

EGYPT

Pre-Feasibility Study for the Establishment of a Model Industrial Estates Program in Alexandria

Volume 2: Establishing a Marketable Pilot Site in Alexandria

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FIAS

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Acronyms

AFTA	Arab Free Trade Area
ADP	Alexandria Development Project
ATC	Agreement on Textile and Clothing
BOT	Build-Operate-Transfer
CIDA	Canadian International Development Agency
COMESA	Common Market for Eastern and Southern Africa
EFTA	European Free Trade Association
ELS	Extra Long Staple Cotton
EPZ	Export Processing Zone
EU	European Union
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FIAS	Foreign Investment Advisory Service
FTA	Free Trade Agreement
FZ	Free Zone
GAFI	General Authority for Investment and Free Zones
GDP	Gross Domestic Product
GOE	Government of Egypt
GOFI	General Organization for Industrialization
GOPP	General Organization for Physical Planning
Ha	Hectares
HDPE	High Density Polyethylene
HS	Harmonized System
ICA	Investment Climate Assessment
IDA	Industrial Development Authority
IFC	International Finance Corporation
IMF	International Monetary Fund
IPR	Intellectual Property Rights
ISIC	International Standard Industrial Classification
ISP	Internet Service Provider
IZ	Industrial Zone
JV	Joint Venture
Km	Kilometers
Kwh	Kilowatt per hour

LAB	Linear Alcohol Benzene
LE	Egyptian Pound
LLDPE	Linear Low Density Polyethylene
LS	Long Staple Cotton
MENA	Middle East-North Africa
MFA	Multi-Fibre Arrangement
MHUUC	Ministry of Housing, Utilities and Urban Communities
MIGA	Multilateral Investment Guarantee Agency
MODMP	Ministry of Defense and Military Production
MOFTI	Ministry of Foreign Trade and Industry
MOI	Ministry of Investment
MOSED	Ministry of State for Economic Development
NAIS	North American Industry Classification System
NCPUSL	National Center for Planning the Uses of State Lands
NPV	Net Present Value
NTB	Non-Tariff Barrier
NUCA	New Urban Communities Authority
OSS	One-stop Shop
OTC	Over the Counter (Pharmaceuticals)
PET	Polyethylene Terephthalate
PPP	Public Private Partnership
PVC	Polyvinyl Chloride
QIZ	Qualifying Industrial Zone
R&D	Research and Development
SEZ	Special Economic Zone
SME	Small and Medium Enterprises
SSI	Small-scale Industry
TOR	Terms of Reference
UAE	United Arab Emirates
UNCTAD	United National Conference on Trade and Development
US	United States of America
WTO	World Trade Organization

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Foreword

By exploring new ways to designate, develop and manage industrial land in Egypt, the Foreign Investment Advisory Service (FIAS), with co-funding from the Cities Alliance and in support of the World Bank's Alexandria Development Project (ADP), aims to improve Egypt's industrial performance and stimulate economic growth. By seeking to depart from Egypt's current framework, which has historically been the exclusive domain of the public sector, FIAS seeks to stimulate change through the design and development of a private sector-operated, pilot industrial estate near Alexandria.

The pilot project will be designed to leverage new developments in Egypt's legal and institutional framework to introduce private sector participation into the development and management of industrial land. While the new framework will focus on a pilot project at the outset, it is also envisioned as a potential demonstration of new model for the operation of industrial estates in Egypt. Executed well, it could serve to spark wider reforms in new industrial property developments across Egypt.

The project was led by Xavier Forneris and Fatima Shah at FIAS, with the support of Ahmed Eiweida and Sameh Wahba from the World Bank. This Study also benefited from comments provided by Gokhan Akinci at FIAS. Technical field work and analysis were provided by BearingPoint, a publicly traded consulting firm based in the United States. The BearingPoint team was led by Kishore Rao and included Markus Mueller, Sheri Pitigala, Dennis Hall and Jose Cerón. Additional technical inputs to the project were contributed by Baher Salama of Trust Engineering Services in Alexandria and consultants from The International Investment Advisors (TIIA), a Cairo-based consulting firm. These included Lamy Makary, Eng. Alaa Tawfik and Dr. Ahmed M.G. Abou Ali.

This Pre-Feasibility Study was conducted for the Industrial Development Authority (IDA), the General Authority for Investment and Free Zones (GAFI), and the Government of Alexandria, and reflects their comments as well as stakeholders feedback obtained at a workshop held at the Hilton Green Plaza Hotel in Alexandria on January 15, 2007. The Study comprises two volumes, with volume 1 analyzing the policy, legal, regulatory, and institutional frameworks for industrial land in Egypt, and volume 2 examining the market demand and physical aspects of creating a pilot public-private industrial estate in Alexandria. The Study represents the first phase in what is envisioned as a three-stage approach to improving the performance of Egypt's industrial zones. The second phase would include a full feasibility study and the structuring of a public-private partnership arrangement for a privately-developed and -operated industrial estate. The third and final phase of the project would comprise implementation, in the form of a pilot project, of infrastructure and reforms identified in phase 1.

1 Introduction

This *Pre-Feasibility Study for the Establishment of a Model Industrial Estates Program in Alexandria* is presented in two volumes. An **executive summary** of both volumes is presented in volume 1. The present volume builds on the foundations laid by the **Policy, Legal, Regulatory, and Institutional Framework** for industrial land in Egypt presented in volume 1, which presents a survey of international best practices comparing current Egyptian practice with successful regimes around the world, with particular emphasis on the integration of the private sector. It also presents a series of legal and institutional structures that may serve as models for a new, private-sector oriented industrial zones regime, and a detailed **action plan** to begin the transition to an improved framework and the establishment of a pilot zone.

This present volume examines the physical aspects of **Establishing a Marketable Pilot Site in Alexandria** based on a public-private partnership. It assesses two sites in the area that were identified as potential locations for a pilot project. The first, at Al Nahda, is located on privately owned land adjacent to some of Alexandria's largest recent industrial investments. The second, within the Borg Al Arab New Urban Community, is controlled by the New Urban Communities Authority (NUCA) and adjacent to existing Government-developed industrial areas. A third site, the North Merghem industrial area in Alexandria, was also considered but not examined in more detail because the site is fragmented and offers limited potential for the development of a single, contiguous, centrally managed industrial park.

This volume provides an overview of the opportunities and challenges associated with Al Nahda and Borg Al Arab as potential pilot sites, presenting a first look at the actions and steps required to successfully launching a pilot industrial zone there. This volume also includes a Market and Demand Analysis comprising a benchmarking analysis of the potential pilot sites against comparator industrial sites across the region and within Egypt, and an investment market analysis, which examines regional, national and local investment trends, land market prices, locational attributes, quality of services, and other relevant parameters to gauge demand for industrial land in Alexandria. This latter section includes a brief analysis of the likely markets for these sites and forecasts.

If a developer is to show interest in the development of a pilot site in Alexandria, an assessment of the market for industrial land will undoubtedly play a role, not only to determine the feasibility of the project, but also in the selection of a final site. A demand analysis, as it is presented in the current context, is a projection of anticipated demand for industrial property in Alexandria, based on historical investment patterns in the Governorate and Egypt. It is also meant to gauge the ability of a modern industrial estate to capture part of that anticipated demand. A

demand analysis also represents an attempt to quantify anticipated growth patterns over time, based on dynamics unique to the various industries likely to make up that growth. Broadly, the purpose of a demand analysis is to arrive at a scenario-driven estimate of the amount of industrial land demand that a private developer could reasonably be expected to fill.

The current Study draws on three main tools, which make up the final chapters of this volume, to formulate final projections for demand:

- A **Benchmarking Analysis** compares the potential pilot sites to a number of comparator zones, both within Egypt and throughout the region, to gauge their relative attractiveness as investment locations;
- An **Investment Market Analysis** draws on an assessment of the current investment climate in Alexandria to establish a short list of promising industries. It then examines these industries to assess their “fit” with the potential pilot zones; and
- A **Demand Absorption Forecast** builds on the preceding analyses, drawing standard and comparator growth patterns to project investment demand in the prospective pilot site out to 20 years.

In developing the demand analysis, a number of assumptions have been made. The Study first assumes the advent of a new, attractive industrial land package in the form of a private sector-run industrial estate. Further assumptions, from the continued growth of the global, regional and local economies, relative attractiveness of competitor locations within Egypt, and rate of growth within specific sectors can have significant effects on the final results of the demand forecasts.

Finally, this market demand analysis should be seen as *descriptive* of the types of investments a pilot zone is likely to see, rather than *prescriptive* of industries that should locate there. If the private sector is to be the driving force behind location decisions and managing tenant access to an industrial zone, it is absolutely essential that market forces be allowed to ultimately decide which of these or other industries will locate on the pilot site.

This volume also includes detailed **Appendices** to support conclusions in the main body of the Study and outline a strategy for the provision of value-added services in the pilot zone. **Appendix A** presents detailed data used in the benchmarking analysis, and **Appendix B** outlines a strategy for the provision of the value-added services that set quality industrial zones apart from the competition, improving their marketability to quality investors.

2 Establishing a pilot industrial zone in Alexandria

Across the country, Egypt provides a broad range of subsidized public industrial land, and yet it consistently falls short in making high-quality infrastructure and facilities available in areas where investors wish to locate. The reasons for this have been outlined throughout this Study, and it is clear that a number of challenges must be met by the GOE before a new, private sector-led model will succeed. Above all, Egypt must avoid facilitating private development of projects without sufficient market potential and with inadequate infrastructure. Wherever it is located, the pilot project should be aimed at launching a new industrial property “product,” which will appeal to a more sophisticated class of investors, who not only value but will also be willing to pay a premium for modern facilities and services.

Given the tremendous competition from subsidized land, which is unlikely to abate in the near-term, a successful project will not only need to be well-located, with reasonable access to transportation and markets, but must also stand out from Egypt’s other offerings in terms of its development approach, the quality of its management, and the value proposition of its product offering. Selection of the pilot site should be guided by parameters that best align with meeting these goals.

It is important to note that the assessment presented here is meant to serve primarily as a pre-screening to inform the eventual selection of a pilot location. A more extensive analysis than was called for in this Pre-Feasibility Study, including land surveys and a detailed engineering analysis, will be required to definitively select and designate a pilot location.

The “optimal” size for a PPP transaction

As discussed in more detail in volume 1 of this Study, any attempt to declare an “optimum” size for a PPP transaction would ultimately be inaccurate. Ultimately, it is not the size, but the economic constraints, market forces and physical attributes of a site itself that finally define what constitutes an attractive investment for a private sector developer.

Perhaps more importantly than a strict measure of size, it is critical to recognize the importance of expansion potential when planning for a site, as the economic considerations and growth potential of a successful site are likely to change over time. In evaluating an opportunity, developers will undoubtedly evaluate the growth potential of the site itself, but they will also seek clarity in the area’s long-term planning. Labor markets, transportation networks and infrastructure will all be considered as part of any robust analysis of a site’s growth potential.

Site selection criteria

While it is clear that a marketable industrial zone must be optimally located, what constitutes optimal can differ across the various stakeholders in the transaction. Broadly, the needs of a site's end users—the investors themselves—should serve as the principal guide to site selection. From an investor's perspective, if the pilot site is developed as it is envisaged, regardless of its location, it is likely to represent a marked improvement over what is currently available.

The requirements of two other primary stakeholders—the site developer and the Government of Egypt—should also be guided by the needs of the market, but they will be viewed through additional strategic, market and operational lenses of their positions. From a developer's perspective, the attractiveness of a site will be viewed primarily through the lens of both market and product differentiation. The model of a private developer is an untested one in the Egyptian marketplace. Faced with a history of underperformance across all of Egypt's current industrial zones regimes, developers will strongly prefer a site that allows them to convince the market that their product represents a new departure, and that the differences between the pilot site and existing industrial zones in Egypt are not merely cosmetic. From the perspective of both the developer and the Government, it must be clear that the pilot site will not be forced to directly compete with an adjacent subsidized property.

The following sections examine two promising locations for a pilot industrial estate in Alexandria. Both present advantages and challenges particular to their respective sites, and both would require substantial action on the part of Government and would-be developers to achieve the promise of a world-class industrial zone. In both cases, the description of the pilot sites as opportunities assumes that Egyptian authorities have adopted at least one of the model frameworks and substantially implemented the recommendations and prerequisites described in volume 1 of this two-volume Study.

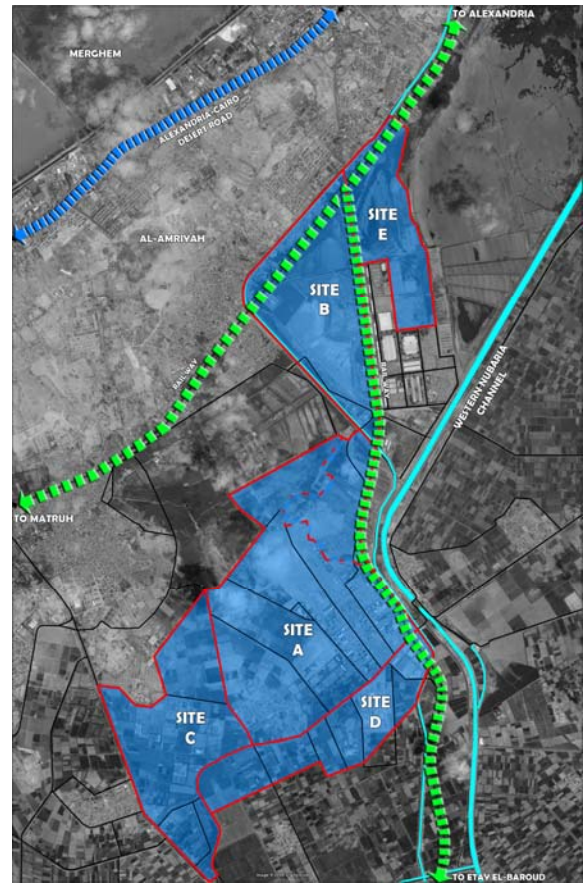
3 Al Nahda industrial area

The 23 km² Al Nahda industrial area is located along the Cairo-Alexandria Desert Highway, in close proximity to the Ameriyah Public Free Zone and North Merghem industrial area. The area, which was only recently designated an industrial zone by a series of Prime Ministerial decrees,¹ currently houses 18 enterprises in a variety of industries, of which 13 are operational. Although much of the area remains vacant, the majority of open land is fragmented and in the hands of private owners, many of whom purchased the land as a speculative investment and show no signs of developing it.

Land, pricing and subsidies at Al Nahda

Because much of the land at Al Nahda is under private ownership, a pilot site there would be removed from direct competition with subsidized land and facilities. While this will provide for a more distinct “package” for a developer to market, it does not necessarily indicate that Nahda would be entirely free of subsidies. Indeed, depending on circumstances the process of land assembly itself may warrant public sector support to ensure a viable investment for a developer.

Figure 1: Map, overview of Al Nahda industrial area



Source: Trust Engineering Service from images by Google Earth®

¹ Decree 2244/2000 created Nahda sites A and B, and Decree 440/2001 created sites C and D. Site E was granted industrial area status by Prime Ministerial Decree 1306/1992, but it was later rescinded through Decree 2274/1998. Agricultural landholdings/land uses in the area were cancelled by Governor Decree 113/2005.

Current landowners will undoubtedly seek to sell at a profit, but prices in that case would be driven by market, rather than Government, forces.² This would certainly play a role in determining the value of the site to a developer and, depending on the quality of infrastructure improvements, it would likely translate into a significant rise in land costs for eventual end users.

Across the Al Nahda area, there are large tracts of open land that would be suitable for industrial development. However, ownership of this land is highly disaggregated, held by a wide variety of private investors. This will make assembly of a suitably large, contiguous site a considerable challenge. The Al Nahda investors association has made the solution of this issue its principal mission.

Much of the area within Al Nahda has historically served as agricultural land, and while this designation has been cancelled, poor drainage still presents problems in isolated sections of the site. In particular, the 149 ha available land in Site E has a high water table, which would likely result in elevated development costs.³ Other isolated parts of the area are still subject to an ownership dispute.

Of the various sites designated in the Al Nahda Area, Site D is likely to prove the most immediately suitable for a pilot development. The total area of the site is about 2.09 km², of which slightly more than half is unoccupied. It is bound on the North by Al Nahda road and on the south by agricultural plots. From the East, the site is bound by Alexandria–Eitay El Baroud railway line and from the West by agricultural plots parallel to the Alexandria–Cairo desert highway.

Current industry makeup

The companies currently operating within the boundaries of Al Nahda include several large scale enterprises, including firms in the petrochemicals and downstream industries, a handful of medium-sized firms in the food processing industry, and several smaller enterprises in the packaging, machining/metallurgy, and textiles and apparel industries.

Labor availability

The Al Nahda industrial area is adjacent to Al-Ameriya residential area and Ezebat Abd El-Kadr, both of which are highly populated areas. The majority of the residents in these areas are technically trained laborers, many of whom seek employment opportunities in the nearby industrial areas. This ready supply of

² For a discussion of what market prices might be at Al Nahda, see *The true cost of subsidized land* in Volume 1 of this two-volume Study.

³ This assessment is based on existing studies and a visual inspection of the site by the team's industrial real estate expert. A more complete survey and engineering assessment of the site would be required for a final determination of the effects of water table on development.

relatively skilled labor and the ease of transporting workers would be an attractive quality to developers.

Transportation and infrastructure

Al Nahda is well situated in relation to Alexandria's ports and rail and trunk road networks. The main offsite access road is generally regarded as inadequate to meet expected requirements, and site investors have developed onsite infrastructure only as necessary to accommodate projects. The area is served by public transportation, enabling relatively easy access by workers residing outside the immediate vicinity.

A developer would likely consider arrangements to upgrade the offsite access road an important pre-requisite to investing at Al Nahda.

Market activity in adjacent areas

The immediate vicinity of the Al Nahda industrial area is marked by a number of industrial developments, including the North and South Merghem industrial areas and the Ameriyah Public Free Zone. All of these areas are full nearly to capacity, despite considerable gaps in the quality of services and infrastructure tenants find in these sites.

Even in an industrial land environment that is dominated by the public sector, the market is a powerful indicator of the relative attractiveness of a site. The clear preference investors have shown for the area immediately surrounding Al Nahda may well be the closest thing to a market indicator available.

Strengths and challenges of a pilot site at Al Nahda

In evaluating Al Nahda as a potential location, it is important to recognize that the pilot site represents a public-private approach never before attempted in Egypt. For both symbolic and practical reasons, it should be imbued with every possible advantage.

Al Nahda strengths

- **Location:** Both in absolute terms and in comparison to other potential sites, Al Nahda boasts a very good location. It is well connected to key transportation arteries, with easy communication to rail, road, air, and sea transport infrastructure. The site is also well separated from major concentrations of subsidized land, which will inevitably present unfair competition to a privately operated site. If the market is a reliable measure of

a site's attractiveness, Al Nahda will do well, as all of the adjacent industrial areas are filled nearly to capacity, despite considerable shortcomings of infrastructure and product offering;

- **Available land:** Quality varies within the site, but assuming the challenge of assembling it can be met, Nahda has nearly 600 hectares of land available for development;
- **Access to labor:** Al Nahda is adjacent to two major residential areas with high concentrations of relatively skilled labor. Given the issues investors face with training and labor quality, this is a considerable selling point for the site; and
- **Product differentiation potential:** Many of the strengths Nahda exhibits contribute to the site's marketability as a departure from Egypt's current offerings for industrial land.

Challenges facing Al Nahda

- **Land assembly:** In its entirety, Al Nahda comprises some 23km², but it has been divided into five sub-sections, the divisions of which were established by Decree. A high water table and active land title disputes make some areas within Al Nahda problematic, but much of the land in the remaining sites is unoccupied and shows promise as a potential pilot location.

Discounting Site A which suffers from land ownership disputes and Site B which has a high water table, the available, unoccupied land represented by Nahda Sites A, C and D s nearly 450 ha (see Table 1). But much of that land is in disparate, private hands, and assembling a suitably sized (and shaped) pilot site remains a challenge. The Al Nahda investors association has made it their mission to find a solution to this, but have to date made no tangible process toward that goal; and

Table 1: Land area available for development

Site	Available Land (ha)	Notable Feature
Site A	189	
Site B	None	Land ownership disputes.
Site C	153	
Site D	105	
Site E	149	Swampy, high water tables.
Total	596	

- **The presence of heavy, chemical-intensive industries:** A number of the larger projects on the site engage in heavily, industry, often employing chemical-heavy production processes. The extent of pollution and ground contamination on the site is not clear based on the current preliminary Study, and while it has not deterred food processors elsewhere on the site it is possible that these uncertainties and the presence of these activities would give pause to investors in industries requiring a cleaner production environment.

Actions required to establish a marketable pilot site at Al Nahda

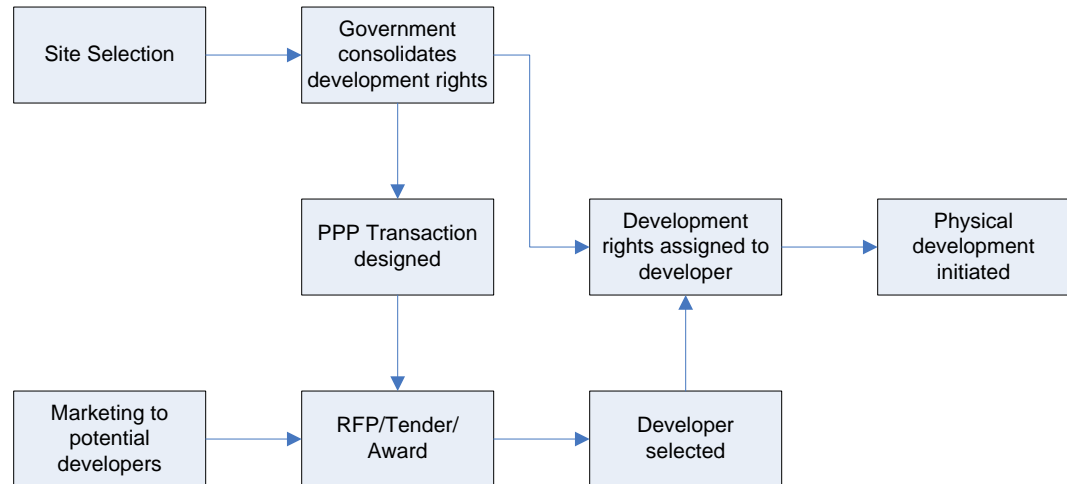
Chapter 7 in volume 1 provides a detailed action plan for Egyptian authorities to implement a pilot industrial zone near Alexandria. The following is a discussion of an issue specific to Al Nahda that must be addressed if it is to remain a viable option for a pilot site.

Land assembly

When the parameters of a likely PPP model are considered, Al Nahda offers an immediate transaction opportunity, but to reach that point a suitably sized and shaped site must be assembled. While ample open land exists at Al Nahda, it is in the hands of myriad private investors. This issue of land assembly unfortunately offsets many of Al Nahda's advantages. If the authorities wanted to significantly improve Al Nahda's prospects as a successful pilot site, resolving this issue should be the top priority action. The report offers some options for doing that in a next paragraph.

As Figure 2 illustrates, the consolidation of development rights by Government (whether through outright ownership or other binding agreements) is a prerequisite for designing the PPP transaction since the specific economics of a site must be incorporated into the transaction design. In order to go through a successful competitive tender to identify a developer, bidders will generally require a clear indication that the public partner in the PPP can in fact credibly contribute the land assets on which the transaction is based.

Figure 2: Summary of site selection, development rights consolidation, and developer selection



There are several broad options to assemble land at Al Nahda. The following three are essentially those options now under consideration by the investors association:

- **One-to-one negotiation:** The Al Nahda investors association, developer, or other interested party works on a one-to-one basis with individual landowners to assemble and purchase a suitable pilot site. This would entail a time-consuming and complex process;
- **One-to-many negotiation:** The investors association, developer or other interested party works with landowners collectively to set a mutually agreeable price and purchase the assembled site whole; and
- **Governorate-sponsored land swap:** Under this mechanism, the Governorate would swap land at Al Nahda for land of equal value elsewhere in the Governorate. This approach may appeal to some investors, but it is unlikely to convince all landholders in a proposed pilot area.

In addition to these options, several options have been considered by various stakeholders. While theoretically possible, none of these options present a truly viable way forward in facilitating a transaction at Al Nahda.

- **Bundle land acquisition into development transaction:** This approach incorporates the acquisition of site land into the transaction granting development rights to the site. This would require the acquiescence of at least a majority of landowners, which would be difficult to obtain, given the number of investors involved. It would also require the explicit consent of the

development company itself, which would also be unlikely, as it would add undesirable layers of complexity—and therefore risk—to the transaction;

- **Expropriation:** Government could expropriate land from existing private land owners to enable a private pilot project. This option would generate considerable political opposition, and would likely be rejected by the investors at Al Nahda itself. The investors' association has expressed a broad interest in avoiding antagonizing existing landowners and the community itself; and
- **Equity participation of landowners:** In this option, landowners would trade the development rights to their land for equity participation in the pilot development. Even if this arrangement were acceptable to the site developer, which is highly unlikely, most of the landowners themselves are unlikely to be interested. Most appear interested in drawing a profit in the sale of their land.

4 Borg Al Arab

Located some 50km from Alexandria city center, Borg Al Arab is one of Egypt's new industrial cities. In addition to its more than 3100ha of industrial land, its nearly 200km² comprises housing, green spaces, city Government and services, and water and sewage treatment plants. The city itself was designated in 1979, complete with its current allocation of industrial land.

Land, pricing and subsidies at Borg Al Arab

Lack of space is not likely to present an immediate concern across at Borg Al Arab. As one of Egypt's new cities, Borg is a planned community, and at present only one of its five industrial areas is fully occupied. Even in that section of the site, an annex has been built to accommodate anticipated additional demand, and many of Borg Al Arab's industrial plots remain vacant. To the south, there are agricultural lands that could also be used for expansion if they were designated for industrial use.

Land title is straightforward at Borg Al Arab, although the modality of transferring land to a PPP participant for a pilot site would require some negotiation. Land prices, however, are currently subject to heavy subsidies by NUCA. A private developer would likely find the location hostile, as it would entail direct competition with readily available subsidized land.

Current industry makeup

Borg Al Arab presents a broad mix of industries across a wide area, including concentrations of pharmaceuticals manufacturers, food processing activities and apparel manufacturing. Unlike other sites in the area, the site does not have a concentration of highly polluting industries.

Labor availability

Although the city was planned to accommodate 500,000 workers, only about 50,000 now live within Borg Al Arab and another 50,000 day laborers are bused in daily from Alexandria. A number of causes have been cited for this lack of a permanent labor force, not least of which are the 50km that separate Borg Al Arab from Alexandria city center and the lack of effective public transport between the two urban centers. Terms for housing favor buyers, making living quarters inaccessible to many individuals or families, who can only afford to rent, and Borg Al Arab itself unattractive as a permanent residential location (even when rents are subsidized by the employer).

Current site investors have invested resources to bus labor to the site at a reasonable cost, but distance and conditions on the buses are a clear disincentive to workers to make the trip. This in turn affects the quality of labor accessible and available to investors at Borg Al Arab, as market forces drive workers to seek jobs that are far more accessible from the Alexandria city center. Available unskilled labor is likely to be skewed towards lower-productivity workers who cannot find work in Alexandria, and anecdotal evidence suggests that worker turnover is higher, as workers have an incentive to switch to similar jobs in Alexandria as they become available. This problem will be amplified in the case of skilled and managerial workers.

A Prime Ministerial decree has been issued to explore the feasibility of a rapid rail link between Alexandria City and Borg Al Arab. Such a link would do much to mitigate these issues, but it is unclear if, how, when, and at what cost the link will be completed.

Transportation and infrastructure

There are five industrial areas within Borg Al Arab with designated sections. All but one of the sites - which is vacant and does not have internal infrastructure (although the main lines run to the site and can be tapped) - offer fully serviced industrial plots.

Market activity in adjacent areas

Even in an industrial land environment that is dominated by the public sector, the market is a powerful indicator of the relative attractiveness of a site.

In contrast to industrial areas closer to Alexandria city center, which have filled nearly to capacity, Borg Al Arab continues to exhibit large tracts of unallocated land. A proposed Textile City is under discussion with Turkish investors and is likely to stimulate ancillary services and cluster developments. An MoU has also been signed with the Qatari Diar for the development of an industrial zone at Borg.

Strengths and challenges of a pilot site at Borg Al Arab

In evaluating Borg Al Arab as a potential pilot site, it is important to recognize that what the pilot site represents has never before been attempted in Egypt. For both symbolic and practical reasons, it should be imbued with every possible advantage.

Borg Al Arab strengths

- **Existing infrastructure:** While other potential pilot sites would require considerable investment in both on- and off-site infrastructure, Borg Al Arab has already established a network of utilities and roads throughout the area. Even if an unimproved section of Borg were chosen as the pilot site, it would be a relatively easy process to bring utilities mains to the site. Similarly, while the overall location of Borg Al Arab may prove to be a challenge in comparison to a site located more closely to the city center, the main road connecting Borg to transportation arteries is relatively robust;
- **Availability of open land:** It may also be cited as evidence of Borg Al Arab's unattractiveness as a site, but much of the area's 3100 hectares are open and available for development. It would be very easy for a developer to find and select a suitably sized and shaped site; and
- **Clear land title and uncomplicated land assembly:** While there may be some initial difficulty in securing development rights for a private sector developer, Borg presents a straightforward equation in terms of site assembly and designation.

Challenges facing Borg Al Arab

- **Proximity to subsidized land and facilities:** In the near term, if a private sector-developed site is to be located at Borg Al Arab, it is likely to face direct competition from subsidized facilities. Both land and infrastructure at Borg Al Arab has been heavily subsidized by the Government. While there is encouraging evidence of discussion at the national level about the reducing Egypt's continued (and to date ineffective) dependency on subsidized land, nothing resembling a consensus on the issue has been reached. Indeed, rather than indicating movement toward a market approach to pricing land, these discussions serve to illustrate the challenges that face reformers on this front.

In the meantime, the availability of cheap, subsidized land will present a serious challenge to the viability of a privately-developed and operated pilot site run on commercial principles at Borg Al Arab. If the pilot is intended to serve as a positive example against such policies, it will require time to build critical mass and thrive, and it will be especially challenged to thrive if it is placed next to a highly subsidized site;
- **Unstable access to skilled labor:** Investors at Borg Al Arab almost universally raise labor as a major issue. For a variety of reasons in the new city has not settled a sufficiently stable work force, and much of the available labor commutes from Alexandria city center. Higher quality labor has the freedom to choose, and many of them choose to live and work closer to the city center. While many investors do not consider the cost of transporting

workers a serious burden, they do cite labor quality and turnover as ongoing problems; and

- **Lack of product differentiation potential:** Because of its close proximity to existing, underperforming, subsidized industrial land, a pilot site at Borg Al Arab would unfortunately find it very difficult to distinguish itself in the marketplace. This would stem in no small part from Borg Al Arab's long history of lackluster performance as an industrial zone, which will color potential investors' perceptions of any site associated with it, even if the product itself is a cut above. This would prove especially damaging if the heavy subsidies of land and facilities now available at Borg Al Arab were to continue, essentially presenting direct, unfair competition to a site already struggling to differentiate itself. This challenge will undoubtedly prove to be among the more serious Borg Al Arab faces as a potential pilot site.

Actions required to establish a marketable pilot site at Borg Al Arab

Appendix A (in volume 1) provides a detailed action plan for Egyptian authorities to implement a pilot industrial zone near Alexandria. The following is a discussion of issues specific to Borg Al Arab that must be addressed if it is to remain a viable option for a pilot site.

MoU or other instrument signed to formalize private sector access to develop the land

While land assembly would be fairly straightforward at Borg Al Arab, unambiguously transferring development rights to a private sector entity under the current framework may present unanticipated challenges. A private sector developer will be reluctant to move forward without clear development rights to the site.

Freeze additional subsidies on land and facilities

Halting the current trend of increasing subsidies and gradually introducing market based pricing of land and services would greatly improve Borg Al Arab's attractiveness as an investment location for a developer. While it is clear this issue will not be easily or quickly resolved, at the very least the authorities must send a clear signal that an investor seeking to develop and market an industrial zone at Borg Al Arab will not face additional pressures after committing to the project.

5 Benchmarking analysis

The objective of this benchmarking analysis is to provide a broad understanding of the potential pilot site's competitive position vis-à-vis comparable industrial sites, both within Egypt and in the broader region. Ultimately, the benchmarking analysis will serve as an important input to define the range of sectors that show potential to develop in Alexandria and the proposed pilot zone.

Following an overview of the basic process by which international investors select an investment location, the chapter provides a description of the comparator sites to be analyzed, followed by a brief description of the parameters upon which they are compared. Finally, the chapter presents the results of the comparative benchmarking exercise, in some cases summarizing data for which detailed analyses can be found in Appendix A.

Overview of the investment location decision process

In the past, investors would select a site for new investments based on only a limited range of factors, most often in markets that were already developed. Today, faced with far more diverse markets and business objectives and ever-increasing pressure from global market forces, companies now consider a far wider range of factors when choosing an investment location.

In practice, site selection is a very case-specific process, with the parameters changing on a case-by-case basis. Each industry sector, and indeed every company, has specific demands that cannot be fully captured in a broad, cross-sector benchmarking exercise such as this one. As sector- and site-specific marketing strategies are developed for the pilot site, equally targeted benchmarking analyses will be required. Nevertheless, this presents a broad outline of site selection practices, based on a cross-sector approach, which in turn informs a benchmarking analysis of the site against comparable sites in Egypt and throughout the region.

Generally, there are three basic stages in a business location strategy, each of which is defined by distinct criteria:

- Definition of the field;
- Narrowing of the options; and
- Examination of the candidate sites.

The *first stage* is the definition of the search area through pre-search planning. Initial search areas typically are chosen based on the market that the proposed

new operation is designed to service. Based on those issues, the most critical factors in this initial stage are market size and ability to access the market easily. The location's image as a place to do business is very important in this phase of the process. Increasingly, firms do not narrow their site selection search down to only one region as they did in the past. Instead, they begin by casting their net on a global scale.

Because international investors begin their site selection process by examining economies on a global scale, macroeconomic factors play—perhaps unfairly—a central role in narrowing the field of candidate sites. A more thorough description of this can be found in the section on *Business operating conditions* later in this chapter.

The *second stage* in a typical business location process is narrowing the search to a manageable pool of locations. The majority of locations identified in the initial definition of the search are eliminated during the second stage of the process. As part of the process, companies set minimum standards of acceptability and proceed to eliminate each location not meeting those minimum requirements. Comparisons of average figures for each location are used in this stage, based on surveys conducted.

The *third stage* in the process is location examination, generally through site visits. After eliminating the majority of locations, the remaining candidates are closely scrutinized with emphasis on cost comparisons. Site candidates will generally be narrowed to several locations. Evaluation of potential locations will be extremely detailed and laborious to ensure the best match between the company and the chosen location.

Selection of comparator sites

This Study benchmarks potential sites in Borg Al Arab and the Al Nahda Industrial Area against several comparable industrial areas within Egypt and around the world. While these locations certainly represent national and international competitors to the potential pilot site, it is important to note that the present list is not the result of a comprehensive market analysis, and it does not reflect an exhaustive list of competitor industrial areas. Regional comparator sites were chosen as *representative* of the competition Egypt faces, both in terms of attracting investors and target markets for their goods. Similarly, the Egyptian zones were selected as representative of a cross section of industrial land in Egypt.

It is also important to note that the current analysis is made from the perspective of the end user of industrial land, rather than from that of a site developer. Because it is in the interest of a private developer to meet the needs of its target market, these perspectives will in most cases align.

By its nature, the present Study is also skewed toward the perspective of an international investor. While top-tier Egyptian investors will undoubtedly form part of the target market of a high-quality industrial zone, the selection criteria of investors likely to express interest in the envisaged pilot site—regardless of origin—will generally align with those of international investors.

In all, nine locations have been selected to benchmark the competitive positioning of a pilot zone near Alexandria in the marketplace. This includes four sites within Egypt and four sites in the greater Middle East-North Africa (MENA) region.

Egyptian industrial sites

- **Al Nahda Industrial Area, Alexandria:** Al Nahda industrial area, which currently falls under the purview of the Alexandria Governorate, is located along the Cairo-Alexandria desert highway, in close proximity to the ports. While the area has seen industrial activity since the 1970s, it was only recently formally designated an industrial area by a series of Prime Ministerial decrees covering five different land parcels. There are currently 18 registered companies in Al Nahda, of which 13 are in operation, including petrochemicals, food processing, wood working, and rubber tire manufacturing;
- **Borg Al Arab Industrial Area, Alexandria:** Borg Al Arab, established in 1979, is located some 60km southwest of Alexandria city and is governed by the New Urban Communities. There are presently some 450 companies operating there—predominantly in food processing, plastics, metal and chemical manufacturing. Total employment at Borg Al Arab is more than 27,000;
- **North Merghem Enterprise Area, Alexandria:** North Merghem is located on a narrow stretch of land to the north of the Cairo-Alexandria desert highway and is strategically located with access to the city and the Port of Alexandria. North Merghem currently houses some 244 small and medium enterprises engaged in a range of industrial and warehousing activities, including food processing, wood and furniture, engineering, construction, metals, textiles, plastics, chemicals, and paper and printing;
- **Ameriyah Public Free Zone, Alexandria:** Ameriyah Public Free Zone is the only public free zone in Alexandria under regulation by GAFI. It covers approximately 568 hectares, 382 hectares of which have been developed. It is located about 30km outside Alexandria city along the Alexandria-Cairo desert highway and is only 7 km away from Dekheila port. There are presently 78 factories established at Ameriyah Public (and a larger number of trading operations). The main industries are food processing, textiles and apparel, electrical and chemical products. Total employment is close to 6,400;

- **10th of Ramadan Industrial Area, 10th of Ramadan:** The 10th of Ramadan industrial area was established under NUCA in 1977. It is located 55 kilometers from Cairo. It is the largest site amongst the comparators, in terms of both land area and employment. It covers some 4,300 hectares, though only 2,500 have been developed, more than half of which is occupied. Food processing, textiles and plastics are the predominant industries. Total employment is 138,800; and
- **East Port Said Free Zone, Port Said:** East Port Said Free Zone is the newest development amongst the competitors, established in 2004 by GAFI as an expansion to the old free zone at Port Said. It covers 235 hectares, 85 of which have been developed and made available to investors. To date, 33 factories have established there, creating more than 4,300 jobs.

International industrial sites

- **Aegean Free Zone, Turkey:** Founded near Izmir, Turkey's second largest city and port, the Aegean Free Zone is the first privately developed and operated free zone in Turkey. To date, more than 220 hectares—out of a total of 500 hectares of serviced land—have been fully developed, with industrial, commercial and warehousing facilities. The zone houses nearly 500 companies; 40 percent of firms located in the zone are production oriented. Foreign investors active in the zone include Hyundai, Samsung, Delphi Packard, FTC, Lockheed, Vestelcom, Karstadt, and Merloni;
- **Jebel Ali Free Zone, Dubai, United Arab Emirates:** Jebel Ali was established as a free zone in 1985 and is home to the largest and, arguably, the most efficient port in the Middle East region. The 100-kilometer zone is home to more than 3,000 companies from nearly 100 countries, including trade and distribution, manufacturing, and services. Companies located within the zone include Bayer, Black & Decker, Compaq, Daewoo, GAP, Honda, Johnson & Johnson, Nestle, Philips, Samsung, Sony, Toshiba, and Xerox;
- **Al-Hassan Industrial Estate, Irbid, Jordan:**⁴ The Al-Hassan Industrial Estate, established in 1991, is located in the north of Jordan. It was the first industrial estate in Jordan to receive Qualifying Industrial Zone (QIZ) designation. Textiles and apparel manufacturing in the estate grew rapidly after QIZ designation, and the estate now hosts 47 industries in this sector, employing more than 18,300. Irbid also hosts a range of other industries, including food processing, pharmaceuticals manufacturing, engineering,

⁴ The Al-Hassan Industrial Estate is in fact a public sector-owned and -operated industrial zone. While the present Study is meant to examine the feasibility of a private sector-led development model, the Benchmarking Analysis examines clear competitors to a pilot site located in Alexandria, regardless of their underlying regulatory or operational frameworks.

plastics, furniture, and packaging, which together have created another 1,300 jobs at Irbid; and

- **Bizerte Economic Activities Park, Tunisia:** Located in the north of Tunisia, along the Mediterranean coast, Bizerte was established as one of two free zones in Tunisia. The park is host to a range of manufacturing industries, including metal working, small vessel assembly and aeronautic component assembly, food processing, automotive components, wood working, plastics, and textiles, apparel and footwear. The park is also home to a food processing “technopole” to encourage research, development and upgrading of processing technologies.

Benchmarking parameters

The parameters of this benchmarking analysis fall broadly into three categories:

- **Business Operating Costs:** including labor, utilities, telecommunications, transportation, land and buildings, and incentives;
- **Business Operating Conditions:** These include measurements of business climate, labor market, and infrastructure; and
- **Market Access:** These include factors affecting both production and export sales, such as import regime, and regional integration/Preferential Trade Access.

Of these, business operating costs are likely to play an important role in the decisions of only purely domestic investors. The more macro-level considerations, particularly broad business operating conditions will play a greater role in the location decisions of international and export investors.

It is important to note that while each of these factors is of considerable importance to this benchmarking exercise, data was not uniformly available across all locations. For this reason, not all sites are fully represented across every parameter of the analysis.

Business operating costs

Although international enterprises tend to select investment locations through a top-down approach, described in the section on *Overview of the investment location decision process*, above, it is worth examining Egypt’s cost environment—and Alexandria’s in particular—which offer some reason for optimism in comparison to the comparator sites.

Fundamental to any site selection process, particularly in the last stage of comparing a short-list of locations, is a site’s cost competitiveness. Critical cost comparisons include labor, and land building acquisition, utilities, and

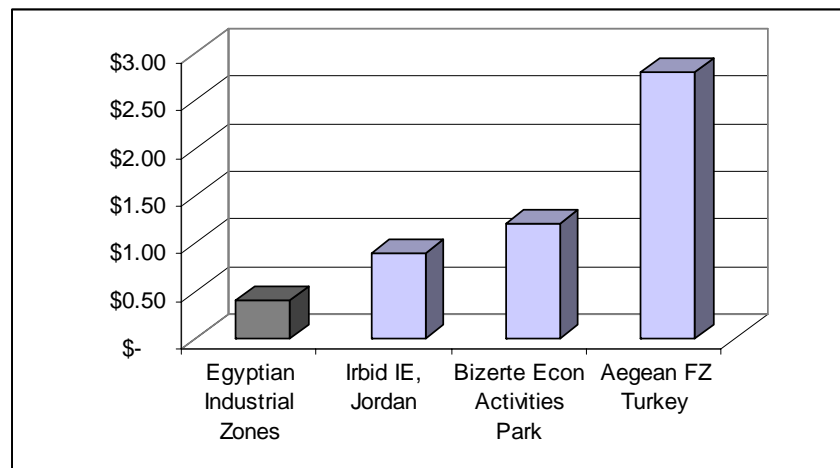
telecommunications. During the first stage of analysis, locations with costs well above a given range are generally omitted from further consideration. In the third stage, companies typically gather cost information for a very small pool of sites, perhaps two or three.

Labor costs

Labor often makes up a substantial share of a company’s operating costs, particularly in light manufacturing and service sectors. For the average manufacturing company, labor can account for more than a third of production costs. This can increase in sectors that call for a high degree of manual labor.

Labor costs in Egypt are comparatively low vis-à-vis other regional economies. Average weekly manufacturing wage rates were US\$21.67-30.47 in Egypt (CAPMAS Labor Survey, 2002), based on an average 55-hour work week, with private sector wages on the lower end of the scale.⁵ As Figure 3 illustrates, labor costs in the Egyptian zones are less than half of the cost in Irbid, Jordan, and only a fraction of the cost in the Aegean Free Zone in Turkey and Bizerte in Tunisia.

Figure 3: Average hourly manufacturing labor costs



At US\$20.78 per week, average private sector wage rates in Alexandria tend to be below the Egyptian national average of US\$24.83 per week, and well below the Cairo Governorate average of US\$32.06 per week. While data was not available for such a comparison at the sector-level, it is reasonable to assume that manufacturing wages, which overall tend to be higher than total average wages,

⁵ This is in contrast to international trends, where private sector jobs typically pay higher wages than the public sector.

are proportionately lower in Alexandria. This puts all four sites within Alexandria a cost advantage over 10th of Ramadan.⁶

Utilities costs

While utilities typically make up a smaller proportion of operating costs, particularly for light industry and service sectors, it is still an important factor for most investors, particularly those in more capital-intensive industries.

Table 2: Benchmarking, average utility costs

	Electricity (US\$ per kWh)	Water (US\$ per m ³)	Natural Gas (US\$ per m ³)
Al Nahda Industrial Area	0.028	0.20	0.036
Borg Al Arab Industrial Zone	0.028	0.12-0.20	0.036
North Merghem Enterprise Area	0.028	0.20	0.036
Al-Ameriyeh Public Free Zone	0.027-0.032	0.20	0.036
10 th of Ramadan Industrial Area	0.028	0.12-0.20	0.036
Port Said Free Zone	0.028	0.20	0.036
Bizerte Economic Activities Park, Tunisia	0.10	1.56	N/A
Al-Hassan Industrial Estate, Jordan	0.05	1.40	N/A
Aegean Free Zone, Turkey	0.077	0.46	0.26
Jebel Ali Free Zone, UAE	0.054	1.80	0.00016

Electricity: Electricity tariffs in Egypt are similar across the various sites. Compared to its regional competitors, Egyptian electricity tariffs are relatively low. Across the comparator zones, electricity tariffs are highest at the Bizerte Free Zone in Tunisia.

Water: Likewise, water tariffs are similar across the different sites in Egypt, though they are, on average, somewhat lower in the free zones. Egyptian water tariffs are very competitive compared to the other regional sites, though they are very much the result of high subsidization. Water tariffs are substantially higher in Bizerte, Irbid, and Jebel Ali, where costs reflect the limited water resources of the MENA region.

Natural Gas: Natural gas prices are the same across all sites in Egypt. Tariffs were recently increased to US\$0.036 per cubic meter for new establishments

⁶ No comparable figures were available for Port Said.

under an agreement between the Ministry of Petroleum and the Ministry of Foreign Trade and Industry. This tariff rate is much lower than the Aegean Free Zone. Natural gas prices in the Jebel Ali Free Zone are cheapest, at less than 2/100 of \$0.01 per cubic meter.

Telecommunications costs

Many industries, including those that are not directly related to the ICT sector, are becoming increasingly reliant on high-quality telecommunications, making the cost of connectivity an important consideration. Manufacturing and service industries alike are seeing their supply chains span the globe, and cost- and quality-efficient communications to ensure that these chains remain operational. The following sections compare the costs of fixed telephony and broadband internet.⁷

Telecommunication costs in Egypt are roughly the same across all locations, and services are readily available in all five Egyptian locations under review. Egypt’s telecommunication costs moderate when compared to the competitor locations. International direct-dial rates to the US are lowest in Egypt and Jordan (based on a 3-minute call) and are highest in Turkey and Tunisia (see Table 3). Internet costs are substantially lower in Egypt than in the other four countries. Mobile telephony is also lower than most of the other countries.

Table 3: Average telecommunication costs

	Egypt Industrial Zones	Jebel Ali Free Zone, UAE	Aegean Free Zone, Turkey	Al-Hassan Industrial Estate, Jordan	Bizerte Economic Activities Park, Tunisia
Price of 3-minute call to US (US\$) ⁸	1.45	1.73	2.09	1.44	2.28
Price basket for mobile (US\$/month) ⁹	4.10	3.50	6.40	9.40	6.80
Price basket for Internet (US\$/month) ¹⁰	5.50	13.10	19.80	26.30	17.30

⁷ It should be noted that in some locations, other delivery methods, such as satellite service providers, may offer different rates than those displayed here. The costs presented here remain relevant as indicative price points across the comparator zones.

⁸ Price of call to United States is the cost of a three minute, peak rate, fixed-line call from the country to the United States.

⁹ Price basket for mobile is calculated based on the pre-paid price for 25 calls per month spread over same mobile network, other mobile networks, and mobile to fixed calls and during peak, off-peak, and weekend times. The basket also includes the price of 30 text messages per month.

Land and building costs

Land pricing policies in Egypt's industrial and free zones are very much driven by Government subsidies, resulting in prices that are substantially below market rates, in some cases reaching as low as a half, or even a third, of market rates. In a number of cases, the Government has given industrialists land for free or for a very nominal cost.

While the direct cost of land under these conditions is very low in Egypt, especially when compared to sites around the region, the indirect cost of heavy subsidies shows signs of outweighing the benefit. In Egypt, subsidy-based pricing policies have resulted in speculative purchases, resulting in non-productive industrial land. Much of the land at Al Nahda, for example, was sold to private parties at artificially depressed rates; these lands remain largely undeveloped as landowners have been holding on to their raw land in anticipation of selling it at elevated rates.

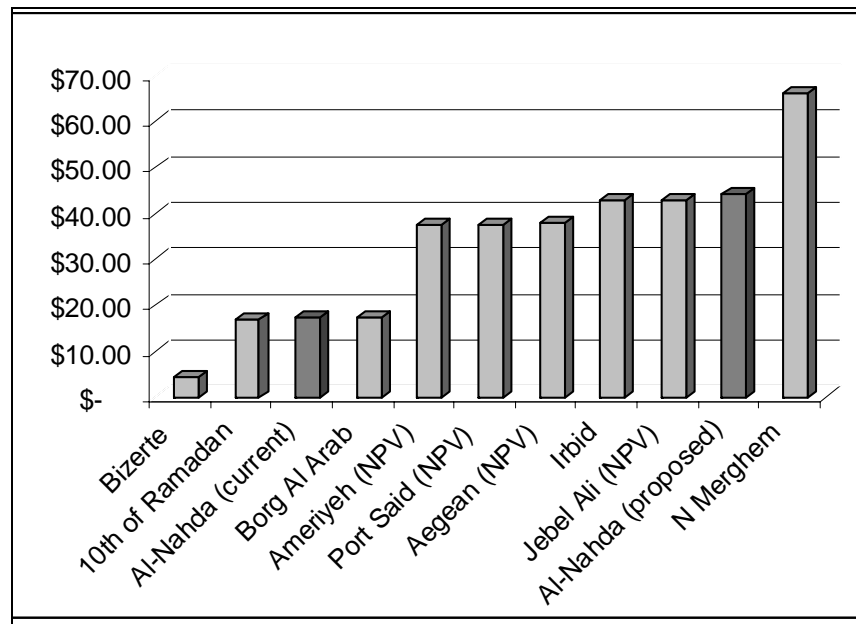
Prices for serviced land at Al Nahda and Borg Al Arab are roughly the same, currently on the order of US\$14 to US\$21 per square meter. Serviced land prices at 10th of Ramadan are within the same range, averaging US\$16.75 per square meter. Land at North Merghem is substantially higher, ranging from US\$44 to US\$88.

While much of the land at Al Nahda is currently in private hands, current pricing reflects the downward pressure imposed by the availability of subsidized land within the vicinity. Land prices in the two free zones, which are only available for lease, are substantially higher, based on their net present value of US\$37.90 per square meter, reflecting the lower degree of subsidization under the GAFI free zone regime.¹¹ While serviced land prices in the Egyptian zones are roughly comparable to most of the other zones in the region, Al-Nadha and the other sites that fall under NUCA are well below these prices (see Figure 4). The only other zone in the region that is as highly subsidized as the industrial zones in Egypt is Bizerte, where land prices are subsidized by 75 percent.

¹⁰ Price basket for Internet is calculated based on the cheapest available tariff for accessing the Internet 20 hours a month (10 hours peak and 10 hours off-peak). The basket does not include the telephone line rental but does include telephone usage charges if applicable.

¹¹ Net present value (NPV) is the present value of future returns, discounted at an appropriate rate, minus the initial cost of the investment. The appropriate interest rate is the rate on a loan if the money had been borrowed to purchase the land in the zone. Typically, real estate interest rates range from 8 to 12 percent for dollar purchases. A 20-year time horizon is assumed. For the purpose of this analysis, a discount rate of 8 percent was used. Additionally, the NPV streams take into account the escalation rates for leases as specified by each zone (5 percent every five years are the standard terms used in most of the zones).

Figure 4: Cost of serviced land (sales and lease NPVs)



Source: American Chamber of Commerce, Egypt (AmCham)

The land market study that was undertaken as part of this pre-feasibility assessment estimates that true market prices at Al Nahda would likely start at US\$44 per square meter, a figure that remains competitive vis-à-vis with prices across the region. Still, subsidized land in close proximity to even competitively priced, unsubsidized land will have a profound distorting effect on the market.

Corporate taxation and investment incentives

Investment incentives—such as tax relief schemes and duty exemptions—can provide an additional inducement to investors. Although not sufficient by themselves to attract investors, incentives can “sweeten the pot” if the fundamentals are in place.

The Egyptian Cabinet approved a new

Box 1: Egypt’s double taxation treaties

Egypt has concluded treaties for the prevention of double taxation with a number of countries, including:

- Austria
- Bahrain
- Belarus
- Belgium
- Bulgaria
- Canada
- China
- Cyprus
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Holland
- Hungary
- India
- Indonesia
- Iraq
- Italy
- Japan
- Jordan
- Korea
- Lebanon
- Libya
- Malta
- Morocco
- Norway
- Pakistan
- Palestine
- Romania
- Russia
- Singapore
- Serbia & Montenegro
- South Africa
- Sudan
- Sweden
- Switzerland
- Syria
- Tunisia
- Turkey
- UAE
- Ukraine
- United Kingdom
- United States
- Yemen

unified corporate and income tax law (No.91/2005) that was passed in June 2005. It became effective starting July 1, 2005 for personal income and January 1, 2006 for corporate income tax. The new tax law cut corporate income tax rates in half for most industrial and export-oriented activities, from 32 percent to 20 percent. In return, the new tax law revoked various articles of the Investment Guarantees and Incentives Law 8 of 1997, which provided a range of tax exemptions. Under the new tax law, exemptions as prescribed in Law No. 8 will remain valid for companies and establishments whose exemption period started before the effective date of the new tax law, until the end of the period determined. Those that had not started production by January 1, 2006 will have 3 years to do so before losing their exemptions. No new investments will be eligible for the exemptions.

While the corporate tax burden has been substantially reduced in Egypt through the recent introduction of a relatively low, flat tax rate, industrial zones must compete with locations outside Egypt that are, generally, more favorable (see Table 4). All else being equal, this puts Al Nahda and the other industrial zones at a disadvantage, although, as discussed above, incentives are rarely the determining factor for site selection.

While Egypt's tax system is currently more favorable than that of the Aegean Free Zone, Turkey is also seriously contemplating a substantial reduction in the corporate tax rate to 20 percent. The corporate tax burden is substantially lower in the other international comparator locations, where either generous tax holidays are offered, as they are in Al-Hassan Industrial Estate and Bizerte Economic Activities Park, or industrial activities are fully exempt, as they are in Jebel Ali Free Zone. Al Nahda's competitive position is similar in respect to sales or value-added taxes.

Table 4: Corporate taxation and fiscal incentives

	Corporate Taxation	Sales or Value-Added Taxes	Duty-exemptions
Al Nahda, Borg Al Arab, North Merghem, 10th of Ramadan Industrial Zones	20%	10% on most goods	None
Al-Ameriyeh and Port Said Free Zones, Egypt	20%, with exemption for exports	Exempt	Exemption on capital and production goods
Al-Hassan Industrial Estate, Jordan	15% for industry, 2 year exemption plus another 10-year reduction of 50%	16%, with exemption on fixed assets	Exemption on fixed assets
Bizerte Economic Activity Park, Tunisia	35% with 10-year exemption, 50%	Exempt	Exemption on capital equipment,

	Corporate Taxation	Sales or Value-Added Taxes	Duty-exemptions
	reduction thereafter		raw materials and semi-finished goods for export
Jebel Ali FZ, Dubai, UAE	Exempt	Exempt	Exemption on all goods, including consumer goods
Aegean FZ, Turkey	30%	Exempt	Exemption on all goods

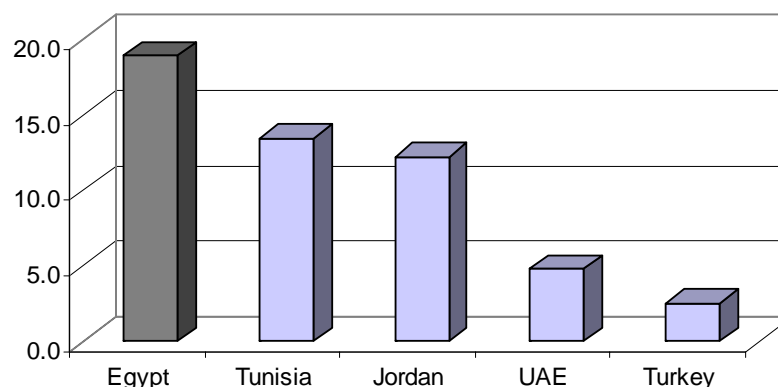
Al Nahda is also at a disadvantage in terms of duty-free privileges. Many of the comparator sites outside Egypt, as well as two sites within Egypt, are free zones and benefit from duty exemptions. While exporters at Al Nahda are technically eligible to avail themselves of Egypt’s duty drawback system, the process is reportedly very onerous and time-consuming. The Government of Egypt is in the process of streamlining these through the establishment of “model customs centers” at the ports of Alexandria, Suez, Port Said and Damietta.

Despite recent reform efforts, Egypt remains relatively more protected than its competitors. At close to 19 percent, average applied tariff rates¹² are the highest among the competitor countries (see Figure 5, below). Tunisia and Jordan also have relatively high tariffs, averaging 12.2 and 13.4 percent, respectively. All three countries have average tariffs above those of other low-income countries (13.1 percent). Average tariffs are lowest in Turkey, despite the UAE’s mostly duty-free market.

A number of the comparator sites have free zone status—including Jebel Ali, Bizerte, Ameriyeh, and Port Said. As such, exporters within these sites are permitted duty-free imports of production materials and, in some cases, capital equipment. Enterprises located at Al Nahda, which does not have free zone status, would be required to pay duties on all imports. While a duty-drawback scheme is in place in Egypt to enable exporters to recoup the cost of imports used in the production of exports, the mechanism has, to date, been poorly administered and many exporters must wait long periods before they receive refunds. Others have simply forsaken the “benefits,” given the indirect administrative costs of chasing after refunds.

¹² This is based on estimated figures for 2005.

Figure 5: Average tariff rates, Unweighted (2005)



This analysis does not take non-tariff barriers (NTBs) into account. When taking NTBs into account, the relative degree of protection in Egypt is even more evident. The World Bank's Trade Restrictiveness Index (2005) reveals that imports face substantially higher barriers than they do in the comparator countries, reaching more than 2.8 times higher than in the next highest, Tunisia. While recent reforms would have decreased the level of barriers, Egypt remains the most protectionist market amongst the comparators.

Another potential barrier to trade is the time and cost associated with importing and exporting. Egypt also performs poorly in this respect. The World Bank Doing Business indicators rank Egypt the lowest among the comparator countries (see Table 5), largely due to the costs associated with importing and exporting (including official fees, such as costs for documents, administrative fees for customs clearance and technical control, terminal handling charges and inland transport).

Table 5: Doing business indicators: Trading across borders

	UAE	Tunisia	Jordan	Turkey	Egypt
<i>Trading Across Borders (Rank)</i>	10	39	78	79	83
Documents for Export (number)	4	5	7	9	8
Time to Export (days)	18	18	24	20	20
Cost to Export (US\$ per container)	392	770	720	513	1,014
Documents for Import (number)	6	8	12	13	8
Time for Import (days)	16	29	22	25	25
Cost to Import (US\$ per container)	398	600	955	735	1,049

Business operating conditions

Analysis of the business operating environment, both on a macro level and within prospective industrial zones, is essential to understanding the broad competitive position of the proposed pilot site. The following sections briefly review overall business operating conditions, including country-wide data in the respective countries. Specific industrial zone attributes are discussed as appropriate.

Macroeconomic environment

While a major goal of industrial zones is to provide investors an improved operating environment within their confines, macroeconomic conditions continue to present an important “barometer” for international investors. Severe issues at the macroeconomic level will deter many potential investors from even considering a country, and regardless of how thoroughly a zone is insulated from its host’s broad operating environment, it alone cannot counteract the effects of an unfavorable investment environment. Investors from developed markets are especially sensitive to the effects of excessive bureaucracy, corruption, and instability in the legal or regulatory framework.

Over the past two years, Egypt has made important strides in stabilizing its overall business climate and economy, accelerating reforms aimed at tackling obstacles to higher growth and employment creation. The IMF recently praised the Government of Egypt for its efforts, lauding recent tax and related administrative reforms as key to promoting macroeconomic stability and laying a sustainable foundation for its development.

Egypt’s recent economic performance demonstrates the impact of these ongoing reform efforts, and it places Egypt well in the range of the countries benchmarked in this Study. At 5.6 percent annually in 2005-06, economic growth has been moderately high, and IMF forecasts estimate that these levels are sustainable over the foreseeable term. The economy is also showing positive signs of diversification. Egypt’s export sector remains an important engine of growth, but economic growth has become more broad-based.

The effects of these relatively positive signs on the investment market are evident. Investment, measured as gross capital formation as a share of GDP, has been relatively strong, accounting for 16 to 17 percent of GDP over the past few years. Growth in investment is uneven, however, and the manufacturing sector—which accounts for just over 18 percent of Egypt’s GDP—has grown much more sluggishly than other sectors of the economy.

As Table 6 demonstrates, Egypt’s manufacturing sector (which includes downstream gas and oil industries) is comparable to Jordan and Tunisia, and larger than both Turkey and the UAE, given the relative sizes of their economies. Manufacturing growth is healthier in all of the surveyed economies.

Table 6: Comparative structure of GDP and growth of manufacturing

	Egypt (2005)	UAE (2003)	Jordan (2005)	Turkey (2005)	Tunisia (2005)
Agriculture	13.9%	3.2%	2.2%	11.9%	12.6%
Industry	38.7%	54.1%	28.9%	23.7%	28.2%
<i>Manufacturing</i>	<i>18.2%</i>	<i>13.7%</i>	<i>19.2%</i>	<i>14.0%</i>	<i>18.1%</i>
<i>Growth rate</i>	3.3%	<i>NA</i>	11.8%	6.3%	4.6%
Services	47.4%	42.7%	68.8%	64.5%	59.2%

Source: World Bank, Countries At-A-Glance dataset.

A number of other macro-level indicators serve international investors as important bellwethers of business operating conditions. While a more detailed analysis is available in Appendix A, summaries of major international indicators provide a useful overview of how Egypt’s business operating environment compares to the benchmarked economies.

- **Regulatory Environment:** In addition to economic stability, companies look at the degree of regulation and the extent to which the policy environment is stable. Investors must be reasonably assured that future governments will not reverse the commercial and investment policies that attracted them in the first place. In addition, companies must be assured that their investments will be safe physically from political or civil unrest. This is particularly important for those industries requiring substantial capital investments.

Egypt is ranked significantly lower than the comparator economies in the Index of Economic Freedom,¹³ and it has done so consistently for more than a decade. Significantly, Egypt ranks absolute worst among its four competitors in taxation and fiscal burdens, and it is tied for last place with Turkey in the extent of its regulatory burdens and the reach of its informal economy;

- **Impact of Regulatory Environment:** A more in-depth view at how Egypt’s regulatory environment fares against its competitors is provided by the World Bank’s “Doing Business” indicators.¹⁴ Egypt’s overall ranking of 165th places

¹³ The Index of Economic Freedom is a study undertaken jointly by the Heritage Foundation, a Washington, DC think tank, and the Wall Street Journal. The index ranks economies across 50 distinct indicators, including trade barriers, taxation and fiscal policy, Government consumption and economic intervention, monetary policy, foreign investment, banking and finance, wages and prices, property rights, regulation and the informal economy. In the Study’s scoring methodology, the lower the score, overall and for each factor, the greater degree of market liberalization and implementation of market-augmenting policies of the Government.

¹⁴ Unlike other indicators of economic performance, the “Doing Business” study attempts to quantify the microeconomic impact of macroeconomic policies in 10 spheres of business activities: starting a business, dealing with licenses, employing workers, registering property,

its business environment among the least conducive to supporting business in the world. Of the 17 countries of the Middle East/North Africa region, its overall regulatory environment ranks 17th. However, the important business environment reforms implemented in Egypt during the past year should translate into some significant improvement in its ranking in several of these benchmarking instruments;

- **Political and Economic Risk:** One of the most comprehensive economic and political risk ratings is produced by Political Risk Services in their International Country Risk Guide, a composite rating that comprises 22 variables across three categories of risk: political, financial and economic.¹⁵ Here, too, Egypt does not fare well against the comparator economies, ranking lower than the UAE, Jordan and Tunisia. Only Turkey, with its comparatively high level of financial and economic risk, ranks lower than Egypt among the selected countries; and
- **Foreign Investment Flows:** Because investment brings with it a number of positive forces, such as the availability of FDI-related services or highly skilled labor, spillovers of know-how from one company to another, and other advantages of companies' being physically close to each other, it is said to have an agglomeration effect. Locations that have succeeded in attracting inward investment are more likely to attract new investment than those with less success in the past, unless the environment for investment in such locations is perceived to have changed dramatically for the better. The presence of foreign investors, in particular, can provide an important positive signal to other potential investors that a given location is conducive to providing a favorable investment climate.

Recent estimates by UNCTAD suggest that the rate of net FDI inflows to Egypt has been very uneven. Still, compared to most of the comparator countries Egypt has performed relatively well over recent years, and inward FDI stock as a share of GDP surpassed both Turkey and the UAE. In spite of this, UNCTAD recently classified Egypt as an under-performer in terms of FDI, with both low potential and low performance. All of the comparator

getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and closing a business.

¹⁵ The Political Risk Component includes government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability, bureaucracy quality; the financial risk component includes foreign debt as a percentage of GDP, foreign debt service as a percentage of exports of goods and services, current account as a percentage of exports of goods and services, net liquidity as months of import cover, exchange rate stability; and the economic risk component includes GDP per head of population, real annual GDP growth, annual inflation rate, budget balance as a percentage of GDP, current account balance as a percentage of GDP.

economies were all identified as having high potential, though only Tunisia appears to be meeting its potential.

Transportation infrastructure

Because most foreign-owned industrial enterprises operating in free zones are export-oriented and are also dependent on the import of capital equipment and raw materials, access to cheap and reliable transportation services can make or break a business. Many world-class industrial zones are built in close proximity to key transportation infrastructure:

- Jebel Ali Free Zone is built around the Dubai Port, the leading transshipment hub in the Middle East. The zone is also located within 30 minutes to the Dubai International Airport, the UAE's main international cargo and passenger terminal. Together, this transportation infrastructure makes it a leading hub for logistics and distribution;
- Bizerte Economic Activity Park is located in close proximity to the Bizerte Port—one site is physically adjacent to the port itself. Bizerte Port handles about one-fourth of the country's imports and exports. Bizerte is also well-connected to Tunis and other parts of Tunisia through a well-developed road and rail infrastructure; and
- Aegean Free Zone is located 14 kilometers from Izmir Port, which handles approximately 20 percent of Turkey's exports. The zone is also located within 4 kilometers of Adnan Menderes International Airport, which offers direct flights to/from the Middle East, Eastern Europe, Central Asia and South Asia.

Alexandria has a relatively well-developed transportation infrastructure. The following highlights some of its strategic advantages, as well as some of its challenges:

Sea transport

Alexandria is served by the Ports of Alexandria and Dekheila, which is one of Egypt's largest and most important ports. The Port of Alexandria, Egypt is located on the western extremity of the Nile River Delta. The port is about 150 nautical miles west, by sea, of the entrance to the Suez Canal and Said. The port serves three of the comparator sites—Al Nahda, Borg Al Arab and Ameriya Free Zone—though Borg Al Arab is somewhat disadvantaged compared to the other two, given its distance to the ports. The port currently handles more than 70 percent of all imported containers and close to half of Egypt's exported containers. However, Alexandria is a crowded port with numerous anchored vessels and congested traffic, resulting in long vessel stays, which can exceed 40 days. The Port of Dekheila is situated 7 km west of Alexandria and serves as an extension to that port. Dekheila port is a natural extension to Alexandria port due to the increasing of the containers movement in Alexandria port and the increasing growth of industrial development and free zones in Alexandria west

delta. The Egyptian Government also plans to upgrade the infrastructure at Alexandria port but would like to see greater private participation at the port. The Dekheila section of Alexandria Port, lying west of the old port, is seen as the best prospects for future expansion.

Air transport

Alexandria is also served by two airports, Airport of Alexandria and Borg Al Arab Airport. Both airports host regular passenger flights, as well as charter flights. Local flights are monopolized by Egypt Air, although both airports also host international flights. Only Alexandria Airport offers cargo facilities, though the total volume has been negligible, amounting to a mere 0.1 percent of total air cargo movements and comprising mostly personal and perishable goods.

Ground transport

The majority of cargo movements in and out of Alexandria are by truck, which accounts for some 70 percent of the total cargo movements. The road network in Alexandria is relatively well developed, connecting the city to surrounding Governorates, including two main highways connecting Alexandria to Cairo. Al Nahda is located along one of these highways. Alexandria's rail network, though mostly geared toward passenger movements, does move the remaining cargo volume, made up primarily of coal. A rail line connects directly to Al Nahda, though a future extension to Borg Al Arab has been decreed to support the areas future development.

Overall, while Alexandria offers a wide transportation network, expansions and improvements will be critical to ensuring that the zone enterprises can efficiently move their cargo in and out of Egypt. A pilot zone in Alexandria will be competing not only with other sites in Egypt but with others in the region, such as Jebel Ali, which provides a strategic and efficient transport and logistics network.

Utilities and telecommunications infrastructure

Most enterprises, both manufacturing and service-oriented, are dependent to some degree on the availability of utilities, including water, power and telecommunications.

Power infrastructure

The availability of reliable power is particularly important for both heavy and light manufacturers. Blackouts, brownouts, and other service interruptions can have a negative impact on operations—unplanned interruptions can also damage expensive equipment, disrupting operations and increasing costs well beyond the duration of the interruption.

The Egyptian Electricity Holding Company is responsible for generating, transmitting and distributing electricity throughout Egypt through a number of subsidiary companies that are organized geographically. The sector has undergone

substantial restructuring in recent years, including privatization and the promotion of private sector participation through BOTs. The West Delta Electricity Production Company generates electricity for Alexandria and other nearby Governorates. Capacity at Al Nahda has largely kept pace with demand, though there is very little excess capacity. Alexandria-wide demand grew by 94 percent between 1999 and 2003 and is expected to continue to grow at a rapid pace and will require concomitant upgrades in generation, transmission and distribution capacities to meet new industrial demand.

Water and sewage infrastructure

Water is provided by the Alexandria Water Company. There are seven water treatment plants in Alexandria Governorate with several more under construction. Total production is more than sufficient for demand and excess capacity is available to support industrial expansion. Total planned water capacity in 2003 reached close to 3,000 thousand cubic meters per day, total demand reached only one-third of this, averaging 1,350 thousand cubic meters per day, though shortages often occur during the summer months. Demand is expected to increase to close to 4,000 cubic meters per day by 2017. Water sewage disposal, on the other hand, tends to be in short supply, despite recent expansions of the network. Current capacity is some 1,000 thousand cubic meters per day, which is insufficient to meet even short-term growth projections.

Telecommunications infrastructure

Telecom Egypt is the public monopoly telecommunications provider in Egypt and largest provider of fixed-line services in the Middle East, with more than 10.4 million customers as at the end of December 2005. Egypt's telecommunications and information technology (IT) sector is one of the largest in the Middle East and Africa. Over the past eight years the Government has singled out telecoms and IT as an industry to back and has made strenuous efforts to support the sector. Mobile services are now entirely in private hands and private companies have been permitted to operate in Internet service and data network provision. There are currently two private mobile operators and a number of Internet Service Providers.

Despite efforts to modernize and expand Egypt's telecommunications and IT network, Egypt's existing infrastructure falls short compared to most of its competitors. Egypt has a population of more than 70 million residents and tele-density of 14.6 percent, far lower than the competitor locations (see Table 7, below). Egypt also has among the lowest fixed-line densities in the region and the lowest mobile penetration. Internet usage and broadband availability is also the lowest among the comparator countries. The UAE outperforms all the other countries, despite monopoly control of all aspects of the telecommunications market. The UAE has the most advanced telecommunications and IT network among the comparator countries, with high fixed-line and mobile tele-densities and high internet penetration.

Table 7: Telecommunications and internet penetration, 2004

	UAE	Turkey	Jordan	Egypt	Tunisia
Level of Competition Intl Long Distance	M (JV)	C	M (Public)	M (Public)	M (Public)
Level of Competition - Mobile	M (JV)	P	P	P	C
Level of Competition - Internet	M (JV)	C	C	C	C
Telephone Mainlines per 1,000 People	277	267	117	138 (2004) 146 (2005)	120
Mobile Subscribers per 1,000 People	860	494	272	110	373
Internet Users per 1,000 People	397	78	86	57	83
Broadband Subscribers per 1,000 people	13.1	0.8	0.9	0.4	0.7
International Internet Bandwidth (bits per person)*	543	40	29	23	22

M=Monopoly P=Partial Competition C=Competition

*Contracted capacity of international connections between countries for transmitting Internet traffic), divided by population.

Source: World Bank, ICT-At-A-Glance dataset, 2004.

Labor market policies and access to human resources

A country's labor force is often one of the key determinants affecting the location of investment, particularly in labor-intensive industries, including many manufacturing sectors.

Alexandria's population numbers some 3.8 million, equivalent to 5 percent of Egypt's total population, and the local labor force was estimated to be 877,000 in 1999. Estimates for 2001 put the labor force closer to 1.2 million. Unemployment varies by district, ranging from 1.3 percent in Borg Al Arab to 10.1 percent in Manshieh (2001).

Alexandria is host to two universities, 20 colleges and 15 institutes of higher learning. The University of Alexandria and Arab Academy for Science Technology and Maritime Transport together enrolled some 145,500 students in 2002/03. The total number of students enrolled in scientific faculties at Alexandria University was more than 35,000. The Arab Academy enrolled

another 12,000 students. While data on enrollment in other tertiary institutions in Alexandria is not readily available, information provided by existing industrialists strongly suggests that there is a dearth of technical training in the area. Most workers lack even basic skills and employers must arrange for their own training for their work force.

In terms of labor market policies, Egypt tends to be perceived as more flexible than other labor markets, including some of the locations under review. As part of its market risk assessments, The Economist Intelligence Unit provides ratings on labor market risk. Countries are rated on a scale of 1 to 100, where a score of 100 represents a highly risky environment. Among the locations under review, Egypt offers a moderate level of risk (see Table 8). The UAE is somewhat less restrictive, while Turkey is perceived to be moderately high risk. Nevertheless, in broad terms Egypt imposes relatively restrictive hiring and firing regulations.

Table 8: Labor market risk scores, July 2005

Country	Labor Market Risk Score	Comments
UAE	32	Increasing risk of immigration quotas; Emiratization
Egypt	39	Labor strikes; strict hiring/firing regulations
Turkey	54	Strict hiring/firing regulations; skills shortage

Egypt ranks amongst the lowest in all the labor-regulation related Doing Business Indicators (see Table 9), far below the scores of each of the comparator countries. Egypt's score for "difficulty of firing" is the worst possible score available and the costs associated with firing are exorbitantly high. Jordan is the most liberal among the five countries, ranking the highest in most of the categories.

Table 9: Doing business indicators: Employing workers

	Jordan	UAE	Tunisia	Egypt	Turkey
<i>Employing Workers</i>	30	57	92	144	146
Difficulty of Hiring Index (0-100)	11	0	17	0	56
Rigidity of Hours Index (0-100)	20	60	40	60	60
Difficulty of Firing Index (0-100)	50	0	80	100	30
Rigidity of Employment Index (0-100)	27	20	46	53	49
Non-Wage Labor Cost**	11	13	22	26	22
Firing Cost (weeks of salary)	4	84	17	186	95

Market access

Access to competitively-priced inputs is a key determinant in defining industry competitiveness and, therefore, is an important factor affecting the site selection process.

Import regime

Egypt has been gradually reforming its import regime, in line with its international commitments, to better integrate Egypt with the global economy through export-led growth. In late 2004, the GOE announced a new tariff structure, removing services fees and import surcharges, reducing the number of ad valorem tariff bands from 27 to 6, dismantling tariff inconsistencies, and rationalizing national sub-headings above the six-digit level of the Harmonized System (HS). The new tariff structure includes six tariff rates, pegged to the degree of processing of the good that range from 2 percent on raw materials, spare parts, and primary feeding products to 40 percent on durable consumer goods.

Regional integration and preferential market access

While domestic trade policies remain relatively protectionist, Egypt has attempted to improve the competitiveness of its exporters through its participation in a number of bilateral and multilateral trade agreements and protocols:

- **United States:** Egypt recently signed the Qualifying Industrial Zones Protocol with the United States (U.S.), which is an extension to the U.S.-Israel Free Trade Agreement (FTA), providing exporters within designated areas, duty-free access to the U.S. market. All the comparator sites within Egypt are currently designated beneficiaries under the QIZs. While the textiles and apparel sector appear to be the greatest beneficiaries since implementation in 2005, theoretically all sectors have the opportunity to benefit provide they can meet the rules of origin criteria, which include a minimum level of Israeli content. The QIZs are a unilateral concession by the U.S.—as such, Egypt was not required to provide reciprocal duty-free privileges for U.S. goods entering the Egyptian market; and
- **European Union:** In the Barcelona Declaration of 1995, the Euro-Mediterranean Partners agreed on the establishment of a Euro-Mediterranean Free Trade Area by 2010. Egypt has also negotiated a Partnership Agreement with the EU, which was implemented in 2001. The Agreement provides Egypt with duty-free access for virtually all processed or manufactured non-agricultural goods, while access for Egyptian agricultural commodities is to be gradually liberalized, though not all will be duty-free and some will be subjected to quotas. Partnership Agreements have been concluded and implemented with several other countries in the region, including Algeria, Israel, Jordan, Lebanon, Morocco, Tunisia and Turkey.

Within the region, Egypt is a member of a number of multilateral trade agreements:

- **Arab League:** The Pan-Arab Free Trade Area was established by the Arab League's Economic and Social Council in 1997. Currently 17 members of the Arab League are participating in the FTA, including Egypt, United Arab Emirates (UAE), Bahrain, Jordan, Tunisia, Saudi Arabia, Sudan, Syria, Iraq, Oman, West Bank/Gaza, Qatar, Kuwait, Lebanon, Libya, Morocco, Yemen. Algeria is in the process of finalizing the administrative procedures to become the 18th member. The total number of consumers in the AFTA region is 320 million people and can constitute one of the largest trading blocks in the world. Tariff barriers were gradually reduced since 1997, with complete elimination of tariffs on most goods implemented in 2005;
- **Arabic Mediterranean:** The Agadir Agreement was signed in February 2004 between Egypt, Jordan, Morocco and Tunisia. The agreement established the FTA in 2005. The Agadir Agreement will create an integrated market of over 100 million people. A key element of the agreement is the adoption of the Pan-Euromed Protocol of Origin, allowing countries to benefit from diagonal accumulation. Products coming from Morocco, Tunisia or Jordan will be considered as originating in Egypt, provided that the working or processing carried out in Egypt goes beyond the operations considered to be insufficient working or processing, according to the protocol. The cumulative Rules of Origin will also apply under each country's Euro-Med Agreement; and
- **Africa:** Egypt is also a party to the COMESA FTA, which will provide duty-free access to a number of African countries. The FTA was first implemented in 2000 and covers both tariff and non-tariff barriers. Current members include Burundi, Djibouti, Egypt, Kenya, Madagascar, Malawi, Mauritius, Rwanda, Sudan, Zambia and Zimbabwe. A number of other COMESA members provide varying degrees of preferential market access to Egypt.

Egypt has also forged a number of bilateral agreements, providing varying degrees of preferential access to other regional markets, including Lebanon, Syria, Libya, and Iraq. Egypt's broad range of preferential and free trade arrangements provides it with relatively favorable terms when compared to its regional competitors (see Table 10).

Table 10: Market access agreements and arrangements

	Access to EU	Access to MENA	Access to US	Access to Other
Egypt Industrial and Free Zones	Partnership Agreement	Agadir Agreement AFTA Syria, Libya, Jordan, Turkey, Protocol w/Iraq	QIZs	COMESA FTA
Al-Hassan Industrial Estate, Jordan	Partnership Agreement EFTA	Agadir Agreement AFTA Egypt, Algeria, Libya, Syria, Kuwait, Bahrain	FTA, QIZs	AFTA
Aegean Free Zone, Turkey	EU Customs Union EFTA, Romania, Croatia, Bulgaria, Bosnia-Herzegovina, Macedonia	Egypt, Morocco, Israel		
Bizerte Economic Activities Area, Tunisia	Partnership Agreement	Agadir Agreement AFTA		
Jebel Ali Free Zone, UAE		AFTA	FTA under negotiation	FTA with Australia under negotiation

Benchmarking conclusions

Table 11 below provides a summary of the benchmarking results for a range of broad industry sectors. It also provides a sense of how important each of these factors is in investment decisions in these sectors. The relative advantage of industrial land in Alexandria—strong, moderate, or weak—is indicated by color, while the relative importance of each factor—high, medium, or low—is indicated textually within the table. Though specific industry sub-sectors may differ in terms of a factor’s importance, this summary table provides a broad snapshot of the types of sectors that may be the most attractive targets for location in a pilot industrial zone in Alexandria.

Table 11: Alexandria’s comparative advantage and the relative importance of benchmarked factors across broad industry sectors

Industry Sector	Light Industry		Medium Industry		Heavy Industry	
<i>Example</i>	<i>Apparel</i>		<i>Textiles, Food Proc</i>		<i>Petrochem</i>	
Business Operating Costs						
	Importance of factor	Alexandria rating	Importance of factor	Alexandria rating	Importance of factor	Alexandria rating
Labor Cost	High	Strong	High	Strong	Medium	Strong
Electricity Tariffs	High	Strong	High	Strong	High	Strong
Water Tariffs	Low	Strong	Medium	Strong	Medium	Strong
Telecom Tariffs	Medium	Moderate	Medium	Moderate	Medium	Moderate
Land & Building Costs	Medium	Moderate	Medium	Moderate	High	Moderate
Investment Incentives	Low	Weak	Low	Weak	Low	Weak
Business Operating Conditions and Market Access						
	Importance of factor	Alexandria rating	Importance of factor	Alexandria rating	Importance of factor	Alexandria rating
Macroeconomic and Political Stability	Low	Weak	Medium	Weak	High	Weak
Labor Policy and HR	High	Weak	High	Weak	Medium	Weak
Sea Port Infrastructure	High	Moderate	High	Moderate	High	Moderate
Airport Infrastructure	Low	Moderate	Low	Moderate	Low	Moderate
Ground Transport Infrastructure*	Medium	Moderate	Medium	Moderate	High	Moderate
Electricity Infrastructure	Medium	Moderate	High	Moderate	High	Moderate
Water Infrastructure	Low	Moderate	Low	Moderate	Medium	Moderate
Telecommunications Infrastructure	Medium	Moderate	Medium	Moderate	Medium	Moderate
Market Access	High	Strong	High	Strong	Medium	Strong

Unsurprisingly, a hypothetical industrial zone in Alexandria rates high in some factors and low in others. A well-executed pilot site in the right location would be relatively competitive from a factor-cost perspective, and it would also benefit from adequate access to infrastructure and transportation networks. Unfortunately, however, in terms of its macroeconomic and regulatory environment, Egypt ranks relatively low, which can indirectly increase the cost of doing business. On balance, the right pilot site would provide an attractive environment for light industry; the attraction of medium- to heavy-industries is likely to be driven more

by access to natural resources or upstream industries that can supply material inputs competitively.

It is important to note that no location in the world is strong in every important investment factor and few locations in the world are a “perfect fit” for any broad industry sector. Investors look instead to find an acceptable balance that will offer them a given level of operating efficiency. From an investment promotion point-of-view, the ultimate goal is to identify specific sub-sectors and niche activities that most closely match the location’s competitive positioning.

On balance, Al Nahda and Borg Al Arab both provide attractive environments for light industries. The attraction of medium- to heavy-industries is likely to be driven more by access to natural resources or upstream industries that can supply material inputs competitively.

6 Investment market analysis

Industrial zones in Egypt have historically attracted a very heterogeneous mix of investment, both in terms of industrial makeup and the level of investor represented. As this Study makes clear, a variety of factors have contributed to this mix, including a confusing array of regulatory frameworks and zone designation dominated by supply, rather than demand side concerns.

In examining the potential market for a prospective pilot site, it is important to recognize that to date there has been no market-driven model for industrial land in Egypt. With perhaps only the partial exception of GAFI's free zones, industrial land has not historically been treated as "product" to be differentiated and marketed. Instead, industrial zones have been seen primarily as a planning tool, and companies "choose" to invest in them essentially because they have been given no other choice.

This section of the Study seeks to provide a preliminary assessment of which industries might be attracted to a world-class industrial zone in Alexandria. While this market assessment is informed by the preceding benchmarking analysis, it is not driven exclusively by its results. Indeed, for purposes of this assessment, it is assumed that at least some of the issues highlighted in the benchmarking assessment will be mitigated by the introduction of a functioning framework for the development and operation of industrial zones.

Methodology

As a point of departure, the Study examines industries that are now proving to be the most active in the Alexandria region, implicitly recognizing that the market itself is the best indicator of promising industrial activities.

For purposes of this report, "promising activities" is meant to denote industries with potential for growth in an industrial zone in the vicinity of Alexandria. This includes forecasts for growth in the immediate- and short-term, as well as projections for growth in the medium term. In the case of the former, forecasts are based on a survey of current investment trends and discussions with investors in the Alexandria region. Longer term projections build on these, adding analysis of how industry is likely to build on earlier investment, progressing up the value chains of their respective industries and diversifying as support and services respond to growing market mass.

Sectors that show promise in the immediate- and medium-terms are then evaluated to identify the most promising sub-sectors and niche activities for investment at the pilot site. Factors for analysis include:

- **Current industry structure and trends in Egypt:** This includes local industry production, export and employment trends, providing the basis for potential expansion at the pilot site;
- **Trends in international and regional markets,** including investment trends and market forecasts, as well as factors shaping demand of local, foreign and regional investors that could impact, positively or negatively, the existing industry in Alexandria and, hence, the medium- to longer-term prospects for development at Al Nahda. These international and regional markets also provide important guidance on which sub-sectors may have the strongest potential for development at Al Nahda; and
- **Industry location requirements** are matched against Al Nahda's comparative advantages and those of its competitors, with specific reference to the potential impact of competing regional projects and locations on the industry's development at Al Nahda. Industry location requirements are also assessed in order to provide insight to sector-specific requirements that should be factored into the design of the site.

The objective of this analysis is the identification of promising sub-sectors for investment in Alexandria, as well as potential source markets for that investment. It is not intended to provide a definitive list of industries and/or sub-sectors for development at the pilot site, but a preliminary assessment of the *types* of activities that are likely to be attracted to a pilot site in Alexandria, based on a reasonable estimate of their future growth potential given expected market trends.

The results of this analysis are presented in the respective demand forecast sections of Borg Al Arab and Al Nahda.

Selected short-list of industries

The following short list of industries is based primarily on a survey of industrial activity in Alexandria, drawing on studies made available by the World Bank, investment data for existing industrial land, and interviews with existing investors in a variety of industrial zones.

- **Textiles and Apparel.** Egypt is a leading producer of cotton textiles, apparel and other made-up textile products. Existing industries in Alexandria already account for 12 percent of firms in the textile and apparel sector. The likely pilot site's access to relatively inexpensive skilled labor and other factor inputs, coupled with Egypt's branded image in the international marketplace, suggest that the textiles and apparel sector has high potential for growth in the near- to medium-term. Long term prospects will depend on Egypt's ability to upgrade its competitiveness in an increasingly liberalized global marketplace, especially vis-à-vis China, India and other emerging textiles giants;
- **Food Processing.** Alexandria has a well established food processing sector that serves both domestic and regional markets. In close proximity to Egypt's

bread basket, where a wide array of vegetables and fruits are produced and consumed, the likely pilot site will have the opportunity to exploit a growing market for processed foods. In the longer term, export opportunities are likely to expand, and Egyptian firms will have the potential to move up the value chain to serve more sophisticated markets at home and abroad;

- **Furniture.** Egypt has a sizable furniture industry, clustered around Damietta, a neighboring Governorate to Alexandria. While Alexandria's furniture cluster is relatively small in comparison, it has a distinct reputation for its niche in the reproduction of French antique furniture. This provides producers at a likely pilot site with the opportunity to leverage both the reputation of nearby Damietta and Alexandria's own niche producers. Long term growth is likely to come through diversifying product lines to serve both broader export markets and evolving needs at home;
- **Pharmaceuticals.** Egypt has a large and relatively mature pharmaceuticals market, with a strong market position in a number of bulk and dosage products. With increasing demand in the MENA and Sub-Saharan Africa region, a pilot site has the potential to expand an already established pharmaceuticals industry. In the longer term, demand will rise as markets demand more diverse, higher value products. Pharmaceutical research and design, while attractive steps up the value chain, are not likely to seek to locate at any of the potential pilot sites; and
- **Fabricated Plastics.** Alexandria is host to a number of downstream petrochemical industries and is expected to attract substantial new investments in the next few years. This will provide Alexandria with a strong supply base of a range of materials to feed its small but growing fabricated plastics industry. Future demand is likely to expand as producers both diversify their production, moving away from simple implements and containers to produce more complex components, and move up the value chain.

In addition to these sectors, which are examined in detail below, the Study also highlights potential demand in **downstream aluminum** products, based on the prospects of a sizeable investment in an aluminum smelter being examined by a prominent Indian multi-national currently operating other projects in Al Nahda. This sector is discussed only briefly, as its potential is entirely contingent upon another investment that is now only in the early stages of assessment by a single investor.

Industry analysis

Textiles and apparel

Current industry structure and trends in Egypt

The textile and apparel sector is Egypt's third largest industry sector (after chemicals and food processing), reaching some US\$20 billion in output in 2004. Egypt is the largest producer worldwide of long (LS) and extra long staple (ELS) cotton, accounting for 50 percent of world production,¹⁶ and has built a brand reputation for its quality of cotton. The Egyptian textiles and apparel industry is vertically integrated, covering the entire spectrum of activities, from cotton growing to yarn production to spinning and weaving to the manufacturing of made-up textile articles, including both apparel and home textiles (linens and floor coverings)

Egypt boasts more than 5,800 enterprises engaged in the textiles and apparel sectors. The textiles and apparel sectors are estimated to employ more than 500,000 workers throughout Egypt. Due, in part, to the vertical integration of Egypt's textile and apparel sector, there are no hard estimates on the breakdown of the textile and apparel industry into its various segments—fiber production, spinning and weaving, and ready-made apparel and other finished textile products (e.g. home textiles); however, it is estimated that some 1,000 enterprises are engaged in the spinning and weaving segment alone. Given the higher labor-intensity of the apparel and made-up textile segments, it is presumed that the majority of workers are employed in those segments.

The spinning and weaving segments are heavily dominated by public-sector companies that account for close to 75 percent of spinning production in 2001 (down from 90 percent in 1998) and 60 percent of weaving (1998); public-sector companies only account for 30 percent of production in the apparel segment.

A substantial proportion of Egypt's production of textile and apparel products is destined to the domestic market. While many have attributed this to the anti-export bias that is inherent in Egypt's tariff structure (where tariffs escalate as one moves up the production chain from raw cotton to fibers to fabric to apparel and made-up textiles), others have attributed it to supply-side productivity and efficiency factors, including both those internal and external (e.g. policy and infrastructure issues) to enterprises (some of these factors are discussed in more detail below).

¹⁶ Regional Agricultural Trade Expansion Support Program (RATES), "Cotton-Textile-Apparel Value Chain Report, Egypt" (Nairobi: RATES, February 2005), p. 6.

Egypt is nevertheless a major exporter of textiles, apparel and other made-up textile products. Yarn is largely destined to EU markets (especially Italy), while apparel and home textiles are largely destined to the U.S. market. Measuring Egypt's competitiveness using "revealed comparative advantage",¹⁷ Egypt demonstrates a substantial comparative advantage in both textiles and apparel/ready-made textiles (based on 2004 data), though the relative strength of that comparative advantage is likely to shift now that the MFA, which governed much of this trade, is phased out. Despite the heavy concentration of public-sector companies in the spinning segment, Egypt has maintained a strong comparative advantage in textiles, thanks to the premium quality of ELS cotton that has few substitutes in the world.

Egypt's mix of textiles and apparel exports has shifted over recent years. Between 2001 and 2004, there was a marked decline in the growth of Egyptian textile exports, largely due to a decline in the export of cotton yarn that competes with heavily subsidized pima cotton yarn in the U.S.¹⁸ There has also been a downsizing of that sector as public-sector companies have withdrawn from production and few private companies have replaced them (the reasons for this are discussed in more detail below). However, the growth rate of both apparel and other made-up textile exports has accelerated over the same period, though there has been a strong shift away from woven garments (which have historically dominated Egypt's apparel sector) in favor of knitted garments, a consequence of shifting trends in the fashion industry.

Table 12: Egypt's major textiles, apparel exports (2004)

Product	US\$ (thousands)
Men's or boys' suits, ensembles	\$ 196,670
Cotton, not carded or combed	\$ 178,997
Women's or girls' suits, ensembles	\$ 176,538
Bed linen, table linen, toilet line	\$ 160,832
T-shirts, singlets and other vests	\$ 151,117
Cotton yarn (other than sewing thread)	\$ 145,291
Jerseys, pullovers, cardigans	\$ 96,582

¹⁷ Economists often utilize the concept of "revealed" comparative advantage to identify countries whose factor endowments make it advantageous for them to specialize in the production of a good. Revealed comparative advantage (RCA) analyses use export statistics to determine whether a country is at a comparative advantage in the production of a good. The RCA index for country in the production of product j has been defined as:

$$RCA_{ij} = [x_{ij}/X_j]/[x_{wj}/X_w] * 100$$

where x_{ij} and x_{wj} represent the value of j exported by country i and the world, while X_j and X_w are total exports by j and the world, respectively. If the RCA value exceeds unity, the country is said to have a comparative advantage in the production of product j, in contrast, if the RCA index is below one the country is at a comparative disadvantage in the good.

¹⁸ Under the US Farm Act (2002), a range of support programs are provided to cotton producers to support competitiveness, including specific measures to support ELS cotton (primarily pima varieties), which are the closest substitutes for Egypt's giza varieties of ELS cotton.

Product	US\$ (thousands)
Carpets and other textile floor coverings	\$ 84,313
Carpets and other textile floor coverings	\$ 70,731
Women's or girls' slips, petticoats	\$ 65,656
Men's or boys' shirts, knitted or crocheted	\$ 45,506
Men's or boys' underpants, briefs	\$ 36,016
Women's or girls' suits, ensembles	\$ 28,230
Men's or boys' shirts	\$ 27,297
Flax, raw or processed but not spun	\$ 22,353
Men's or boys' suits, ensembles	\$ 18,473
Woven fabrics of cotton	\$ 17,491
Sacks and bags	\$ 16,925
Babies' garments and clothing accessories	\$ 16,043
Tire cord fabric of high tenacity	\$ 14,340
Woven fabrics of synthetic filament	\$ 12,703
Women's or girls' blouses, shirts	\$ 12,171
Babies' garments and clothing accessories	\$ 10,775
Other carpets and other textile flooring	\$ 8,305
Track suits, ski suits and swimwear	\$ 8,013

Source: COMTRADE

In 2004, textile and apparel exports were valued at more than \$1,000 million. In 2005, the sector experienced a substantial decline in exports, which only reached \$650 million, largely owing to the ongoing slump in cotton yarn exports. Table 12, above, shows some of Egypt's top textile and apparel exports in 2004. Apparel and home textiles exports have, instead, grown substantially with the implementation of QIZ protocol, enabling Egypt to stave off a loss of competitiveness in light of the phase-out of the Multi-Fiber Agreement. Textiles and apparel are the largest drivers of Egypt's QIZ exports, accounting for 97 percent of QIZ exports in 2005; growth accelerated substantially in some segments, including floor coverings (39 percent increase over 2004), other home textiles (14 percent) and fabrics (20 percent)—resulting in increased market shares for floor coverings, fabrics, and even apparel.

Alexandria's textile and apparel sector reflects a structure and trends similar to those described above. Alexandria-based industries account for approximately 12 percent of Egypt's textiles and apparel manufacturing. The sector comprises some 2,200 enterprises, of which 1,500 are smaller-scale enterprises (many are single-proprietorships). Of the larger enterprises, most are under Egyptian ownership. Total employment in Alexandria's textile and apparel sector is currently estimated at 7,500. Like the sector overall, Alexandria's producers are largely oriented toward the domestic market, in part due to internal obstacles to exporting. As cited by local firms, these include a lack of financing, inability to meet international quality standards, and a lack of marketing capacities.

Trends in international and regional markets

The global textiles and apparel industry generated close to \$1,300 billion in 2005, two-thirds of which is generated by the apparel, accessories and luxury goods segment. The textiles segment accounts for under \$215 billion of the industry value. The global menswear market, which comprises the bulk of Egyptian apparel exports, was estimated at \$300 billion in 2005, with trousers accounting for 46 percent of this market. Forecasts estimate that the textiles and apparel industry will reach close to \$1,600 billion by 2010.¹⁹ The Asia-Pacific region generates more than one-third (35.4 percent) of current revenues (2005), while the EU generates 29.4 percent and the US, 22.3 percent. All other countries, together, account for only 12.9 percent of industry sales.

The US imports approximately one-third (\$95.6 billion in 2005) of its consumption requirements in the textiles and apparel sector. Egypt is the 25th largest source for US imports of textiles and apparel (see Table 13), with sales just over \$613 million. While the majority of Egypt's competitors are in the Asia-Pacific region (China is the biggest supplier to the US), both Turkey and Jordan are strong competitors—the QIZ program has played a critical role in Jordan, enabling it to grow its textiles and apparel sector from the ground up. Jordan surpassed Egypt as a supplier to the US in 2003 and has seen its exports to the US market grow rapidly since then, almost doubling between 2003 and 2005.

Table 13: US imports of textiles, textile products and apparel, top trading partners (US\$ millions, 2005)

	Country	2005	2004	2003	2004 - 2005	
					\$ Change	% Change
1	China	26,017.5	18,242.2	14,925.0	7,775.3	42.6%
2	Mexico	7,627.1	8,208.1	8,406.2	-581.0	-7.1%
3	India	5,131.1	4,119.4	3,639.7	1,011.7	24.6%
4	Indonesia	3,069.5	2,607.1	2,336.1	462.3	17.7%
5	Pakistan	3,010.5	2,656.3	2,319.6	354.2	13.3%
6	Vietnam	2,793.2	2,637.0	2,416.2	156.2	5.9%
7	Hong Kong	3,643.1	4,025.3	3,885.7	-382.2	-9.5%
8	Italy	2,420.0	2,557.4	2,470.0	-137.5	-5.4%
9	Bangladesh	2,485.7	2,092.9	1,960.6	392.8	18.8%
10	Honduras	2,697.8	2,751.7	2,575.3	-53.9	-2.0%
11	Canada	3,115.3	3,333.3	3,339.1	-218.1	-6.5%
12	Cambodia	1,727.4	1,442.2	1,251.0	285.2	19.8%
13	Philippines	1,911.1	1,900.9	1,978.9	10.2	0.5%
14	Thailand	2,151.3	2,183.0	2,038.6	-31.7	-1.5%
15	Korea, South	2,098.3	2,768.8	2,737.2	-670.6	-24.2%
16	Taiwan	1,737.7	2,214.8	2,294.9	-477.1	-21.5%

¹⁹ Datamonitor, "Global Apparel & Textiles Industry Profile", April 2006.

Country		2005	2004	2003	2004 - 2005	
					\$ Change	% Change
17	Sri Lanka	1,704.2	1,606.7	1,499.9	97.6	6.1%
18	El Salvador	1,644.7	1,754.5	1,755.4	-109.8	-6.3%
19	Guatemala	1,844.0	1,971.8	1,789.8	-127.8	-6.5%
20	Turkey	1,643.5	1,813.3	1,796.9	-169.8	-9.4%
21	Dominican Republic	1,861.9	2,074.4	2,148.6	-212.5	-10.2%
22	Jordan	1,083.0	957.0	582.8	126.0	13.2%
23	Macao	1,199.8	1,437.9	1,283.4	-238.2	-16.6%
24	Peru	823.4	694.4	518.9	129.0	18.6%
25	Egypt	613.3	562.7	534.3	50.6	9.0%
Total Imports, Top 25 Countries		84,054.4	76,613.4	70,484.1	7,441.0	9.7%
Total Imports, All Countries		95,571.6	89,831.9	83,311.6	5,739.7	6.4%

Top Countries based on 2005.data. Data consists of NAICS Codes 313, 314, 315.

The EU (EU-15) is another important market for Egyptian textiles and apparel, though textiles comprise approximately 75 percent of Egypt's exports to that market. In the apparel sector, Egypt is a relatively minor supplier to the EU (based on 2005 data) compared to its main regional competitors; Turkey's exports to the EU-15 are 20 times higher than Egypt, while Morocco and Tunisia's exports are five to six times higher, respectively. Jordan is the only regional competitor that has not succeeded in penetrating the vast EU market, largely due to the fact that most of its textile and apparel producers established specifically to supply the US market through the QIZ program.

Though Egypt faces much competition in the US and EU markets, Egypt's and Alexandria's textile and apparel sector has largely succeeded in maintaining a foothold in international markets. However, the sector faces numerous challenges that will eventually determine its long-term competitiveness and, hence, the ability of Al Nahda to attract new investments.

The Multi-Fiber Arrangement (MFA) and its successor, the Agreement on Textile and Clothing (ATC), allowed for the imposition of quantitative restrictions on the import of textiles and apparel for close to thirty years. Consequently, international trade in these sectors was largely governed not by inherent comparative advantages, but on the distorted distribution of quotas.

With the phase-out of ATC, which was completed on January 1, 2005, it was expected that a number of textile and apparel exporting countries would lose market share as market forces would be introduced. It was expected that a number of countries in the MENA region, including Egypt, would lose ground to more competitive producers in China and South Asia. One source estimated that Egypt would stand to lose some 150,000 jobs (direct only), mostly in the upstream apparel sector in which Egypt did not possess an inherent competitive advantage.

While importing countries have been permitted to impose safeguard quotas on China, allowing other producers to better maintain their market shares, if safeguards are lifted at the end of 2008 many countries will face a new level of competition. Some countries continue to pin their hopes on further compromises within the WTO framework to allow for continued quotas to curb the expansion of China into the US and EU markets. In the long term, however, it is broadly expected that safeguards will ultimately fall, and many developing countries are taking the time they have to either design and implement new strategies to support their existing textiles and apparel sectors or to prepare for the expected restructuring of uncompetitive sectors.

Short-term trends favor expansion in Egypt, which remains competitive. Time may well be limited, though it is not clear that the main markets (US and EU) will allow full access to China. In the medium-term, it is likely that there will be further compromises within the WTO framework as in the case of the last-minute agreement to allow safeguard quotas.

Egypt has, so far, been able to maintain its export base, in large part because of the implementation of the QIZ protocol, which has proven to be an important vehicle to expand exports and market share in a number of industry segments. The QIZ program covered 43 percent of Egypt's home furnishing exports and 75 percent of apparel exports to the US in 2005. In these two segments, Egypt was more than able to maintain its price competitiveness in the US market, despite the required use of more expensive Israeli inputs.

While some predicted that Egypt's implementation of the QIZ Protocol would displace Jordanian exports to the US, given the lower production costs in Egypt, this has not so far been the case. Jordanian exports continued to grow faster than Egyptian exports between 2004 and 2005. This is due, in part, to the capacity of Egyptian producers to export—as discussed above, only a small minority of producers is export-oriented. Future expansion of QIZ exports will depend on the ability of existing and new exporters to expand capacity of export-quality textile and apparel products (see section below for full discussion of investment potential).

The QIZ program has enabled Egypt to maintain its competitiveness in the US market, but Egyptian producers already face strong competition from other countries that also benefit from preferential access to major export markets. Both the US and the EU are expanding their network of free trade agreements and unilateral preference programs, including arrangements with many of Egypt's competitors: Jordan (US, QIZ and FTA), Morocco (US, FTA), Tunisia (EU, EuroMed), Pakistan (US, proposed QIZ), and others.

While the QIZ Protocol was eventually signed to stave off the erosion of Egypt's competitiveness in the US market, which accounts for more than 22 percent of global apparel and made-up textile sales, the margin of preference (and therefore

impact on Egyptian competitiveness) is likely to be only short-lived. Over time, the price advantage will likely be eroded by the expansion of preferences to competitor markets.

Box 2: Proliferation of trade agreements and concessions will reduce Egypt's preference margin

Egypt's preference advantage in leading export markets is expected to fall over time as the number of competitors with equivalent access increases:

The **United States** already has free trade agreements in place, including NAFTA, Israel, Jordan, Singapore, Chile, Australia, Morocco, CAFTA, Dominican Republic, and Bahrain. The US is also negotiating FTAs with SACU, FTAA, Thailand, Andean countries, Panama, Oman, and the UAE. The US also offers a number of unilateral preference programs, including AGOA, Caribbean Basin Trade Partnership Act, and is currently assessing a proposed QIZ-like program for Pakistan and Afghanistan.

The **European Union** has signed Euro-Med Agreements with Algeria, Israel, Jordan, Lebanon, Morocco, Palestinian Authority, Syria, Tunisia and Turkey. The EU is also in the process of negotiating similar agreements with African, Caribbean and Pacific countries.

Given the likely timeline for development of a pilot site, it is expected that the QIZ preferences will no longer represent a distinct advantage. Nevertheless, the QIZ Protocol will remain an important vehicle to at least keep Egypt on par with many of its competitors both inside and outside the region.

The last decade has seen a sea change in the relationship between textile and apparel manufacturers and retailers. Retailers no longer maintain large in-house inventories of textile and apparel products, instead requiring suppliers to supply them on a just-in-time basis. Lead times have become a critical factor in determining the location of suppliers and sub-contractors, which must be able to rapidly respond to changing demand requirements. One major result is that, while factor costs continue to be a factor in the location decision process, proximity to intermediate suppliers and export markets, efficient transport and customs systems, and the ability of suppliers and sub-contractors to be responsive and flexible in their production and supply have all grown in importance.

With so many more competing factors to be balanced, location decisions in the textiles and apparel sector are not as straightforward as they once were. This lean inventory model has become particularly critical for basic apparel and home textile items that are not as sensitive to changing consumer preferences and require more frequent replenishment, sometimes on a weekly basis. These include jeans, t-shirts, and other basic garments. For the US market, this implies that such products are most likely to be sourced from Latin American and Caribbean suppliers, while North Africa is well-positioned to play a similar role in supplying the EU market. While the textile and apparel sector was once an "easy entry" for many developing countries, only those that can meet the newly evolving demands for flexibility, responsiveness and reliability are likely to maintain a competitive edge in the future in these more time sensitive segments. However, this new

model still has implications for other segments as a large number of developing countries with existing capacity in the textiles and apparel sector must compete for an ever-smaller share of the “non-replenishment” market.

The ability of the Egyptian textile and apparel sector to remain competitive in both replenishment (e.g. casual men’s and boy’s jeans/denim and some home textiles) will largely depend on the ability of Egyptian producers to upgrade their own capacity, as well as policy-related issues to streamline customs procedures and increase the efficiency of port operations. In terms of non-replenishment goods (e.g. men’s and boy’s fashion trousers and “luxury”-level home textiles), Egypt is already well-positioned to maintain its competitiveness given its factor-based advantages (discussed in more detail below).

Target markets and implications for investment at a pilot site

While much of Egypt’s textiles and apparel industry has been driven by local investment, the QIZ program and other trade arrangements have begun to stimulate foreign direct investment in the sector, especially from Turkey, whose producers hope to take advantage of both the recently implemented Egypt-Turkey FTA and the QIZ program.

However, despite these trade arrangements and Egypt’s regionally competitive factor costs, it is unlikely that Egypt will witness the same sharp rise in FDI in the textiles and apparel sector that benefited the Jordanian QIZs. Jordan’s ability to attract FDI to its QIZs was largely driven by the existence of the MFA and the relative advantage of the QIZs in a world with fewer trade preferences. Today, the margin of preference offered by the QIZs is being eroded by a growing network of free trade agreements and concessions.

Therefore, while short-term trends will continue to favor the expansion of textiles and apparel investment in Egypt, it is likely that most of this investment will continue to be local in nature. Turkey is set to become the most important source of FDI. The apparel sector’s medium-term survival will ultimately depend on developments with China, while the future of Egypt’s textiles industry will be more closely tied to Egypt’s ability to upgrade its competitiveness in that sector, which may continue to benefit from access to premium quality cotton.

Industry location requirements

The textiles and apparel sectors differ in their location requirements. Apparel and other ready-made fabric articles manufacturers rely heavily on relatively unskilled, low-cost labor, while space, capital equipment and infrastructure requirements are far less demanding than those of textiles manufacturers. In contrast, spinning and weaving operations are far more capital intensive, relying

on fewer human inputs. Skill requirements for workers in this sector tend to be higher than in apparel manufacturing.

Both apparel and textiles manufacturers will be reliant on good connections to a port, both for importing key inputs and for exporting their goods to key markets. The requirement for inputs can be mitigated if they are sourced domestically or even onsite, but exports will always be essential to both of these industries. Access to primary road and railway connections to facilitate access to the domestic market are also of high importance to both industries.

While spinning and weaving operations can be not not undesirable neighbors to companies in other industries, neither textiles nor apparel manufacturing operations are overly sensitive to how land adjacent to them is occupied.

Food processing

Current industry structure and trends in Egypt

The food processing industry is one of Egypt's main manufacturing sectors. Annual production is estimated to be US\$3.5 billion and has been rapidly expanding over recent years, with annual growth rates as high as 20 percent. There are close to 5,300 enterprises in the food cluster in Egypt (includes food, beverages and tobacco), employing close to 220,000 workers. Egyptian food manufacturers produce a wide range of processed foods. The largest segments are frozen and dehydrated fruits and vegetables; herbs and spices; canned foods and pickles, including olives; and juices and fruit concentrates. Other segments present in Egypt include soft and alcoholic beverages; breakfast cereals; dairy products; oil and fats; processed meats and fish; confectionary; and baby food. Egypt is the largest producer of dates in the world, the fifth largest producer of tomatoes and one of the top ten producers of oranges (FAO, 2005).

Like most other industries in Egypt, the food processing sector is largely oriented toward the domestic market. Annual processed food and beverage exports reached US\$224 million in 2004, accounting for less than 6.5 percent of production. Egypt's main processed food exports are included in Table 14, below.

Table 14: Egypt's major processed food exports (2004)

Product Name	Trade Value (\$ '000)
Food preparations not elsewhere specified	\$ 61,915
Residues of starch manufacture	\$ 25,569
Molasses	\$ 19,421
Other vegetables prepared or preserved	\$ 14,293
Cane or beet sugar	\$ 13,927
Waters, including mineral waters	\$ 11,239
Jams, fruit jellies, marmalades	\$ 9,805

Product Name	Trade Value (\$ '000)
Fruit juices (including grape must)	\$ 8,421
Soya-bean oil and its fractions	\$ 8,307
Soups and broths and preparations	\$ 6,464
Other vegetables prepared or preserves	\$ 6,161
Chocolate and other food preparations	\$ 5,934
Sauces and preparations	\$ 5,519
Bread, pastry, cakes, biscuits	\$ 5,453
Extracts, essences and concentrates	\$ 5,438
Sunflower-seed, safflower or cotton oil	\$ 4,604
Sugar confectionery	\$ 4,197
Oil-cake and other solid residues	\$ 3,864
Fruit, nuts and other edible parts	\$ 3,315
Indentured ethyl alcohol	\$ 2,789

More than half of Egypt's processed food and beverage exports are destined to the MENA region, followed by the EU-15 (16.6 percent). Processed food and beverage exports to the US account for only 5.7 percent of total Egyptian exports in this sector.

The grand majority of Egypt's agricultural production is concentrated in the Nile Delta, which provides commodities and produce to the domestic food processing sector. Alexandria's proximity to the Nile Delta, as well as nearby Alexandria and Dekhela ports, provides it with a comparative advantage in the food processing sector. There are already more than 425 food manufacturers in Alexandria, producing a wide cross-section of products, mirroring the national food processing sector. While most of these enterprises are relatively small-scale, there are more than 20 larger food processing companies already operating in Alexandria.

Trends in international and regional markets

The global packaged food and beverage industry is valued at US\$2,824 billion (Datamonitor, 2005). Packaged foods account for close to two-thirds of this total. Europe is the largest market for both packaged food (47.3 percent of global sales) and beverages (39.7 percent), followed by the Asia-Pacific region (27.6 percent and 19.8 percent) and the US (21.1 percent and 24.9 percent). Packaged food sales are closely linked to per capita income-levels, consequently, high-income countries, including the US, EU and Japan, account for approximately 60 percent of global packaged food sales. Nevertheless, growing per capita incomes in the developing countries have resulted in accelerated growth rates for packaged food sales in these countries.

While Egypt's export of processed foods is relatively small, the market for many of its niche products continues to grow. The global frozen food segment, for example, was valued at more than US\$100 billion in 2004. Frozen vegetables

account for more than 18 percent of this market, while frozen fish and seafood accounts for 16.4 percent. Frozen ready meals lead sales in the frozen food market, accounting for one-third of sub-sector sales; it is also one of the fastest growing segments in the higher income countries of EU and US—the EU accounts for 42.4 percent of sales and the US, 30.6 percent).

Processed food, which is eligible for duty-free status under the QIZ protocol, accounts for just 1.5 percent of all Egypt's US\$7.6 billion in food exports. However, potential exists to expand its existing export base to the US and, similarly to the EU under the Euro-Med Agreement. Egypt's top processed food exports to the US include cereal preparations; of vegetables, fruits and nuts; jams and jellies; fruit juices and other beverages. Top exports to the EU include sugars and confectionery; preserved vegetables (olives); fruit juices and other beverages; and residues and waste.

Turkey is Egypt's main competitor in the EU market in many of the same segments that Egypt exports, which include frozen fruits and vegetables, dehydrated vegetables, prepared/preserved tomato products, jams, spices, and olives and olive oil.

While the high-income countries are expected to continue to dominate the processed food and beverage market, in terms of sales, the ability of Egypt and other developing countries to serve these markets will depend, to a large extent, not on price competitiveness, but on quality, including meeting sanitary and phyto-sanitary measures that can impede Egypt and other developing countries from gaining market share in these key lucrative markets.

More importantly, the processed food markets in these countries are increasingly driven by changing consumer preferences that drive not just product design, but also packaging and labeling design. While trade in processed food remains an important indicator of competitiveness in this sector, trade is increasingly being replaced by investment. Changing consumer preferences are increasingly pushing food suppliers to meet consumer demand at the local level, which requires tailored products and packaging to suit local tastes. The result has been a rapid increase in the level of FDI in the food processing sector, much of which has come at the expense of trade. For example, US food companies sell five times more through FDI (US\$150 billion) than through US export sales (US\$30 billion). To the extent that the MENA region, for many food products, can be considered more homogeneous than other regional markets, there is an opportunity to attract investment to serve the larger MENA market.

The MENA regional market is an increasingly lucrative market for processed foods and beverages. The MENA region (including Turkey), currently imports US\$13.1 billion per year (2004 data), a significant share of which is supplied by other regional producers, including Egypt. Egypt currently accounts for less than one percent of the MENA import market. Egypt's main exports to MENA include animal/vegetable fats/oils; preparations of vegetable, fruit or nuts; residues and

waste; sugars and confectionary; preserved vegetables (olives); cereal preparations; cocoa preparations; fruit juices and other beverages; jams and jellies; processed fruits and nuts; and other miscellaneous edible preparations.

Egypt has already achieved a strong position in the MENA region for its processed food goods, which can be exploited to both broaden the range of goods and expand market share. The large Iraqi market, in particular, presents a newly emerging opportunity for Egyptian processed food exporters, given its high dependence on food imports and lack of capacity for food processing domestically. Egypt can therefore leverage its already substantial processed foods industry to attract new investment in this sector to supply regional markets.

While Egypt's has attained a strong market position in the MENA region, comparing its agricultural output to its processed food production, Egypt has not fully exploited the potential for developing downstream agro-processing of its relatively abundant agricultural commodities. Tomatoes are a case in point—while Egypt is a major producer of fresh tomatoes, there is little capacity to process them in value-added products, such as tomato paste, which is in high demand in the MENA region. While, in some cases this may reflect relatively high commodity prices that make raw material exports more profitable than processed goods, the market for processed foods is continuing to grow with changing consumer preferences—markets that have not been fully exploited, in general, providing Egypt with much unrealized potential.

Target markets and implications for investment at a pilot site

Alexandria's relatively strong base of food processing industries, combined with its access to the growing MENA market, provides with an opportunity to exploit trade and investment trends in the global processed foods market. With local tastes driving the industry, Al Nahda has the opportunity to attract investment from local, regional (e.g. Turkey) and international (primarily U.S. and EU) sources to supply its own market and well as the larger MENA region. Global industry trends suggest that the market for processed foods is likely to experience strong growth in the MENA region, both in higher income Gulf countries that are likely to seek higher value-added processed and packaged foods, while a rising middle class in other countries in the region will look to processed foods as an easy way to supplement traditional cooking.

Industry location requirements

Operations in the food processing industry are broadly characterized by moderate facilities and machinery requirements, implying that investors could take advantage of standard factory space provided by a site developer. While some

higher-skilled worker will be required, workforce requirements in the food processing industry tend toward the semi- and low-skilled.

Food manufacturers in the vicinity of Alexandria will likely be serving domestic as well as regional markets, placing a relative premium on access to a port and domestic distribution infrastructure.

Food processors, while perhaps less sensitive to adjacent operations than their counterparts in the pharmaceuticals industry, are likely to avoid locating in close proximity with heavy, polluting industries.

Furniture

Current industry structure and trends in Egypt

Egypt has a relatively small but robust furniture industry, in terms of total output, accounting for US\$2 billion in sales per annum, with a geographical cluster around Damietta, a neighboring Governorate to Alexandria. The industry produces a wide range of products, including office furniture, kitchen cabinetry and furniture, upholstered furniture, non-upholstered furniture, and bedroom furniture. While relatively small in terms of industry output, in terms of establishments and employment, the furniture industry is one of Egypt's largest. While accurate estimates are not available, Industrial General Authority statistics report that, as of 2004, there were approximately 2,500 enterprises engaged in furniture production. However, unofficial estimates, which include small workshops, estimate that there are close to 200,000 establishments engaged in furniture production. These same sources estimate total sector employment at approximately one million.

Like many other sectors in Egypt, the furniture sector is highly fragmented and dominated by small workshops. Egypt must also compete with substantially larger producers of furniture, including China, that are more competitive in the production of mass-market furniture, which is particularly price-sensitive (see discussion below on international market trends). Egypt's furniture sector is highly dependent on the import of raw and intermediate materials, including 100 percent of lumber and many other inputs—though some upholstery and other inputs, such as marble, are available locally—and its competitiveness is, therefore, very sensitive to shifts in international supply-price trends.

In terms of exports, only a small fraction of output is destined to international markets. Exports total approximately \$200 million, just 10 percent of total production. While Egypt has managed to maintain its world market share over the past five years, its share is extremely low (less than 3/10ths of one percent). The U.S. is Egypt's largest single export market for furniture, followed by Saudi Arabia, Lebanon, France and Italy. Close to half of all exports (48 percent) are destined to MENA markets.

While the largest concentration of furniture producers is around the coastal areas of Damietta, Alexandria has developed a mini-furniture cluster that is specialized in the manufacture of reproductions of French antique furniture (though all segments are represented in Alexandria). Alexandria's furniture cluster comprises more than 110 medium- and large-scale enterprises and close to 3,000 apprentice workshops, which account for the majority of employment, suggesting that Alexandria's furniture cluster is as fragmented as at the national level.

Trends in international and regional markets

The furniture industry is one of the fastest growing industries worldwide, outpacing apparel. By 2000 the furniture industry became the largest low-tech sector, with total global trade worth US\$57.4 billion. This grew to around \$63 billion in 2004 and \$70 billion in 2005.

Furniture has traditionally been a resource and labor-intensive industry that includes both local craft-based firms and large volume producers. Mass-produced furniture became a viable manufacturing strategy with the advent of flat-pack or ready-to-assemble designed furniture. This product innovation paved the way for firms to design, manufacture and ship products in large quantities. Firms that mass-produce flat-pack furniture tend to supply products for the low- to medium-price markets.

China has exploited this growing trend and is, today, the leading exporter of furniture, accounting for close to 14 percent of total world exports. The top ten exporting countries account for approximately two-thirds of global trade in furniture. Egypt currently ranks 65th (based on 2004 data). In the region, Turkey is the largest exporter. Other exporters in the region include Morocco, Tunisia, Lebanon, Israel, Jordan and Oman. Together, the MENA region (plus Turkey) accounts for less than one percent of world furniture exports (and Turkey accounts for two-thirds of this amount).

The United States is one of the four largest furniture markets worldwide, along with Germany, France and Italy. It is the world's largest importer of furniture. The U.S. market is the largest recipient of Egyptian wooden furniture exports. During 2004, Egypt exported \$15.6 million in furniture to the U.S. market, ranking tenth in value among Egyptian products exported to the U.S. Household furniture, especially bedroom items, is the most significant category of Egypt's furniture exports to the United States.

Solid wood furniture manufacturers have retained important niche market segments primarily for high-end, expensive and design-led products. While China now dominates the market for mass-market produced, ready-to-assemble furniture, local industry upgrading and improved craftsmanship has enabled China to enter higher value-added segments of the furniture sector.

Advances in production and distribution technology, coupled with transportation improvements, have allowed China to profitably enter the U.S. furniture market, edging out U.S. domestic producers that once dominated the U.S. market, particularly for wood furniture. Despite the cost of shipping furniture across the Pacific, Chinese firms can still under-price established producers in the U.S.

Target markets and implications for investment at a pilot site

Egypt's future competitiveness in the furniture sector will largely depend on its ability to develop niche products that do not compete with mass-produced furniture, such as, potentially, the reproduction French antique furniture produced in Alexandria. Given its competitive factor costs and proximity to the EU market, there is potential to expand Alexandria's current production and export base.

Is it expected that, given the narrow opportunity to upgrade and expand Alexandria's niche furniture cluster, most investment, at least in the short-term can be expected to be local in nature, most likely through the expansion of small, local workshops that currently dominate the sector into larger scale factories.

Industry location requirements

While space and infrastructure requirements for the industry are not exceptional, niche furniture manufacturing of the sort discussed here has a relatively high reliance on skilled labor. Unskilled labor is of a lesser priority.

The extent to which producers in this industry seek to serve export markets will broadly determine how sensitive they are to access to ports. Similarly, sensitivity to direct access to national transportation networks will be driven by the proportion of sales directed at national markets.

Pharmaceuticals

Current industry structure and trends in Egypt

Egypt has a sizable and relatively mature pharmaceuticals sector, with more than 70 pharmaceutical factories producing over 7,600 different types of drugs, including both synthetic and phyto-pharmaceuticals, though the latter currently comprises less than one percent of Egypt's domestic pharmaceuticals sales. Local production is mainly in the secondary and tertiary stages of production, which means that Egyptian producers are highly dependent on the import of raw and intermediate materials. The pharmaceuticals industry is not clustered in any specific area of Egypt, but Alexandria is already host to number of factories, including several multinationals that are oriented toward servicing the Egyptian market.

Egypt is the largest producer and consumer of pharmaceuticals in the MENA region, accounting for approximately one-third of the MENA market. While the public sector continues to be active in the sector, the private sector now dominates over 75 percent of the local market. Egypt's pharmaceuticals market has attracted a significant number of multinationals that manufacture and distribute pharmaceuticals to Egypt's US\$1.0 billion strong market, either through direct investments or licensing arrangements. Local production covers approximately 94 percent of the domestic market.

While there are also a number of international research-based operating in Egypt, the research and development segment remains weak in Egypt due, in part, to a lack of capabilities to operate to international standards—this is true for both the synthetic and phyto pharmaceutical segments. This factor is also reflected in Egypt's pharmaceutical exports, which currently account for a very small share of total production, amounting to seven percent of sales in 2005. Main export markets include the countries of the former Soviet Union and Eastern Europe (accounting for roughly 42 percent of exports), MENA (34 percent), Sub-Saharan Africa (9 percent), and the EU (8 percent). The former Soviet Union markets and MENA account for more than 80 percent of dosage product exports, while MENA and the EU account for 80 percent of bulk pharmaceutical exports.

The Government of Egypt imposes price controls on pharmaceuticals. Prices have been retained at artificially low levels despite the rate of general inflation and the depreciation of the Egyptian pound since 2000. While customs duties on material inputs were cut down from 10 percent to 2 percent to assist domestic producers in maintaining competitiveness, prices have been increased on only a very select number of products. The Government's pricing policy, while designed to ensure the availability of affordable pharmaceuticals, ultimately discourages production and especially by international firms, particularly for new products. The pricing policy also suppresses domestic production and R&D, as well as exports. While some of the multinationals have access to lower cost material inputs through their own supply chains, domestic firms feel the

Box 3: Pharmaceutical companies operating in Alexandria

- Amreya Pharmaceutical Industries
- Alexandria Co. for Chemicals Ind. & Drugs
- Alexandria Pharmaceutical Co.
- Bristol Myers Squibb Egypt
- Chemical Industrial Development
- Eipico
- El Maserya for Medicine
- El Nasr Pharmaceutical Chemicals
- Hoechst
- Memphis Chemical
- Misr Co. for Pharmaceutical Industries
- Pfizer
- Pharma Overseas
- Phytopharmaceuticals
- Sekem
- Sofico Pharm Co.

squeeze between high costs of imported material inputs and artificially low prices for their products. This leaves little left over for R&D and for upgrading, the latter of which is required to meet international standards to expand exports.

Another challenge to expanding Egypt's pharmaceutical sector, particularly into higher value-added, primary manufacturing and R&D related activities, is the ongoing perception of intellectual property rights (IPR) issues. Egypt is a signatory to many of the international intellectual property conventions and has taken a number of steps to improve IPR protection through a modernized legal and regulatory regime and better enforcement. However, foreign pharmaceutical makers remain skeptical about Egypt's commitment to protect their intellectual property rights in light of a number of recent GOE decisions to approve local production of patent-infringing copies of several U.S. pharmaceutical and to rescind a U.S. firm's exclusive marketing rights for a product pending patent approval.

Trends in international and regional markets

The global market is currently valued at US\$535 billion in 2005, and has grown at a rapid compounded annual growth rate of 7.7 percent. The majority of value is generated by prescription drugs; over-the-counter (OTC) products account for less than US\$100 billion of total industry value. A similar level of growth is expected through 2010, when it is forecasted that the world market will be valued at US\$767 billion. The OTC segment, while growing, is expected to decline in market share, largely due to competitive pressures that continue to put downward pressure on generic drug prices.

The US is the largest pharmaceuticals market, accounting for more than 48 percent of global sales. However, Europe, which follows at 28 percent, is the largest import market, accounting for some US\$70 billion of the world's trade, though a large proportion of imports are material inputs; nevertheless, Europe's import of final products is estimated to be on the order of US\$30 billion per year. The US, instead, only imports US\$15 billion of pharmaceuticals.

While the Middle East market is relatively small, accounting for approximately 1.5 percent of world sales, it is also one of the fastest growing markets and is highly dependent on imports to meet consumer demand. Israel, Jordan, Saudi Arabia and Lebanon import, respectively, 60 percent, 70 percent, 80 percent and 94 percent of their pharmaceutical needs, despite, in some cases being substantial regional producers and/or exporters themselves. Israel is host to the largest generics manufacturer and is the largest exporter in the region. Jordan is the largest Arab producer and exporter of pharmaceuticals; in 2003, Jordan's total turnover reached US\$285 million, the majority of which (approximately US\$200 million) was exported, close to 90 percent of which is destined to regional markets, especially the Gulf region. Egypt has also not taken advantage of the

Gulf market, where per capita health expenditures are relatively high and local production of pharmaceuticals is very limited.

While Egypt is not a very large exporter of pharmaceuticals, it has gained significant market share in a few products, including bulk ergotamine, bulk penicillin and streptomycin, bulk quinine, and dosage insulin. Looking at the larger regional market, which includes the Middle East, North Africa, Mediterranean, and Sub-Saharan Africa, imports amounted to more than US\$8 billion in 2002 and is, by far, the world's leading market for penicillin and streptomycin (accounting for more than 75 percent of world imports), providing Egypt with a potential growth market to leverage.

Target markets and implications for investment at a pilot site

Despite issues concerning IPR violations in Egypt, Egypt remains an important market in the region for pharmaceutical companies. Al Nahda has the potential to leverage the existing cluster of pharmaceutical companies in Alexandria to promote itself as a base for supplying the MENA region. While local, US and EU investments can be expected to dominate, there is also potential to attract other large producers in the region, such as Turkey, to supply the local and regional markets, especially the vast and growing Sub-Saharan Africa market.

Industry location requirements

Manufacturers of pharmaceuticals projects generally require high levels of capital and equipment expenditures, and while there are requirements for relatively unskilled workers, pharmaceuticals labor forces tend to be weighted toward skilled and professional staff.

For their high reliance on imported inputs and, to a lesser degree, for prospective exports to regional markets, pharmaceuticals manufacturers in Alexandria will count access to a port as a high priority. For those serving national markets, access to road and rail networks will be paramount.

For obvious reasons, pharmaceuticals manufacturers tend to be highly sensitive to the operations of companies adjacent to their sites. Extremely polluting industries in close proximity will likely have a negative impact on pharmaceuticals investment.

Fabricated plastics

Current industry structure and trends in Egypt

The fabricated plastics industry comprises a number manufacturing operations downstream of the broad petrochemicals sector. The petroleum industry is one of

the largest and fastest growing industries in the Egyptian economy. Egypt's petrochemicals sector, though relatively small, has been rapidly transforming over recent years with new investments in upstream and downstream processing.

In view of the country's newly discovered gas reserves, Egypt's downstream petrochemicals sector is likely to grow substantially in the coming years. With the establishment of the Egyptian Petrochemical Holding Company (Echem) in 2002 and a twenty-year master plan for the sector's development, ambitious targets have been set to upgrade and expand Egypt's petrochemical sector. The first phase of development, which ends in 2008, is projected to bring new capacity in a range of downstream petrochemicals, including linear alkyl benzene, propylene and polypropylene, olefins, acrylic fibers, styrene, methanol, PVC, and polyester. The second phase, ending in 2015 will bring expanded capacity in olefins and polyester, and new capacity in PTA, aromatics, ethoxylates, and ethylene.

Many of these petrochemicals will feed, in part, Egypt's small but growing fabricated plastics industry, which exported some US\$83 million in goods in 2004. Major exports include sanitary or toilet articles (61.6 percent), conveyance and packing materials (11.3 percent) and office and school supplies (8.2 percent). Principal export markets include the EU-15 (69 percent) and MENA (9.6 percent). While Europe is the main destination for most of its exported products, MENA is Egypt's largest market for conveyance and packing materials.

Alexandria already hosts several petrochemical complexes, several of which are on the Al Nahda industrial area, and several others are planned or under development. Sidi Kerir Petrochemicals (SIDPEC) established a polymer plant in Alexandria, producing both high density and linear low density polyethylenes (HDPE and LLDPE). Alexandria Fiber Co., part of India's Aditya Birla Group, has established an acrylic fiber complex. Alexandria Carbon Black, also of the Aditya Birla Group, is also located in Alexandria.

Echem has a number of wholly-owned subsidiaries in Alexandria (as well as equity interests in some of the above projects), including the Egyptian Petrochemicals Company that produces PVC and the Alexandria for Special Petroleum Products that produces bitumen. Echem is currently implementing two more projects in Alexandria as part of its first phase of the petrochemicals master plan. Two complexes are in the development stages. The first is linear alkyl benzene (LAB) complex that is scheduled to be completed in 2008. The second is a polystyrene plant, also scheduled to be completed in 2008. Other petrochemical producers in Alexandria include the Saudi Egyptian Plastic Polyester Company, ANERPIC (producing solvents) and AMOCK (producing industrial oils and wax).

These various petrochemical products are used in the manufacture of a wide range of end-user products, including plastic film for heavy duty and light bags and sacks; molded plastic goods, including blow-molded containers, injection-molded house ware products, and roto-molded tanks; synthetic yarns, fabrics and apparel

and home textile products; rubber tires and other goods; detergents and other cleaning products; construction materials; and polystyrene foam and other plastic products.

Trends in international and regional markets

The global petrochemicals industry is currently valued at US\$800 billion. Global market trends are pushing petrochemical production to the East, as existing production sites in the West find it difficult to compete in terms of production costs and capacity, though producers in the MENA region, particularly in the Gulf, are expected to continue to dominate downstream activities since low-cost feedstocks are expected to remain a key factor determining the competitiveness of these industries. While the Gulf region continues to lead world production, China is fast-becoming an important producer, though the bulk of that production is destined to local production of downstream petrochemicals and fabricated plastics.

The plastic fabrication sector can be broadly broken down into three segments, each with its own implication in terms of investment location and trade:

Commodity plastics. Within petrochemicals, commodity plastics (such as plastic bottles, bags, packing materials, construction materials, etc.) are the most important component with a share of over 50 percent by volume. North America, Western Europe and Japan are the largest users of all commodity plastics at more than 60 percent of overall consumption. However, these markets are saturated with high per capita consumption and therefore have the lowest growth rates, while developing country markets are rapidly expanding as per capita consumption rate accelerate. Trade in plastic commodities, however, tends to be limited to geographical regions. Turning pellets into product is a feasible manufacturing industry for almost any location. The converters of commodity plastic products are unlikely to move offshore. Commodity plastic converting is capital intensive, and labor does not make up a large part of a typical company's cost structure. The potential savings in labor cost of an offshore facility are often offset by the higher transportation costs. Shipping a container load of empty PET bottles from Asia or South America to the United States to save on labor costs is often less cost-efficient than shipping the pellets directly to the United States for processing locally. Any potential for Al Nahda to attract such industries will be based on domestic and/or regional sales potential.

Custom plastics and just-in-time components. Higher value-added plastic component manufacturers, on the other hand, are increasingly finding it necessary to locate near customers rather than near the source of raw material in order to meet just-in-time production needs. It is more cost-efficient to hold an inventory of pellets that can be made into any product, as the need arises, rather than inventory for just-in-time customers. Egypt's ability to enter into higher value-added segments will require the development of more efficient transportation and

customs procedures. Manufacturers of automobiles, electronics, etc. need to be able to rely on the efficient and timely delivery of components from their suppliers.

Mass market and ornamental plastic products. The majority of trade in plastic goods is, then, in a middle tier of value-added products that are neither commoditized nor customized to just-in-time manufacturing needs. These include mass market products such as sanitary ware and household goods, as well as decorative items, toys, and office supplies.

The plastics market, particularly the middle-tier, is increasingly dominated by China, though an opportunity exists to displace China's exports to some markets in the West, given Egypt's relative proximity, especially to the European market.

While Egypt must compete with China's price for the production of plastic consumer and other goods, its proximity to consumer markets in Europe may provide Egypt with a competitive edge, particularly for those industries that are most likely to desire to locate in close proximity to their petrochemical suppliers. As discussed above, the EU is already Egypt's main export market for value-added fabricated plastic products. Though Egypt's current market share remains extremely low, accounting for less than two-tenths of one percent of the EU-15's imports of fabricated plastics, the growth of Alexandria's petrochemicals cluster, which is still relatively young, may provide the impetus to expand exports to the EU, particularly of those products falling within the middle-tier of mass market and ornamental products, which already account for the majority of Egypt's exports to that market (sanitary ware, household and decorative items). Over time, provided Egypt's import/export regime is adequately streamlined, there may arise opportunities to supply higher value-added, just-in-time products for the Southern European market.

The MENA region, Egypt's second largest market, is likely to continue to grow as per capita consumption grows in the region. While Egypt's exports tend to be in lower value-added commoditized segments, such as packing materials, Egypt's modest success in penetrating European markets in mid-tier mass market and ornamental goods provides an indication of the potential to expand its regional market base.

Target markets and implications for investment at a pilot site

The growth of Al Nahda's plastics cluster will be largely contingent upon the success of its supplier petrochemicals base. In the near-term, it can be expected that the majority of investment will be local in nature, though some regional producers may be attracted to Egypt as a platform for MENA-wide distribution. Some specific segments, such as synthetic textiles, may attract FDI from the U.S., Europe and even Asia.

Industry location requirements

Fabricated plastic manufacturing operations have relatively high space requirements, and equipment can make up a sizeable portion of startup costs. Workforces in the industry are small in relation to other industries, and they tend to be weighted toward high skills, so access to skilled labor will be of considerable importance.

Depending upon both sources of inputs and target markets, access to a port will be of some importance. Locating in close proximity to an upstream manufacturer of key inputs will mitigate this requirement almost entirely. However, given the likelihood of serving local markets, relatively easy access to national transportation networks may well prove to be a deciding factor.

Plastic products manufacturers are unlikely to show a high degree of sensitivity to operations on adjacent land.

Downstream aluminum

The Aditya Birla Group, which already has a strong presence in Alexandria, including Alexandria Fiber Co. and Carbon Black, has announced its plan to construct an aluminum smelter in Alexandria. Aditya Birla is India's largest producer of aluminum, potentially giving rise to a wider range of downstream industries.

If constructed, the Alexandria smelter would be the second aluminum smelter in Egypt. The only existing aluminum smelter was established at Nag Hammady by Egyptalum, in 1972. Egyptalum also operates a casting house, rolling mill and anode plant onsite. The smelter has given rise to a number of other local aluminum product fabricators that currently utilize around half of the smelter's production.

While no reliable data is available on Egypt's downstream aluminum sector, its range of exports provide some indication of the current product range. Exports of fabricated and semi-fabricated products reached US\$123 million in 2004. Semi-fabricated products, such as aluminum plates, sheets and strip make up the grand majority of Egypt's fabricated aluminum exports, accounting for 78 percent of the total. Other products include aluminum wire (8 percent), bars, rods and profiles (4 percent) and household products (4 percent). The EU-15 is Egypt's primary export market, accounting for close to 62 percent of exports. The MENA region ranks second at 19 percent, followed by the US (10 percent). Close to half of all higher value-added household products are destined to the MENA market, with much of the remainder destined to other export destinations outside MENA, the EU and US markets.

While it is not essential that downstream industries locate in close proximity to the primary producer, there are some cost advantages that can be exploited. Co-

location enables the smelter to move hot metal from the smelter directly to the fabricators, enabling them to use hot metal directly. Cost efficiencies can be realized for both the primary supplier and secondary producer, saving the smelter the cost of cooling the metal and saving the fabricator the cost of transporting and re-heating the metal, providing co-located industries a competitive cost advantage. The production of semi-fabricated products would benefit most from co-location.

There is also likely an opportunity to expand production in household products that are primarily destined to regional markets. Like Egypt’s existing metalworking industries, it is expected that any investment in Al Nahda in downstream aluminum production will be directed primarily at the domestic market in the near term.

Summary of industry site selection requirements

Table 15 summarizes the various industries’ site selection requirements. In examining this table, it is worth noting that a number of important site selection requirements do not appear. It is assumed that these requirements, which include varying energy needs, basic infrastructure, and connections to external networks will be met by the private sector developer as part of the project package.

Table 15: Highlighted site location requirements

Industry	Determining Factor(s)
Apparel	<ul style="list-style-type: none"> • Rely heavily on a steady supply of relatively unskilled labor • Export infrastructure and local transport
Textiles	<ul style="list-style-type: none"> • Relies on fewer, but higher skilled labor than apparel • Inputs and exports place premium on port access
Food Processing	<ul style="list-style-type: none"> • Relatively high reliance on lower-skilled labor • Somewhat sensitive to activities on adjacent land • Access to national transport infrastructure important to serve domestic markets
Furniture	<ul style="list-style-type: none"> • High manual labor inputs, leaning toward higher skills • Inputs and exports place premium on port access
Pharmaceuticals	<ul style="list-style-type: none"> • Relies on high quality, educated labor force, supplemented by some lower-skilled operators • High sensitivity to activities on adjacent land • Reliance on imported inputs places premium on port access
Fabricated Plastics Products	<ul style="list-style-type: none"> • Reliance on relatively skilled, specialized labor • Insensitive to adjacent activities • Access to national road networks

Industry	Determining Factor(s)
	<ul style="list-style-type: none"> • Existing production of primary inputs on site

A selection requirement common to all of the industries examined in this Study is access to transportation infrastructure, including a quality port for exporters and national road or rail networks for companies serving the Egyptian market. Both of the prospective pilot sites, which are discussed in more detail in Sections 3 and 4 above, have similar access to both Alexandria port and domestic networks; differences are marginal.

In the context of these site selection requirements, both of the prospective sites exhibit positive attributes. Both offer ample land, and, provided a suitable site can be assembled at Al Nahda, neither will likely face problems with incompatible industry mixes. Al Nahda's proximity to Alexandria and connectivity to public transport networks provide the site with markedly better access to the Alexandria labor pool than Borg, which would likely prove advantageous to industries that rely on quality labor. Improvements in the transportation infrastructure between Alexandria and Borg Al Arab, such as a light rail link now being contemplated, would undoubtedly improve Borg's location profile.

7 Demand absorption forecasts

The following presents a demand absorption forecast for pilot sub-sites at Al Nahda and Borg Al Arab. The forecast provides projections on direct investment, direct employment, and demand for serviced land and infrastructure. The analysis is conducted for Al Nahda and Borg Al Arab separately, with the underlying assumption that wherever the pilot site is located it will represent a more attractive product than elsewhere available, and will therefore capture a significant market share of investment activities in Alexandria. Further assumptions are presented ahead of forecasts for each of the prospective sites.

Table 16 presents an analysis conducted independently of the present Demand Forecast Analysis, primarily to serve as a useful “cross check” of the results against historical data. Based on these figures, which were drawn from a variety of industrial estates and EPZs worldwide, an average zone program can expect to generate, on average, more than 10,000 jobs in its first five years of operation. Further, assuming an average building-to-plot coverage ratio of 70 percent, this implies a total industrial plot lease requirement of 3,443 m² to 6,886 m² per firm, which in turn translates into a yearly space “demand” of between 30,298 m² and 60,597 m² typical IE project.

Table 16: Demand in selected IE/EPZs, first 6 years

IE/EPZ Programs	Date Program Established	Average Number of Firms Investing Per Zone Per Year	Average Number of Jobs Generated Per Firm Per Year
Costa Rica	1981	6.3	85
Dominican Republic	1969	7.0	255
El Salvador	1974	3.7	330
Jamaica	1973	3.8	124
Mauritius	1970	14.2	157
India	1965	6.1	250
Turkey	1985	14	172
Malaysia	1971	12.8	280
Vietnam	1991	11.7	415
Philippines	1969	8.8	341
Average, all countries		8.8	241

Note: Data represent average amounts for all IE/EPZs, both public and private. In general, performance of private IE/EPZs has been about 50% higher than public sector levels, worldwide. Figures for Turkey are for industrial firms only -- most firms located in zones are engaged in commercial activities, with low employment and space demands.

Source: BearingPoint estimates from company data and previous studies.

It is important to note that conditions at each of these sample industrial estates and the market conditions under which they operate are quite different from Egypt today. Under any circumstances, early demand patterns will depend on a broad array of factors, including economic forces well beyond the control of regulators and zone managers in Egypt. Still, these figures provide a basic indication of the magnitude of demand, which will serve as a useful backdrop to the demand analysis performed for the current Study.

Demand forecast methodology

The development of a demand forecast was based on a multi-step process:

- For each of the industries identified in the Benchmarking and Demand Analysis, recent investment trends were analyzed, based on growth in number of investments registered with the Industrial General Authority, which covers medium- and large-scale industries of similar scale to those that would be targeted at the pilot site;
- Investment trends in the competitor industrial zones were assessed to determine the average size of projects in each sector, based on investment and employment data collected through primary sources during the course of this Study.²⁰ These were calibrated to account for the expectation that a proportionately larger share of investment will be sourced through FDI than in the existing zones. In most cases this meant an upward adjustment based on data from other regional and international industrial standards; and
- Based on a combination of regional and international industry standards, investment, employment and space uptake was estimated for the park over a 20-year period.²¹

A variable was built into the forecasting model to enable different demand scenarios to be developed based on a change of assumptions (outlined below), which may affect investment across-the-board. The model also enables individual industry variables to be adjusted based on industry-specific trends that may affect the growth projections. A land price sensitivity variable was also built into the forecasting model to enable the analysis of the impact of a change in land prices.

²⁰ Estimates on employment per project were based on primary data collected from other industrial zones in Egypt, including the comparator zones included throughout this analysis, including 10th of Ramadan Industrial City, Ameriya Public Free Zone, Port Said Free Zone and existing investments at Al Nahda and Borg Al Arab.

²¹ Estimates on investment per employee is based on data collected from regional and international sources, including the comparator zones in Egypt, Jordanian industrial zones, and the US Bureau of Economic Analysis Data (the latter used to calibrate upwards the regional data to account for expected foreign investment).

Demand absorption forecast for Al Nahda industrial area

The following presents the demand absorption forecast for a pilot site at Al Nahda. The forecast provides projections on direct investment, direct employment, and demand for serviced land and infrastructure. The analysis is conducted for Nahda and Borg Al Arab separately, with the underlying assumption that wherever the pilot site is located it will represent a more attractive product than elsewhere available, and will therefore capture a significant market share of investment activities in Alexandria. Further assumptions are presented ahead of forecasts for each of the prospective sites.

Assumptions

The following presents a summary of the 20-year demand forecast base case scenario for Al Nahda. For purposes of this analysis, the following assumptions provide the basis for the development of a base case scenario:

- Land prices are set by market forces; for the current analysis this falls in the range of US\$44 per meter, per the results of the Land Market Study;
- Implementation of the proposed public-private partnership approach, including the private development and management of the Al Nahda pilot site, to be operated on a market-driven basis;
- The absence of competing subsidized industrial property in the vicinity of the pilot site;
- GOE implementation of the recommended policy and institutional changes presented in the second half of this report;
- GOE provision of off-site infrastructure required to service the site, including road links, power, water, sewerage and natural gas;
- No significant deterioration in the current regional geo-political environment; and
- Establishment of Aditya Birla's proposed aluminum smelter in proximity to the Al Nahda site, with operations initiated in parallel with the pilot industrial estate.

Years 1 to 5: Establishment of a model industrial zones program

During its first five years of development, Al Nahda will need to establish its reputation as a world-class industrial zone, with a well-differentiated value proposition that attracts the top tier of local investors as well as foreign investors

seeking to capitalize on Alexandria’s competitive factor costs and preferential access to key markets in the EU, US and MENA region.

Al Nahda will be a strong position to capitalize on the emerging market for QIZ exports, led by textiles and apparel and expanding into other product sectors. At the same time, the growing regional market will position Al-Nadha as a platform for processed foods production, pharmaceuticals, and fabricated plastic products.

The period will end with the establishment of Al-Nadha’s reputation as a well-run, branded industrial park with increasing international appeal and a model for other private-led developments in Egypt. The site will have generated US\$598.6 million (fixed assets, excluding land) and close to 7,000 jobs (see Table 17). The total land area required by the end of Year 5 will be 130 hectares.

Table 17: Al Nahda demand forecast, years 1-5

	Year 1	Year 2	Year 3	Year 4	Year 5
Total Direct Investment, US\$millions (cumulative)	\$118.4	\$238.4	\$358.5	\$478.5	\$598.6
Textiles	\$13.5	\$27.1	\$40.8	\$54.4	\$68.0
Apparel and Home Textiles	\$15.9	\$32.0	\$48.1	\$64.2	\$80.3
Food Processing	\$50.0	\$101.0	\$152.0	\$203.0	\$254.0
Wood Furniture	\$0.6	\$1.2	\$1.9	\$2.5	\$3.1
Pharmaceuticals	\$18.8	\$37.7	\$56.6	\$75.6	\$94.5
Fabricated Plastics	\$13.7	\$27.5	\$41.3	\$55.1	\$69.0
Fabricated Aluminum	\$1.5	\$3.0	\$4.5	\$6.0	\$7.5
Other Misc. Manufacturing	\$4.4	\$8.8	\$13.3	\$17.7	\$22.2
Total Direct Employment (cumulative)	1,390	2,799	4,208	5,617	7,027
Textiles	150	302	453	605	756
Apparel and Home Textiles	350	704	1,057	1,411	1,764
Food Processing	500	1,010	1,520	2,030	2,540
Wood Furniture	23	45	68	91	113
Pharmaceuticals	125	251	378	504	630
Fabricated Plastics	180	362	544	725	907
Fabricated Aluminum	23	45	68	91	114
Other Misc. Manufacturing	40	80	121	161	202
Total Floor Space, m2 (cumulative)	31,873	64,189	96,506	128,822	161,139
Total Gross Land, hectares (cumulative)	26	51	77	103	129

Years 6-10: Development of core clusters

Al Nahda will rapidly evolve its core clusters, including food processing, pharmaceuticals, fabricated plastic and fabricated metals. The site will also develop a niche furniture cluster, comparatively small, but growing. The textiles and apparel sector will reach its peak. Al Nahda will promote the development of higher value-added textile and apparel segments, including home textiles, which will remain at the core of Egypt's export base. By the close of Year 10, Al Nahda will have generated US\$1.2 billion in investment and 14,500 jobs, and will require 267 hectares.

Table 18: Al Nahda demand forecast, years 6-10

	Year 6	Year 7	Year 8	Year 9	Year 10
Total Direct Investment, US\$millions (cumulative)	\$727.3	\$856.1	\$984.8	\$1,113.5	\$1,242.2
Textiles	\$81.5	\$95.0	\$108.5	\$122.0	\$135.5
Apparel and Home Textiles	\$96.2	\$112.1	\$128.0	\$144.0	\$159.9
Food Processing	\$314.0	\$374.0	\$434.0	\$494.0	\$554.0
Wood Furniture	\$3.7	\$4.4	\$5.0	\$5.6	\$6.3
Pharmaceuticals	\$113.3	\$132.0	\$150.8	\$169.5	\$188.3
Fabricated Plastics	\$82.6	\$96.3	\$110.0	\$123.7	\$137.3
Fabricated Aluminum	\$9.3	\$11.1	\$12.9	\$14.7	\$16.5
Other Misc. Manufacturing	\$26.6	\$31.1	\$35.6	\$40.0	\$44.5
Total Direct Employment (cumulative)	8,522	10,017	11,513	13,008	14,504
Textiles	906	1,056	1,206	1,356	1,506
Apparel and Home Textiles	2,114	2,464	2,814	3,164	3,514
Food Processing	3,140	3,740	4,340	4,940	5,540
Wood Furniture	136	159	182	205	228
Pharmaceuticals	755	880	1,005	1,130	1,255
Fabricated Plastics	1,087	1,267	1,447	1,627	1,807
Fabricated Aluminum	141	168	195	222	249
Other Misc. Manufacturing	242	283	323	364	405
Total Floor Space, m2 (cumulative)	195,537	229,936	264,335	298,734	333,132
Total Gross Land, hectares (cumulative)	156	184	212	239	267

Years 11 to 20: Maturation of Al-Nadha's industrial base

During this Al Nahda's industrial base will evolve away from lower value-added segments, ready to build on its cluster advantages and experience to enter into higher value-added production, such as just-in-time component manufacturing (e.g. fabricated plastic and aluminum products). Processed food industries will likewise move up the value chain, serving an increasingly sophisticated regional market. Textiles and apparel, which once played a strong role in the zone, will become a high value-added niche industry.

Al Nahda's growth during this period will be more qualitative than quantitative in nature, as old industries either relocate to cheaper production locations or transform themselves in line with Al Nahda (see Table 19). Total cumulative investment in Year 20 will be more than US\$2.0 billion. The total number of jobs generated by Year 20 will be more than 23,000. The total land area required at the end of Year 20 will be 431 hectares.

Table 19: Al Nahda demand forecast, years 11-20

	Year 15	Year 20
Total Direct Investment, US\$ millions (cumulative)	\$1,736.3	\$2,021.8
Textiles	\$182.8	\$203.0
Apparel and Home Textiles	\$215.6	\$239.5
Food Processing	\$804.0	\$979.0
Wood Furniture	\$8.7	\$10.3
Pharmaceuticals	\$253.9	\$282.0
Fabricated Plastics	\$185.2	\$205.7
Fabricated Aluminum	\$24.0	\$29.2
Other Misc. Manufacturing	\$62.1	\$73.1
Total Direct Employment (cumulative)	20,185	23,377
Textiles	2,031	2,256
Apparel and Home Textiles	4,739	5,264
Food Processing	8,040	9,790
Wood Furniture	318	374
Pharmaceuticals	1,693	1,880
Fabricated Plastics	2,437	2,707
Fabricated Aluminum	363	442
Other Misc. Manufacturing	565	665
Total Floor Space, m² (cumulative)	464,234	538,567
Total Gross Land, ha (cumulative)	371	431

Demand absorption forecast for Borg Al Arab

The following presents a summary of the 20-year demand forecast base case scenario for Borg Al Arab. The detailed benchmarking and market analysis underlying this forecast may be found in Sections 5 and 6 above. Using figures for Al Nahda as a base case, calculations for Borg Al Arab were adjusted based on the following assumptions:

- One site precludes the existence of the other; if a pilot site is developed at Borg Al Arab, it will not compete with a pilot site at Al Nahda. This does not constitute a recommendation that there be only one site; it is only an assumption underlying the current forecast;
- Strictly in terms of its location, Nahda is a more favorable location from a developer’s point of view. This is reflected in the assumption that across several of the sectors Borg will capture a smaller market share than did Nahda. Adjustments to market share are based on the site selection requirements of the various industries as they align—or do not align—with each of the prospective sites’ location attributes; and
- The proposed aluminum smelter under consideration for Al Nahda is not applicable to demand at Borg Al Arab. No investment in this sector occurs at Borg.

Years 1 to 5: Establishment of model industrial zones program

Drivers of development and growth are similar to those forecasts for Al Nahda. Development of a world-class site and cultivation of a well differentiated product and end-user market will be even more critical in close proximity to existing developments at Borg.

As Table 20 indicates, by the end of this period the site will have generated US\$532.1 million in investment (fixed assets, excluding land) and more than 6,000 jobs. Total land take-up will surpass 112ha.

Table 20: Borg Al Arab demand forecast, years 1-5

	Year 1	Year 2	Year 3	Year 4	Year 5
Total Direct Investment, US\$millions (cumulative)	\$105.2	\$ 211.9	\$ 318.6	\$ 425.4	\$532.1
Textiles	\$10.8	\$21.7	\$32.6	\$43.5	\$54.4
Apparel and Home Textiles	\$14.3	\$28.8	\$43.3	\$57.8	\$72.2
Food Processing	\$50.0	\$101.0	\$152.0	\$203.0	\$254.0

	Year 1	Year 2	Year 3	Year 4	Year 5
Wood Furniture	\$0.5	\$1.0	\$1.5	\$2.0	\$2.5
Pharmaceuticals	\$18.8	\$37.7	\$56.6	\$75.6	\$94.5
Fabricated Plastics	\$6.8	\$13.7	\$20.7	\$27.6	\$34.5
Fabricated Aluminum	-	-	-	-	-
Other Misc. Manufacturing	\$4.0	\$8.0	\$12.0	\$16.0	\$20.0
Total Direct Employment (cumulative)	1,204	2,425	3,646	4,867	6,088
Textiles	120	241	362	484	605
Apparel and Home Textiles	315	633	951	1,269	1,588
Food Processing	500	1,010	1,520	2,030	2,540
Wood Furniture	18	36	54	73	91
Pharmaceuticals	125	251	378	504	630
Fabricated Plastics	90	181	272	363	454
Fabricated Aluminum	-	-	-	-	-
Other Misc. Manufacturing	36	72	109	145	181
Total Floor Space, m² (cumulative)	27,716	55,829	83,942	112,055	140,168
Total Gross Land, ha (cumulative)	22.17	44.66	67.15	89.64	112.13

Years 6-10: Development of core clusters

A site at Borg Al Arab will rapidly evolve its core clusters, including food processing, pharmaceuticals, and fabricated plastic. Fabricated aluminum products are excluded from projected demand, as potential investment in this area was based on a smelter established in close proximity to the site. The site will also develop a niche furniture cluster, but its development will be slower in comparison to a site at Nahda, based on the labor supply issues outlined throughout this Study. The textiles and apparel sector will reach its peak, to be followed by a period of stabilization as Egypt adjusts to an ongoing deterioration in its market preferences. Site developers will promote the development of higher value-added textile and apparel segments, including home textiles, which will remain at the core of Egypt's export base.

By the close of Year 10, Borg Al Arab will have generated US\$1.1 billion in investment and 12,600 jobs (see Table 21). The total land area required at the end of Year 10 will be 233 hectares.

Table 21: Borg Al Arab demand forecast, years 6-10

	Year 6	Year 7	Year 8	Year 9	Year 10
Investment (US\$ mil) - Total (cumulative)	\$647.3	\$762.6	\$877.8	\$993.1	\$1,108.3
Textiles	\$65.2	\$76.0	\$86.8	\$97.6	\$108.4
Apparel and Home Textiles	\$86.6	\$100.9	\$115.2	\$129.6	\$143.9
Food Processing	\$314.0	\$374.0	\$434.0	\$494.0	\$554.0
Wood Furniture	\$3.0	\$3.5	\$4.0	\$4.5	\$5.0
Pharmaceuticals	\$113.3	\$132.0	\$150.8	\$169.5	\$188.3
Fabricated Plastics	\$41.3	\$48.2	\$55.0	\$61.8	\$68.7
Fabricated Aluminum	\$18.7	\$22.2	\$25.8	\$29.3	\$32.9
Other Misc. Manufacturing	\$24.0	\$28.0	\$32.0	\$36.0	\$40.1
Total Direct Employment (cumulative)	7,393	8,698	10,003	11,307	12,612
Textiles	725	845	965	1,085	1,205
Apparel and Home Textiles	1,903	2,218	2,533	2,848	3,163
Food Processing	3,140	3,740	4,340	4,940	5,540
Wood Furniture	109	127	146	164	182
Pharmaceuticals	755	880	1,005	1,130	1,255
Fabricated Plastics	544	634	724	814	904
Fabricated Aluminum	-	-	-	-	-
Other Misc. Manufacturing	218	255	291	328	364
Total Floor Space, m² (cumulative)	170,303	200,438	230,573	260,708	290,843
Total Gross Land, ha (cumulative)	136.24	160.35	184.46	208.57	232.67

Years 11 to 20: Maturation of Borg Al Arab’s industrial base

Again following a similar arc to that described in projections for Al Nahda, Borg’s industrial base will evolve in this period away from lower value-added segments, ready to build on its cluster advantages and experience to enter into higher value-added production. Textiles and apparel will decline as a major contributor to growth, but will move toward becoming a high value-added niche industry. Growth during this period will be more qualitative than quantitative in

nature, as old industries either relocate to cheaper production locations or transform themselves in line with the overall character of the site.

As Table 22 indicates, total cumulative investment in Year 20 will be more than US\$1.8 billion. The total number of jobs generated by Year 20 will be more than 20,000, and total land area required at the end of Year 20 will be 379 hectares.

Table 22: Borg Al Arab demand forecast, years 11-20

	Year 15	Year 20
Investment (US\$ mil) - Total (cumulative)	\$1,533.7	\$1,815.9
Textiles	\$146.2	\$162.4
Apparel and Home Textiles	\$194.1	\$215.6
Food Processing	\$804.0	\$979.0
Wood Furniture	\$7.0	\$8.2
Pharmaceuticals	\$253.9	\$282.0
Fabricated Plastics	\$92.6	\$102.9
Fabricated Aluminum	-	-
Other Misc. Manufacturing	\$55.9	\$65.8
Total Direct Employment (cumulative)	17,603	20,463
Textiles	1,625	1,805
Apparel and Home Textiles	4,265	4,738
Food Processing	8,040	9,790
Wood Furniture	254	299
Pharmaceuticals	1,693	1,880
Fabricated Plastics	1,219	1,354
Fabricated Aluminum	-	-
Other Misc. Manufacturing	508	598
Total Floor Space, m² (cumulative)	406,489	473,344
Total Gross Land, ha (cumulative)	325.19	378.68

Appendix A: Detailed benchmarking data

Business operating conditions

Analysis of the business climate is key for the success of the Al Nahda's industrial zone. The following sections briefly review the overall business operating conditions, which largely comprises national macro-level data in the respective countries. Specific industrial zone attributes are discussed as appropriate.

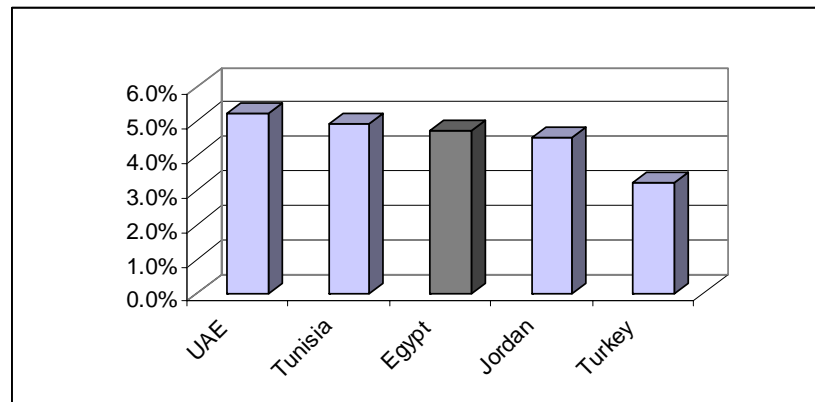
Macroeconomic environment

The overall macroeconomic environment is an important factor influencing investors' perceptions. While much foreign investment is geared toward export development, the strength of the local economy and its stability over time are important signals of the overall policy environment and the expected level of risk.

The IMF recently praised the Government of Egypt for its efforts to reform its economy and provide a sustainable foundation for its development. Over the last two years, Egypt has made important strides in stabilizing its overall business climate and macro-economy, accelerating reforms aimed at tackling impediments to higher growth and employment creation. The implementation of a broad range of reforms aimed at modernizing Government and boosting private sector activity, and a favorable external environment, have contributed to macroeconomic stability. Recent tax and related administrative reforms have been identified by the IMF as key reforms that are likely to promote macroeconomic stability. While Egypt's external sector remains an important engine of growth, the expansion has become more broad-based. Employment is rising, but continued high unemployment points to the need to further boost private investment and growth, something to which the reform of the industrial zones regime and development of Al Nahda pilot site can contribute through the promotion of private sector development and job creation.

Recent macroeconomic performance demonstrates the impact of ongoing reform efforts. Egypt has sustained a moderately high rate of growth over recent years and IMF forecasts estimate that Egypt should be able to maintain this growth over the foreseeable period. Egypt's GDP growth in 2005/06 reached 5.6 percent and preliminary estimates, reported by the IMF, maintain a relatively strong growth rate of 5.6 percent throughout 2006/07. Egypt's average annual growth between 1995 and 2005 reached a moderate 4.7 percent. Egypt's stable macroeconomic performance has been comparable to the other countries under review (see Figure 6).

Figure 6: Comparative GDP growth rates (1995 – 2005)



Investment, measured as gross capital formation as a share of GDP, has been relatively strong, accounting for 16 to 17 percent of GDP over the past few years. While Egypt’s manufacturing sector (which includes downstream gas and oil industries) currently accounts for just over 18 percent of GDP, comparable to Jordan and Tunisia, and larger than both Turkey and the UAE, given the relative sizes of their respective economies (see Table 23), Egypt’s manufacturing sector has been growing at a relatively slow rate, both compared to overall GDP growth and the manufacturing sectors in the comparator countries.

Table 23: Comparative structure of GDP and growth of manufacturing

	Egypt (2005)	UAE (2003)	Jordan (2005)	Turkey (2005)	Tunisia (2005)
Agriculture	13.9%	3.2%	2.2%	11.9%	12.6%
Industry	38.7%	54.1%	28.9%	23.7%	28.2%
Manufacturing (growth rate)	18.2% (3.3%)	13.7% (N/A)	19.2% (11.8%)	14.0% (6.3%)	18.1% (4.6%)
Services	47.4%	42.7%	68.8%	64.5%	59.2%

Source: World Bank, *Countries At-A-Glance* dataset.

Regulatory environment

In addition to economic stability, companies look at the degree of regulation and the extent to which the policy environment is stable. Investors must be reasonably assured that future Governments will not reverse the commercial and investment policies that attracted them in the first place. In addition, companies must be assured that their investments will be safe physically from political or civil unrest. This is particularly important for those industries requiring substantial capital investments.

Economic freedom

The Index of Economic Freedom, a study undertaken jointly by the Heritage Foundation, a Washington, D.C. think tank, and the Wall Street Journal, ranks countries on the basis of economic policy and performance in 10 factors that affect the environment for business and investment. Fifty independent variables contributed to the ranking of 157 countries in 2006 in the following spheres of economic activity: trade barriers, taxation and fiscal policy, government consumption and economic intervention, monetary policy, foreign investment, banking and finance, wages and prices, property rights, regulation and the informal economy. In the study's scoring methodology, the lower the score, overall and for each factor, the greater degree of market liberalization and implementation of market-augmenting policies of the government.

The 2006 Index ranked Egypt significantly lower in overall economic freedom than selected regional competitors, a trend that has continued through the past 12 years of the study. Nevertheless, the reasons cited for Egypt's deterioration in scores in 2006 – Government expenditures as a percent of GDP, percent of non-taxation revenues gained from state-owned assets, and a significant jump in inflation – actually reflect economic policy decisions taken in prior years because 2006 rankings were generally based on data collected in 2004. For this reason, this index, as well as many others, demonstrates certain shortcomings as a measure of the near-term impact of government policy decisions on the degree of economic freedom in a country. Variations in year-to-year rankings can also be attributed not only to internal policy decisions but also to external political and economic factors and relative economic improvement in other regions of the world. For instance, there has been a considerable downward trend in rankings in the past 4-5 years for nearly all countries in the Middle East/North Africa region, including Egypt, whose ranking in 2006 significantly deteriorated from its ranking of the five prior years. This is likely the result of increasing political instability in the region that has affected not only economic performance but also economic policy. The exception to this trend is Jordan, which roughly maintained its ranking despite some slippage, and Turkey, which showed a strong improvement in its 2006 ranking. Table 24 illustrates Egypt's ranking relative to four regional competitors.

Despite the time lag, the index's value lies in comparing Egypt's scores in specific economic factors relative to its regional competitors. Egypt ranks absolute worst among its four competitors in taxation and fiscal burdens and is tied for last place with Turkey in the extent of its regulatory burdens and the reach of its informal economy. Its trade regime ranks fourth out of five, ahead only of Tunisia, as does the impact of its monetary policy on its economy, in which only Turkey scores worse. Its banking system, based on the reach and performance of its state-owned banks, reveals a three-way tie for last place with Tunisia and the

Table 24: Index of economic freedom, 2006

	Jordan	UAE	Turkey	Tunisia	Egypt
Global Rank					
2006	57	65	85	99	128
2005	56	48	104	82	107
Average Score	2.80	2.93	3.11	3.24	3.59
Trade	4.0	2.5	2.0	5.0	4.5
Taxation/Fiscal Burden	4.0	1.3	3.1	3.9	4.4
Gov. Intervention	3.5	4.0	2.5	2.5	3.5
Monetary Policy	1.0	2.0	4.0	2.0	3.0
Foreign Investment	3.0	4.0	3.0	4.0	3.0
Banking and Finance	2.0	4.0	3.0	4.0	3.0
Wages and Prices	2.0	3.0	3.0	2.0	4.0
Property Rights	3.0	3.0	3.0	3.0	3.0
Regulation	3.0	3.0	4.0	3.0	4.0
Informal Economy	3.0	2.5	3.5	3.0	3.5

UAE, as does its score on the impact of wages and prices, with Turkey and the UAE, which reflects Egyptian Government subsidies and interference in price-setting for basic goods. Of all factors, Egypt ranks well in the liberalization of its foreign investment regime, tied with Jordan and Turkey. All competitors rank poorly in the index on property rights. In purely raw scores ranging from 0 to 5, Egypt’s average score of 3.59 across the 10 factors places it in well into a category of countries determined to have “mostly unfree” economic environments. Of the five, only Jordan and the UAE have met hurdles to place them in a category having “mostly free” economies although they trail most countries in this category.

Impact of regulatory environment

A more in-depth view at how Egypt’s regulatory environment fairs against its competitors is provided by the World Bank’s “Doing Business” indicators. The World Bank recently released its fourth annual study that monitors the processes and costs of business regulations and ranks countries based on the relative ease of their business environments for doing business. Unlike other indicators of economic performance, the “Doing Business” study attempts to quantify the microeconomic impact of macroeconomic policies in 10 spheres of business activities: starting a business, dealing with licenses, employing workers, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and closing a business. The “Doing Business” study utilizes both factor indices to determine relative performance as well as the absolute value of the number of processes, the number of days, and the monetary costs of regulations encountered by businesses to provide a list of 39 indicators of a country’s regulatory environment. Its 2007 edition, based on gathering empirical data in 175 countries during 2006, not only ranks each country’s overall

business environment, but also provides a ranking of its business environment relative to other countries in each of these 10 spheres.

Egypt's overall ranking of 165th places its business environment among the least conducive to supporting business in the world (see Table 25). Of the 17 countries of the Middle East/North Africa region, its overall regulatory environment ranks 17. Egypt's lowest score is in licensing, where it ranks 169. The following table shows Egypt's overall ranking, as well as its ranking in some of the individual spheres, including starting a business, dealing with licenses, registering property, and closing a business. Egypt's performance in some of the other spheres is discussed in subsequent sections. Egypt's ranks lowest among the five competitors in terms of starting a business, dealing with licenses and registering property—many of the procedures entail very high costs and/or time, not only higher than the competitor countries but, in many cases, much higher than most other countries in the world. However, some important reforms have been implemented over the past year, which should help Egypt improve its attractiveness and reduce transaction costs.

Table 25: DoingBusiness indicators (2006)

	Jordan	UAE	Turkey	Tunisia	Egypt	MENA Average
Overall Ranking	78	77	91	80	165	N/A
Starting a Business (Rank)	133	155	53	59	125	N/A
Procedures (number)	11	12	8	10	10	10.3
Time (days)	18	63	9	11	19	40.9
Cost (% of income per capita)	73.0	36.4	26.8	9.3	68.8	74.5
Min Capital (% of income per capita)	864.4	338.2	18.7	28.3	694.7	744.5
Dealing with Licenses (Rank)	70	79	148	110	169	N/A
Procedures (number)	16	21	32	24	30	19.9
Time (days)	122	125	232	79	263	206.9
Cost (% of income per capita)	503.2	210.0	150.2	1,031.9	1002.0	499.0
Registering Property (Rank)	110	8	54	71	141	N/A
Procedures (number)	8	3	8	5	7	6.6
Time (days)	22	6	9	57	193	49.4
Cost (% of property value)	10.0	2.0	3.2	6.1	5.9	6.9
Closing a Business (Rank)	84	137	138	29	120	N/A
Time (years)	4.3	5.1	5.9	1.3	4.2	3.1
Cost (% of estate)	9	30	7	7	22	12.1
Recovery Rate (cents on the dollar)	28.2	10.4	9.8	51.2	16.6	25.7

Political and economic risk

Another measure that companies look at to evaluate the overall investment climate is the level of political and economic risk. One of the most comprehensive economic and political risk ratings is produced by Political Risk Services in their International Country Risk Guide, a composite rating, comprising 22 variables

across three categories of risk—political, financial and economic.²² The higher the score the lower the level of risk. Here, too, Egypt fares less well against its competitors in the region, ranking lower than the UAE, Jordan and Tunisia (see Table 26). Turkey ranks the lowest among the selected countries, due to a comparatively high level of financial and economic risk.

Table 26: International country risk ratings, May 2005

	UAE	Jordan	Tunisia	Egypt	Turkey
Composite Risk Rating (out of 100)	84.0	75.8	74.0	69.0	68.3
Overall Rank	16	50	60	80	86
Political Risk Rating (out of 100)	79.5	74.0	73.5	62.0	69.5
Financial Risk Rating (out of 100)	43.5	39.0	37.0	40.5	32.5
Economic Risk Rating (out of 50)	45.0	38.5	37.5	35.5	34.5

* In calculating the Composite Political, Financial and Economic Risk Rating, the political risk rating contributes 50% of the composite rating, while the financial and economic ratings each contribute 25%.

Foreign investment flows

Investment flows tend to have an agglomeration effect. The agglomeration effect is a process that drives entities together geographically due to one or several factors, such as the availability of FDI-related services or highly skilled labor, spillovers of know-how from one company to another, and other advantages of companies' being physically close to each other. Therefore, locations that have succeeded in attracting inward investment are more likely to attract new investment than those with less success in the past, unless the environment for investment in such locations is perceived to have changed drastically for the better. The presence of foreign investors, in particular, can provide an important

²² The political risk component includes government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability, bureaucracy quality; the financial risk component includes foreign debt as a percentage of GDP, foreign debt service as a percentage of exports of goods and services, current account as a percentage of exports of goods and services, net liquidity as months of import cover, exchange rate stability; and the economic risk component includes GDP per head of population, real annual GDP growth, annual inflation rate, budget balance as a percentage of GDP, current account balance as a percentage of GDP.

positive signal to other potential investors that a given location is conducive to providing a favorable investment climate.

Egypt sits in a region that is, generally, not perceived as a favorable investment destination. While the last 15 or so years have brought a significant increase in FDI to developing countries, the record of foreign direct investment in Arab countries, with the exception of investments in the lucrative oil and gas sectors, remains relatively poor.

Recent estimates of Egyptian FDI flows by UNCTAD suggest that the rate of net inflows has been very uneven—ranging from US\$237 million in 2003 to a high of US\$1.25 billion in 2004. Principal sources of foreign investment to Egypt are the United States and the EU, though the majority of investment from these countries is in the oil and gas sector. Other MENA countries, particularly those in the Gulf region, are also important sources of investment—MENA-sourced investments tend to be more diversified in terms of activities, comprising a wider range of manufacturing and service sectors.

Compared to most of comparator countries, Egypt has performed relatively well over recent years in attracting FDI (see Table 27). Inward FDI stock to Egypt, as a share of GDP, reached more than 27 percent in 2004, putting it ahead of Turkey and the UAE. Tunisia has succeeded in attracting high volumes of FDI relative to their GDP—close to 62 percent, well above the average for developing countries (26 percent).

Table 27: Inward FDI stock as a percentage of gross domestic product, by host region and economy, 1980 – 2004 (US\$ millions)

	2000	2001	2002	2003	2004
Egypt	17.7	19.5	21.0	25.7	27.1
Tunisia	60.0	57.7	66.0	64.4	61.7
Jordan	26.8	26.7	26.3	29.2	31.9
Turkey	9.6	13.5	10.2	13.3	11.7
United Arab Emirates	2.0	3.9	6.1	5.4	4.6

In spite of the above results, UNCTAD has recently classified Egypt as an under-performer in terms of FDI attraction.

Appendix B: Value-added services strategy

One of the distinguishing characteristics and success drivers of industrial zones is the provision of ancillary services to users. These services are crucially important in creating a “cluster” environment, an effect that has the objective of ensuring the availability of vertical and horizontal linkages that enables zone enterprises to focus on their core businesses, such as technical and business services. Many zones also provide a range of “amenities” to create a more attractive environment for investors and workers. Box 4 below provides a list of some of the typical services and amenities that are provided in world-class industrial zones. Zone developers and operators typically rely on a range of mechanisms to supply these services, including self-provision as a profit-center and third-party providers.

Box 4: Typical zone-based value-added services

<u>Technical Services</u>	<u>Business Services</u>
Training	Conference center
Contract manufacturing	Exhibition center
Machining/tool & die	Build-to-suit construction
Standards certification	Security
Environmental services	Labor recruitment
Specialized warehousing	Accounting/finance
Testing & calibration services	Customs brokerage/freight forwarder
<u>Amenities</u>	Fire safety compliance
Medical services	Investment facilitation
Cafeteria/restaurants	Janitorial services
Banking	Maintenance services
Recreation	Worker housing
Child care	

Experience suggests that privately operated zones typically provide a broader range and higher caliber of value-added services, compared to publicly-run zones. Egyptian zones exemplify the latter, with the provision of little or no value-added services (though GAFI’s OSS, which services its free zones, has been identified by investors as a highly valued service).

While it is expected that a private developer/operator would seek to provide a “value-proposition” that differentiates itself from the public zones, including the provision of value-added services, a strategy should be in place to ensure that such services do, in fact, develop, especially in areas where there are supply-side constraints in Egypt. There may also be demand-side constraints, particularly in the initial years of operation, when a critical mass of tenants may make it less-than-profitable to provide some of the services and amenities that are, nevertheless, desirable and/or necessary to provide from opening day in order to

provide existing tenants with a quality investment environment and generate future demand. Given the private sector-, commercial-focus of an industrial estate, the private sector should be encouraged to provide as many of these services and amenities, as possible, with public-sector provision as a last resort, only where warranted by either supply- or demand-side constraints. In some cases, developers are required to provide a range of core services and amenities, either directly or through third-party providers—such provisions may be included in the project tender (see Box 5 below). In many cases, liability is a prime driver for the developer/operator to assign these services to specialized, third-party providers, such as medical services, day care and canteen facilities.

Box 5: Provision of services by developer in the Aqaba International Industrial Estate

Mandatory Services	
• Administration center	• Maintenance of roads, markings, lighting
• Landscaping of common areas	• Signage
• Security around perimeter & gates	• Canteen facility
• Day care center	• Exhibition center
• Medical clinic	
Optional Services	
• Transport and logistics	• Business center
• Technical workshops	• Machine shops
• Vocational training facilities	• Commuting/transportation services
• Mosque	• Additional cafeteria/restaurants
• Cleaning services	• Postal facility
• Civil defense center	• Security services
• Social facilities	• Retail outlets

Strategy for provision of value-added services

The following provides a strategy for the provision of services and amenities that seeks to maximize the extent of private sector provision. In the short-term, when supply and/or demand constraints may limit the interest of third-party, private sector providers, some core services and amenities may be required of the developer/operator, while others may be provided by public-sector providers. Over time, it is expected that the large majority of services would likely be provided by private, third-party providers. The transition for such services is not time-delimited here, as each service or amenity may have its own time horizon to evolve supply and/or demand considerations that would permit them to be provided by the private sector. The strategy for providing value-added services is, therefore, broken down into three broad categories:

- Those core services and amenities that the zone developer/operator should be expected to provide from the outset, either directly or through third-party providers;
- Those services and facilities that the public-sector could support in the initial stages of development, given the current capacity of Egypt's public-sector to provide such services; and
- Those services and amenities that will gradually develop over time, once a critical mass of development is reached, and will attract third-party-providers.

Core services and facilities to be provided by developer/operator

The developer/operator should be expected to provide basic services and facilities to ensure that the site is well maintained and to provide tenants with a minimum level of service and facilities. It is recommended that these be included in the tender documents as required services and prospective developers/operators, who should be requested to indicate clean plans to provide these services and facilities, either directly or through third-party providers. These should include:

- An **administration center** to house the management company, any offices required for Government agencies (such as a one-stop shop), etc.;
- **Maintenance of roads**, road markings, and lighting;
- **Landscaping** of common areas;
- **Security** around perimeter (if only partially developed, may only surround developed portion) and gates;
- **Signage** throughout the site;
- **Day care center** for investors' and workers' families;
- **Medical clinic** onsite to provide basic care to workers and their families;
- **Cafeteria facility**; and
- **Exhibition center** for tenant enterprises (this type of service may be taken over by an investors' association once a critical mass has developed).

For some of these services and facilities, it can be expected that the developer/operator will include the fees for these services either as part of the lease rate or as a separate, flat service/ maintenance fee. In other cases, the developer/operator may offer the service on a usage-fee basis.

Core services and facilities to be provided by public sector

While the developer should be responsible for the provision of all onsite infrastructure, in the initial stages of development, if the local authority has the

capacity, the government may want to contribute to the **maintenance** of some of the onsite infrastructure, including access roads and road markings, landscaping, and street lighting. This would ease the financial burden of the developer during the early years of development. After a period of time, however, the developer should be expected to provide all these services directly or through third-party providers.

However, the most important service that the government can provide, given the complexity of Egypt's regulatory framework, is **one-stop shop** services for business start-up, as well as a coordinated monitoring and inspection regime.

Optional services and amenities to be provided by developer or third-party providers

In order to generate a true value-proposition for its tenants, it can be expected that the developer/operator will seek to promote the site not just to end-user industries, but also to a wide range of service providers—these will include a range of technical support service, business support services, and amenities. In some cases, a developer/operator with particular in-house experience may seek to develop some such services and facilities as a separate profit-center. These types of services are likely to grow once a critical mass of development has been reached to generate demand sufficient enough to interest service providers. Depending on the ultimate configuration of the tenant base, it can be expected that the developer/ operator will target the following types of services:

Technical services

- **Training centers for cluster-based industries and/or training facilities and labor recruitment**—The provision of training and recruitment services can be important to ensure that tenants have access to a well-trained workforce. Such a service can upgrade the quality of labor in Alexandria, reduce overall labor costs, raises local workers productivity levels, and lowers users' recruitment concerns;
- **Machining, tool & die, and testing & calibration services**—The provision of such ancillary technical services can be particularly valuable for Egyptian medium- and small-industries that may not be able to afford their own in-house facilities;
- **Standards certification**—A private developer will seek to attract a higher-caliber of investment, a substantial portion of which is expected to be export-oriented. The provision of standards certification services would be particularly beneficial to Egyptian industries that are interested in developing their export markets;
- **Environmental services**—A private developer has a direct interest in encouraging the environmental integrity of the site and surrounding area. The

provision of onsite environmental services can ensure that tenant enterprises have access to such services; and

- **Contract manufacturing**—Some developers/operators provide contract manufacturing services for local and international businesses, which can stimulate investment by reducing investors’ risk to production line inventory, minimize up-front capital outlay required of greenfield investments. It can also provide the zone with an investment incubator as it would also allow for investors to “test the waters” from a relatively safe position, facilitating the movement into higher value-added industries.

Business services

- Transportation services for workers;
- Conference center, with a range of meeting rooms and business services;
- Accounting/finance services, which can be important for small- and medium-enterprises;
- Logistics providers, including customs brokers, freight forwarders and specialized warehousing facilities; and
- Build-to-suit construction services.

Amenities

- Restaurants and retail shops;
- Janitorial services;
- Maintenance services;
- Banking services; and
- Recreational facilities.

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