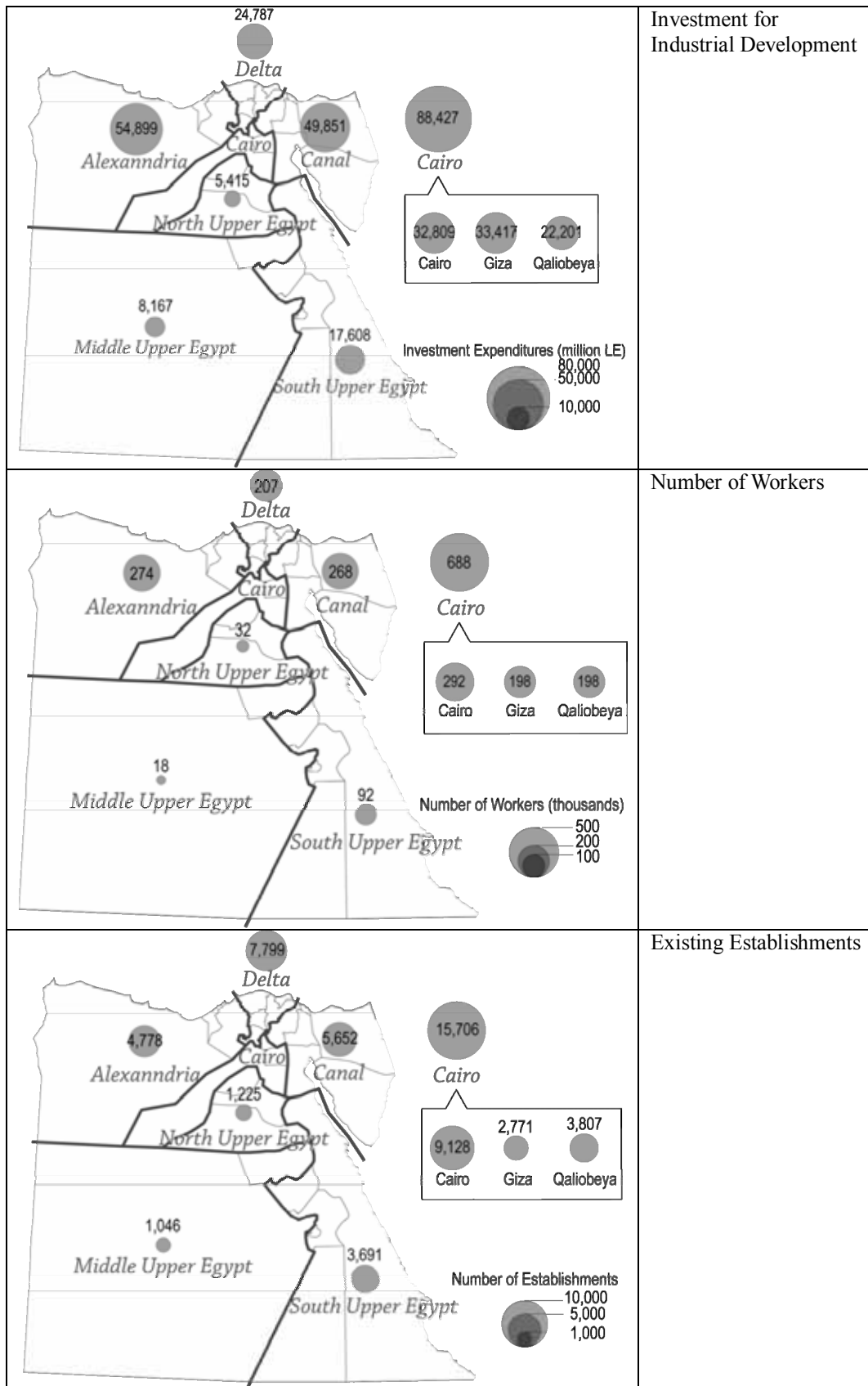
There are 68 industrial zones in governorates, 19 industrial zones in new urban communities, ten public free zones, and two special economic zones in Egypt, as shown in Figure 1.1.19. The designated industrial areas are dispersed throughout the country, and a number of them are located in the Cairo, Alexandria, and Canal regions, particularly along Alexandria Desert and Ismailia roads.

Following the geographical distribution of the industrial areas, the three regions of Cairo, Alexandria, and Canal have the largest share (78) of the total investment for industrial development (Figure 1.1.20). There is a strong correlation of this distribution with the number of establishments and workers, as depicted in Figure 1.1.20.



Source: Distribution map of industrial zones, Ministry of Foreign Trade and Industry, 2007

Figure 1.1.19 Industrial Zones in Egypt

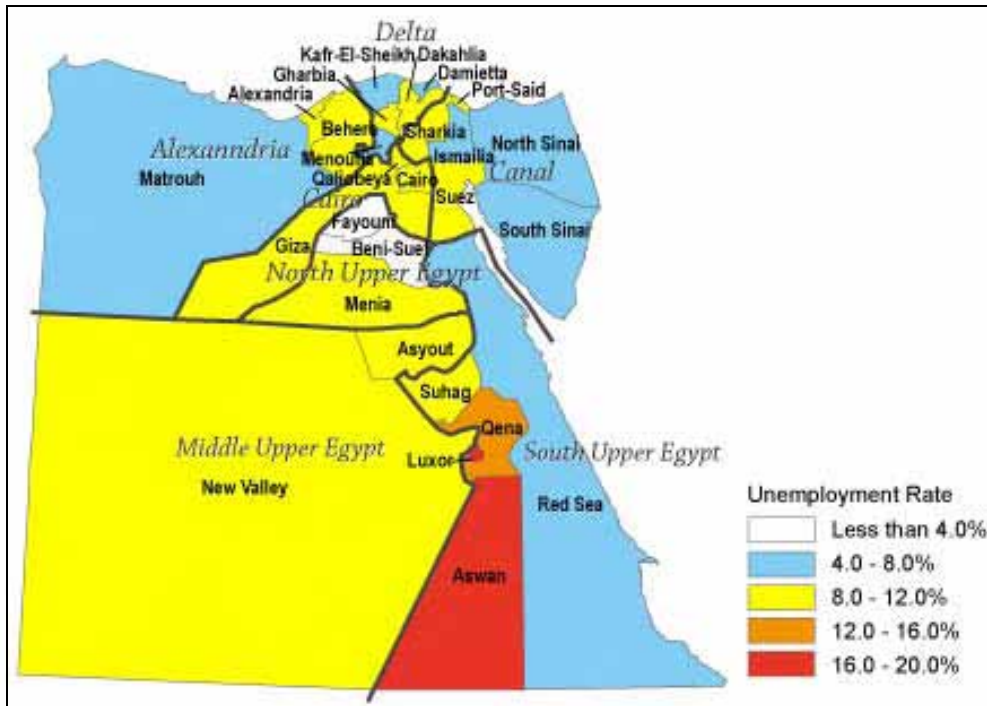


Source: Statistics of industrial activities, Ministry of Foreign Trade and Industry, 2007

Figure 1.1.20 Investment and Number of Workers and Existing Establishments by Region in Egypt

(5) Unemployment rate

The latest census of 2006 indicates that the overall unemployment rate of Egypt is about 9.3% (Figure 1.1.21). The latest census represented that Qena and Aswan governorates in the South Upper Egypt experienced the high unemployment rate in the range of 12-20%. The unemployment in the Cairo region is estimated in the range of 8-12% in 2006.

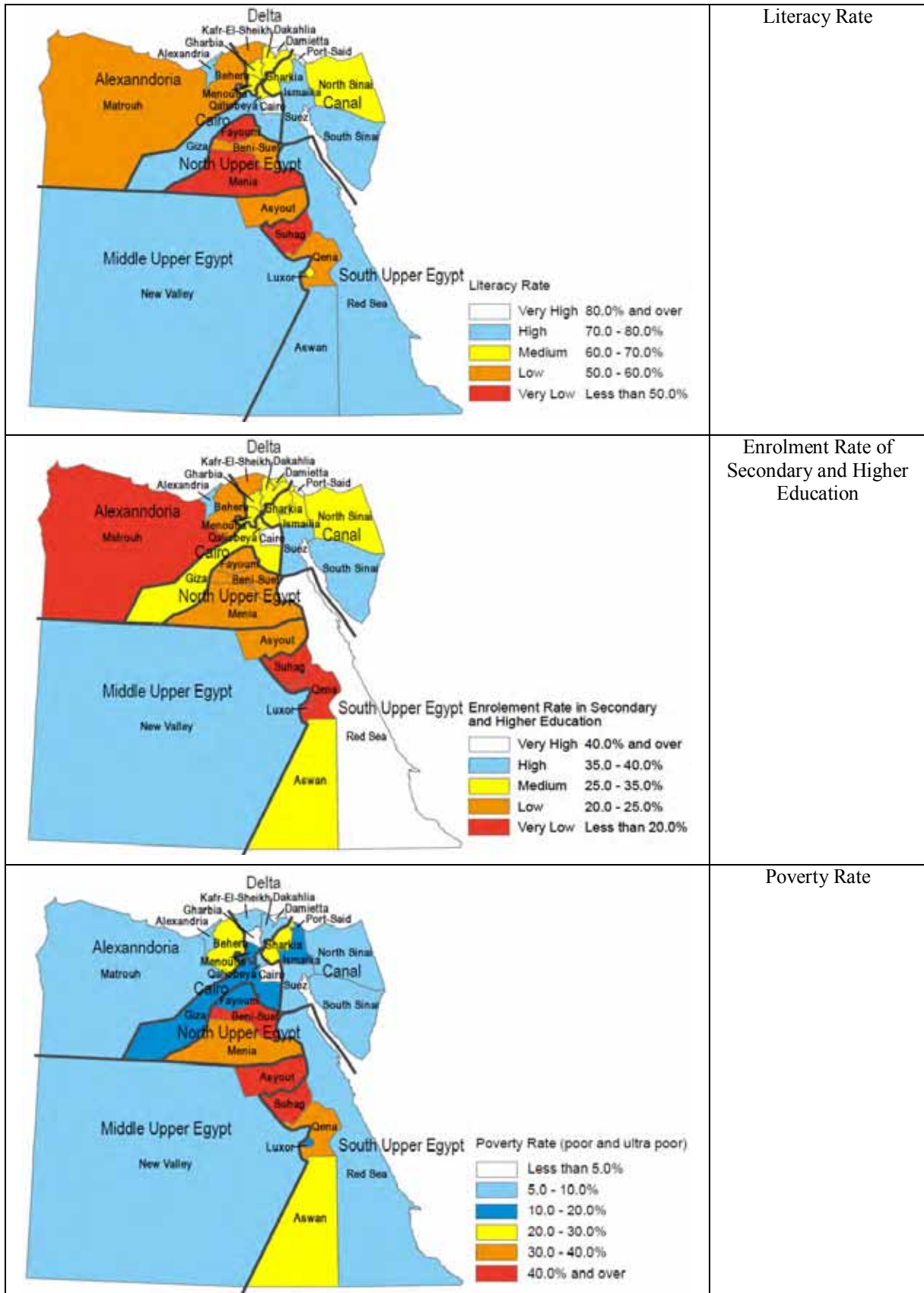


Source: Census, CAPMAS, 2006

Figure 1.1.21 Unemployment Rate by Governorate in 2006

1.1.3 Social Development Index

With regard to social development, the 2005 UNDP report focused on three indicators: (i) the literacy rate; (ii) the enrolment rate of secondary and higher education; and (iii) the poverty rate. A very low literacy rate of below 50% was observed in all governorates in the North Upper Egypt region and some of governorates in Alexandria, Delta, and South Upper Egypt regions (Figure 1.1.22). In comparison, a very high literacy rate was found in Cairo, Port Said, and Damietta governorates. Similar characteristics were observed in the enrolment rate of secondary and higher education and the poverty rate (Figure 1.1.22). Low enrolment rates and high poverty rates were observed in governorates that have very low literacy rates.



Source: Egypt Human Development Report 2005, UNDP

Figure 1.1.22 Literacy Rate, Enrolment Rate, and Poverty Rate by Governorate in 2004

1.1.4 Sixth Five-Year Plan (2007/2008-2011/2012)

(1) Long-Term Vision (2022)

In order to revitalize the Egyptian economy, the Ministry of Planning has launched a long-term socio-economic development strategy called “Long-Term Vision 2022”. This strategy proposes seven major economic development pillars to be achieved by 2022 (Table 1.1.2). The Vision proposed an ambitious GDP growth rate of 6 - 8% and a sustainable spatial development policy, which aimed at decreasing the annual population growth rate to 1% and expanding the inhabited areas from 5% to 10-12% of total land area. The main socio-economic development goals of the Vision are shown in Table 1.1.3.

Table 1.1.2 Seven Socio-Economic Development Pillars in the Long-Term Vision 2022

1) Conservation of natural resources and direction of urban growth towards desert land
2) Steady reduction of current population growth rate
3) Achievement of high and sustainable GDP growth
4) Gradual removal of balance of payments deficit
5) Alleviation of high and sustainable GDP growth
6) Development of human capital and attainment of full employment
7) Improvement of social services

Source: Fifth Five-Year Plan for Socio-Economic Development (2002-2007), MOP, 2002

Table 1.1.3 Goals proposed in the Long-Term Vision 2022

Indicator		Alternatives		
		Conservative	Optimistic	
(1) Economic Development	Average Annual GDP Growth Rate	6%	8%	
	Inhabited Area as % of Total Area	10%	12%	
	Population Growth Rate	1%	1%	
	Population Size in Year 2022	90.8	86	
	Average Annual Export Growth Rate	9%	12%	
	Average Annual Import Growth Rate	5%	7%	
	Balance of Trade	3.7billion	\$5billion	
	Current Account Balance	\$6.1billion	\$16.8billion	
	Inflation Rate	3%	5%	
	Unemployment Rate	5%	3%	
	Poverty Ratio (to Total Population)	10%	6%	
(2) Social Development	Illiteracy Rate	7%	3%	
	Education Enrolment Ratio	i) Basic Education	100%	100%
		ii) Pre-University	95%	100%
		iii) University and High Education	35%	40%

Source: Fifth Five-Year Plan for Socio-Economic Development (2002-2007), MOP, 2002

(2) Strategies and Goals of the Sixth Five-Year Plan

The Sixth Five Year Plan for Socio-Economic Development (hereinafter referred to as ‘the Sixth Plan’) proposed five main axes for the future development visions and the development strategies, as listed in Table 1.1.4.

Table 1.1.4 Proposed Main Axes and Development Strategy in the Sixth Five-Year Plan

Category	Statement
Main Axes of Future Develop. Visions	1) Developing the Egyptian individual 2) Developing administration, the institutional structure and the reform mechanisms 3) Developing the production base, natural and economic resources 4) Building and developing the national base of science and technology 5) Creative interaction with the regional environment and the world order
Develop. Strategy	1) Giving a push to the leading sectors enjoying rapid growth rates (e.g., manufacturing industries, construction & building, tourism, communication and information technology). 2) Fostering exports of goods and services, while satisfying local market needs to prevent inflationary pressure and ensuring the conservation of natural resources to guarantee sustainability of development. 3) Developing small and micro enterprises to expand the job-creation capacity. 4) Achieving balanced development between the three broad economic sectors, namely, production of goods & services sectors; infrastructure and services related to production sectors; and human development and social services sectors. 5) Opening all economic activities to private sector participation, while reinforcing the monitoring and follow-up functions of the State. 6) Supporting local community and civil society organizations participation in developments efforts. 7) Improving living standard conditions of low-income groups, by: <ul style="list-style-type: none"> - Influencing primary income and wealth distribution, through employment policies, ownership policies of agricultural lands, small enterprises and housing units. - Influencing income redistribution, through monetary and in-kind subsidies, and social solidarity policies. 8) Intensifying investment in Upper Egypt and desert governorates to achieve balanced spatial development. 9) Socio-economic rural development to reduce existing gaps between rural and urban communities, in addition, to opening the spectrum of employment, especially for rural woman to enforce her economic participation in the community.

Source: Sixth Five-Year Plan for Socio-Economic Development (2007/8-2011/12), MOP, 2007

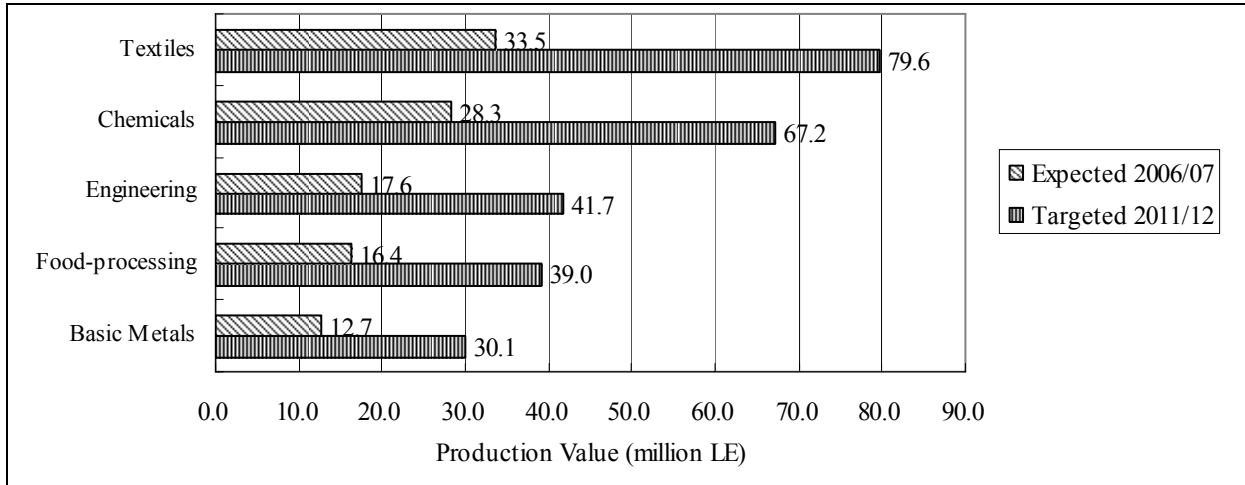
The proposed quantitative goals of the Sixth Plan are summarized in Table 1.1.5. The Sixth Plan enhances achievement of a high economic growth rate of 8% per year by encouraging the leading sectors such as manufacturing, construction, tourism, and communications and information technology. It also emphasized, but was not limited to, the importance of improving living conditions for low-income groups and intensifying investment in Upper Egypt.

Table 1.1.5 Proposed Goals of the Sixth Five-Year Plan

Sector	Indicator	Unit	Target
Economic Development	Average GDP growth rate	%/year	8
	Average growth rate of GDP per capita	%/year	6
	New job opportunity	million	3.8
	Unemployment rate	%	5.5
	Growth rate of goods and services' export	%/year	12
	FDI inflows	\$billion/year	14
	New reclaimed land	feddans	900,000
	Growth rate of industrial production	%/year	9
	Growth rate of communication and IT sectors	%/year	11
	Expansion of electric power generation	%/year	7
Social and Human Development	Population	million	81.6
	Population growth rate	%/year	1.90
	Population under poverty line	%	15
	Illiteracy rate	%	20.0
	New housing units for low income group	1,000 units	415

Source: Sixth Five-Year Plan for Socio-Economic Development (2007/8-2011/12), MOP, 2007

To empower the national economy, the Sixth Plan recognized the leading industries as manufacturing, tourism, and communication and information technology. It formulated target production values for the main groups of the manufacturing sector as shown in Figure 1.1.23. Each main group was expected to increase the production value by 2.4 times over the Plan period.

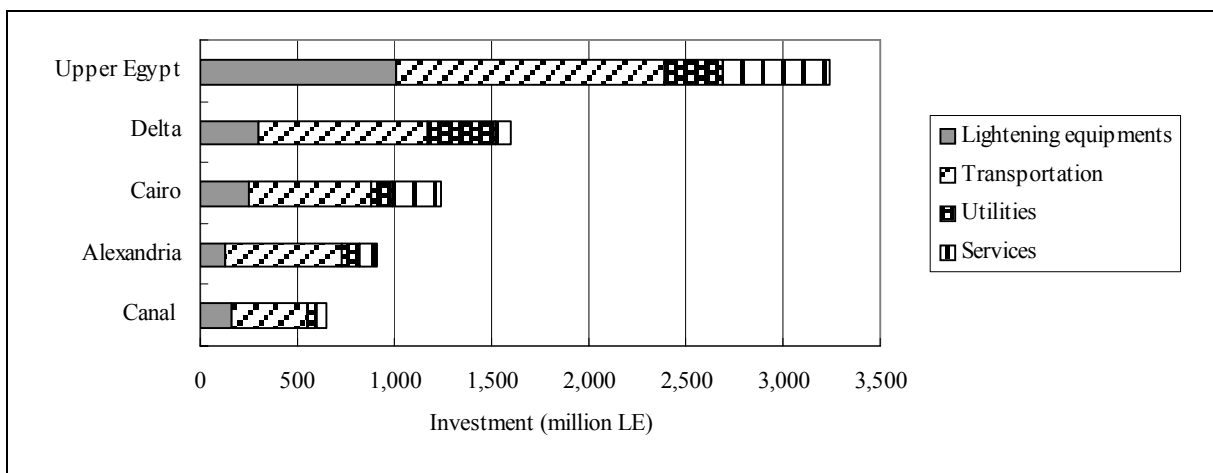


Source: 6th Five Year Plan for Socio-Economic Development (2007/8-20011/12), MOP, 2007

Figure 1.1.23 Proposed Industrial Production Value in the Sixth Five Year Plan

Among the leading sectors, the Sixth Plan proposed seven promising activities and five new industries in the secondary industry. The promising activities consisted of: (i) engineering; (ii) electrical; (iii) food-processing; (iv) chemicals; (v) pharmaceuticals; (vi) textiles; (vii) wood; and (viii) building materials. The new industries include: (i) motor-feeding; (ii) electronics; (iii) medical equipment; (iv) generic engineering; and (v) bio-technology.

To encourage local development, the Sixth Plan set up investment plans for governorates and regions (Figure 1.1.24). Upper Egypt had the largest investment plan amount of more than LE3 billion, which was more than 2.5 times of that for Cairo.



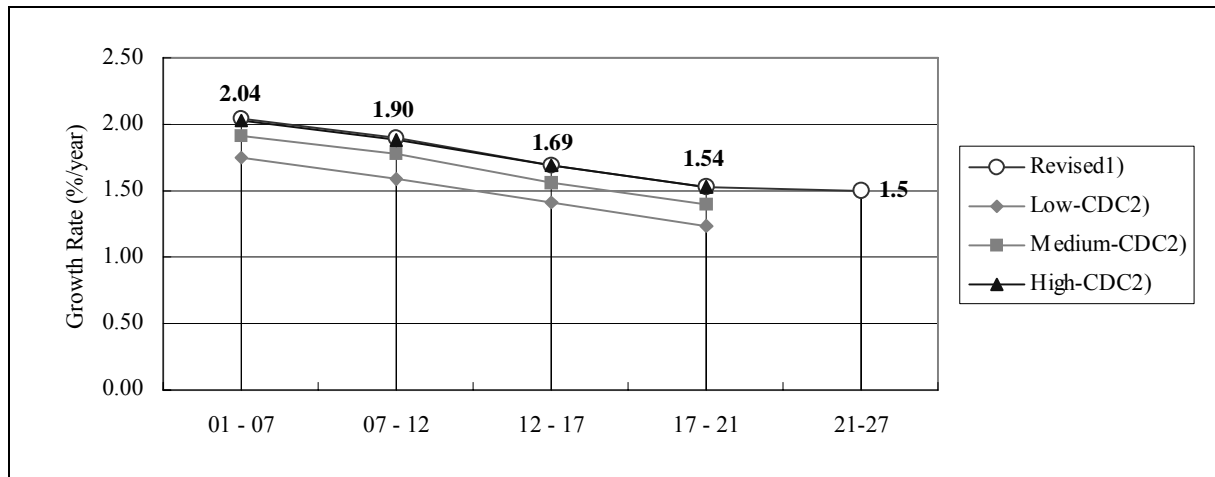
Source: 6th Five-Year Plan for Socio-Economic Development (2007/8-20011/12), MOP, 2007

Figure 1.1.24 Proposed Investment Plan for Local Administration by Region in the Sixth Five Year Plan

1.1.5 Conclusions related to Socio-Economic Factors in Egypt

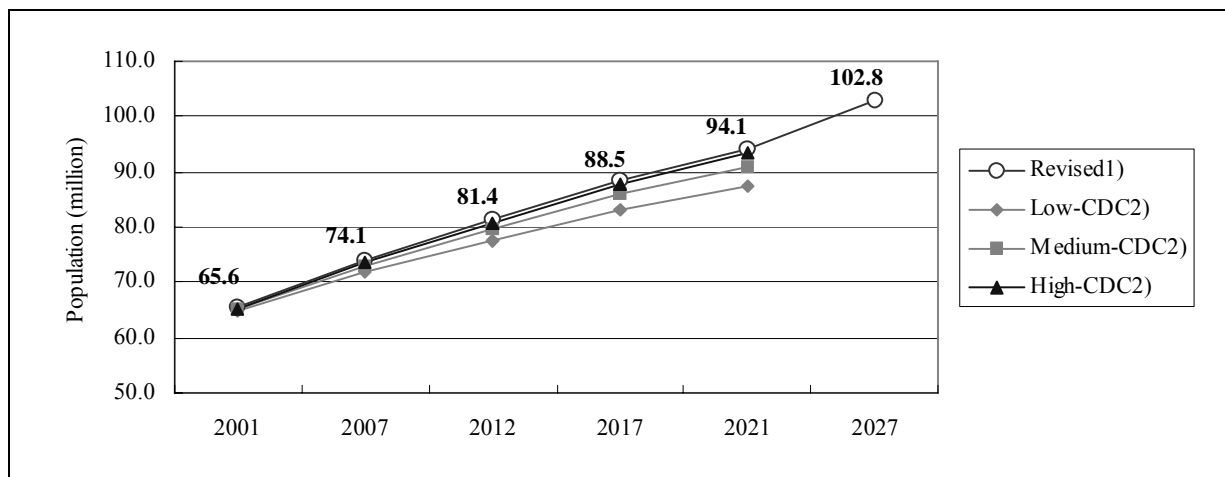
(1) Total population and its distribution in Egypt

The total population of Egypt is predicted to maintain a growth rate close to the “high” scenario proposed in CDC’s population projections. It is estimated that the population growth rate will be 1.5% per year in 2027, which is slightly lower than the rate of 1.54 predicted for the preceding 5 years (2016-2021), as shown in Figure 1.1.25. The total population in 2027 will be about 103 million, as shown in Figure 1.1.26.



Source 1) JICA Study Team
Source 2) Cairo Demographic Center, 2001

Figure 1.1.25 Revised Growth Rate of Total Population up to 2027



Source 1) JICA Study Team
Source 2) Cairo Demographic Center, 2001

Figure 1.1.26 Revised Population Projection up to 2027

Even though the proportion of the Egyptian population that lives in Cairo governorate decreased between 1976-2006, the total population of the Cairo region, including Giza and Qaliobeya, is expected to remain at around 25% of the national total. In the last two decades, the direction of the change in the proportion of the population living in Cairo region has

moved from a gradually declining trend to an increasing trend. The population concentration in Cairo is considered to have shifted internally to its neighboring governorates, and the population share of the Cairo region will probably continue at the same level of 25% up to 2027.

(2) Economy

In 2005/2006, the national economy experienced a high GDP growth rate of about 7%, which is expected to accelerate to 8% in the Sixth Plan period. Despite the size of the GDP being comparable to those in other Middle East countries, GDP per capita still needs to be raised.

The Sixth Plan identified leading industries for empowering the national economy as being: manufacturing, tourism, and communications and information technology. Over the planning period, the Sixth Plan proposes increasing target production values by 2.4 times for the main groups of the manufacturing sector.

FDI inflows have doubled in 2004/2004-2005/2006, with the FDI structure shifting from the petroleum sector to the non-petroleum sector. The Sixth Plan proposes increasing FDI to USD14 billion by 2011/2012.

(3) Social Development

The Sixth Plan proposes intensive investment for three Upper Egypt regions. The efforts from the previous plan (Fifth Five Year Plan) will encourage socio-economic development of the region. However, it will take time to achieve a greater extent in the long term. The economic and demographic concentration of Egypt will remain in Cairo region and its neighboring regions over the short and middle term, and investment in this region should not be underestimated.

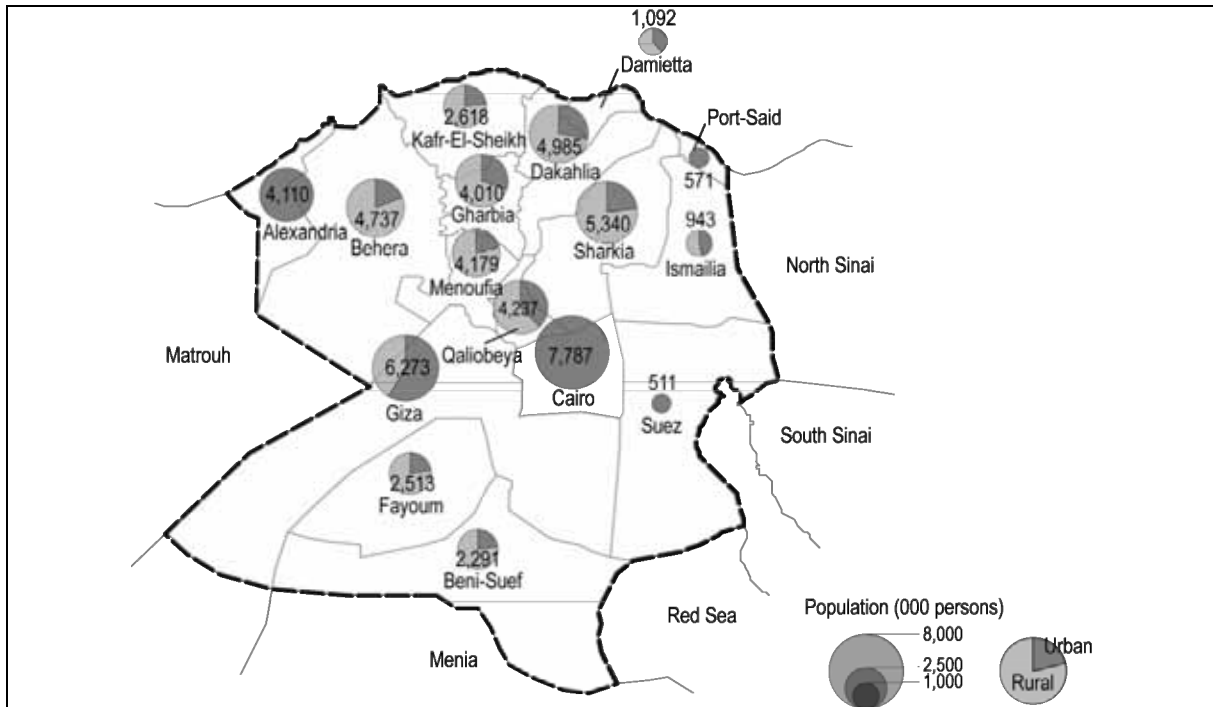
1.2 Regional Context and Role of Cairo

1.2.1 Socio-Economic Profile of the Region

Cairo region has a dominating presence on the population and economic activities in Egypt and its neighboring regions. To identify tasks and constraints for the study area, the regional context and its role was reviewed. The region that was examined covered the Cairo and Delta regions and part of Alexandria, Canal, and North Upper Egypt regions. In this study, the region is referred to as the North Egypt Sector.

(1) Population by governorate

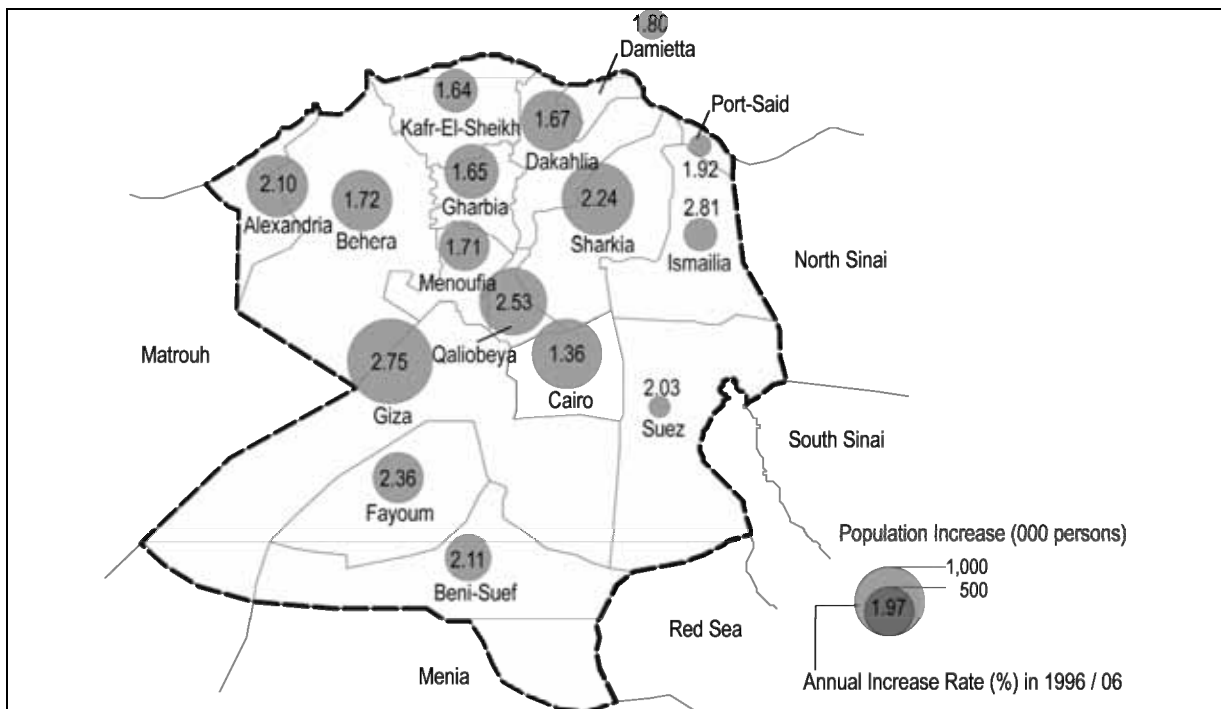
The North Egypt Sector had a total population of 55 million or 76% of Egypt's total population in 2006. Figure 1.2.1 shows the population distribution by governorate in the region. The three governorates of the Cairo region had a large share of 33% to the total population in the region. This share slightly increased in 1996-2006. Cairo governorate had the largest population of 7.8 million and this was followed by the neighboring governorates of Giza and Qaliobeya, having a population of 6.3 million and 4.2 million, respectively, in 2006.



Source: Census, CAPMAS, 2006

Figure 1.2.1 Population Distribution by Governorate in the North Egypt Sector

Population growth in Cairo governorate was transferred to the neighboring governorates between 1996-2006, as show in Figure 1.2.2. A relatively large incremental population and high population growth rates were observed in neighboring governorates such as Giza, Qaliobeya, and Sharqia.



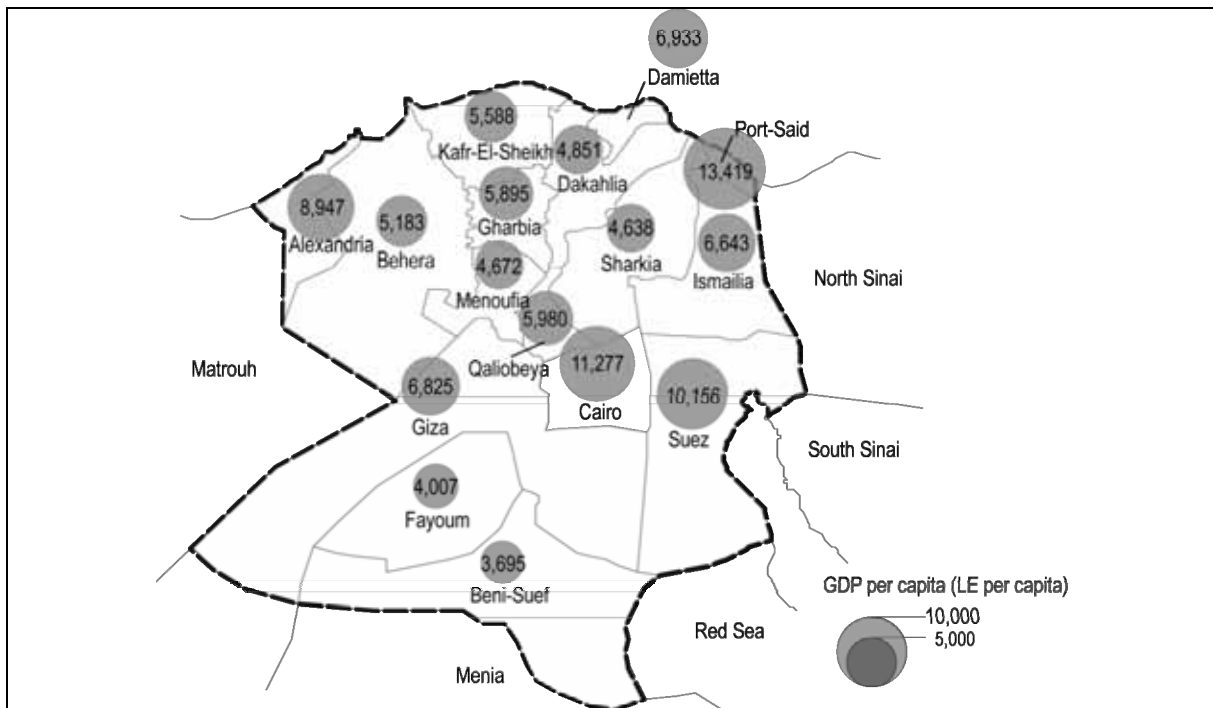
Source: Census, CAPMAS, 2006

Figure 1.2.2 Growth Rate and Incremental Population in the North Egypt Sector in 1996-2006

(2) GRDP per capita by governorate

Figure 1.2.3 shows Gross Regional Domestic Product (GRDP) per capita by governorate, as estimated by UNDP for 2004. There were governorates with higher GRDP per capita than that of three governorates in the Cairo region. Notably, Port Said had the highest GRDP per capita at LE13,419 in 2003/2004, and this was followed by Cairo at LE11,277 per capita. Giza and Qaliobeya were ranked as sixth and eighth, respectively. The three governorates of Suez, Alexandria, and Damietta all had a higher GRDP per capita than Giza and Qaliobeya governorates, while Ismailia had a GRDP between that of Giza and Qaliobeya.

Analysis of the UNDP GRDP data reveals that GRDP for the three governorates of the Cairo region were between the 1st and 4th ranking in the North Egypt Sector. For instance, Cairo had the highest GRDP of LE88 billion, followed by Giza with LE43 billion. While Qaliobeya was ranked in 4th position, with LE25 billion. The total GRDP in the Cairo region amounted to 156 billion LE and Cairo region shared the largest part 42% of the total GRDP in the North Egypt Sector.

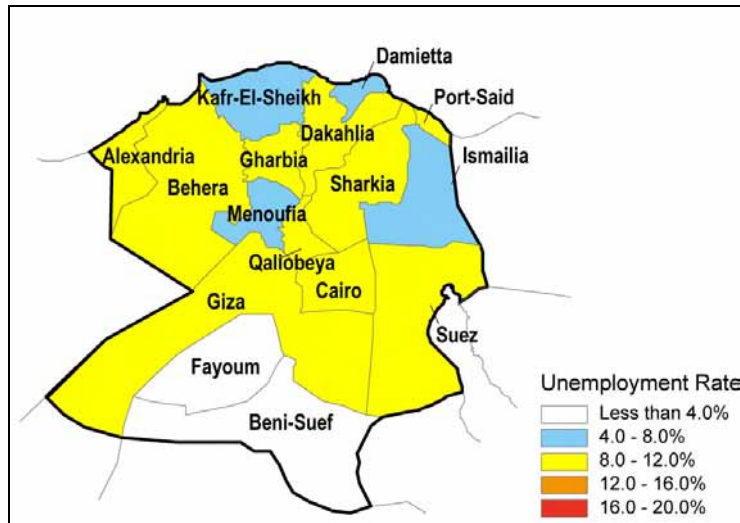


Source: Egypt Human Development Report 2005, UNDP

Figure 1.2.3 GRDP per Capita by Governorate in the North Egypt Sector in 2004

(3) Unemployment rate by governorate

Figure 1.2.4 shows that four governorates, namely Damietta, Ismailia, Kafr-El-Sheikh and Menoufia, in the North Egypt Sector experienced the relatively low unemployment rate of less than 8% in 2006. Higher unemployment rates of 8-12% were observed in the other governorates.



Source: Census, CAPMAS, 2006

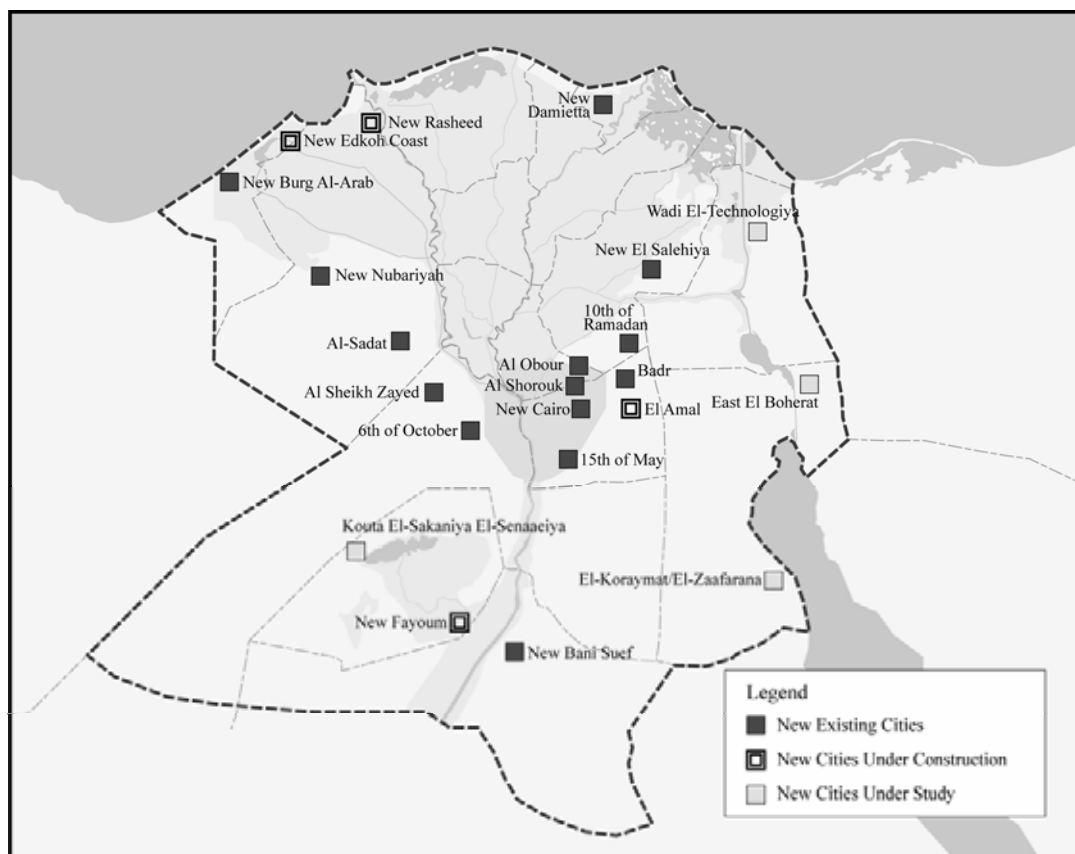
Figure 1.2.4 Unemployment Rate by Governorate in the North Egypt Sector in 2006

1.2.2 Urban, Industrial, and Transportation Development in the Region

(1) Development of new urban communities

New Urban Community Authority (NUCA) designated 22 new urban communities (NUCs) in the North Egypt Sector, as shown in Figure 1.2.5. Of the designated NUCs, 14 NUCs have been developed, and NUCA has commenced construction of a further 4 NUCs. The remaining NUCs at four locations are still in the planning stage for the further implementation. Most of the designated NUCs were located along the Alexandria Desert and Ismailia roads.

The designated 22 NUCs are expected to accommodate 14.9 million people in the future. Of this total, it is planned that 13 million people will reside in the 14 NUCs that are currently developed. In the Cairo region, there were eight designated NUCs, of which seven NUCs have been already developed. The target population of NUCs in the Cairo region amounted 11 million or 76% to the total population of NUCs in the North Egypt Sector. A relatively large proportion of the population is expected to reside in NUCs, especially the eight NUCs allocated in the Cairo region.



Source: Distribution map of NUCs, NUCA, 2006

Figure 1.2.5 Existing and Planned New Urban Community in the North Egypt Sector

(2) Development of industrial zones

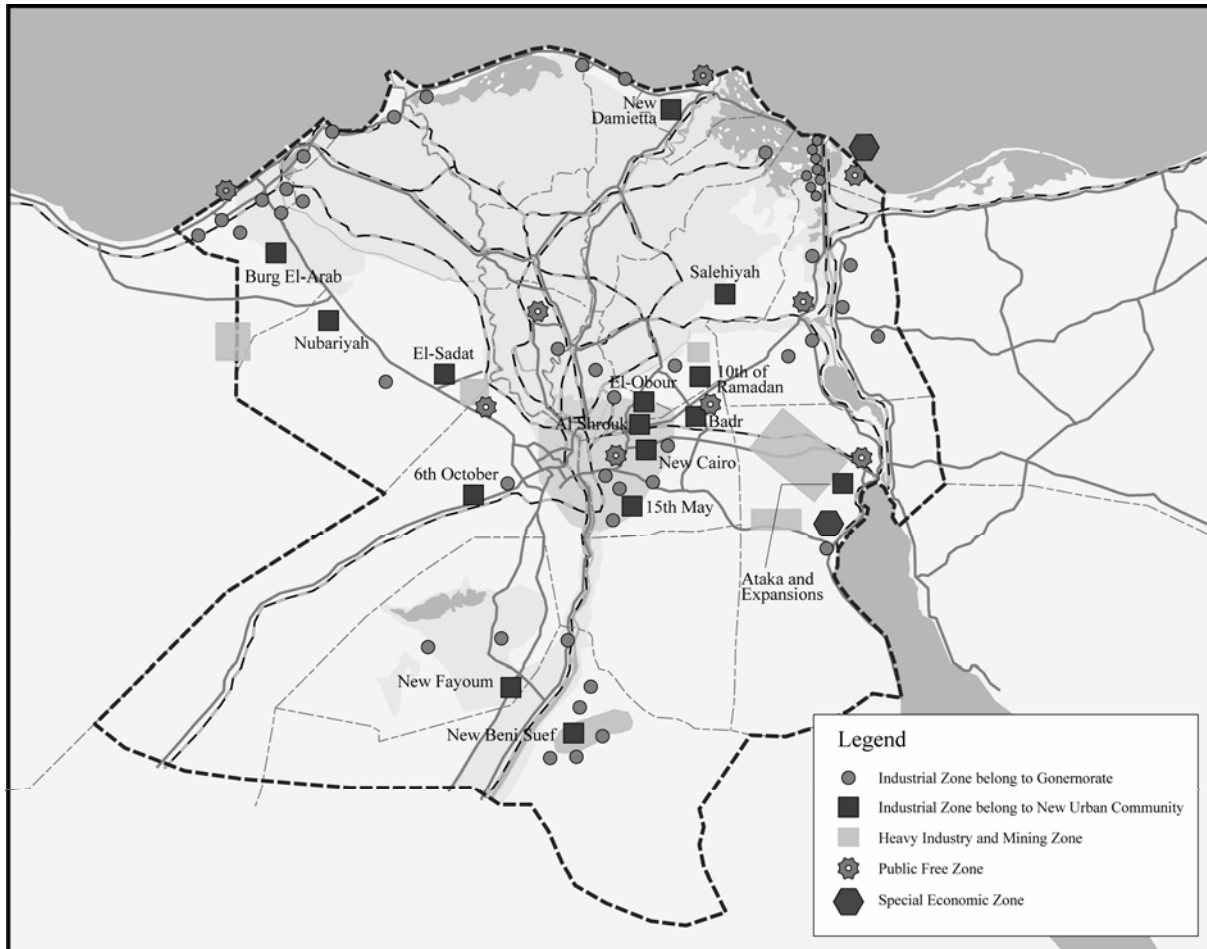
The Industrial Development Authority (IDA), under Ministry of Foreign Trade and Industry classified the industrial zones in Egypt into five categories, namely: government, industrial zone, new urban communities industrial zone, public free zone, and heavy and mining zones, as shown in Table 1.2.1.

Table 1.2.1 Category of Industrial Zone

Category	Description
Governorate Industrial Zones	The zones belong to the governorate and located on its land. There are 68 zones till now – controlled by the governorate. In the future, however, they will be controlled by IDA. Some of those zones are established by presidential or governmental decrees, but mainly they are established by the governorate decree. All of the 68 zones are in operation.
New Urban Communities Industrial Zone	The zones belong to the Ministry of Housing and were controlled by it until the creation of IDA which became responsible for controlling them. There are 16 zones located in the new urban communities.
Public Free Zone	These areas belong to GAFI and are under their supervision and control. Lands are given through GAFI; however, the approval of establishing an industrial project shall be from the IDA. There are 10 Public Free Zones in Egypt. Nasr city has public free zone.
Special Economic Industrial Zone,	There are 2 zones only; one is being developed in Suez and the other in Port Said but not yet in operation.
Heavy and Mining Zone	The zones are located near to the natural lands and established by the Prime-Minister Decree. Cement factories have been established in these zones.

Source: IDA

In the North Egypt Sector, there were 79 industrial zones, which consisted of 48 governorate zones, 15 NUC zones, 9 PFZ, and one SEZ, as shown in Figure 1.2.6. Most of those industrial zones were concentrated along Alexandria and Ismailia roads, and coasts of the Mediterranean Sea and the Gulf of Suez. In addition, a group of industrial areas is located in Fayoum and Beni-Suef governorates. This geographical distribution correlates with the number of existing establishments and workers concentrated in the North Egypt Sector.



Source: Distribution map of industrial zones, Ministry of Foreign Trade and Industry, 2007

Figure 1.2.6 Existing Industrial Zone in the North Egypt Sector

(3) Development of transportation network

International airports have been developed in Cairo and Alexandria, both of which play the role of an international gateway to the North Egypt Sector and Egypt as a whole. Sea transport relies on the main seaports in Alexandria, Port-Said, Suez, and Damietta. These three seaports function as focal points for logistics operating via the Suez Canal (Figure 1.2.7).

Roads and railway networks form an interregional transport system in the North Egypt Sector. Railways interconnect Cairo with other main cities in the region. GOE contemplates three new railways to interlink 6th of October, 10th of Ramadan, and Sadat NUCs into the regional railway network. Interregional roads also interconnect Cairo with the other main cities of Alexandria, Port Said (via Ismailia), Suez, and Fayoum (Upper Egypt region). GOE has

planned and implemented road widening for interregional roads to reinforce the transportation network in the region and Egypt.

Finally, Cairo plays a role as an international gateway and a main terminal for inland transport in the region.

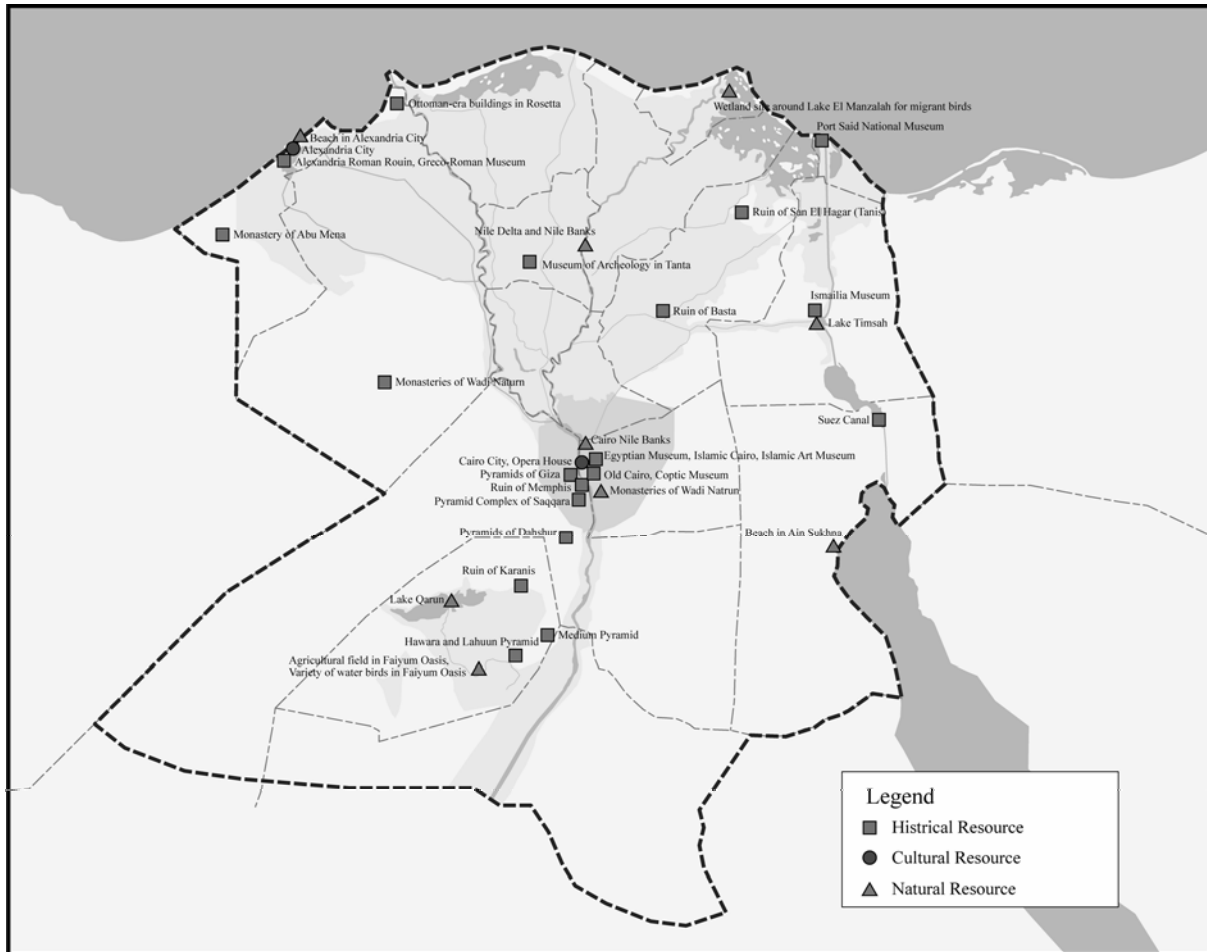


Source: JICA study team

Figure 1.2.7 Existing, On-going, and Planned Transportation Network in the North Egypt Sector

(4) Distribution of tourism resources

Tourism resources in the North Egypt Sector were dispersed in the areas in and around the major cities of Cairo, Alexandria, Ismailia, and Port Said, as well as areas along Nile River, as shown in Figure 1.2.8. These resources mainly consist of historical and architectural heritage. Particularly in Cairo, a large amount of Islamic architecture, Coptic churches, and museums are located in the city, and monuments from ancient Egypt are located in the deserts in the vicinity of Cairo. Outside Cairo, monuments are located along the Nile River. In addition to those monuments, the Nile River forms a natural tourism spot in the region, and for Egypt.



Source: Ministry of Tourism

Figure 1.2.8 Existing Tourism Spots in the North Egypt Sector

1.2.3 Analysis and Conclusions related to the Regional Context and Role of Cairo

Analysis and conclusions related to the regional context of Cairo was undertaken. The results of this analysis are:

- 1) The increasing population in Cairo has shifted to neighboring governorates of Giza, Qaliobeya, and Sharqia.
- 2) Cairo region provided a large portion of GRDP in the North Egypt Sector, while Port Said had the highest GRDP per capita in the region.
- 3) New urban communities are spread over the North Egypt Sector, while areas along the Alexandria and Ismailia roads are focal places for development of NUCs.
- 4) Industrial zones are developed in the four governorates of Cairo, Fayoum, Suez, and Alexandria. The Ismailia and Alexandria roads are considered as the focal areas for the industrial zones.
- 5) Tourism points are concentrated in the Cairo region, while Alexandria and Fayoum also have groups of tourism points.

1.3 Summary of Cairo's Role in the Country and Region

The Sixth Five Year Plan gave the highest priority to the development of Upper Egypt regions. Continuous efforts by GOE will accelerate development in those regions, while the Cairo region will dominate in terms of population distribution and economic activities in the short to medium term. Since the Cairo region has the largest share of population, economy, industry, and human resources in Egypt, it provides positive support to the neighboring regions. However, it will take some time to encourage development in the Upper Egypt regions so that it surpasses the level in the Cairo region. In the regional context, Cairo will play the following roles:

- 1) Center for industrial development in the region by providing value-added activities such as research and development;
- 2) Center for information and technology, which will become a leading sector for Egypt and the North Egypt Sector;
- 3) Center for tourism by providing well-managed tourism spots and services such as hotels and restaurants;
- 4) Center for finance that will be needed for development in Egypt; and
- 5) Center for administration that will encourage economic activity in Egypt.

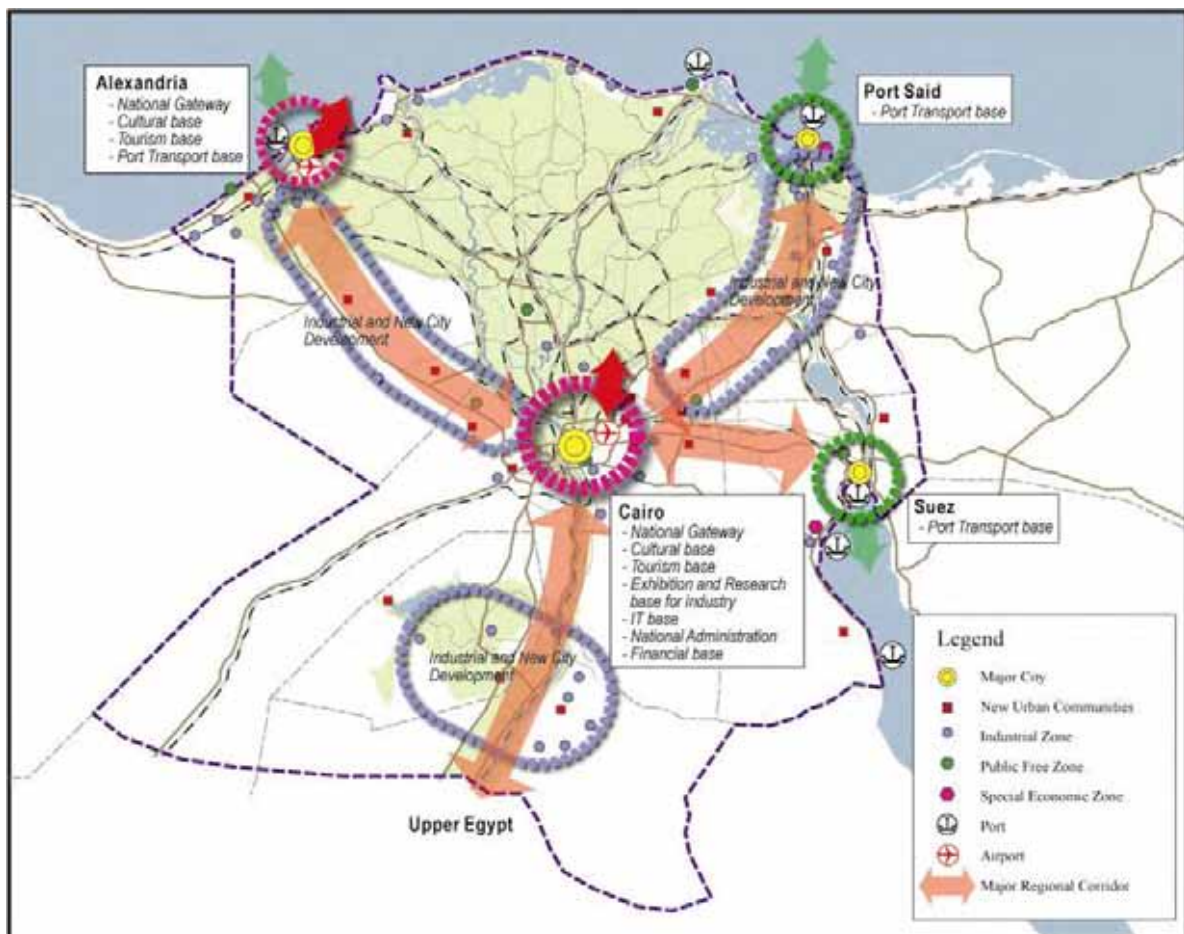


Figure 1.3.1 Development Growth Orientation in the North Egypt Sector