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ABBREVIATIONS AND ACRONYMS

CCT	Conditional Cash Transfer
GAFI	General Authority for Investment
GDP	Gross Domestic Product
GIS	Geography Information System
HCSLM	Higher Committee for State Land Management
HOI	Human Opportunity Index
ICA	Investment Climate Assessment
IDA	Industrial Development Authority
LE	Egyptian Pound
MHUUD	Ministry of Housing, Utilities, and Urban Development
NCPSLU	National Center for Planning the State Land Uses
NPV	Net Present Value
NUCA	New Urban Communities Authority
REPD	Real Estate Publicity Department
SEZ	Special Economic Zones
SME	Small and Medium Enterprises
UR	Upper Egypt Rural
USAID	United States Agency for International Development
WDR	World Development Report

Vice President: Inger Andersen
Country Director: David A. Craig
Sector Director: Manuela V. Ferro
Sector Manager: Bernard G. Funck
Task Team Leaders: Santiago Herrera and Vivian Hon

Arab Republic of Egypt

Reshaping Egypt's Economic Geography

Volume 1

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Overview

i. **This report investigates Egypt's regional economic growth, explores the causes for geographically unbalanced development, and proposes policy options to make unbalanced growth compatible with inclusive development.** The *2009 World Development Report* described how location is the most important correlate of an individual's welfare. The same rule holds at the national level—particularly in Egypt. Some regions grow faster than others and concentrate production, and wages and income are higher in those areas. But in other regions incomes are perennially lower and poverty is higher.

ii. **Regional disparities in income and consumption may be attributed to differences in natural endowments and geographical location, but unbalanced growth is mostly due to economies of scale, spillover effects, and the lower transaction costs that result from agglomeration.** International experience shows that policies to promote higher income in lagging regions take time to operate and seem to work better when they reinforce market signals. Although complete convergence in income and consumption is difficult to reach—because of the benefits of agglomeration—basic living standards and opportunities for education, nutrition, health care, and housing services, should be the same for all, regardless of location.

iii. **In Egypt, despite rapid progress in most welfare indicators in lagging regions, there are still substantial gaps in consumption and opportunities between growth poles and the rest of the country.** The explanation of welfare disparities has shifted over time from unequal household endowment of physical and human capital, to differences in the returns to assets that individuals possess. Returns to assets are different across the country because economic activity is denser and business opportunities more abundant in Greater Cairo and urban Lower Egypt. So, by facilitating goods and factor mobility, all Egyptians can benefit from higher growth, wherever it occurs. But as the report shows, this requires more than just building roads or improving trade logistics. This report's central proposal is adopting spatial integration as a development platform, in which the policy focus shifts from spreading out industrial location to spreading out access to basic public services and facilitating factor mobility, which will make growth more inclusive and development more balanced in Egypt. Egypt's new political environment provides an opportunity to examine this perennial problem from a new perspective.

iv. **Adopting integration as a development platform is not simple because spatial disparities are spanned in three dimensions: urban/rural dichotomies, the Upper Egypt/Lower Egypt duality, and the differences between large metropolises and the rest of the country.** The many causes and origins of disparities complicate the analysis, defy simple solutions, and call for a comprehensive set of policies. Despite the complexity in its implementation, a comprehensive package of options must be grounded on the basic principle of using as many policy instruments as the number of dimensions that span the disparity space. Given that there are three main dimensions spanning spatial disparities in Egypt, this report proposes three instruments to foster domestic integration: spatially blind institutions, spatially connective infrastructure, and spatially targeted interventions. Spatially blind institutions are universal in their coverage, and examples include the regulation of the land market and housing market, taxation of land and real estate, provision of an equalization transfer to local governments, and functioning of cooperatives and land dispute resolution mechanisms. Spatially connective infrastructure refers to investment that facilitates the movements of goods and people, and this report discusses alternative investments and quantifies their benefits in reducing travel times for the entire population and for poor people. Spatially targeted interventions refer to policies directed at

specific groups in a specific geographic location—for instance, a transfer for rural families in Upper Egypt.

v. **This typology of instruments underlies the menu of options presented in this report as the basis of domestic spatial integration as a development platform to achieve more balanced and equitable development without sacrificing growth.** This report first identifies the gaps in consumption and in opportunities, showing the stark contrasts between regions and how they evolve through time. It then explores the causes of the gaps, revealing a multiplicity of factors and exposing the complexity of the problem. Finally, the bulk of the report presents the policy options to address the integration challenges.

Where is the gap, and how big is it?

vi. **Egypt's differences in per capita consumption across regions remained stable over the past decade, except for the upper segments of the income distribution, for whom they increased.** In 2000 consumption by the median household in the poorest decile in Greater Cairo was about 1.2 times that in the poorest decile in Upper Egypt, and consumption by the median household in the richest decile in Greater Cairo was twice that in its Upper Egypt counterpart. By the end of the decade the ratio had increased only to 1.4 for the poorest decile, but it had more than doubled to 4.2 for the richest. So, all metropolitan households increased their consumption relative to that of the lagging regions, with the most improvement in the upper income groups. But the gap is not wide by international standards. Consumption is higher in Greater Cairo and Lower Egypt's urban areas, so these areas attract migrants and will remain the centers of economic growth.

vii. **Other indicators of living standards show mixed trends. Health and nutrition indicators show higher discrepancies, narrowing slightly over time.** Under-five mortality rates show large discrepancies between urban and rural areas and across regions, but strong convergence over time. The number of birth deliveries outside a health facility slightly converges between urban and rural areas and across different regions of Egypt. Nutrition indicators converge, but in the wrong direction; they are the only welfare indicator for which metropolitan areas fare worst, with the rest of the regions “catching down” to their standards.

viii. **Other living standards show clear divisions. For instance, female illiteracy in Upper Egypt (43 percent) is almost three times that in Lower Egypt's urban areas (15 percent).** Student scores on international achievement tests are 9 percent higher in large cities than in small towns. But unemployment is higher in cities, with clear divisions across metropolitan and urban areas on the one hand, and rural areas of both Upper and Lower Egypt on the other. The divisions, though less striking over the past decade, remain wide.

ix. **Perhaps more important than the consumption gaps across regions are the big gaps in opportunities for development.** This report constitutes an advance in measuring opportunities for individuals, rather than outcomes, such as income or consumption, in Egypt's different regions. It focuses on children because among them it is possible to sever the intergenerational transmission of poverty. The report examines the evolution of 17 opportunity indicators grouped in four sectors: education, basic housing services, early childhood development, and nutrition. It shows that only 63 percent of the opportunities required to guarantee universal access to these public services were available in 2000, increasing to 73 percent in 2009. This yearly average improvement of 1.6 percent is slightly higher than Latin America's rate of improvement during 1995–2005. Even so, improvement in opportunity indices was uneven across sectors. While improvement was impressive in access to basic housing services (water, energy, non-overcrowding), the indices in other sectors such as education and nutrition remained stagnant or worsened.

x. **In urban areas 80 percent of the opportunities required for universal access to the four basic public services were available, but in rural areas only 69 percent were available by the end of the past decade.** The largest gap in opportunities was in the access to basic housing services, particularly to sanitation services. The gap in opportunities to early childhood development services was substantial, with the gap in opportunities across regions even wider than that between urban and rural areas. For instance, while the early childhood development opportunity indicators showed that any child born in an urban household had a 40 percent more likely to receive post natal care than a child born in a rural household, the difference between a child born in the leading region and one born in the lagging area was more than three times as high. Other opportunities indicators show larger gaps in the regional context than in the urban-rural one, though both dimensions span a complex space of unequal opportunities throughout the country.

What explains the gap between leading and lagging regions in consumption and opportunities?

xi. **Consumption disparities across regions or groups of individuals may be explained by differences in their endowments of physical and human capital or in the returns to those endowments.** This report shows that endowment differences explained most of the consumption gap in 2000, whereas returns on those endowments explained a growing share of the gap by the end of the decade. The change is due to extending the coverage of education, sewerage, electricity, and housing services, thus leveling household endowments across the country. The returns to endowments differ across regions for two reasons: there is low mobility of factors and goods, and the allocation of land and capital is based on administrative decisions rather than resource productivity and market-based considerations.

xii. **The mobility of goods could partly compensate for the immobility of labor.**¹ But the report shows that market access is lower in poor and rural areas. Travel time to school, health care units, and work is longer in Upper Egypt. Shipping goods short distances within lagging regions is more expensive than shipping them to the large urban centers, due to scale economies. For instance, shipping general cargo from Aswan to Quena or Fayoum can be more expensive than shipping it to Cairo or Alexandria, both farther away.

xiii. **High goods transport costs, barriers to labor mobility, and low worker productivity in lagging regions set up a vicious cycle in which poverty concentrates in some regions: the size of the market does not increase as fast as in the urban areas, it is more expensive to provide certain services than in areas with a denser population, and opportunities for basic education are very limited.** Individuals are locked in to low-productivity regions because of high goods transport costs, low levels of education, high costs of mobility due to dysfunctional markets for their assets (land), and the limited availability of affordable housing in urban areas.

xiv. **Urban Lower Egypt, mainly port cities along the Suez Canal and the Mediterranean, enjoyed fast progress in living standards and income, and its consumption grew to equal Cairo's.** Egypt's integration with the global economy since the early 2000s and the rising share of tradable goods and services in GDP explain the region's fast consumption growth. During the same decade the country experienced a greater demand for skilled labor, concentrated in urban areas, leading to higher returns for those with university education, while demand fell for those with lower educational levels.

xv. **This report shows how inequality of opportunity is mostly explained by regional location and urban-rural divisions, though the parents' education, the number of siblings in the family,**

¹ This follows from the factor price equalization theorem of international trade theory applied to the domestic economy.

and the parents' income—all beyond the children's control—also play a role. To erase these divisions gradually between rural Upper Egypt and the rest of the country, break their intergenerational reproduction, and build up individuals' portable assets, this report suggests a conditional cash transfer (CCT) to rural families for education and nutrition, as detailed in the next section.

What to do about the spatial disparities in opportunities and consumption?

xvi. Spatial disparities in opportunities and consumption should be addressed differently, though using the same guiding principles: spatially blind institutions, spatially connective infrastructure, and spatially targeted interventions. Egypt's policies have mostly been guided, historically, by the spatially targeted instrument of land allocation for industrial development. But the other principles have been ignored and the unequal opportunities have not been addressed directly; in this sense, policy has been unbalanced. This report proposes options for a more comprehensive treatment to achieve more balanced development: equalizing opportunities in access to basic services and removing impediments to factor mobility to reap rewards wherever resources are more productive. First, we approach the opportunities issue.

xvii. Geography and location determine what opportunities individuals can access. The two options proposed in this report to equalize opportunities are a combination of spatially blind institutions and a spatially targeted intervention: the first aims to act on the supply of basic services, the second targets the demand. Public service provision has not supported regional integration because there is no clear relationship between resource allocation and results, the regional allocation of resources from the central government mostly considers the population numbers, and it is discretionary and politicized. To give all local governments a similar opportunity to provide a minimum level of public services, regardless of their ability to raise local taxes, other countries have used an equalization transfer from the central government.

xviii. In many countries this transfer is unconditional, with the allocation rule being constitutionally mandated and subject to fiscal sustainability. The rule is needs-based, as it follows the governorate (local government) or district's population and also some measure of per capita income. In Egypt, given the lack of regional GDP estimates, a measure of poverty could be used. Simulations done for this report show a pattern of regional distribution of the equalization transfer that is significantly different from the current regional allocation pattern of transfers. A complement of this unconditional transfer is enhancing local governance in public spending, particularly in evaluating and monitoring. Greater accountability of local government to its citizens and to authorities overseeing the budget is necessary to guarantee that the resources and enhanced spending flexibility reduce poverty. All of the above follows the spatially blind institutions principle to promote inclusive development.

xix. Countries confronted with these challenges have used CCTs to help poor rural households. In Upper Egypt providing such incentive and the necessary income to support the demand for basic services, such as education and nutrition, could enhance the portable (human) assets of the people. This option follows the principle of a spatially targeted policy to address the high density of poor households in this part of the country. This proposal derives from the results described in this report, according to which both a lack of parents' income and regional factors affect opportunities in four sectors: education, basic housing services, early childhood development, and nutrition. Other countries facing similar situations have successfully used CCTs with positive impacts on nutrition, education, and health.

xx. Adequate design for Egypt needs to explore whether the transfer could rise (up to a limit) with the number of children in the household and whether it could include a premium for educating girls, given the big difference in educational attainment between males and females.

The CCT's design, in addition to accommodating cultural specificity to Egypt, must also be fiscally sustainable. Given the fiscal precondition, establishing a new transfer in Egypt would require reducing other expenditures. Because one result of CCTs worldwide is increasing food consumption, the transfer could replace, at least partly, the universal food subsidy in Egypt. Evidence from Latin America shows that CCTs may also support capital formation among poor rural families, which is necessary to move beyond subsistence agriculture and improve incomes of the lagging regions.

Dealing with obstacles to labor mobility: enabling households' consumption to catch up

xxi. First, labor mobility in Egypt is low by international standards, and its limited role in equalizing incomes can be explained by several factors. First, the low education levels impede mobility to different areas or to activities of higher productivity and income. This report shows that the more educated and more able individuals migrate more. The ability factor, not observable, is reflected by the fact that those who migrate earn higher wages and are more likely to be employed than those who do not, after controlling for education and other observable individual characteristics.

xxii. Second, low migration rates are also explained by the high prevalence of subsistence agriculture, associated with low productivity and wages, which together tie down resources to home production, limiting the labor available for nonfarm activities. The low agricultural productivity is associated with excessive land fragmentation, especially in Upper Egypt, and isolation from modern marketing chains or even traditional markets. The resulting barriers can be overcome by fostering institutions such as contract farming, small farmer cooperatives, and rural productive alliances. Contract farming requires adequate land titling and functional mechanisms for dispute resolution. Land titling would provide not only tenure security but also a means of obtaining collateral for access to credit. Small farmers could also benefit from the capacity to collateralize mobile assets to obtain credit and build up the capital required to raise productivity. Better land records, well-functioning land-dispute resolution mechanisms, greater access to credit markets, and functional small farmer cooperatives are examples of spatially blind institutions that can be promoted to enhance the productivity of small farmers, enabling their integration to markets to benefit from growth.

xxiii. Third, migration can play only a limited role in equalizing the value of labor productivity as long as it is fiscally induced. Transfers from the central government to local governments are based only on population, which impedes small local governments from providing the same public services to their citizens as local governments in highly populated areas. This report shows that the time to get to schools, health units, and work varies across the country. To the extent individuals make their migration decisions based on attempting to obtain these services or "fiscal benefits" rather than on marginal productivity considerations, resources will be misallocated.

xxiv. Fourth, low household mobility is directly related to inefficient urban housing markets. Formal housing markets have failed to reach most citizens, thanks to land scarcity, government interventions, and affordability issues, leading to a huge and growing informal housing sector. There are also constraints on housing supply caused by rent control (locking out some 27 percent of all urban housing units), a poorly performing public housing program, and a lack of formal tenure security. In addition, the number of vacant housing units is huge. A path to a more efficient housing market would begin with unlocking the current stock of vacant housing, which in turn would require: first, reforming the property tax system and housing subsidies so that owners of vacant units would have incentives to release them to the market; and second, improving the liquidity of the huge urban rental market. This would require strengthening rental market registration and regulations, which includes streamlining tenant eviction procedures and accelerating rent decontrol. These options, geared toward a more efficient functioning of the housing market, are guided by the spatially blind institutions and mostly address coordination failures.

Dealing with obstacles to capital mobility: reinforcing market signals rather than picking places

xxv. For capital to locate where it is more productive, decisions should follow market forces. This presently is not the case in many circumstances in Egypt. Industrial zone location is closely associated with land management because public land, which represents more than 90 percent of all land, is allocated to investors significantly below market prices to incentivize investment. An administrative, supply-side, and sectoral institutional approach is followed, and the current property registration and taxation systems are nearly dysfunctional. As impediments to capital mobility, they need to be reformed.

xxvi. Today the institutional landscape for public land management in Egypt is complex and fragmented. This unusual situation is the result of accumulated layers of legislation over the past four decades, with almost 45 directly and indirectly related laws and decrees that are not harmonized and are often in conflict with each other. This patchwork reflects the absence of a coherent land policy framework and public land management strategies for disposing, pricing, and leveraging such assets to reach the government's development objectives, as well as a failure to revisit past policies in light of today's challenges and competitiveness demands. The problem is compounded by many differentiated, unclear, and seemingly arbitrary procedures related to public land allocation, pricing and development controls, the lack of a coherent public land information system, and the inability of investors to understand which authorities control public land and where it is available. In addition, public land use is planned ineffectively, with little gauge of demand or its opportunity cost.

xxvii. A World Bank study in 2006 called for a staged process of public land management reform, and its main proposals remain valid. In the short term the institutional structure that manages and controls public land would be rationalized by consolidating and harmonizing the fragmented and incoherent laws and regulations (World Bank 2006b). These steps include issuing a short-term moratorium on further allocations of public land to sectoral authorities until an independent audit of their public land stock and management performance is completed, and putting in place two commissions for formulating public land management and consolidating the fragmented legal framework.

xxviii. In the medium term the control over public land would be consolidated within a new nonsectoral entity that would assume the role of custodian of public land, acting as a state land assets bank. The governing policies, regulations, and guidelines for public land management and allocation would be set by a higher policymaking body to ensure transparency and efficiency of allocation, satisfaction of central and local needs for public land, and a balance among the objectives of growth, environmental sustainability, and equity and social development.

xxix. In the long term there would be a gradual shift toward a decentralized model for public land management, empowering governorates to manage and dispose of the public land stock that they need for growth and economic development within their jurisdiction. This decentralized approach, with central government oversight, is in line with global experience and best suited to ensure that land use planning and allocation decisions reflect local needs and priorities for delegated control of public land management and development of national spatial strategies.

xxx. The failures in public land management are acutely felt in Egypt's industrial zones. Since the mid-1970s Egypt has been developing industrial zones on public land. The main problems for industrial zones are remote locations and distance barriers, difficulties in licensing and relicensing, a lack of quality infrastructure availability, inefficient land allocations, and oversizing of space given that

investors pay below-market prices. However, finding suitable industrial locations for small and medium firms is particularly difficult.

xxxi. In Egypt the formal property registration and taxation systems barely function. In an ideal world both systems would be subject to complete overhaul to do away with their dysfunctional aspects. Indeed, numerous proposals and schemes have been advanced to do just that, so far without any effect. Current systems and associated institutions and attitudes are entrenched, and sweeping reform cannot find traction. With this in view, incremental reform that progressively introduces new, modern registration and taxation systems seems more feasible. Thus in the short and medium term a new title-based property registry and associated property tax would first be legislated and applied to locations of most development interest—Egypt’s industrial estates and parts of the new towns and other areas of particular commercial and business potential. Other areas, mainly older urban and rural areas, could be added to the system over time, once both smooth property registration and taxation systems are up and running in priority areas.

Dealing with the diseconomies of agglomeration: using spatially connective infrastructure, spatially blind institutions, and spatially targeted interventions

xxxii. Despite higher growth and a fairly successful integration into the global economy, Egypt has failed to produce the institutional environment for pro-growth agglomeration, urbanization, and concentration of economic growth without the ills of congestion, pollution, urban informality, and land use conflicts. This is especially true in Greater Cairo and Alexandria. Dealing with these diseconomies of agglomeration is a necessary part of inclusive development. After all, major urban centers are where most people migrate to, where there is most unemployment, and where agglomeration’s costs are more apparent. Greater Cairo’s urban concentration and its ills are a central challenge—just as poverty is in Upper Egypt—that must be met to achieve more inclusive and sustainable growth in Egypt.

xxxiii. To support the mobility of factors of production and goods throughout the national space, it is important to adopt measures that reduce these diseconomies of agglomeration and the social and economic costs they entail. The negative consequences of agglomeration are mostly related to traffic congestion, which wastes time and gasoline, and the lack of integration of the city’s huge and growing informal areas into the metropolis as a whole. For example, a study commissioned by the World Bank estimates that the total annual *direct* congestion costs for Greater Cairo are in the range of LE 13–14 billion, equivalent to 1.2 percent of national GDP.

xxxiv. Congestion occurs because the demand for road travel exceeds capacity. The solution must thus include increasing the price paid for road travel, as well as demand and supply measures. On the demand side, gasoline price subsidies promote the excessive use of cars—especially private cars and minibuses that cause the largest negative road externalities—which could be taxed, by using tolls or by annually inspecting the odometer and taxing mileage. Although implementing tolls is challenging, alternatives can be developed, such as global positioning systems or electronic tolling. Finally, more regular and effective vehicle inspection will reduce breakdowns. A modal shift to mass transit has to be part of the solution, so subsidized public transport prices are justified. Also, without the enforcement of proper driving etiquette that reduces random stops and illegal parking, there will be little reduction in congestion.

xxxv. Reducing congestion also requires connective infrastructure. However, adequate institutions are needed to enhance the likelihood that public spending will effectively reduce transport costs. In other countries it has been shown that each dollar of road spending reduces congestion costs by 11 cents (Winston and others 2006). This low impact of public spending on reducing the actual

congestion costs may be explained by many factors: poor road design that causes excessive maintenance costs, slow and inappropriate response to changes in urban demographics, inflated costs to the public sector, or simply the effect of politicians using public spending for local patronage benefits. Hence, an effective congestion cost reduction strategy requires, in addition to the demand-side policies discussed above, that public spending be routinely evaluated and monitored—and that the project selection process be guided by a technical cost-benefit analysis in which transport cost reduction is prioritized.

xxxvi. To illustrate the impact of infrastructure on reducing transport costs, this report considered alternative infrastructure projects included in the five-year investment plan and compared their impact on reducing travel time and transport costs in different kisms (districts): the Cairo-Assiut road improvement, the Sohag–Red Sea improvement, and the Cairo Ring Road improvement. The benefits of the projects were estimated using reduced travel time and reduced shipping costs. The cost reduction achieved by road improvement was estimated with a transport cost model, in which the shipping costs between two nodes (obtained through surveys) is a function of shipping volumes, road congestion, and a proxy for “friction” costs that depends on the road quality. The three projects have a positive net present value (NPV), and thus, without resource constraints, all of them could be funded. But in a constrained budget situation the ranking of projects is essential. The project with the highest NPV is the improvement of Cairo’s Ring Road, partly because the population that would be affected by this project is almost three times the population affected by the Cairo-Assiut road project, and more than four times that affected by the Sohag–Red Sea project. The number of poor people affected by the Ring Road improvement would be almost twice that for the Cairo-Assiut project, and almost three times that for the Sohag–Red Sea road project.

xxxvii. Besides congestion, the proliferation of informal settlements also emerges as a challenge from growing density. These urban informal areas are “unplanned” but are not by any measure slums. There are many reasons for their appearance and continued expansion into peri-urban areas; not the least is that the informal process produces modest housing solutions that are affordable by most urban households. Another reason is that the state has not offered viable housing alternatives. For four decades the government has prohibited formal expansion on agricultural land, with the perverse result of unauthorized and unplanned informal development in these areas. In the long run the alternatives to informal urban development can be put in place and further informal expansion can be halted. But in the short and medium runs, the recognition of informality needs to be incorporated into urban policies. Specifically, informal settlements need to be upgraded for infrastructure, public services, and the environment, and they need to be better integrated into metropolitan transport and economic networks. Since they make up such a large portion of the population of Egyptian cities (and this population is younger than the average), it is essential that education and other basic services in these areas be dramatically improved to prepare youth as they enter the labor force. Further, mobility of capital, goods, and especially labor between these areas and other parts of the metropolis must be guaranteed through integrated planning, which will also require reclassification of some areas from a rural to an urban category. A program for comprehensive upgrading of Greater Cairo’s informal settlements has recently been drafted.

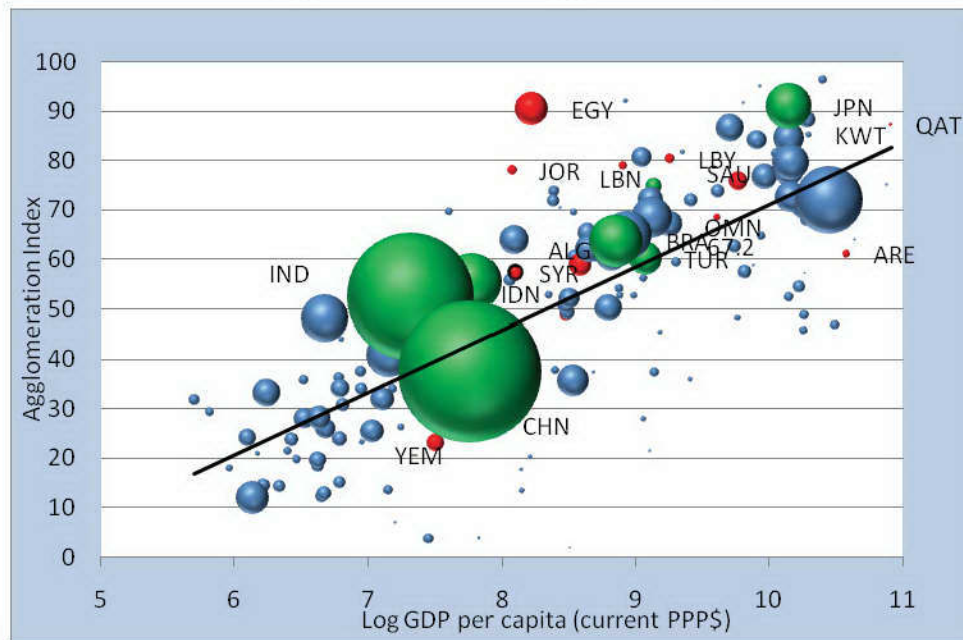
xxxviii. In sum, to develop more inclusively with fewer disparities across regions, policy should focus less on balancing industrial location and shift toward reducing divisions, shortening distances, and managing density. To reduce divisions, this report proposes an unconditional equalization transfer from the central government to local governments, a CCT for education and nutrition to poor rural households, the facilitation of the mobility of factors of production and goods, and the reform of the urban housing markets and rent control system so that housing becomes more affordable for the urban poor. Managing density requires reducing congestion costs in urban areas and fostering operational land markets in urban and peri-urban areas. Reducing congestion costs entails

adopting a traffic management strategy, taxing gasoline, and providing safe and decent public transport. Operational land markets need to be complemented by market-based spatial planning, public service provision, and adequate local infrastructure that lifts the benefits of participating in the market above the costs.

1. Disparities in living standards across Egypt: stylized facts

1. **Income and agglomeration are positively correlated across the world. Egypt has a high level of agglomeration, given its' income level.²** Its agglomeration level is similar to that of countries with much higher income per capita levels, such as Japan, as shown in Figure 1.1.

Figure 1.1 Growth and agglomeration



Source: World Bank 2009a.

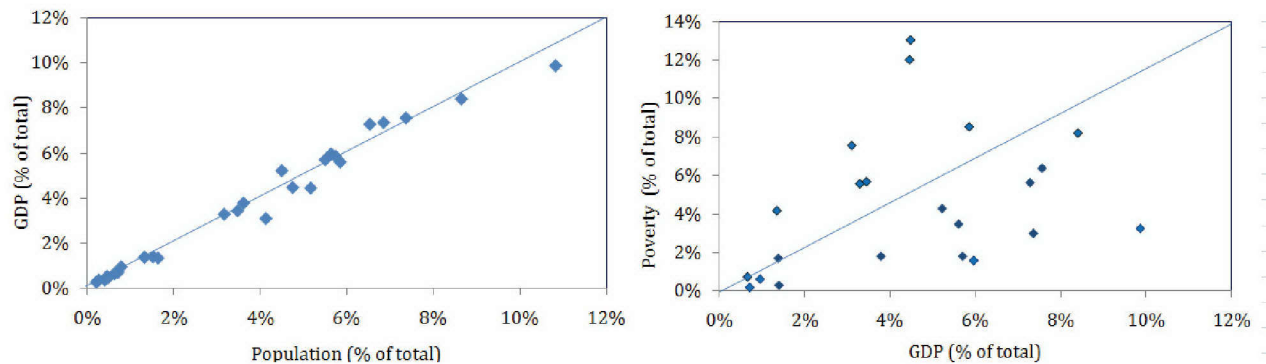
2. **The 2009 WDR describes how location is the most important correlate of an individual's welfare.** Some regions grow faster than others and some places concentrate production. While this kind of regional disparities may sometimes be attributed to natural endowments and conditions, economies of scale and spillover effects generally explain why economic activity concentrates in some areas, making growth unbalanced. Nevertheless, basic living standards should ultimately converge.

3. **In Egypt, each governorate's share of economic activity corresponds closely with its population share (Figure 1.2).** However, there are large disparities in poverty rates between urban and rural areas and between regions within the country. Moreover, there is no clear association between the concentration of activity and the prevailing poverty rate in a governorate. Poor people also tend to concentrate in specific regions: for instance, 67 percent of the poor live in Upper Egypt as well as 83 percent of the extreme poor (World Bank 2011).

4. **This chapter presents the stylized facts of the evolution of living standards in Egypt during the past decade as well as the disparities across the different regions.** The chapter first describes consumption per capita in the regions and through time, and then proceeds to describe the evolution of other measures of living standards—unemployment, health, nutrition, education, and access to basic public services—to examine whether they converge through time across regions.

² The agglomeration index is calculated as indicated in the 2009 WDR, based on a minimum population size to define a sizable settlement (50,000), a minimum population density (150 people per square kilometer), and a maximum travel time, by road, to the nearest sizable settlement (60 minutes).

Figure 1.2 Population, GDP, and poverty in Egypt's governorates, 2008



Source: UNDP 2010.

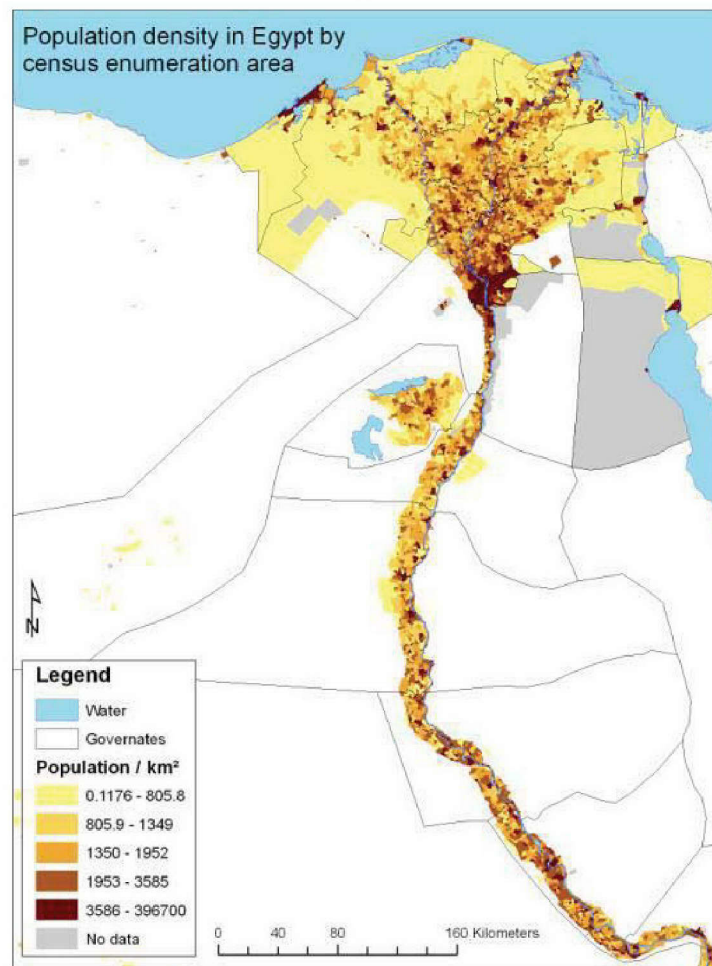
The duality of space in Egypt

5. Egypt's total population, estimated at roughly 84 million in 2012, is growing by about 2 percent a year, a substantial rate but below that of some other countries in the Middle East and North Africa region. The rate of growth has slowed, especially from the 1960s and 1970s when it peaked at 2.8 percent a year.

6. Where does this population reside and increase? It is rare to find a report on Egypt's development prospects that does not include a stock phrase along the lines of "96 percent of the population lives on 4 percent of the land area." This is a fact. It conjures up images of overcrowding in the Nile Valley and the Delta, and often is the lead-in to discussions of the imperative that Egypt expand into the desert. The Valley strip and Delta are the home to almost all Egyptians and remain the loci of practically all economic activity, and despite huge government efforts, population growth is still concentrated almost exclusively within these regions. To date, desert areas have absorbed very few permanent migrants, whether in new towns, newly reclaimed areas, coastal tourist centers, or Frontier Governorates.

7. Thus it could be said that there is a duality of space in Egypt. On the one hand, there are the "old lands" in the Valley and Delta, which are densely populated and are almost entirely in private ownership (Map 1.1). As will be seen, while almost all urban development has been and continues to be taking place in these old lands, they have been largely ignored by planners and urban policy. On the other hand, there are the "new lands" in the almost limitless desert, almost all of which are publicly owned and controlled by the state. It is these new lands that for the past 30 years have been the focus of most development planning—with new town schemes, industrial areas, land reclamation projects, tourism resorts, and extensive institutional and security establishments.

Map 1.1



Source: Felkner, Wilson, and Blankespoor 2012.

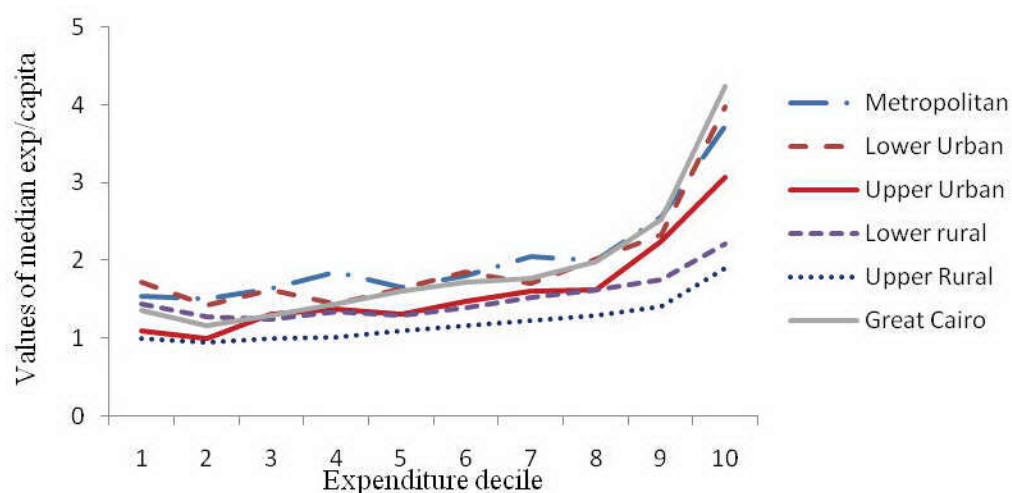
8. **Densities of habitation in the old lands of Egypt are very high by international standards. In rural areas of the Delta 57 percent of family landholdings are less than 3 feddans (1.26 hectares), and in rural Upper Egypt a staggering 82 percent of landholdings are less than 3 feddans (World Bank 2006a).** Overall rural population densities can exceed 2,000 persons per square kilometer. In cities overall densities range up to 400 persons per hectare, and in informal settlements net residential densities average 1,000 persons per hectare and can exceed 2,000 persons per hectare.

9. **Settlement patterns in the desert “new lands,” to the extent that they exist, are characterized by very low densities of habitation, scattered settlement patterns, and considerable vacant or underutilized land.** In land reclamation schemes—mainly found both east and west of the Nile Delta—there is a mix of large corporate farms, large state companies, and smaller holdings farmed by peasants and university graduates. The intensity and productivity of agriculture is less than in the old lands, and village settlements are few and far between. Urban development in the new lands—mainly represented by the new towns developed by the New Urban Communities Authority (NUCA)—is a mix of gated communities, public housing, upscale private villas and garden apartments, industrial zones, and commercial strips. Residential densities are very low and much if not most housing is unoccupied. Half-finished and stalled developments, mixed in with empty tracts of land, are a prominent feature in the new towns.

Consumption in the different regions

10. To compare consumption across regions and different income groups,³ each regional expenditure aggregate was deflated by the poverty consumption basket in each region, so the units of the consumption expenditure aggregate are expressed in the number of consumption baskets of the poor. Figure 1.3 shows consumption levels across regions for different income groups. Consumption increases with the wealth level in all regions, with the higher values achieved in the metro areas (Alexandria, Port Said, and Suez) and Greater Cairo.⁴ The median household of the lowest decile of the population consumes the equivalent of 1 consumption basket while the median household of the top decile in metro areas consumes 4.2 baskets.

Figure 1.3 Median household consumption by region and income group, 2009



Source: Authors' calculations based on Central Agency for Public Mobilization and Statistics (2009).

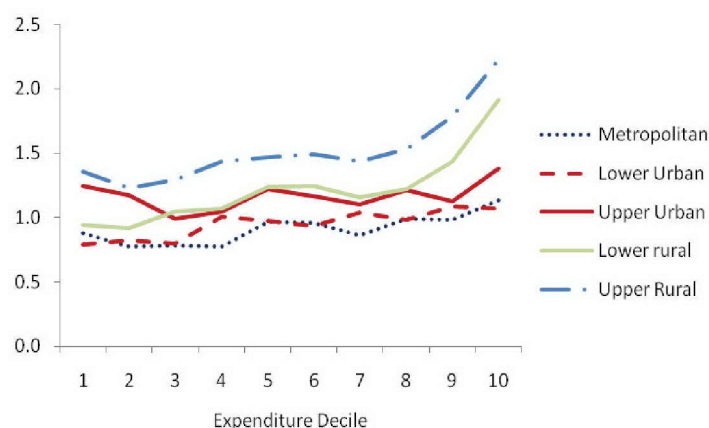
11. The ratio of median household consumption in Cairo to that in each of the other regions allows comparison of consumption levels across regions. Figure 1.4 shows the ratio oscillating between 1.5 and 2.2, similar to the ratio of consumption between leading and lagging regions reported in the 2009 WDR for countries of similar income.⁵ Consumption in Cairo is larger than in Upper Egypt rural areas and Lower Egypt rural areas, but lower than in the other metro areas. Only in the top decile of the population is Cairo's consumption greater than in all other regions.

³ The background technical paper by Herrera and others (2012) in Volume 2 replicates this analysis in differences based on income rather than expenditure. There are no significant differences.

⁴ The consumption aggregate used is total consumption of durables and nondurables, deflated by the poverty line. It is the consumption in units of consumption baskets of the poor. Results don't change when the overall price index is used, but the poverty line deflator was chosen for consistency with other papers in the report that use this measure of welfare. Wealth is proxied by the spending level.

⁵ Figure 2 in the 2009 WDR shows the ratio of consumption between urban and rural areas. This report calculates the ratio of consumption in urban areas (either Greater Cairo or metro areas) to that in a rural area (Upper Egypt).

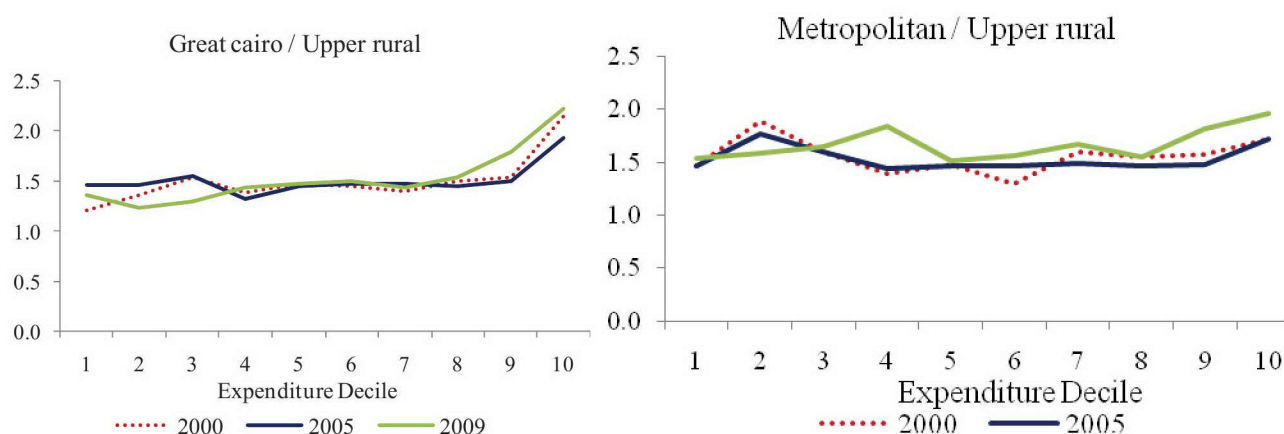
Figure 1.4 Ratio of consumption in Cairo to that in other regions, 2009



Source: Authors' calculations based on Central Agency for Public Mobilization and Statistics (2009).

12. To examine whether there is a convergence in consumption through time, we construct the ratio between consumption in the region with the largest value (either Cairo or the metro areas) and that of the region with the lowest one (Upper Rural Egypt). Figure 1.5 shows this ratio for different income groups. We observe that in 2000 the median household of the top decile in Greater Cairo consumed twice as much as the median household in its peer group in Upper Egypt rural areas. By 2009 the ratio had slightly increased. The opposite happens in the bottom three deciles, showing some convergence in living standards, but the differences are not large. When the metro areas are taken as the benchmark, the ratio of consumption in the leading region increases over time for most income groups.

Figure 1.5 Ratio of households' consumption, Greater Cairo and metropolitan areas to Upper Rural areas



Source: Authors' calculations based on Central Agency for Public Mobilization and Statistics (2000, 2005, 2009).

13. In sum, there is a slight convergence trend across time in the consumption levels of the poorest deciles of the population, but at the top of the wealth distribution there is a divergent trend. According to the 2009 WDR, the differences in household consumption tend to fall quickly, while the differences in other measures of living standards show greater persistence. We now turn to these other welfare measures.

Other indicators of living standards

14. Living standards are defined by more than consumption levels. Employment and access to education, health care, and essential housing infrastructure and services are equally important dimensions to consider when examining living standards. This section describes some of these indicators, focusing on the differences in levels and converging trends. The main point is that for some indicators the urban/rural dimension is the dominant explanatory factor, while for others it is the regional dimension. There is no single converging or diverging trend in the indicators, as shown in the background technical paper in Volume 2 (Herrera and others 2012). The main message is that spatial disparities are spanned in more than one geographic dimension: in some cases it is the urban/rural division, in others it is the regional duality that separates the country, and in others it is the pull-and-push between the metropolis and the rest of the country that originates differences.

Unemployment

15. The evolution of unemployment across regions in 2001–2010 shows noticeable geographical disparity. The gap between urban and rural areas widened through the decade, with metropolitan and urban areas having unemployment rates more than twice those of the rural areas. The disparity in unemployment rates can be observed within the regions. There are unemployment differentials between governorates, even if they are in close proximity and face a comparable institutional setting, such as Luxor with a 22 percent unemployment rate and Quena with 11 percent.

16. Over time the most notable change is the rise in unemployment in metropolitan areas, from 7 percent in 2001 to 13 percent in 2010. Lower rural Egypt witnessed a precipitous fall from 10 percent to 6 percent, while the rest of the regions saw little change through the decade.

Urban/rural disparities

17. Besides unemployment, the inequality in achievement of other welfare indicators can be better appreciated in the urban/rural dimension.⁶ For instance, women's antenatal care and delivery outside a health facility is strikingly different in urban and rural areas. In 2008, 15 percent of urban women had no antenatal care services, while 33 percent of rural females did not.

18. The educational attainment gaps are also more striking between urban and rural females within a region than between rural females in different regions. In Upper Egypt 43 percent of rural females were illiterate, while in rural Lower Egypt 31 percent were. By contrast, urban females in Upper Egypt had a 20 percent illiteracy rate.

Regional disparities

19. Some indicators show larger regional disparity, such as for under-five mortality. In rural Upper Egypt the rate of 50 per 1,000 children under five is somewhat similar to the urban rate of 40 per 1,000, but in Lower Egypt it is 30 per 1,000 in rural areas and about 10 per 1,000 in urban areas.

20. In urban areas the quality of education varies directly with size of a city, with larger cities attaining higher achievement scores.

⁶ This report considers the official urban-rural household classification, which shows that roughly half the population lives in cities. Other agglomeration measures show different figures. For instance, the 2009 WDR shows an index of agglomeration of close to 90 percent. Working with different measures of agglomeration would complicate the analysis substantially, but would reinforce the main message of the report: spatial disparities are spanned in multiple dimensions and hence require a combination of policies rather than a single policy instrument.

Inter-region convergence

21. There is no single pattern of convergence or divergence. While some indicators tend to converge through time across regions, such as under-five mortality, in others the differences remain constant (delivery outside a health facility), and in others there is clear divergence (educational attainment).

2. Explaining spatial disparities: consumption gaps across regions and within regions

22. The previous chapter showed how the consumption gap between leading and lagging regions remained fairly constant over 2000–09, except for the top three-tenths of the population, and also that there is a substantial gap. This chapter explains consumption differences across regions and urban and rural areas using a well-known methodology (Box 2.1).

Box 2.1 Decomposing inequality in consumption

To explain why consumption differs across groups or regions in the country, the background technical report (Lozano-Gracia and Hon 2012) decomposes inequality in consumption into its contributing factors, using the Oaxaca-Blinder method. If consumption of a region is a function of a set of determinants, the gap in consumption can be explained by regional differences in those determinants, or by differences in the sensitivity of the regional consumption to those determinants.

The welfare relationship defined in equation (1) is estimated for each region j (and each year), using standard OLS regressions.

$$y_j = X_j \beta_j + \varepsilon_j \quad (1)$$

where y_j is the log welfare ratio in region j , and X_j is a set of household characteristics.¹

In general, given two regions A and B, the mean difference in the standard of living between A and B can be expressed as

$$\bar{y}_A - \bar{y}_B = \bar{X}_A \beta_A - \beta_B \bar{X}_B \quad (2)$$

where the bar denotes the sample mean values of the respective variables and the error terms are identically and independently distributed (iid) for all regions and time periods. Adding and subtracting the term $\beta_A \bar{X}_B$, equation (2) above can be rewritten as:

$$\bar{y}_A - \bar{y}_B = (\bar{X}_A - \bar{X}_B) \beta_A + (\beta_A - \beta_B) \bar{X}_B \quad (3)$$

The first term on the right side captures the effect arising from differences in average determinants (characteristics), while the second term reflects the effect of different coefficients or differences in the returns to the characteristics. In equation (3), differences in characteristics are weighted by the returns to characteristics in region B, while differences in returns are weighted by the average characteristics of households in region A. Technical details can be found in the background paper by Lozano-Gracia and Hon (2011).

Note:

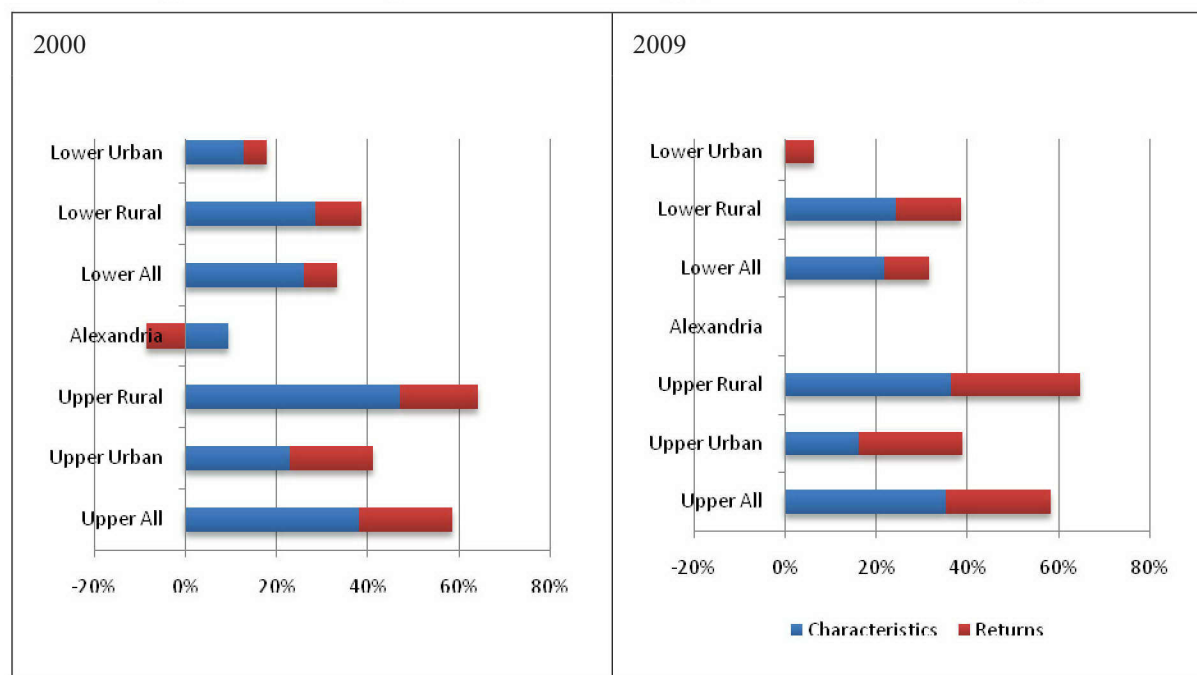
1. The household characteristics are divided into four main groups: characteristics of the head of the household (education, age, age squared, dummy for female, dummy for unemployed, marital status, dummy for widow[er]); characteristics of the household (total number of adults [ages 15 and over], adults squared, total number of children [ages 2–15], children squared); number of babies [ages 0–2], babies squared); access to services (dummy for house uses electricity for light, dummy for house connected to water utility); asset ownership (dummy for household owns house, dummy for household owns car).

23. There are consumption differences across different regions and across urban and rural areas. The report considers eight regions: Upper Rural Egypt, Upper Urban, Upper, Lower Rural, Lower

Urban, Lower, Alexandria, and Cairo. Figure 2.1 shows the magnitude of the gap in consumption between Cairo and the other regions, as well as the fraction of the gap attributed to the differences in average endowments between the regions or the different returns to those endowments in the regions. The most remarkable results are the following. First, the gap in consumption is largest between Cairo and Upper Rural Egypt, and it is very small between Cairo and Alexandria or Lower Urban. The gap reaches 60 percent of consumption in Upper Egypt, while in Lower Egypt it is about half of consumption. Second, the gap between Cairo and Alexandria and Lower Egypt's urban areas is decreasing through time, but the gap with Upper Egypt is stable. Third, there is a shift from the gaps' being explained by the endowments, to their being explained by the returns to (or impact of) the endowments. This means that while in 2000 differences in household characteristics explained most of the consumption gap, by the end of the decade the returns to those characteristics gained importance as explanatory factors. As households in the entire country gained in educational achievement, access to basic services, and asset ownership, returns on those endowments became the factor explaining differences in consumption.

24. The consumption disparities can also be examined without reference to Cairo. For instance, the disparities between Lower and Upper Egypt, or between Urban and Rural areas, can be examined. The contrast of consumption in Lower and Upper Egypt (Figure 2.1) shows that the gap of about 25 percent increased only slightly between 2000 and 2009 for the overall regional comparison, but in urban areas there was a clear increase in the consumption gap. The other notable result is the change in the explanation of the consumption gap: returns to the endowments became the dominant explanatory factor for the consumption gap between Lower and Upper Egypt.

Figure 2.1 Size and explanation of the welfare gap between GCA and other regions



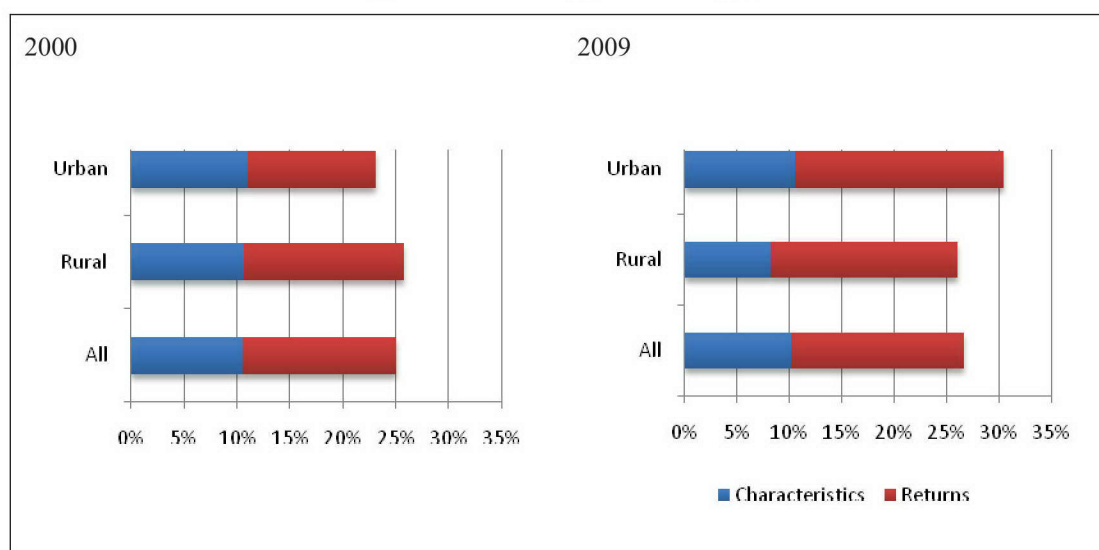
Source: Lozano-Gracia and Hon 2012.

25. From the urban/rural perspective, the consumption gap analysis shows that there is a slightly rising trend explained mostly by the differences in returns to the endowments. Figure 2.2 shows that in 2000 the total consumption gap between urban and rural areas of Upper Egypt could be explained by differences in endowments, whereas by 2009 the gap had increased due to differences in returns to the endowments. The same happened in Lower Egypt. The only clear increase in the

consumption gap took place between the urban areas of both Lower and Upper Egypt, and the gap can be explained mostly by different returns to endowments (Figure 2.3).

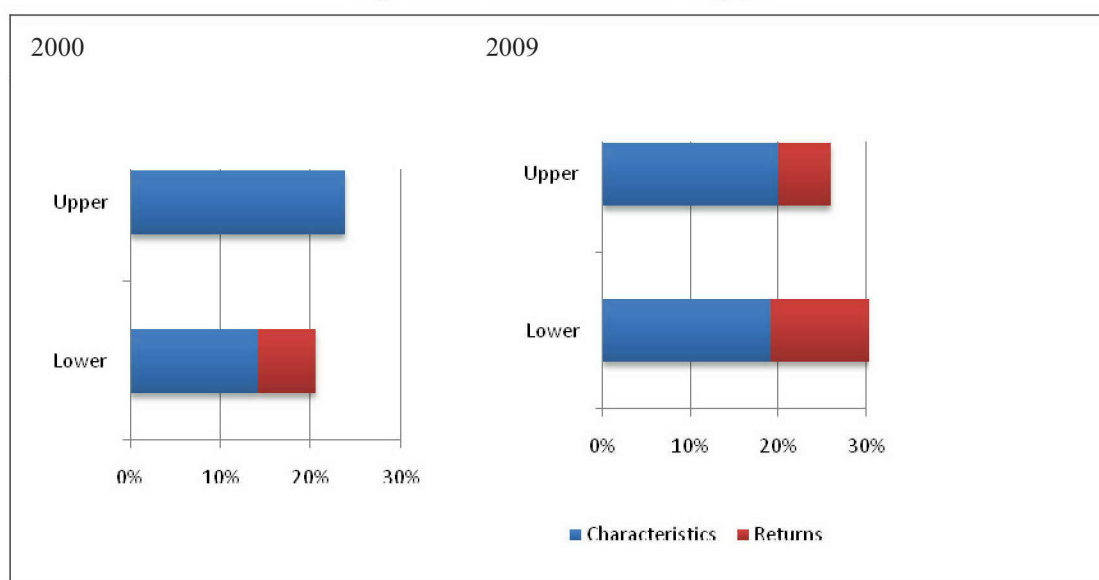
26. The rising consumption gap between urban areas explains the urban-urban migration pattern, discussed in the last chapter of this report. Using the Labor Force Surveys between 2005 and 2009, we observe that 64 percent of the people who lived in urban areas and had migrated came from urban areas, while the remaining 36 percent come from rural areas. The rising consumption gap in favor of lower urban Egypt is also associated with a growing share of tradable activities, from 50 percent of GDP to 55 percent between 2000 and 2008. Recall that lower urban Egypt is composed mainly of cities along the Suez Canal and the Mediterranean coast.

Figure 2.2 Lower-upper welfare gaps



Source: Lozano-Gracia and Hon 2012.

Figure 2.3 Urban-rural welfare gaps

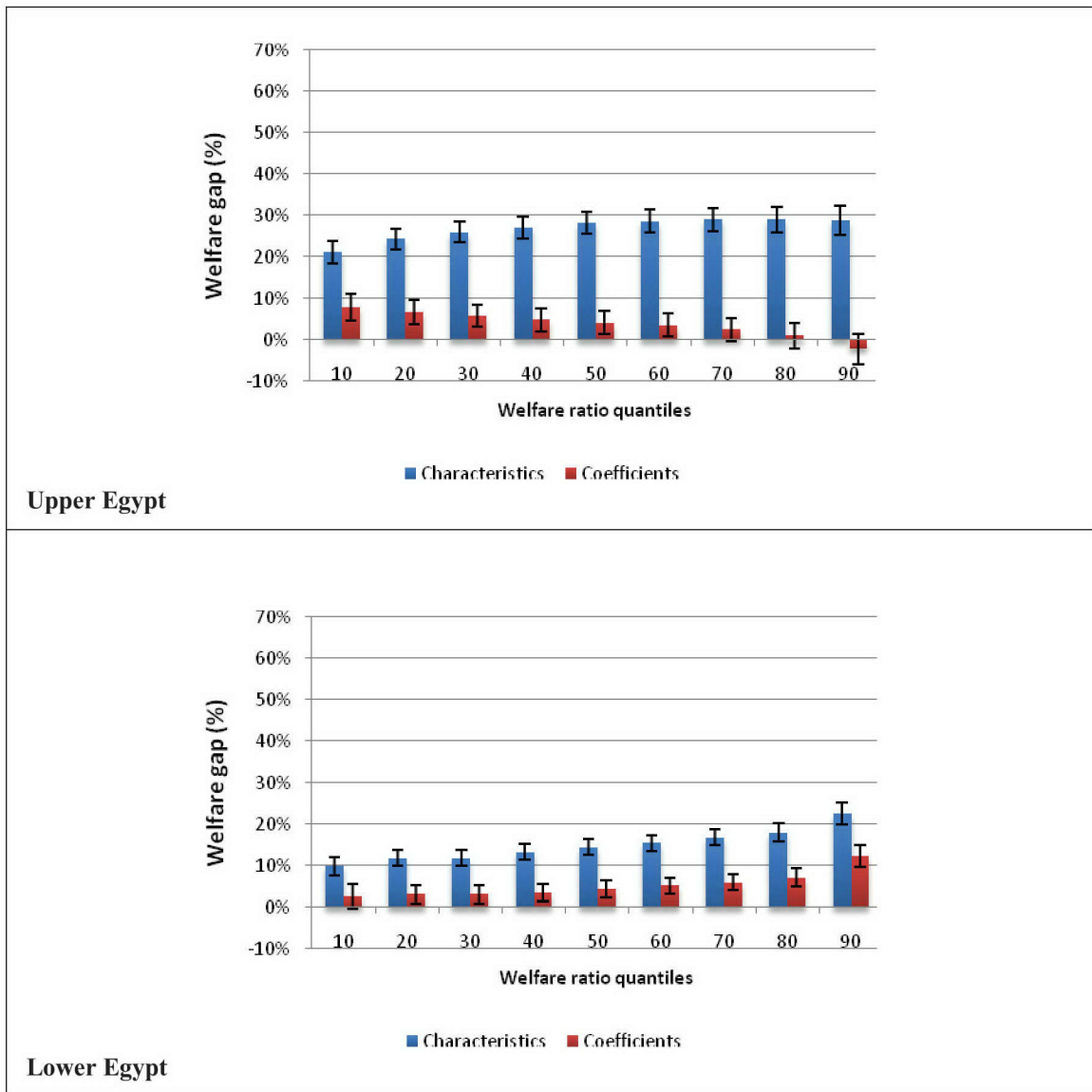


Source: Lozano-Gracia and Hon 2012.

27. The general pattern—that returns to the household characteristics gained importance as an explanatory factor of the gap in consumption—needs exploring in further detail to answer the following questions: How big are the gaps across individuals within the same region and the same income group, but in different locations (urban versus rural)? Are the consumption gaps and their explanatory factors similar for different income groups?

28. The gap analysis performed for individuals within the same region indicates that the consumption gap increases with the wealth level and that the endowment level is the main factor explaining differences in consumption, except for the top two deciles of the income distribution. Figure 2.4 summarizes the decomposition of consumption differences between urban and rural areas of the same region for both Upper and Lower Egypt. It shows that the consumption gap is explained exclusively by the endowments, implying that returns to the endowments are equalized within the region. Given that returns are equalized within the region, this can be interpreted as evidence that there is factor (labor) mobility within the region.

Figure 2.4 Consumption gap within the same region: urban vs. rural areas



Source: Lozano-Gracia and Hon 2012.

29. The findings of this chapter suggest there is factor mobility within the regions but not across regions. This result is not specific to Egypt—it is also true in the Latin America and the Caribbean region. The explanation can be that people find it too costly to move long distances but are willing to move to nearby areas or do more commuting. Another possible answer as to why there are differences in returns to endowments is that the quality of education is not being considered, and the methodology attributes this unobserved effect to returns. In effect, the only available data are the differences in the achievement tests (the Trends in International Mathematics and Science Study scores; see background technical paper of this report) across cities of different size, described in the previous chapter.⁷

⁷ For details of the gap analysis for different income groups, see the background technical paper by Lozano-Gracia and Hon (2012).

30. Results from this chapter show that the consumption gaps have been fairly stable throughout the past decade; however, the explanation of the gaps has shifted from differences in accumulation of capital to returns to the characteristics. The returns to factors of production are larger in urban and leading regions. Further, the rising consumption in Lower Egypt urban centers can be associated with the growing share of tradable activities during the decade. It is likely that these coastal areas have seen higher growth and possibly productivity. Labor productivity can be inferred to have risen, as the wage gap between Cairo and Alexandria—10 percent in the late 1990s—had vanished by 2006 (Herrera and Badr 2011).

Recommendations relating to consumption gaps

31. To reduce gradually the obstacles to factor and goods mobility, a series of measures can be undertaken:

- Reducing the cost of labor mobility by increasing the coverage and quality of education. Chapter 5 shows how internal migration rates in Egypt are low by international standards and that the likelihood of migration increases with the level of education. Hence, education is an ideal instrument to overcome the barrier of distance, as proposed by Lall, Timmins, and Yu (2009) for Brazil. In addition, having better-functioning housing markets, as discussed in chapters 5 and 6, will improve household mobility.
- Removing obstacles to capital mobility by dramatically improving public land management and the functioning of Egypt's many industrial estates, as well as progressively applying systems of formal property registration/transfer and property taxation, is discussed in chapter 6.
- Goods mobility will tend to equalize the factor prices. Reducing the cost of transport requires local roads.
- Mitigating the costs of agglomeration, such as congestion, pollution, urban informality, and lack of urban integration, is discussed in chapter 7.
- To equalize returns, labor mobility has to be driven by productivity differentials across regions, and not be fiscally induced, either by individuals' search for equal access to opportunities or other fiscal considerations. These are the topics in chapters 3 and 4.

3. Explaining disparities in opportunities in Egypt: space as a determinant of an individual's fate in life

32. Differences in consumption, or income, across individuals can often arise from individuals' choices and preferences. An examination of inequality based on the analysis of outcomes has the potential problem of leading to policies that are difficult to implement for political economy reasons. Hence there has been a move in the profession toward analyzing equity in the opportunities that individuals have (Ferreira 2011).

33. This chapter explores how access to opportunities for children and youth has evolved in Egypt and across regions. It also examines the extent to which these opportunities are determined by factors that are beyond the control of the individual, which may include demographic factors, such as the number of siblings or the parents' educational level, or location factors, such as whether the individual was born in Cairo or in Upper Egypt, or in an urban or rural location.

34. The analysis of opportunities is based on the construction of the Human Opportunity Index, that is, broadly speaking, a measure adjusted for differences in coverage across groups or individuals (Box 3.1). The construction of a rate of coverage that is responsive to equality is equivalent to aggregating rates of coverage under different circumstances into a scalar measure that simultaneously has two properties: it increases with the global rate of coverage, and it decreases with differences in coverage between the different groups of circumstances.

Box 3.1 The Human Opportunity Index

The HOI is a measure of access to a specific human opportunity based on discounting the rate of global coverage, C , with the penalization, P , linked to the inequality of coverage across all groups of circumstances:

$$HOI = C - P$$

The penalization is equal to the product of the coverage and the inequality of opportunity, and is given by $P = (C * D)$, where D is the Dissimilarity Index, which measures the difference between the rates of coverage of an opportunity across different groups of circumstances. This index can be interpreted as the number of people to whom a service or good must be reassigned as a percentage of the total number of people who have access to this good or service. Thus, $1 - D$ would represent the percentage of opportunities available that are assigned according to the equality of opportunity principle:

$$HOI = C - P = C * (1 - D) = C * (1 - P/C)$$

The penalization is zero if coverage rates across all the groups of circumstances are identical, and the penalization increases as the differences in coverage between groups grows. Thus, the HOI will always improve when inequality decreases and total coverage stays the same, or when total coverage increases while inequality stays the same. Also, given that the HOI is equal to the difference between the rate of coverage and the penalization, it will always be equal to or less than the total rate of coverage; hence, the index is presented on a scale of 0 to 100.

Any change in the HOI can be decomposed into two additive parts. The first one results from any increment in the rate of coverage, leaving the inequality of coverage constant; this is called the *scale* or *coverage effect*. The second component of the change is due to changes in coverage rates of some groups, exactly compensated by a decrease in the rates of other groups, leaving the average coverage rate unchanged. In this case, the HOI would change only due to the reduction of the inequality of opportunities and is called *the distribution effect*. All the changes in the HOI can be expressed as a combination of a scale and a distribution effect.

35. The background technical report by Velez and others (2011) considers 17 opportunity indicators for children, which can be classified into four groups or sectors: education (4), basic housing services (6),

early childhood health care (4), and nutrition (3) (Table 3.1). These 17 indicators cover human development milestones at the three stages of the life cycle between birth and age 17. All 17 opportunities consider two criteria: relevance to wellness and quality of life for children and youth, and responsiveness to public policies. These opportunity indicators are measured at the beginning and end of the decade, in 2000 and around 2009.

36. The evolution of these opportunity indicators in 2000–09 shows that there was substantial progress over the decade. Table 3.2 reports the values of the 17 opportunity indices and their respective average annual rate of change, for 2000 and circa 2009. The overall HOI index—the aggregate of all 17 human opportunities—increased from 57 points in 1999–2000 to 68 points in 2008–09, meaning that, of the opportunities required to guarantee universal access to these services, only 57 percent were available in 2000, but 68 percent were by 2009. This represents an annual rate of progress of 1.3 points a year, which is higher than Latin America’s in the decade 1995–2005 (Paes de Barros 2009).

Table 3.1 Human Development Opportunity Indicators for Egypt, 2000 and 2009

<i>Category</i>	<i>Label</i>	<i>Definition</i>
Education	Completion of primary education on time	Completion of below-intermediate education on time (primary schooling)
	Completion of secondary education on time	Completion of intermediate education on time (general or technical secondary schooling)
	Completion of postsecondary education on time	Completion of upper-intermediate education (postsecondary) on time
	School attendance, 9–15	Attendance at school, 9–15
Basic housing services	Water	Access to clean water without interruption, 0–17
	Sanitation	Access to adequate sanitation, 0–17
	Lighting energy source	Access to adequate lighting energy source, 0–17
	Cooking energy source	Access to adequate cooking energy source, 0–17
	Non-overcrowding, 0–5	Living in non-overcrowded homes, 0–5
	Telephone	Access to a telephone, 0–17
Early childhood	Assisted birth delivery	Access to institutionally assisted birth delivery, 0–4
	Postnatal care, 0–5	Access to adequate postnatal care, 0–5
	Prenatal care, 0–4	Access to prenatal care, 0–4
	Immunization vaccines, 0–4	Access to complete vaccinations, 0–4
Nutrition and hunger	Non-wasting, 0–4	Adequate nutrition by weight-for-height measures, 0–4
	Non-stunting, 2–17	Adequate nutrition by height-for-age measures, 2–17
	Non-underweight, 0–17	Adequate nutrition by weight-for-age measures, 0–17

Source: Velez and others 2012.

Table 3.2 Human Opportunity Index for Egypt, 2000 and 2009

<i>Opportunity</i>	<i>2000</i>	<i>Circa 2009</i>	<i>Annual rate of change (%)</i>
Complete primary education on time	84	86	0.4
Complete secondary education on time	62	63	0.3
School attendance, 9–15	—	89	—
Water	77	88	1.3
Sanitation	26	30	0.5
Lighting energy source	98	99	0.1
Cooking energy source	73	98	2.8
Non-overcrowding, 0–5	48	59	1.2
Telephone	14	71	6.3
Assisted birth delivery	64	84	2.5
Postnatal care, 0–5	19	28	1.1
Prenatal care, 0–4	58	78	2.6
Immunization vaccines, 0–4	87	85	–0.2
Non-wasting, 0–4	88	75	–1.6
Non-stunting, 2–17	69	69	0.0
Non-underweight, 0–17	80	85	0.6
<i>Aggregate average Human Opportunity Index</i>	63	73	1.7

— is not available.

Source: Velez and others 2012.

37. Progress was uneven across sectors: the improvement in the opportunity indices of basic housing services and early childhood development was impressive; the rates of growth in some of the indicators exceeded 2 percent a year. But the opportunities in education, nutrition, and hunger showed modest growth or suffered a setback.

38. The evolution of opportunities is different for urban and rural children (Tables 3.3 and 3.4). Urban children have more opportunities than rural ones: in urban areas 80 percent of the opportunities to guarantee universal coverage were available, but in rural areas only 70 percent were. Tables 3.3 and 3.4 present the indicators for both urban and rural areas, showing large gaps, except for immunization and nutrition. Basic housing services show the largest urban-rural gap, driven by a 57-point gap in sanitation, and to a lesser extent by a 20-point gap in telephone access. The narrowest HOI gaps are in the nutrition and hunger indices, driven by a slightly larger HOI for nutrition non-wasting in rural areas (1 point higher).

39. The urban-rural opportunity gap narrowed in the past decade. Between 1999 and 2009 the gap decreased 9 points due to a much faster improvement in the average rural HOI. The average rate of progress of rural HOIs was more than the urban annual rate (1.4 versus 0.6 points). Three opportunities that remained stagnant in urban areas clearly improved in rural areas, namely, access to water and completion of primary and secondary education. Only in three cases—completion of upper-intermediate education, sanitation, and immunization vaccines—was urban improvement marginally higher.

Table 3.3 Human Opportunity Index for Egypt, Urban 2000 and 2009

<i>Opportunity</i>	<i>2000</i>	<i>Circa 2009</i>	<i>Annual rate of change (%)</i>
Complete primary education on time	92	88	−0.6
Complete secondary education on time	76	69	−0.7
School attendance, 9–15	—	92	—
Water	97	96	0.0
Sanitation	68	74	0.7
Lighting energy source	100	100	0.0
Cooking energy source	94	99	0.6
Non-overcrowding, 0–5	58	64	0.7
Telephone	38	84	5.1
Assisted birth delivery	83	93	1.2
Postnatal care, 0–5	23	33	1.2
Prenatal care, 0–4	76	87	1.3
Immunization vaccines, 0–4	84	85	0.1
Non-wasting, 0–4	88	74	−1.7
Non-stunting, 2–17	78	72	−0.8
Non-underweight, 0–17	86	88	0.3
<i>Aggregate average Human Opportunity Index</i>	76	80	0.6

— is not available.

Source: Velez and others 2012.

40. But the opportunity gaps are more marked when examined from the regional perspective. Although all regions made more opportunities available for children during the past decade, there are salient opportunity gaps in basic housing services and early childhood development. Table 3.5 shows the evolution of the opportunity indicators in Egypt's regions between 2000 and 2009. The Frontier Governorates and Upper Egypt have the lowest opportunity of access to these public services. While the available opportunities for education (above intermediate) are very low at only 21 percent in the region with the highest access (Metropolitan), they are equally low in the rest of the country. By contrast, sanitation registers a huge opportunity gap: while the Metro region registers 88 percent of the opportunities to guarantee universal access, Upper Egypt has only 16 percent. Early childhood development registers big opportunity gaps as well, with the Frontier Governorates lagging in most of them, notoriously in postnatal care.

41. *Despite the substantial regional gaps, these narrowed over the past decade due mostly to significant improvement in Upper and Lower Egypt.* Upper Egypt registered the largest gain in the aggregate HOI (14 points), followed by Lower Egypt (10 points). Opportunities in other regions also improved more quickly than in metropolitan areas, and as a result, the inter-regional gaps relative to the Metropolitan region became smaller.

Table 3.4 Human Opportunity Index for Egypt, Rural 2000 and 2009

<i>Opportunity</i>	<i>2000</i>	<i>Circa 2009</i>	<i>Annual rate of change (%)</i>
Complete primary education on time	78	85	0.9
Complete secondary education on time	53	60	0.9
School attendance, 9–15	—	87	—
Water	70	85	1.6
Sanitation	11	17	0.6
Lighting energy source	97	98	0.1
Cooking energy source	63	97	3.8
Non-overcrowding, 0–5	43	55	1.3
Telephone	8	64	6.3
Assisted birth delivery	55	79	3.1
Postnatal care, 0–5	16	24	1.0
Prenatal care, 0–4	48	73	3.1
Immunization vaccines, 0–4	89	85	–0.5
Non-wasting, 0–4	87	75	–1.5
Non-stunting, 2–17	65	67	0.3
Non-underweight, 0–17	77	82	0.7
<i>Aggregate Human Opportunity Index</i>	57	70	2.3

— is not available.

Source: Velez and others 2012.

Table 3.5 Human Opportunity Index in four Egyptian regions, 2000 and 2009

Opportunity	2000					2009				
	Metropolitan	Lower Egypt	Upper Egypt	Frontier Governorates	Inter-regional opportunity gap (max) ^a	Metropolitan	Lower Egypt	Upper Egypt	Frontier Governorates	Inter-regional opportunity gap (max) ^a
Complete primary education	93	87	76	92	17	85	89	82	87	7
Complete secondary education	76	64	53	69	23	67	67	58	67	9
School attendance, 9–15	—	—	—	—	0	90	92	86	82	10
Water	98	80	69	94	29	97	87	88	83	14
Sanitation	97	35	7	30	90	88	33	16	36	72
Lighting energy source	100	99	96	92	8	99	100	99	86	14
Cooking energy source	98	89	53	93	45	99	99	97	93	7
Non-overcrowding, 0–5	57	57	38	58	20	64	72	45	64	27
Telephone	44	12	9	41	35	88	73	63	88	25
Assisted birth delivery	87	66	53	52	35	93	88	75	63	30
Postnatal care, 0–5	25	17	18	10	15	40	24	30	11	29
Prenatal care, 0–4	79	57	51	36	43	90	77	74	64	26
Immunization vaccines, 0–4	81	89	86	73	16	85	85	81	80	5
Non-wasting, 0–4	85	89	86	76	13	67	79	72	71	12
Non-stunting, 2–17	78	70	64	51	27	74	64	74	53	21
Non-underweight, 0–17	86	81	76	68	18	89	87	80	72	17
<i>Aggregate Human Opportunity Index by group^b</i>										
IOHaEducation	85	76	65	80	20	76	78	70	77	8
IOHaBasic housing services	82	62	45	68	37	89	77	68	75	21
IOHaEarly childhood	68	57	52	43	25	77	69	65	55	23
IOHaNutrition	83	80	75	65	18	77	77	75	65	11

— is not available.

a. The gap is computed as the difference between the maximum and the minimum HOI for each opportunity.

b. Aggregate HOIs by group are the average of HOI values within the group.

Source: Velez and others 2012.

42. From the policy perspective, it is essential to understand how these opportunities are associated with individual or household characteristics that lie beyond the individual's control, called circumstances. Identifying these circumstances opens the doors for policy intervention to play an equalizing role.

43. The choice of the circumstances is limited by the availability of information from different data sets—Demographic and Health Survey (DHS) and Household Income, Expenditures and Consumption Survey (HIECS) in this case. The circumstances vector includes variables specific to the child, the demographic composition of the household, the income and wealth of the household, and variables that capture location. The following circumstances are included in the exercise: gender of child, number of children under age 5 in the household, number of children between ages 6 and 17 in the household, number of people over age 70 or disabled in the household, presence of father and mother in the household, education of father and mother, household income per capita, location of residence (rural or urban), region of residence (Upper Egypt, Lower Egypt, Metropolitan Egypt, or Frontier Governorates).

44. To examine the role of the demographic and location circumstances in the inequality of opportunities of Egyptian children, the study first clustered children into two groups: those with favorable circumstances (90th percentile of circumstances) and those with unfavorable circumstances (30th percentile of circumstances), and examined the opportunity gaps between them. Then, the study examined the correlation between the opportunity gaps and the circumstances.

45. The five most influential circumstances producing inequality of opportunity are the parents' education, income per capita, urban/rural location, number of children in the household, and regional location. The two main findings of the examination of the correlation between opportunity gaps and different circumstances, described in detail in the report, are: one, despite the progress described so far, the regional location and the urban/rural location have gained importance through time as explanatory factors of opportunity gaps, especially in education and nutrition; and two, of all the circumstances, three of them, namely the number of children in the family, the parents' income, and regional location, are significantly associated with gaps in all the areas of development (education, early childhood development, nutrition, and basic housing services).

46. The opportunities in each sector are associated with different circumstances. For instance, in education *all eight* circumstances are significantly unequalizing; the *parents' education* is the most significant unequalizing factor, followed by the *number of children* in the household, income per capita, and both urban/rural and regional location. The opportunity of access to *basic housing services* is affected mostly by the urban/rural division, although there are other factors such as the regional location that affect the gaps, with the main problem being access to sanitation, as shown in Tables 3.3–3.5. The *early childhood development and nutrition gaps* are mostly influenced by the number of children, regional location, and income per capita. The above facts show that circumstances affecting inequality of opportunity of children are not the same across all sectors.

Recommendations relating to the inequality of opportunities

47. These differences in profiles of inequality of opportunity by circumstance across sectors show the complexity of the solution, which requires different incentives and targeting across sectors. In other words, to reduce the opportunity gaps for Egyptian children, policy intervention to compensate for unfavorable circumstances should be differentiated and based on sector-specific approaches. For example, a policy option to address inequality of opportunities in nutrition could be a nutrition grant that is proportional to the number of children and targeted to the poor of Upper Egypt and the Frontier Governorates. This would apply to all early childhood development and nutrition opportunities and would be conditional on regular visits to monitor the children's development. For basic housing service opportunities, the key seems to be regional and urban/rural targeting. The policy option to address the educational opportunity gap would be more complex because all of the circumstances affect it. But the option of a cash transfer targeted to the poor households of Upper rural Egypt could compensate for inequality associated with several of the unequalizing circumstances. Other countries facing similar situations have successfully used such a cash transfer, with positive impacts on nutrition, education, and health. Adequate design for Egypt needs to explore whether the transfer could rise (up to a limit) with the number of children in the household and whether it could include a premium for educating girls, given the big difference in educational attainment between males and females. The proposed CCT is a spatially targeted intervention, used successfully in other countries (see Box 3.1)

48. The tool's design, in addition to accommodating cultural specificity to Egypt, must also be fiscally sustainable. In view of the fiscal precondition, establishing a new transfer in Egypt would require reducing other expenditures. Because one result of CCTs worldwide is increasing food consumption, the transfer could replace, at least partly, the universal food subsidy in Egypt. Evidence from Latin America

shows that the CCTs may also support capital formation among poor rural families; this is necessary to move beyond subsistence agriculture and improve incomes of the lagging regions.

Box 3.2 International experience of spatially targeted conditional cash transfers

Brazil

Program: *Bolsa Familia*

Started: 2003

Status: Active

Targeting

Target population: Poor and extremely poor families:

Poor families: Monthly per capita income from R\$60.01 to R\$120.00

Extremely poor families monthly per capita income up to R\$60.00

Targeting method: Geographic targeting and means testing (Self-declared)

Coverage: 11.1 million families (June 2006)

Colombia

Program: *Familias en Accion*

Started: 2001

Status: Active

Targeting

Target population: Extremely poor families with minors ages 0–6 not participating in other programs (health subsidy), and/or minors ages 7–17 enrolled in school (education subsidy)

Targeting method: Geographic targeting and proxy means testing

Coverage: 1.7 million households by end of 2007

Mexico

Program: *Oportunidades* (formerly PROGRESA)

Started: 1997

Status: Active

Targeting

Target population: Extremely poor households

Targeting method: Geographic targeting and proxy means testing

Coverage: 5 million households, approximately 18 percent of the country total population

Bangladesh

Program: Female Secondary School Assistance Program

Started: 1994

Status: Active (as FSSAP II)

Targeting

Target population: Unmarried girls who completed primary school and are enrolled in a recognized secondary school

Targeting method: Geographic targeting of districts (*thanas*) and gender targeting

Coverage: 723,864 girls (2005) or about 76 percent of girls in the project schools

Program: Primary Education Stipend Program

Started: 2002

Status: Active

Targeting

Target population: Poor families with children of primary-school age

Targeting method: Geographic targeting combined with community assessment

Coverage: More than 5.3 million beneficiaries a year.

Pakistan

Program: Punjab Education Sector reform Program/Punjab Female School stipend Program

Started: 2004

Status: Implemented in selected districts of Punjab

Targeting

Target population: Girls at secondary-school level

Targeting method: Geographic targeting of districts, using literacy rate

Coverage: 186,503 in 2003, 279,928 in 2006, and 455,259 in 2007

Source: Fiszbein and others 2009.

4. Opportunity trends and resource allocation across regions: reshaping the economic geography of public spending

49. Explaining the HOI's evolution based on policy changes is difficult, given the short time span and the numerous factors affecting the education, nutrition, and health outcomes. Public spending could explain such changes, but during the past decade the HOI and public spending are poorly linked across the regions, even though the allocation of investment across governorates is supposed to be determined by a funding formula that includes population size, poverty rate, and human development indicators.⁸

50. Before 2008 public investment was mainly based on the share in the total population, with privileges provided in some years to Upper Egyptian governorates. But in FY09 Metropolitan and Frontier Governorates received substantially more than the expected shares based on their population or poverty (Table 4.1).⁹ Investment in education and health benefited the Metropolitan and Frontier Governorate regions, to which much larger resources per capita and per poor person were allocated. Other sources show that Lower and Upper Egypt spend less on education and health than the national average per capita, but Frontier Governorates spend at least twice the national average.¹⁰ Notably, although Upper Egypt had 50 percent of the population in FY09, it received only 18.2 percent of the health expenditure, 19.5 percent of water expenditure, and 29.4 percent of education expenditure. By contrast, its electricity sector received a proportionate share—48.4 percent.

Table 4.1 Shares of regions in government investment in selected sectors, 2009 (percent)

	<i>Population</i>	<i>Poverty</i>	<i>Total public investment</i>	<i>Total government investment</i>	<i>Electricity</i>	<i>Water</i>	<i>Educational Services</i>	<i>Health Services</i>	<i>Information</i>
Metropolitans	17	4.6	33.6	30	6.4	16.9	30.4	32.1	0.7
Lower Egypt	31.1	16.2	30.3	30.6	20	53.9	35.6	32.4	7.4
Upper Egypt	50.3	78.5	25.6	32	29.7	20.9	30.2	30.9	91.1
Border	1.5	0.7	10.4	7.4	43.9	8.4	3.9	4.6	0.7
Share in total public investment					10.1	12.9	6.7	2.7	0.5

Source: Velez and others 2012.

51. Besides public spending, other resource allocation indicators, such as pupils per teacher or class density across regions, bear little relationship to the access to opportunities indicators. Table 4.2 shows that the allocation of teachers by region over the decade decreased the student-to-teacher ratio in the primary cycle in Metropolitan Governorates and (more significantly) in Frontier Governorates, while it increased the ratio in Upper Egypt and to a lesser extent in Lower Egypt. Class density increased across all regions, most significantly in Lower Egypt. The education HOI (Human Opportunity Index) declined in the Metropolitan and Frontier Governorates but improved markedly in Lower and Upper Egypt.

⁸ This is in the context of the Decentralization Project supported by the Ministry of Local Development and funded by USAID; the formula can also be applied at the district level.

⁹ This bias increased between FY03 and FY09.

¹⁰ See Martinez-Vasquez and Timoneef (2011).

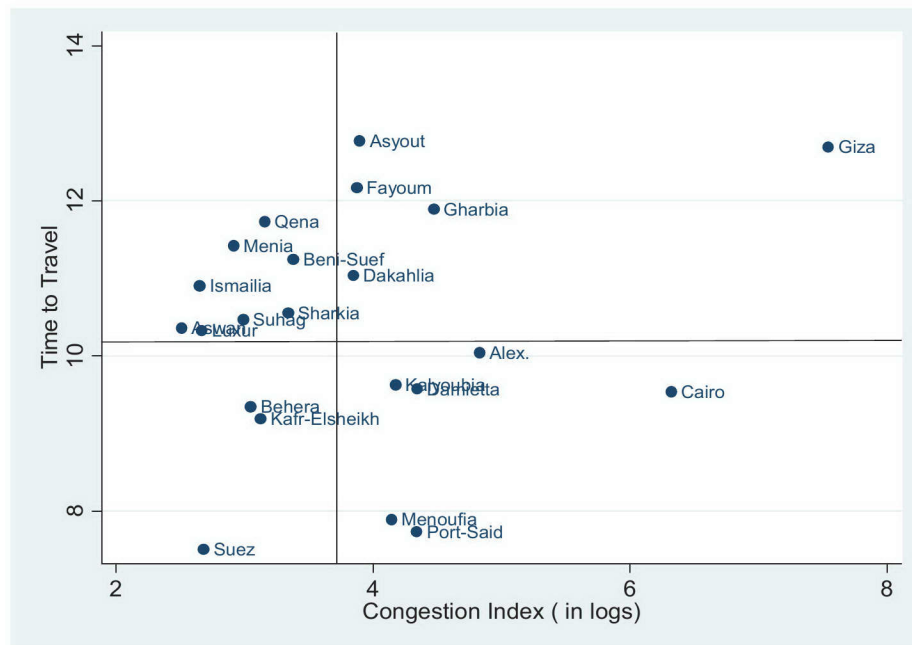
Table 4.2 Inputs to the education sector by region, 2000 and 2008

	<i>Pupils/teacher ratio</i>						<i>Class Density</i>					
	<i>Primary</i>			<i>Preparatory</i>			<i>Primary</i>			<i>Preparatory</i>		
	<i>2000</i>	<i>2008</i>	<i>%Change</i>	<i>2000</i>	<i>2008</i>	<i>%Change</i>	<i>2000</i>	<i>2008</i>	<i>%Change</i>	<i>2000</i>	<i>2008</i>	<i>%Change</i>
Metropolitans	21.0	18.2	-13.3	18.0	7.4	-58.9	42.0	47.1	12.1	44.0	38.0	-13.6
Lower Egypt	21.0	21.2	1.0	23.0	15.6	-32.2	39.0	51.4	31.8	43.0	38.4	-10.7
Upper Egypt	26.0	28.0	7.7	26.0	17.8	-31.5	42.0	43.5	3.6	44.0	41.8	-5.0
Frontiers	12.0	6.7	-44.2	12.0	4.9	-59.2	25.0	26.0	4.0	29.0	25.3	-12.8
All Egypt	22.0	22.0	0.0	22.0	13.4	-39.1	40.0	42.5	6.3	43.0	39.3	-8.6

Source: Velez and others 2012.

52. Other indicators also show that the provision of basic public services is unequal, with deficiencies concentrated in the same places. For instance, travel time to the nearest primary school (Figure 4.1) is highest in Assiut, Giza, Fayoum, and Quena. It is impossible to tell whether the main cause is a lack of schools or of roads, but both are essential and complementary public services. When considering the potential negative effect of congestion on travel time, then Quena, Menia, Benis Suef, Sarkia, and Sohag result with the highest travel times (second quadrant of Figures 4.1 and 4.2). Strikingly, high travel times to the nearest health unit tend to exist in the same locations (Figure 4.2), all of them in Upper Egypt. These results indicate a possible priority for secondary and tertiary road network development.

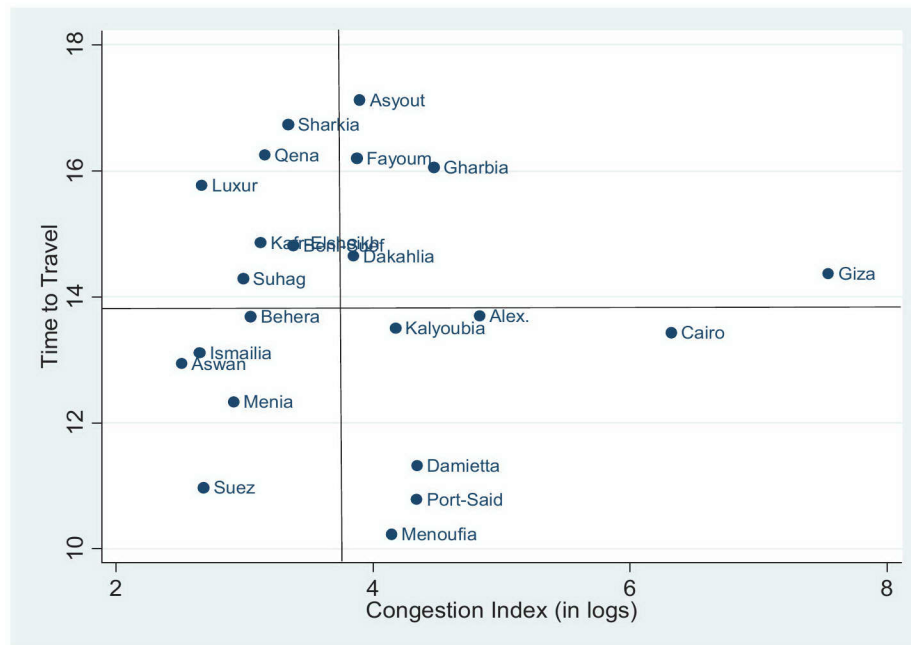
Figure 4.1 Time to nearest primary school



Note: Quadrants' axis constructed with means of each series.

Source: Barsoum 2007; Felkner, Wilson, and Blankenspoor 2012.

Figure 4.2 Time to nearest health unit



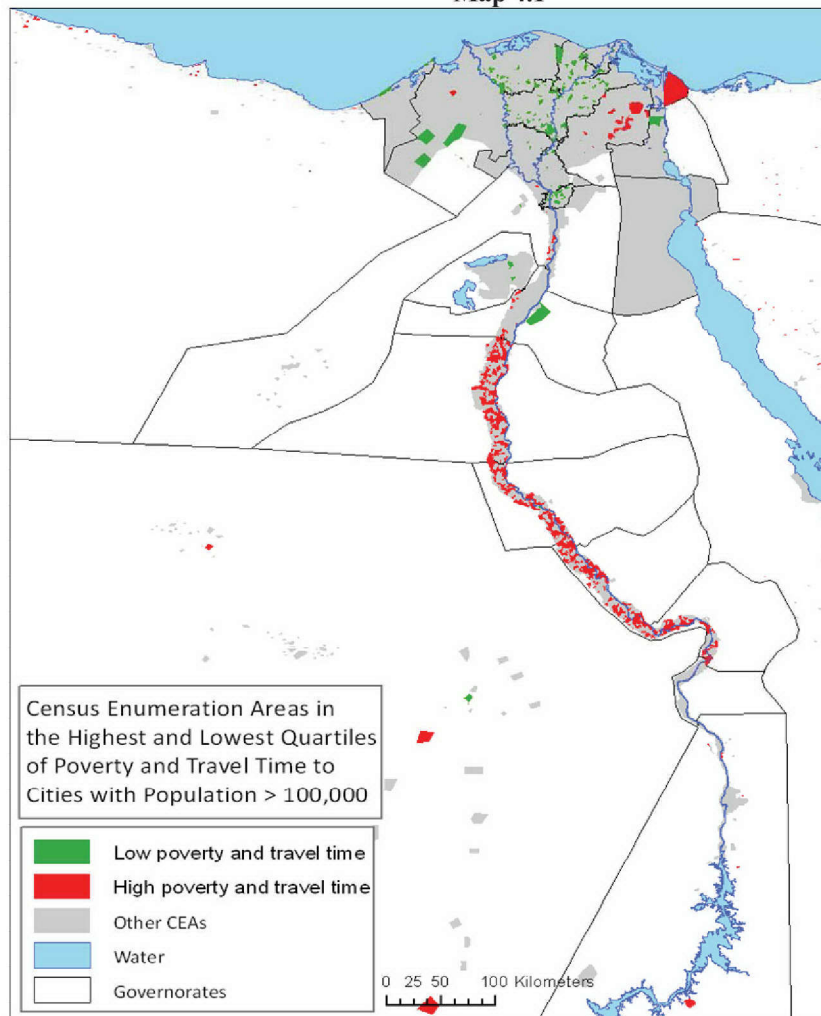
Note: Quadrants axis constructed with means of each series.

Source: Barsoum 2007; Felkner, Wilson, and Blankenspoor 2012.

53. Access to markets is linked to poverty and travel time to large cities or ports. For this study, market accessibility indices were calculated for Egypt using the GIS (Geography Information System) road network data and the variation in road quality (Felkner, Wilson, and Blankenspoor 2012).¹¹ A person in the worst accessibility quartile is two to five times more likely to be poor than a person in the best accessibility quartile. Map 4.1 shows accessibility to cities with populations greater than 100,000. The highest concentration of poverty and the worst market access are in Upper Egypt (mainly Minya, Beni Suef, and Sohag) and Lower Egypt (Ismailia and Sharkia). The Delta has the smallest concentrations of poverty and the best market access.

¹¹ The accessibility variables were calculated by generating travel-time indices through a GIS Egyptian road network, using a least-cost-path algorithm, and minimizing a value of travel time estimated for each individual road segment. Travel-time estimates were divided by the length of each road segment to estimate a travel-time speed for each segment.

Map 4.1



Source: Felkner Wilson, and Blankespoor 2012.

54. The same study of connectivity surveyed transportation costs (Table 4.3).¹² The results show that:
- Transport prices vary widely in large urban centers such as Cairo and Alexandria, but prices in poor and distant locations show little variability (higher price variability indicates more choices and probably a different quality of services).
 - The cost of shipping from the urban centers to poor or rural areas is significantly lower than in the reverse direction.
 - Shipping from and to Alexandria has the lowest cost, and from and to Cairo the second-lowest.
 - Shipping within Upper Egypt is more expensive than longer haul trips to Cairo or Alexandria.

¹² To capture the market variation in transport prices, survey data were collected from major shipping city “nodes” in 13 different governorates in Egypt between August and October 2010. The selected governorates are geographically representative of the domestic shipping market in Egypt: Greater Cairo, Alexandria, Damietta, Tanta, Aswan City, Fayoum City, Port Said, Qena, Mansora, Luxor, Suez, Assiut, and Safaga. To capture the variation in prices across the range of primary shipping types, the survey obtained prices on four key categories: 20-foot container prices, dry bulk prices, general cargo prices, and liquid cargo prices. Forty-two transport operators were surveyed, including a range of smaller and larger companies.

Table 4.3 General cargo cost matrix (cost per ton per kilometer)^a

	Destination				
	Cairo	Alexandria	Aswan	Fayoum	Quena
Origin					
Cairo	—	.12	.06	.20	.11
Alexandria	.12	—	.06	.16	.11
Aswan	.35	.31	—	.41	.47
Fayoum	.33	.22	.31	—	.40
Quena	.26	.26	.23	.23	—

— is not available

a. Refers to the minimum cost.

Source: Felkner Wilson, and Blankespoor 2012.

55. High transport costs block equalization of productivities in different regions. Productivity in Upper Egypt is much lower than in Lower Egypt, with the productivity gap explaining a fifth of the consumption difference between the two regions (World Bank 2009b). Studies of the return on investment in education show, after controlling for education level and other individual characteristics, that workers outside the major urban areas in Upper and Lower Egypt earned 10–20 percent less in a decade. The lower productivity in rural areas can be explained by a combination of lower quality in the workers' education levels, poor geographical connectivity, and differences in institutions. Chapter 5 explores how the probability of migrating is directly linked to education level and shows migration costs in the urban centers; here the focus is on the transport costs. Another institutional factor causing low productivity is excessive land fragmentation in Upper Egypt compared with that in Lower Egypt (World Bank 2009b).

56. An overhaul of the entire public budgeting system is needed to ensure more equity in access to opportunity (as measured by the HOI) and to basic services across the country. Inequity is not only related to value judgments—it has economic consequences, particularly for migration. Individuals may migrate because they lack access to basic public services or opportunities for their children. Ideally, factors should move based on productivity differentials, not on fiscally based considerations. Agglomeration has benefits, but it also has costs, discussed in chapter 5.

57. A centerpiece of budgeting must be an equalization transfer from the center to the regions so that all regions have the same opportunity to provide basic services to their inhabitants. But the proposed equalization transfer addresses only the distributional equity, leaving aside two other essential elements of an intergovernmental transfer system—allocative efficiency and fiscal sustainability (Bird and Smart 2002). So, this transfer must be considered only a part of a more comprehensive intergovernmental transfer system, with reforms that improve accountability in the use of these funds. Despite the complex topics involved, many countries have expenditure-based equalization transfers, such as Brazil, India, and Australia (Vaillancourt and Bird 2005).

58. Adopters of an equalization transfer system must consider the Egyptian context. Egypt is a highly centralized country; and its fiscal system has a large vertical imbalance between the central government and local governments ("governorates") as well as a horizontal imbalance among governorates. The central government has control over all major revenue sources and collects 98 percent of total government revenues, and it is responsible for 86 percent of total government expenditures. Local governments disburse almost 14 percent of total expenditures but collect only 2 percent of total revenues. Local governments' budgets thus depend on transfers from the central government: local revenues cover only 10 percent of local spending, so transfers from the central government to governorates finance nearly 90 percent of such spending (Abdellatif 2012).

Recommendations for resource allocation

59. The equalization transfer would be based on the region's needs as determined by its population and poverty and would be constitutionally mandated as in Brazil and Colombia, for example. The total amount to be distributed must be subject to fiscal sustainability. In most countries the transfer is constitutionally mandated and is set as a revenue-sharing clause. In Brazil it is equal to about 22 percent of some central tax revenues, and in Colombia it is 22 percent of current income. In some developed countries, such as Austria, local governments receive 12 percent of income and value-added taxes, while in Japan it is about 30 percent (Bird and Smart 2002).

60. The proposed distribution follows the Brazilian allocation formula of the *Fundo de Participacao dos Municipios*, except that the Brazilian formula uses income per capita in each state or municipality. Given the unavailability of this information in Egypt, this report proposes using several poverty measures. This illustration discusses distribution at the governorate level, but a similar mechanism must be employed to transfer resources at the district level, given the differences within the same governorate (Abdellatif 2012).

61. Two alternative measures of poverty would be considered: the headcount and the gap. The first measure is the number of poor people as a share of the total population, and the second captures the “depth” or intensity of poverty by measuring the difference between household expenditure and the poverty line, aggregating that difference for all poor people. Hence it is the value of the income transfer necessary to eliminate poverty.

62. Regardless of the specific poverty measure used, there are four governorates—Assiut, Sohag, Giza, and Menia—ranked as those with the highest needs, and they should be targeted with the equalization transfer. Table 4.4 summarizes the proposed distribution and compares it with the actual distribution of transfers.¹³ The current allocation of transfers shows that the largest metro areas receive the largest shares, suggesting that the transfers might be inducing fiscally motivated migration from poor regions to metro areas.

63. In deciding the amount to be distributed, fiscal sustainability must be considered. In Brazil the amount transferred to municipalities is about 20 percent of taxes collected by the federal government. In Egypt this percentage of tax collections is equivalent to LE 40 billion, or 2–3 percent of GDP—very high given the country's fiscal situation. Still, this number is lower than the current figure of LE 88 billion, though the two are not strictly comparable because the proposed equalization transfer has a specific equalization objective, while current transfers are for multiple purposes. The most practical approach is to estimate the value of this unconditional transfer as the amount needed to eliminate poverty and then calculate that value as a share of tax collection. A rough estimate follows: the national poverty gap is 20 percent, the poverty line is LE 2,400, and the number of poor people is 17 million.¹⁴ The transfer would equal $(0.2)(2,400)(17) = \text{LE } 8.2 \text{ billion}$, equivalent to 5 percent of tax collection, or 0.5 percent of GDP. This transfer would be *unconditional* but it would require enhanced governance of public spending. Local authorities would be accountable to a central or a local auditing agency for resource use. The flexibility of local governments must be accompanied by their increased accountability and enhanced capacity.

¹³ The Frontier Governorates show small or zero shares within the proposal due to the low shares of population and poverty measures in these governorates within the sample provided by the Central Agency for Public Mobilization and Statistics.

¹⁴ The poverty gap is the difference between the income of the poor household and the poverty line.

Table 4.4 Proposed equalization transfer from the central government to governorates (percent)

Governorate	Current situation (share of transfer)	Proposed equalization transfer	
		Based on poverty gap (share of transfer)	Based on headcount (share of transfer)
Cairo	11.7	6.5	6.6
Alexandria	7.1	1.6	1.6
Port Said	1.4	0.0	0.0
Suez	1.3	0.0	0.0
Damietta	2.2	0.0	0.0
Dakahlia	6.1	2.3	3.7
Sharkia	7.5	6.8	9.4
Qualiobia	5.3	3.2	4.0
Kafr el Sheikh	3.1	1.0	1.2
Garbeyya	4.7	1.2	1.9
Menoufia	3.9	2.8	3.7
Beheira	4.4	5.5	7.4
Ismailia	1.7	0.2	0.2
Giza	8.0	13.8	13.3
Bani Suef	2.7	3.7	3.8
Fayoum	2.5	2.9	3.7
Menia	4.0	9.9	9.6
Assiut	4.0	18.0	12.2
Sohag	4.2	14.1	11.7
Qena	4.0	5.0	4.3
Aswan	3.0	0.9	1.0
Luxor	1.9	0.2	0.4
Red Sea	1.1	0.0	0.0
New Valley	0.6	0.0	0.0
Matrouh	1.1	0.0	0.0
North Sinai	1.4	0.1	0.1
South Sinai	0.8	0.0	0.0
Total	100.0	100.0	100.0

Source: Abdellatif 2012.

5. Dealing with the obstacles to labor mobility

64. Labor mobility strongly affects the locations of factors of production and economic concentration. This chapter first discusses the characteristics of migration in Egypt and socioeconomic impediments to greater mobility and then analyzes the performance of the urban housing sector in Egypt. Last, it identifies the obstacles that housing markets put on the free mobility of households within and between urban areas.

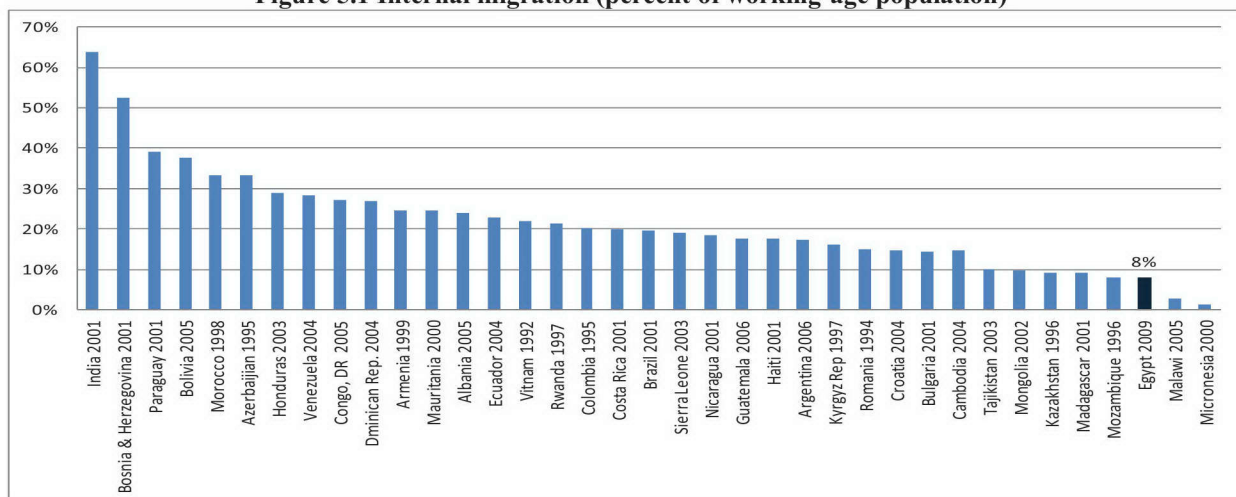
Migration

65. Internal migration in Egypt is characterized as follows:

- It is low by international standards.
- It is mostly urban-urban—and to places where university graduates reside.
- People migrate to places with low shares of household food production within total food consumption.
- Higher education levels improve the likelihood of migrating.
- Migrants have a higher probability of employment, which implies that unemployment rates in governorates with the highest net migration rates are lower for migrants.

66. These characteristics are briefly discussed below, with a more detailed and technical analysis in Volume 2 by Badr and Herrera (2012). Internal migration, at 8 percent, is low by international standards (Figure 5.1).

Figure 5.1 Internal migration (percent of working-age population)



Source: Badr and Herrera 2012; World Bank 2009a.

67. Most migration is within urban centers—61 percent of migrants residing in urban centers previously resided in urban centers (Table 5.1). Of the migrant population in Cairo, 31 percent came from urban Lower Egypt and another 31 percent came from urban Upper Egypt.

68. The migrant population tends to have a higher education level. Of the population with only basic literacy, 6 percent are migrants and the remaining 94 percent are nonmigrants. Of those with a university degree, 12 percent are migrants, while 21 percent of people with a postgraduate degree are migrants. The likelihood of migration increases with the education level, after controlling for other individual characteristics. The governorates with the highest net migration rates are mostly in urban Upper Egypt,

where 34 percent of those with a university degree and 36 percent of those having done postgraduate studies reside (Table 5.2).

Table 5.1 Direction of migration, by current and previous region (percent)

Previous region	Current region							Total
	Cairo	Lower Urban	Lower Rural	Upper Urban	Upper Rural	Frontier Urban	Frontier Rural	
Cairo	3.3	54.8	15.5	20.5	4.5	1.3	0.1	100
Lower Urban	26.5	45.1	15.7	6.3	1.4	4.2	0.7	100
Lower Rural	9.5	60.7	24.9	2.9	0.5	1.2	0.3	100
Upper Urban	30.7	34.9	6.7	18.9	4.1	4.6	0.1	100
Upper Rural	20.6	41.9	10.3	15.2	6.4	4.6	1.1	100
Frontier Urban	16.9	12.7	4.2	7.0	5.6	49.3	4.2	100
Frontier Rural	10.5	26.3	31.6	0.0	0.0	5.3	26.3	100
Total	17.0	48.4	15.6	11.8	3.1	3.5	0.6	100

Source: Badr and Herrera 2012.

Table 5.2 Distribution of population across regions, by education level, 2010 (percent)

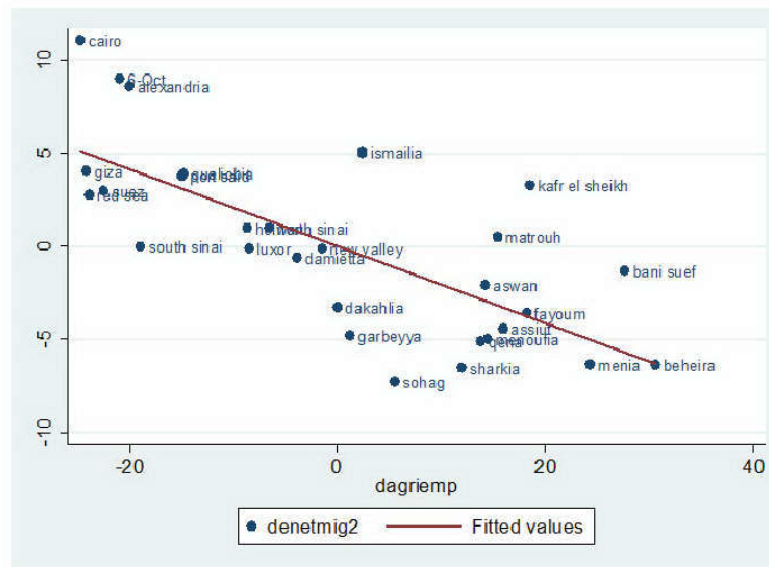
Education level	Cairo	Lower Urban	Lower Rural	Upper Urban	Upper Rural	Frontier Urban	Frontier Rural	Total
Illiterate	5.9	14.6	38.0	7.5	33.1	0.6	0.4	100
Read and write	6.5	20.5	36.2	10.0	25.2	1.0	0.6	100
Less than intermediate	9.2	21.6	34.4	10.0	23.1	1.2	0.5	100
General secondary	12.9	29.0	29.0	13.5	14.0	1.2	0.4	100
Technical secondary	7.9	22.9	36.5	10.8	20.3	1.1	0.5	100
Above intermediate	11.5	32.8	26.5	14.8	12.7	1.3	0.4	100
University	17.7	33.6	22.9	14.8	8.9	1.6	0.4	100
Above university	26.3	36.8	17.1	17.1	2.6	0.0	0.0	100
Total	8.7	21.7	34.5	10.3	23.4	1.0	0.5	100

Source: Badr and Herrera 2012

69. People migrate to places with low shares of agricultural employment, low shares of home production within food consumption, and higher wages. These three features suggest that the “food problem” could explain low migration rates. Given low productivity in subsistence agriculture and a minimum food requirement, together with lower food prices in areas closer to cultivation, the labor supply is tied to home food production and does not participate in nonagricultural labor markets. Inter-regional comparisons in which the share of agricultural employment is used as a proxy of sector productivity show that individuals migrate from low-productivity governorates to high-productivity ones with higher wages, lower shares of agricultural employment, and lower shares of home production as a share of total food consumption (Figures 5.2–5.4)¹⁵

¹⁵ Higher shares of agricultural employment are associated with low labor productivity in a region. Unfortunately there are no regional GDP statistics to compare productivity across regions. But Gollin, Parente, and Rogerson (2007) ran a regression for 92 countries over 1960–2000 between changes in agricultural employment and agricultural productivity, concluding that there is a close association between the two. This allows them to use the employment share of agriculture in their analysis of how the food problem could explain why some countries’ per capita output began increasing earlier than others’.

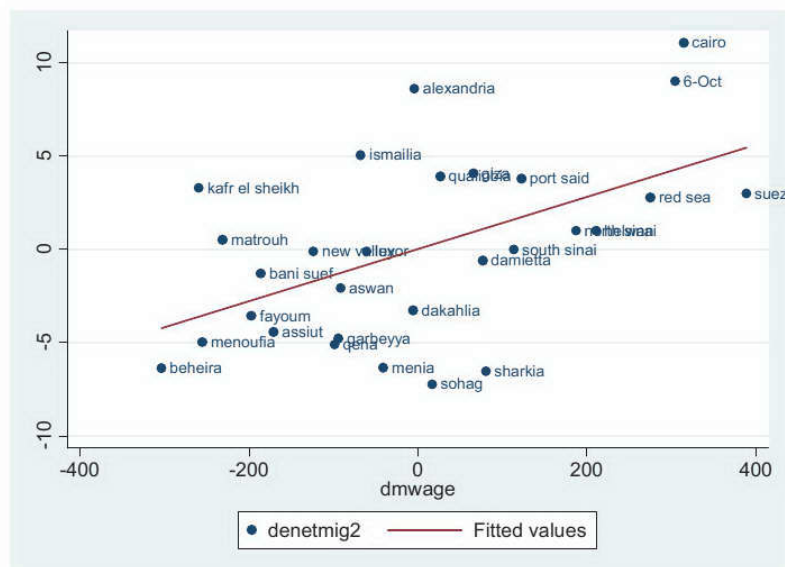
Figure 5.2 Net migration flows and agricultural employment across regions



Note: Variables are demeaned. Horizontal axis is share of agricultural employment in total employment, demeaned. Vertical axis is the net migration rate, demeaned.

Source: Badr and Herrera 2012.

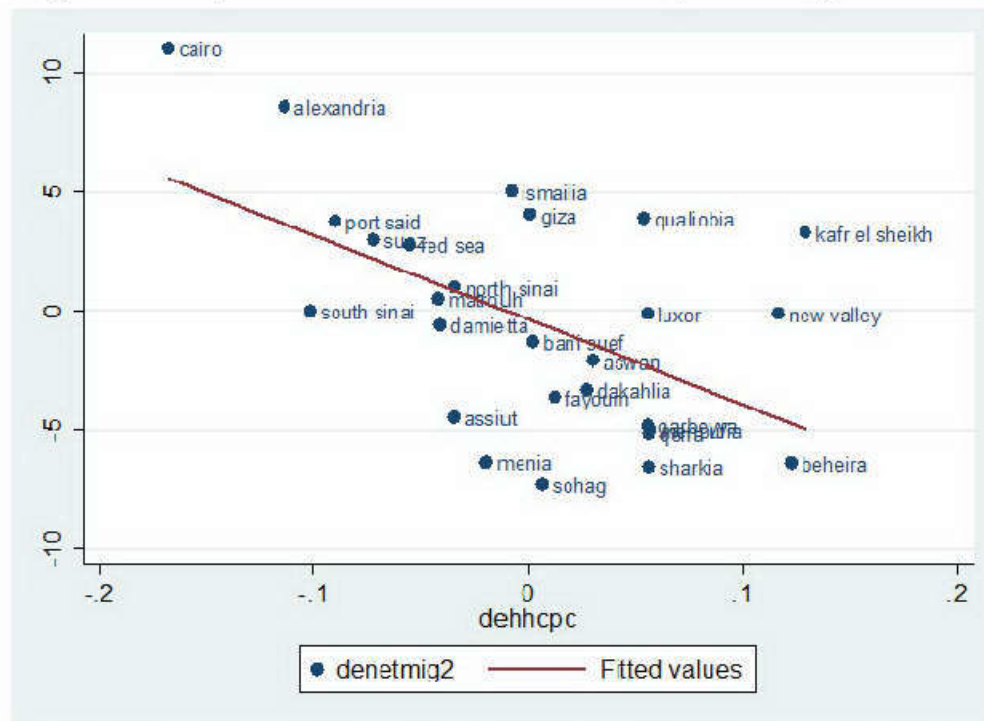
Figure 5.3 Wages and net migration rates across governorates*



Note: Variables are demeaned. Horizontal axis is average wage in 2010, demeaned. Vertical axis is the net migration rate, demeaned.

Source: Badr and Herrera 2012.

Figure 5.4 Food production for households' own consumption and migration rates*



Note: Variables are demeaned. Horizontal axis is the fraction of total food consumption that is produced by the household. Vertical axis is net migration rate.

Source: Badr and Herrera 2012.

70. Low productivity in subsistence agriculture is associated with excessive land fragmentation in Upper Egypt (World Bank 2009b). A recent survey of case studies of those exiting from subsistence agriculture identifies the main exit barriers as transport costs and the organization of production (Cadot, Dutoit, and Olarreaga 2009). The high transport costs are not necessarily solvable by additional resources; the problem requires a redistribution of budget resources and accountabilities across ministries as well as the central and local governments (Abdellatif 2012). Transport costs are inflated due to an improperly regulated trucking sector, controlled by governorates and local trade unions. The organization of production can impede raising productivity. Several case studies show that contract farming may be a solution to inadequate plot size, the lack of access to fertilizers, or technology required for cash crops. A recent study of China shows how households that received a land title increased productivity, mostly by increasing tenure security, which allowed household members to increase participation in nonagricultural labor markets (Deninger, Jin, and Xia 2012).

71. Countries with successful experiences integrating small farmers into markets and the production of high-value products have, in addition to building connective infrastructure, fostered rural productive alliances as a model for overcoming market barriers. Such is the case of productive alliances in Bolivia, Colombia, Guatemala, and Panama, where these rural formal agreements have resulted in higher agricultural income, especially for women working in postharvest activities (Collion and Friedman 2012). In Egypt cooperatives play a marginal role as intermediaries of subsidized inputs for the Ministry of Agriculture or providers of credit in competition with the Principal Bank for Development and Agricultural Credit. But they provide no value-added services, such as linking the small farmers to market chains or providing technical advice. The governance structure of cooperatives, in which elections are not transparent, is inadequate. The representatives are accountable to the government but not to members. And mandatory membership rules keep farmers tied to only one cooperative. All of these are not

conducive for innovation or quality service delivery. Cooperatives also have limited resources and no flexibility in their allocation, as both fee and resource use are mandated by law that has not changed in decades (Booz Allen Hamilton 2008).

72. As agriculture becomes more productive and the labor force becomes more educated, the natural outcome will be a more mobile labor force, with an expected positive impact on employment, as migrants will be more likely to have a job. After controlling for the education level, gender, and other individual characteristics, migrants have a higher likelihood of being employed (Badr and Herrera 2012). This is reflected in the lower unemployment rates of migrants. In 2010 the overall unemployment rate was 9.3 percent—9.5 percent for nonmigrants and 6.2 percent for migrants. Among migrants the unemployment rate for those who migrated for work reasons was even lower—2.6 percent (Table 5.3).¹⁶

Table 5.3 Unemployment rates of nonmigrants, migrants, and migrants for work 2008-2010

	Unemployment Rate (percent)			
	Overall	Non-migrants	Migrants	Migrants for work
2008	9.9	10.2	3.6	0.2
2009	9.4	9.7	5.1	1.1
2010	9.3	9.5	6.2	2.6

Source: Badr and Herrera 2012. Data used: LFS March 2008-2010.

73. This result is crucial because it questions the mechanistic link between migration and unemployment. Consider the five governorates with the highest net migration rates (Cairo, Alexandria, 6th of October, Ismalia, and Qalubia). Unemployment rates in these governorates vary widely (Table 5.4), from 13 percent in Cairo to 8 percent in Qalubia. In all cases, the unemployment rate among migrants is lower.

Table 5.4 Unemployment rate in governorates with highest net migration for work inflow (percent)

	Overall	Nonmigrants	Migrants	Migrated for work
Cairo	13.4	14.9	5.8	3.6
6th of October	10.2	9.9	11.0	8.5
Alexandria	11.6	12.5	4.6	0.0
Ismalia	10.4	12.0	7.8	1.6
Qalubia	7.8	8.8	3.3	0.0

Source: Badr and Herrera 2012. March 2010 LFS.

Recommendations related to migration

- *Increase housing mobility through a comprehensive housing market reform strategy* that expands housing affordability. In the short term this entails the introduction of administrative and policy reforms to make housing markets work better. In the long term the whole strategy of urban development and conversion of land for urban purposes needs to be redeveloped, as discussed in detail in the following section.
- *Revise administrative boundaries* that inaccurately depict rural-urban migration trends, and use “adjusted trends” to predict and accommodate natural migration-seeking opportunities in economic activity centers.
- *Develop a coherent transport policy* for “economic connectedness” of workers and factors of production to centers of economic activity and ports.

¹⁶ The labor force survey reports the reasons to migrate, which can be clustered in five major categories: for work, to study, for marriage, to accompany someone, and others.

- *Ensure the proper sequencing of service provision* to industrial zones in new communities, so that they are connected to centers of economic activity and vice versa. See also chapter 6.
- *Increase educational attainment and quality*, which enhances the likelihood that individuals will have access to labor markets and thus can be considered as reducing the distance to market.

74. By increasing agricultural productivity, it is possible to release resources for nonagricultural uses. Low agricultural productivity is related to excessive land fragmentation, especially in Upper Egypt (World Bank 2009b). Productivity-enhancing policies should include forming cooperatives and facilitating contract farming. The development of contract farming will require adequate tenure security, possible only if there are mechanisms for operational land titling and quick dispute resolution.

75. Agricultural productivity, especially among subsistence farmers, will increase when they can accumulate some capital. Land titling, which can provide a source of collateral for loans, could be complemented by additional borrowing if small farmers were able to collateralize mobile assets. In the medium term this requires the passage through parliament of a secure lending law and the establishment of a movable asset registry.

76. Improving interconnectedness and dealing with congestion will reduce the transaction costs associated with migration. Such costs also can be reduced by constructing affordable urban housing.

Housing markets

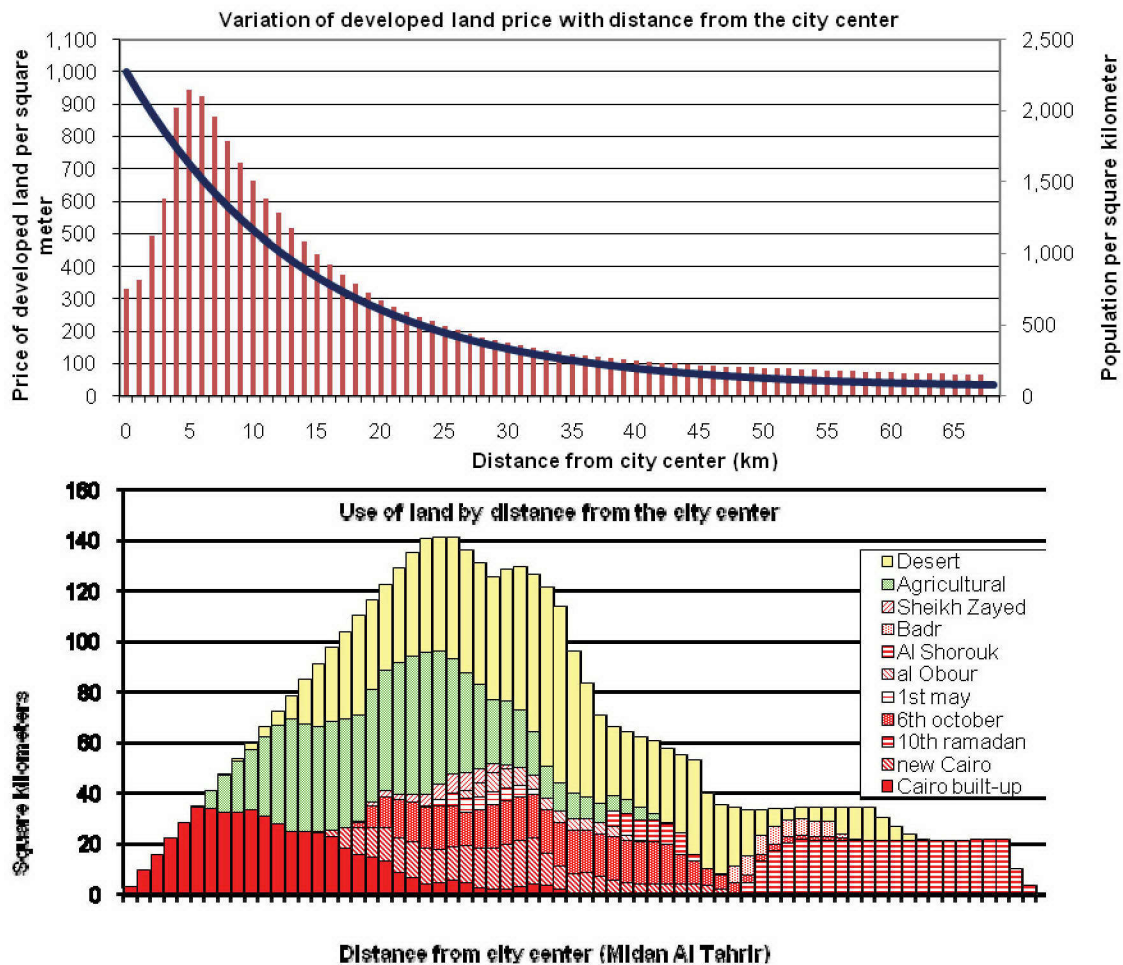
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77. Information on urban housing in Egypt was generated in 2008 by a large representative household survey that covered all urban Egypt, broken down into six regions (United States Agency for International Development 2008 (USAID)). The study found that, countrywide, more than 3.5 million units of the total urban housing stock are unused—either vacant or closed—for unclear reasons. Such housing units are present on a much larger scale than in other emerging markets. One explanation is that the sustained rapid appreciation in value over the past 25 years and the lack of alternative investment mechanisms until recently meant that housing and real estate consistently served as an inflation-proof savings and investment mechanism, without need of rental yield. The option of renting was even less attractive due to rent control until 1996. Even now, the continued perception of uncertainty about the enforceability of the new rental law makes many owners hesitant to rent out their unoccupied units. In addition, it is very common for parents to build or acquire units for their sons when they marry, and then leave the units vacant for years or decades. Poor targeting of government-subsidized units, and unattractive locations of subsidized units in new towns, has added to the problem.

Housing in Greater Cairo

78. Comparing the density profile for Greater Cairo to the land use profile shows that agricultural land makes up a large proportion of total land close to the city center (Figure 5.5). At only 5 kilometers from the city center, agricultural land uses start gaining importance, until they predominate at 15 kilometers from the center. Interestingly, population densities are highest at this urban/rural frontier.

Figure 5.5 Density profile, prices, and land use in Greater Cairo



Source: Beratud (2010), as quoted in Lozano-Gracia (2012).

79. Comparing the price of land with estimates of housing expenditure suggests that affordability is a serious concern in all areas within 25 kilometers of the city center. International experience indicates that housing-related expenditures range from 20 to 40 percent of total spending, depending on a household's income bracket. In Egypt the fraction of housing expenditures within total spending is lower, it decreases monotonically with income level, and the rental market is totally segmented by the rent control law. Table 5.5 shows the fraction of expenditure represented by rent for rental contracts governed by the "old law" (controlled) or the new law (market prices).

80. Notably, the difference between market prices and controlled rent is lower for poorer individuals: for the poorest decile of the population, housing expenditures represent 21 percent of the total for those who rent under the new law, while they represent about 7 percent for those contracts under the controlled-rent regime. For the top decile, rent represents 11 percent of total expenditures for unregulated contracts, while it is 1.5 percent for rent-controlled contracts. In general, the ratio of unregulated rent to regulated rent increases with the income level of the household: the ratio starts at 3 for the bottom decile and increases to 7.5 for the top decile, suggesting much higher benefits of the rent control system for the upper quintile of income distribution.

Table 5.5 Household rent payment as a fraction of total expenditure, by income groups, in Cairo (percent)

Income decile	Old contract rent	New contract rent
1	6.9	20.7
2	5.9	19.7
3	5.7	18.0
4	4.9	16.5
5	4.0	14.3
6	4.0	16.3
7	3.6	14.4
8	3.3	12.7
9	2.4	12.7
10	1.5	11.3

Source: Calculations based on CAPMAS (2009).

81. Table 5.6 shows the estimated monthly rental payments for households in different income-distribution deciles under two scenarios: that households spend 20 percent in rent according to the lower bound of international experience, or that they spend the average value of their income quintile. Combining the affordability numbers in Table 5.6 with the actual prices per square meter shown in Figure 5.5 suggests that affordability is a serious problem, at least for the bottom three quintiles of the Cairo population. A 60-square-meter flat in the city center would have a sale price of about LE 60,000. If rent or bank payments are estimated at 0.5 percent of the property value, this would imply that households in the city center would have to pay about LE 300 a month. This is affordable only to the two highest quintiles, at 20 percent of their income, or to the top quintile if the observed rents paid in Cairo are used as a benchmark.

Table 5.6 Cost per month that households devote to housing in Greater Cairo (2009 prices)

Income quintile	At 20% of income	Using observed rent (new law in Cairo)
First	140	135
Second	211	207
Third	266	237
Fourth	346	242
Fifth	690	545

Source: Updated table from World Bank (2007), and authors' calculations based on HIECS sample provided by the Central Agency for Public Mobilization and Statistics.

Recommendations for the urban housing sector

82. Enabling land and housing markets should be a cornerstone of urban policy. Formal markets have failed to reach a majority of citizens due to land scarcity and affordability issues. The framework for a well-functioning housing system in Egypt proposed in a joint World Bank and the U.S. Agency for International Development note identifies five areas for action. The framework recommends addressing distortions to the current *stock* of housing (vacant and rent-controlled units), improving the *flow* or production of housing (decreasing the cost of housing supply), and enabling *better household access* to housing (improving affordability and targeting, and reforming government's role). The five areas are (World Bank 2008c):

- *Vacant units.* Mobilize the stock of vacant housing by developing a liquid rental market and implementing a real estate tax reform and innovative subsidy instruments that provide incentives to owners of vacant units to release them to the market.

- *Rental market.* Create a fluid rental market by strengthening rental market regulations, streamlining tenant eviction procedures, and accelerating rent decontrol.
- *Affordability.* Enhance affordability of new housing options by increasing access to housing finance through incentives for lenders to expand further down-market and by reducing the supply cost of housing and the transaction costs of accessing it. This dual approach to improving affordability will minimize the size of public subsidies needed.
- *Targeting.* Improve the targeting of public subsidies to ensure they are provided to the lowest income households who require them to have adequate shelter, and to specific market segmentation to assist in clearing well-defined market blockages. Successful targeting will greatly reduce the need for future subsidies.
- *Government.* Transform the government so that it can better understand housing markets and react to changes. Effectively engage the private sector in the delivery of housing. Provide an effective regulatory framework. And formulate policies to promote a well-functioning housing market system and assist low-income households to afford housing.

Within this framework, and considering that rental housing under the new rental law is now the dominant form of tenure in urban housing markets, the following actions should be taken:

Rental market regulation:

- Define model rental contracts governing the rights and responsibilities of tenants and landlords and related issues (termination, rent adjustment).
- Develop an ombudsman or other out-of-court mediation to lower the costs of dispute resolutions.
- Establish low- or no-cost windows for registration of rental contracts.
- Streamline eviction procedures and offer education of judges, as for the mortgage sector.
- Provide consumer education and publicity campaigns on rent reforms.

Rent decontrol:

- Review international models of rent decontrol to strengthen further Egypt's approach to grandfathering.
- Condition the right to bequeath acceptance of rent increases, or limit the tenure right of heirs.

Microfinance for housing:

- Provide support (for example, product information, credit information, and liquidity support) for the development of low-income housing loan products.
- Explore credit enhancement systems for housing microfinance.

Land use planning and building standards:

- Increase the land development ratio (land coverage and maximum permissible development).
- Modify regulations on building height, floor-area ratios, and land for services.
- Streamline land subdivision and permit processes.
- Make use of well-located public land for affordable and mixed-income housing.
- Authorize relaxed standards in specified "popular" neighborhoods with local government regulatory control.
- Develop regulations for development of private land for affordable housing, including "special zones."
- Inventory public lands in cities and new towns and investigate use of *Awqaf* lands.
- Review the ban on conversion of agricultural land for urban use in special zones, especially the agricultural land pockets.
- Enhance ongoing efforts to improve land registration.
- Consolidate survey and registry in one institution.

6. Dealing with obstacles to capital mobility

83. For capital investments to be productive and efficient, firms and individuals must base their decisions on market forces and fluid market information. This is presently not the case. Public land management in general and industrial zones development in particular follow an administrative, supply-side, and fragmented institutional approach that distorts the operation of land markets. Additionally, the property registration and taxation systems are nearly dysfunctional, making land holding an ideal vehicle for speculation and tax evasion. Land management is related to firm location decisions because land is allocated to private investors at reduced prices, for developing industrial zones, tourist areas, or agriculture projects. This artificial reduction in the price of land also distorts the market. These impediments to capital mobility and are discussed below.

Public land management

84. Access to land is one of the most severe constraints to doing business in Egypt, and access to land for investment is one of the most critical development challenges facing the government. An Investment Climate Assessment (ICA) undertaken by the World Bank in 2004 highlighted the problem of access to well-serviced and well-located investment land. Of the industrial firms surveyed, 27.4 percent cited access to land as a major or severe constraint to their development, a figure among the highest for countries where the World Bank conducted ICA surveys.

85. The management of public or state-owned land assets in Egypt is particularly important because, as chapter 1 described, the overwhelming majority of the population is concentrated in a small portion of the country (about 5 percent), and the remaining land is mainly desert that is publicly owned and, for the most part, undeveloped. To develop these vast state lands, Egypt has in the past few decades relied on independent sectoral authorities affiliated with the ministries of agriculture, irrigation, tourism, housing, industry, and defense, who have been given control over large areas outside of the *Zimam* (the boundary of historically surveyed agricultural lands that are subject to the land tax). This has created segmented and isolated land markets driven by administrative fiat and supply-side considerations. The sectoral authorities responsible for developing industry, tourism, housing, and new urban communities and for agriculture and land reclamation control more than 5 million feddans¹⁷ of public land (2.1 million hectares), equivalent to 2.5 percent of Egypt's territory and about half of the land area occupied by Egypt's 80 million inhabitants.

86. The outcome of such historical development is a complex and fragmented institutional landscape for public land management. The accumulation of layers of legislation over the past four decades has produced almost 45 directly and indirectly related laws and decrees that often conflict. This complex institutional and legal patchwork shows the absence of a coherent land policy and of public land management strategies for pricing, leveraging, and disposing of such assets to meet the government's policy objectives, as well as a failure to revisit past policies given today's challenges. The problem is further compounded by many differentiated, unclear, and seemingly arbitrary procedures related to public land allocation, pricing, and development controls; the lack of a coherent public land information system; and the inability of investors and noninvestors to figure out which authorities control public land and where public land is available, as well as ineffective land use planning that has little ability to gauge the demand for or the opportunity cost of land.

87. For these reasons, public land management is probably the area that most urgently needs reform to reduce market fragmentation and remove obstacles to capital mobility. This can be achieved by

¹⁷ A feddan is a unit of measurement of agricultural land that roughly equals 4,200 square meters.

reducing divisions among the numerous governmental agencies in the sector regulation, as discussed in the *Egypt Public Land Management Strategy Policy Note* (World Bank 2006b). The aim is to create conditions so that supply and demand interact to determine market prices that will facilitate investment throughout the country following basic economic principles.

88. Initial steps to reform the system of public land management were started as far back as 2001, and over the decade there has been an increasing realization that the problem of access to public land is a severe constraint on Egypt's development as well as a profitable field for special interests. The National Center for Planning the State Land Uses (NCPSLU), set up in 2001 to establish a public land information system and coordinate between the many different public land-controlling agencies, became operational in 2004 and produced its first map of national land uses in 2005. Similarly, a Presidential Decree in 2005 established the General Authority for Industrial Development (also called the Industrial Development Authority (IDA). The IDA is mandated with enabling investors' access to well-serviced and affordable industrial land; regulating the development of future industrial estates to ensure they are well located, are adequately serviced, and respond to market demand; and ensuring appropriate operation, maintenance, and management arrangements for current and planned industrial estates.

89. Even with these institutional changes, much still needs to be done on the structural problems underlying the public land management system to improve the business environment and take full advantage of the government's huge "land bank." The newly established entities (especially NCPSLU) have hit obstacles such as resistance from long-established authorities with control over extensive land parcels. A draft law calls for a single unified apex authority to be responsible for all public land inventories and assignments. The draft law would put the disposal of all public lands under one entity that ensures consistency in disposal, pricing, transparency, and overlapping of jurisdiction. It also attempts to "formalize" the status of encroachment of private citizens on state lands, which is common.

Recommendations for public land management

90. The World Bank's *Egypt Public Land Management Strategy Policy Note* called for a staged process of public land management reform and an associated road map (World Bank 2006b). These proposals remain valid today. First, in the short term consolidating and harmonizing the fragmented and incoherent laws and regulations would modernize the institutional structure that manages and controls public land. A short-term moratorium would be issued on further allocations of public land to sectoral authorities until an independent audit of their controlled public land stock and management performance is completed. And two commissions would be put in place to form public land management policy and consolidate the fragmented legal framework. Such measures would include assigning to the NCPSLU the role of streamlining the supply of public land from the state to the different authorities—and avoiding competition between line ministries and authorities for control of public land. Its duties would also include repossessing inefficient or failed prior allocations, which should be put into the pool of lands scheduled to be supplied to investors, since many of these lands have more intrinsic locational value (and less need for offsite infrastructure) than new lands.

91. Second, in the medium term control over public land would be consolidated within a new nonsectoral entity with a custodial role for public land, acting as a state land assets bank. The governing policies, regulations, and guidelines for public land management and allocation would be set by a higher policymaking body to ensure transparent and efficient allocation, satisfaction of central and local needs for public land, and a balancing of the objectives of growth, environmental sustainability, and equity and social development. A Higher Committee for State Land Management (HCSLM) would take this role, overseeing policymaking and reform implementation. Technical support to the HCSLM would be provided by NCPSLU and perhaps a new dedicated entity with strength in geographical information systems.

92. Third, in the long term there would be a gradual shift toward a decentralized model for public land management that empowers governorates to manage and dispose of the public land stock they would need for growth and economic development within their jurisdiction. This land stock would be determined based on locally prepared development strategies and land use plans, in accord with policies and guidelines set at the national level. This decentralized approach, with central government oversight, is in line with global experience and best practices. And it is best suited to ensure that land use planning and allocation reflect local needs and priorities for delegated control of public land management and development of national spatial strategies.

Capital investment and industrial zones

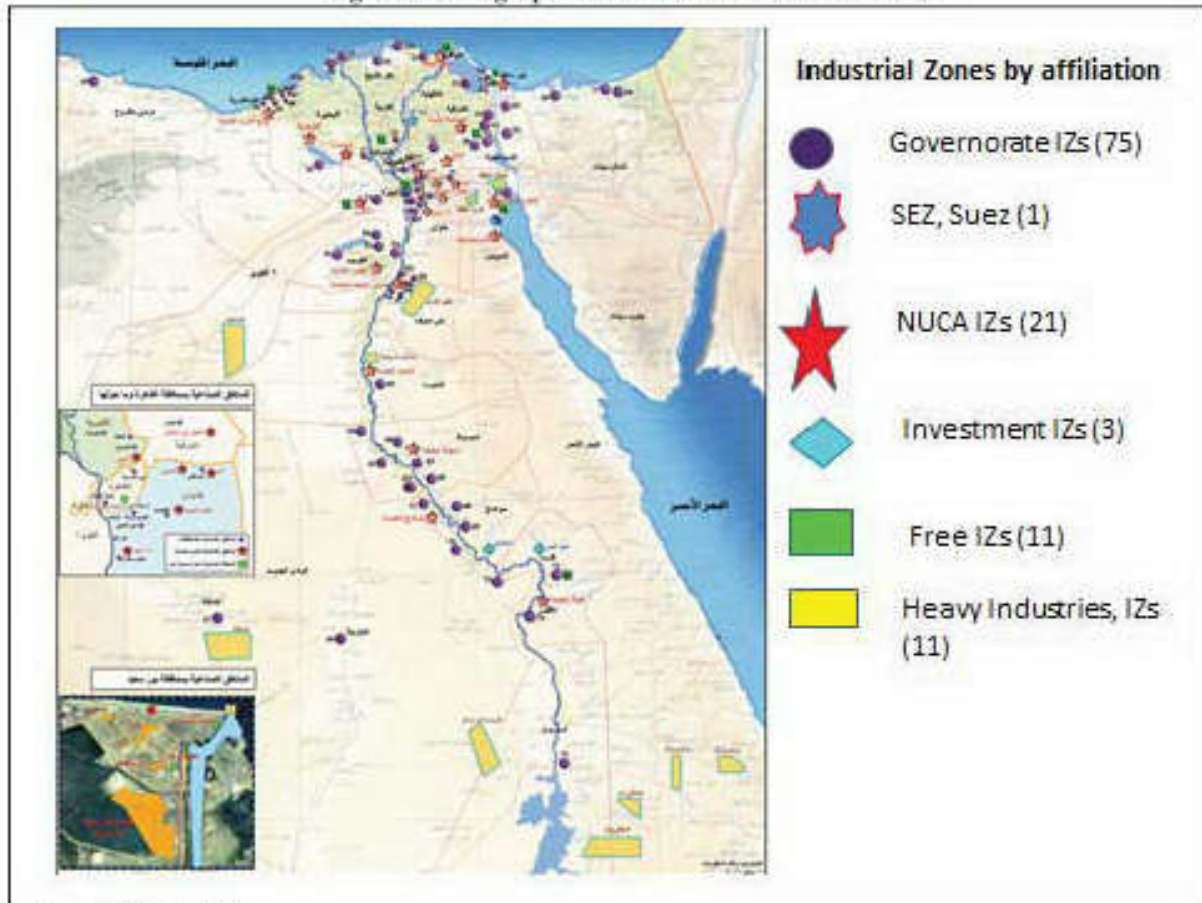
93. The failures in public land management are most acutely felt in the industrial zones, which until the 1960s were found mainly within the larger cities, especially in parts of Greater Cairo (Helwan, Shoubra al Kheima), Alexandria, Suez, and Aswan. Since the mid-1970s Egypt has been developing industrial zones on public land mainly in desert locations, to stimulate industrial development and influence the location of both private and public manufacturing investments. This section looks at the industrial zone system as it has developed, highlights its main strengths and weaknesses, assesses whether these zones contribute to the creation of economic critical mass, and assesses whether they allow for the easy mobility of capital investment to locations where it can be productive. The main problems related to industrial zones are difficulties in licensing and relicensing, the lack of quality infrastructure, inefficient land allocations and oversizing of space,¹⁸ inconsistent pricing of land, and poor industrial zone management. Investors that seek efficient industrial environments, including both large multinational and Egyptian corporations, face many difficulties. Finding a suitable industrial location for small and medium firms is particularly difficult.

- 94.** The five types of industrial zones in Egypt are:
- The New Urban Communities Authority industrial zones (21).
 - Governorate industrial zones (75).
 - Free industrial zones (11).
 - Heavy industry zones (11).
 - Special economic zone (1).

95. In all, Egypt has about 120 industrial zones. Each type of industrial zone differs according to its historical origin, the governing authority, and investor incentives. Almost all industrial zones are on public lands, and the disposal and use of what government considers to be “free” land has had a fundamental effect on how these industrial zones have been developed and managed. Almost all industrial zones are in the desert near the Nile Valley and Nile Delta, generally close to the main population centers. However, some zones have been designated in remote desert locations (Figure 6.1). The different industrial authorities and the zones they control are briefly described below.

¹⁸ Due to the cheap prices at which land is allocated for activities that the government desires to promote (industry or tourism), individuals speculate and buy larger land plots.

Figure 6.1 Geographic distribution of industrial zones



Source: Tohamy 2011.

New Urban Communities Authority industrial zones

96. The NUCA was created by Law 59 in 1979 as an administrative body under the Ministry of Housing, Utilities, and Urban Development (MHUUD). NUCA's mandate is to plan, develop, and manage Egypt's new cities, many of which have industrial zones. In 2006 NUCA transferred jurisdiction of industrial zone management to the IDA. However, NUCA remains responsible for providing services and sometimes for urban planning, with IDA financing the cost and recovering it from sale of land to investors.

97. The new towns in Egypt belong to three "generations" (Figure 6.2). The first generation is made up of eight cities inaugurated in the late 1970s and early 1980s. Most were intended to be independent industrial towns and thus have large industrial zones. These cities include 6th of October, 10th of Ramadan, Sadat, Bourg el Arab (originally called New Amiriya), and New Damietta. The second generation is made up of nine cities set up between 1982 and 1995, with five in Greater Cairo. Of these five, only Al Badr and Al Obour new towns have industrial zones. Other new towns of the second generation are in various places, and only New Beni Suweif and New Minya contain industrial areas. The third generation consists primarily of new towns established since 2000 and in Upper Egypt. The development of these new towns has been much slower than planned, with actual populations of only a fraction of targets. The new towns around Greater Cairo have been the most successful, at least in a real estate sense. Most new towns cover large areas and many have had their boundaries extended repeatedly. Even the first generation of cities has a large amount of land with incomplete infrastructure.

Figure 6.2 Three generations of NUCA cities



98. The industrial zones of the first generation of new towns have attracted most of Egypt's industrial investment since the 1970s. Indeed, it was difficult for foreign and joint venture firms to locate elsewhere. In each of the NUCA industrial zones there are factories whose products range from food to textiles to building materials. In most cases the factories are evenly distributed among all economic subsectors. In 10th of Ramadan industrial areas were divided into small, medium, and heavy zones, and in Sadat City there was a failed attempt to cluster factories by specialization. Except for New Damietta, where wood product manufacturing is more concentrated due to the presence of the traditional furniture industry in old Damietta, all NUCA cities are planned and operated without a specialization in an industry or sector to create the necessary scale, logistic services, and clustering. The largest five industrial zones (10th of Ramadan, 6th of October, Sadat, New Damietta, and Al Obour) together employ fewer than 300,000 workers. The contribution of the remaining cities to industrial employment and capital formation so far has been almost negligible.

Governorate industrial zones

99. A governorate controls industrial land within its boundaries under laws 43/1979, 106/1987, 9/1989, and 84/1996. The governorates are centrally coordinated through the Ministry for Local Development. Under this legal framework each governorate can designate inland industrial zones and, in practice, often serves as the coordinating entity for designating land, financing infrastructure, and providing utilities for these zones. The governorate's main service is to issue permits and licenses, generally in coordination with national ministries. These include permits for site planning, building and subdivision, and commercial and industrial licenses. The governorates also coordinate connections with infrastructure providers.

100. There are 75 governorate industrial zones spread over 24 governorates, with as many as 8 in Alexandria, 7 in Helwan, 6 each in Ismailia, Assiut, and Beni Suef, 5 in Port Said, and smaller numbers for the remaining governorates. Data on the industrial zones are very scarce and disorganized, but the zones have three common features. First, most are considerably smaller than NUCA industrial zones. Second, infrastructure services are lacking. And third, many parcels are vacant, are underdeveloped, or contain stalled and incomplete projects. Maps available for governorate industrial zones show acute fragmentation across both the sites and the industrial sectors, which prevents them from reaching a critical mass in any specific industry or many industrial linkages. Apparently, the purpose of these zones is to create a pseudo-zoning of industrial activity in governorates, with no focus on creating the logistical or service linkages to develop a particular industry. This pattern is particularly clear in governorates in Upper Egypt.

Free industrial zones

101. Free zones are authorized under the Investment Incentive Law and are established by a decree from the General Authority for Investment (GAFI). Free zones are within the national territory but are outside Egypt's customs boundaries, and firms doing business within them have more freedom in transactions and exchanges. Companies producing largely for export may be in free zones, and free zones are open to investment in any sector, by foreign or domestic investors. Most of these free zones are older and can be found in Port Said, Alexandria, and even in Cairo (Medinat Nasr).

Special economic zones

102. Special economic zones (SEZs) are zones established according to Law 83/2002 for industrial, agricultural, or services activities with an export orientation. The law allows firms operating in these zones to import capital equipment, raw materials, and intermediate goods duty-free. Companies established in the SEZs enjoy a number of exemptions, especially in tax and labor regulations. The first (and only) SEZ was established in what was designated as a heavy industrial zone in the northwest Gulf of Suez, though little development has taken place to date. Jurisdiction of the Gulf of Suez SEZ was transferred to the Ministry of Investment (since dissolved), and private developers were invited to participate. Contractual problems related to infrastructure cost have hindered the smooth development and marketing of this strategically located project.

Investment industrial zones

103. Law 19/2007 authorized the creation of investment zones, which requires the prime minister's approval. The government regulates these zones through a board of directors, but the private sector establishes, builds, and operates them. The government does not provide any infrastructure or utilities. Investment zones enjoy the same benefits as free zones in facilitation of license-issuance and ease of dealing with other agencies, but they are not granted the incentives and tax/custom exemptions enjoyed in free zones. Projects in investment zones pay the same tax/customs duties applied throughout Egypt.

Heavy industry industrial zones

104. Presidential Decree 358/2008 established 10 heavy industry industrial zones distributed over six Upper Egypt and Red Sea governorates. According to the IDA website, another 11 heavy industry zones are currently designated for establishment by presidential decrees for Sinai and Upper Egypt governorates. It is not clear which entity has the authority over these zones, nor has there been any attempt to assess their market feasibility. None of these zones has yet become operational.

105. Throughout the 30-plus years that the Egyptian government has created industrial zones, the aim has been very much part of a supply-side approach. That is, zones were carved out of public lands in places that reflected the desires of physical planners and bureaucrats, supporting the national new towns movement or attracting manufacturing investment (and thus employment) to areas where employment was deemed to be needed. In no cases were serious feasibility studies undertaken of market demand for sites. Since there was no cost of land acquisition, the boundaries of these zones were very generous. And since establishing a zone had little or no relation to the availability of budgets to service it, infrastructure was built slowly, if at all. In no cases were specialized international firms engaged to manage and promote Egypt's industrial estates (such as has been common in Southeast Asia). Land parcels in these zones were usually offered at very low prices as an incentive to investors. Thus, in every zone (and particularly in governorate zones) those more interested in land speculation rather than productive factories have been very common. Underused and undeveloped sites are a feature of most industrial zones.

106. As an indication of the supply-side approach to industrial space creation, estimates indicate that, although 94,000 feddans of public land have been designated for industrial development in Egypt, which could accommodate 2.5 million jobs at an average density of 100 jobs per hectare, as of 2006 only 483,000 jobs had been created in the industrial estates in new urban communities and governorates (World Bank 2006). By comparison, in 2009 there were a total of 1.8 million workers in factories registered with IDA, meaning that most industrial establishments are *outside* the formal industrial zones created by NUCA, governorates, and other authorities. They are either large, older enterprises such as the textile and iron and steel factories or smaller food and beverage and other enterprises. They are mainly within current urban agglomerations.¹⁹

107. It would seem—with more than 139 industrial zones having been created in the past 35 years in Egypt—that investors have a broad geographic expanse on which to decide to establish an industrial enterprise. The geographic coverage, as Figure 6.1 showed, is impressive. But almost all but one of these zones (New Damietta) are in the desert at some distance from urban agglomerations. Not only are they far from input sources, services, and markets, but also they find it difficult to mobilize and retain a large enough labor force. It has become common for manufacturing firms in industrial estates to provide bus transport for workers who must travel long distances, adding to recurrent costs. This situation even exists in new towns such as 10th of Ramadan, Sadat City, and 6th of October that were designed specifically to house their own industrial labor forces. Due to high housing costs and poor housing policies, few workers settled in these new towns. The result is huge fleets of buses shuttling workers daily from the Cairo agglomeration and other urban centers to the new towns.

108. Further, industrial zones in these new towns are not necessarily close to major roads connecting to local markets or ports. Plans for roads and public transport between Cairo and its satellite towns have not been developed enough, so the main economic costs of congestion in Cairo are generated in the corridors that link the city with the new urban communities (ECORYS 2011). Urban plans for these cities emphasize the dire need for corridors to connect these cities to economic activities and markets in Cairo as well as for internal transportation public networks within the cities (see Japan International Cooperation Agency studies 2003 and 2008, and a World Bank project under preparation in 2009, which calls for dedicated bus corridors to the new towns). But they remain only plans on paper, and a host of infrastructure and transport problems relate to the new towns around Cairo (World Bank 2008a and 2008b).

¹⁹ www.ida.gov.eg.

109. The failure of the authorities responsible for industrial zones to finance or arrange for infrastructure completion with other agencies prior to allocation or sale of land creates a recurring pattern in almost all zones. Investment facilitation services, typically provided in industrial zones worldwide, are practically nonexistent in all types of zones in Egypt, despite the creation of the one-stop shops by GAFI and IDA.

110. Before 2005 access to public land for industrial and manufacturing investment was fragmented between NUCA, the governorates, GAFI, and other authorities. The fact that each of these entities had its own different procedures for public land allocation and pricing created a haphazard environment for industrial development. This situation necessitated the creation of IDA in 2005. But IDA's control over the use and sale of public lands has remained problematic.

111. The common features within a fragmented system are supply-driven industrial location selection and land use planning processes, and a reliance on state-determined administrative pricing of land at below-market rates, irrespective of the opportunity cost of land. Administrative pricing is even below infrastructure cost recovery levels, which further fuels speculation. Rather than relying on the market to ensure that land is allocated to those who value it most (such as through auctions), NUCA and the governorates set up a control regime and indefinitely required investors to pay a price adjustment on any change, even if minor, to the initial contract (such as modifications in use and ownership).

112. The incentives system (including the pricing of land) reflects a bias for the government's social policies of developing undeveloped and remote areas rather than for development based on market demand or competitiveness. And another difficulty faces those investors seeking to secure adjacent industrial lands for future expansion. By law, land parcels that remain undeveloped for three years are repossessed by NUCA, which forces investors who are sure they will eventually expand to secure the land in advance and start building ahead of the need.

Recommendations related to industrial zones

113. The IDA has improved the situation somewhat and provided some needed coordination and policy consistency. But administrative pricing of industrial land and burdensome bureaucratic procedures remain. Cumbersome permitting, letters of credit, and product conformity certificates still complicate the investor's struggle to establish a factory. And information on available sites for investment and the procedures required remains poor. Thus much more needs to be done to let market forces, combined with better market information and an administrative system that creates a level playing field for serious investors, to direct industrial investment. There is an opportunity to introduce fundamental change in how industrial estates are serviced and managed, mainly by the Egyptian government entering into public-private partnerships with reputable international firms specializing in the management of industrial estates.

Land and property registration and taxation

114. Due to an outdated and fragmented legal framework, two different official land and property registration systems coexist today in Egypt. First, in urban areas and village built-up areas there is a person-based deed registration system governed by Law 144/1946, which is completely dysfunctional and in which less than 5–10 percent of urban land and property is recorded in it. Second, in rural areas (agricultural fields only) there is a title registration system, governed by Law 142/1964, in which 70–80 percent of all agricultural lands is recorded. But this law suffers from a complete lack of updating, with valid registration of parcels stretching back more than 50 years. Use of the registry is especially affected by loopholes in the regulatory framework, which have enabled competing low-cost semiformal proxies to registration through the court system to emerge over time. There are two prevailing court procedures:

Saha wa Nafaz for disputing past ownership claims and *Saha Tawqie* for authenticating sales contracts. Another alternative procedure is to convey property rights through powers of attorney, which can be “registered” at the Ministry of Justice’s Real Estate Publicity Department (REPD).

115. There have been some improvements in recent years, especially in reducing the cost of registration, and the need for reform has been recognized in government since July 2004. In urban areas there have been two attempts at reform. A pilot project of the Ministry of Administrative Development in 2005 attempted to apply the title registration system to Dokki, a small part of Cairo, but it never produced any concrete results (or even any reports on the effort). Under USAID’s Egyptian Financial Services Project (2004–09), there were attempts to improve two REPD registration offices and begin to transfer to a title-based system, with no demonstrated effect. In rural areas a registration system for updating titles was attempted in one governorate by the Egyptian Survey Authority with assistance from Finnida, but after five years only one small part of the governorate was covered.

116. In effect, the formal system is very difficult to change. Multiple disincentives to registration and other problems persist, including

- A very cumbersome and complex process, full of loopholes and prone to rent-seeking.
- A structural flaw in the form of the institutional split between the two government entities in charge of the technical and legal aspects of registration (the Egyptian Survey Authority and the REPD, respectively).
- Lack of a provision in the deed registration Law 114/1946 on the legal conclusiveness of the act of registration, and the fact that courts have in the past ruled against registered deeds.
- The massive volume of pending cases in the court system related to land and property rights disputes, reported to be about 19 million cases (World Bank 2006b).

117. For most property owners and purchasers, the alternative semiformal systems of property registration and transfer are enough, being much simpler, less costly, and universally recognized. Even in formal modern property developments in the new towns, it is rare that land or real estate can be officially registered with the REPD, even if the owner should be so inclined.

118. Parallel to the problems associated with Egypt’s property registration system is the property taxation system, which remains largely dysfunctional despite recent legislation and reform. An old system called *’awaid*, run by the Ministry of Finance, relied on an out-of-date registry, valuations based every 10 years on imputed rental value of property, and a long list of exemptions (including all vacant land). The resulting payable property tax was very low, hardly worth collecting. In 2006 the Ministry of Finance introduced new legislation for a property tax with rates to be based on market value, to be applied throughout Egypt with no exemptions by a dedicated authority. This new system was made effective in 2008, but political pressures forced exemptions on first properties worth more than LE 300,000. This was subsequently raised to LE 500,000, meaning some 90 percent of properties in the country would be exempt. In addition, implementing a system of property valuation proved very difficult. After the January 25th Revolution, attempts to start the new system were put on hold, and even more exemptions to the law are now being demanded.

Recommendations for property registration and taxation

119. In an ideal Egypt both the property registration and the taxation systems would be subject to thorough overhaul to do away with their dysfunctional aspects. Indeed, numerous proposals and schemes have been advanced to do just that, but without any effect so far. Current systems and associated institutions and attitudes are very entrenched, and wholesale reform cannot find traction. And since

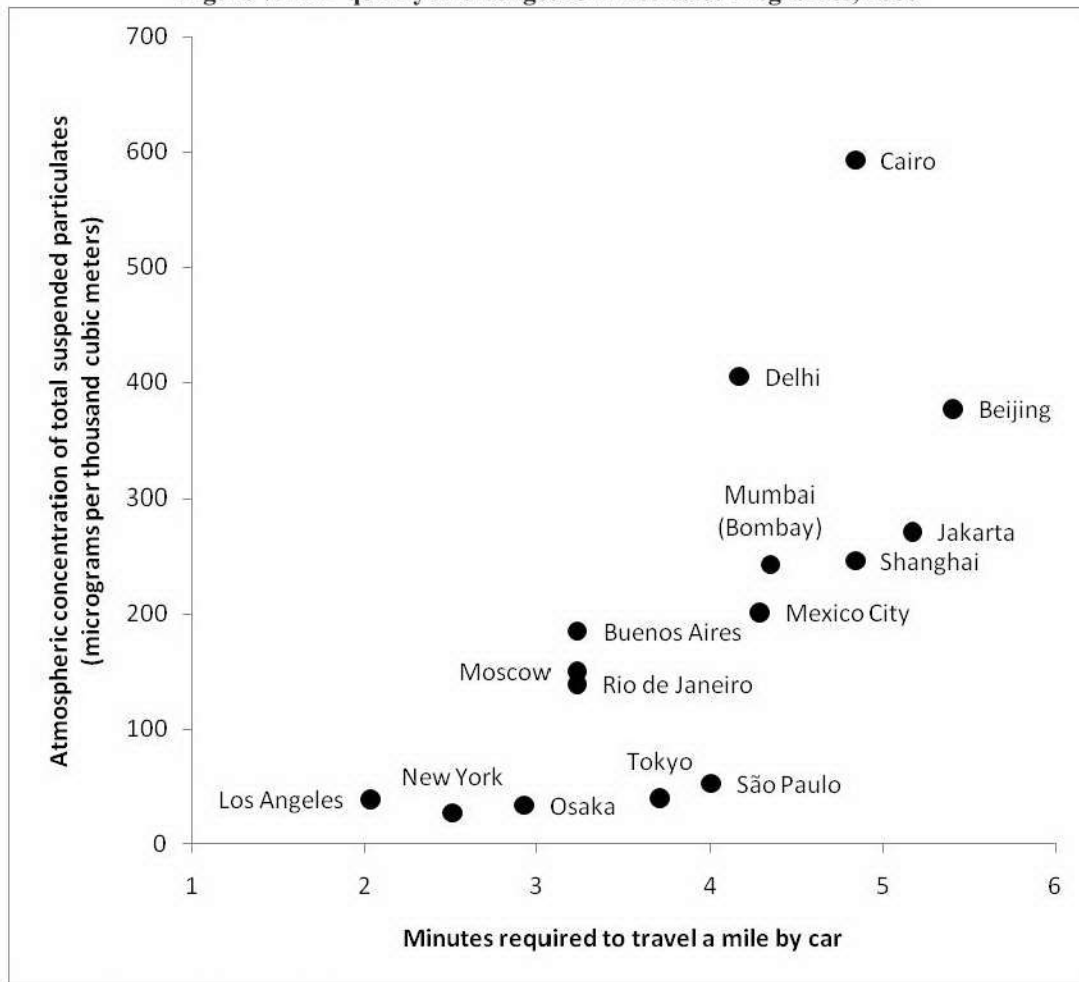
property and its inventories in Egypt are large, any sweeping applications of reform would likely be so swamped with the sheer size of the challenge that it would become paralyzed. A strategy of incremental reform that introduces new, modern registration and taxation systems is more feasible. Thus in the short and medium terms a new title-based property registry and associated property tax would first be legislated and applied to places of the most development interest—Egypt’s industrial estates and parts of the new towns and other areas of particular commercial and business potential. Other areas, mainly older urban areas and the older rural lands, could be added to the system over time, once both smooth property registration and taxation systems were up and running in priority areas.

7. Dealing with the diseconomies of agglomeration

120. Despite higher growth and a fairly successful integration into the global economy, Egypt has failed to produce the institutional environment for pro-growth agglomeration, urbanization, and economic concentration *without* the ills of congestion, pollution, urban informality, and land use conflicts. This is particularly true in Greater Cairo and also to some extent in Alexandria.

121. Thus while Greater Cairo, with more than 18 million inhabitants, is the economic powerhouse of Egypt and continues to grow and capture a large share of government and private investments, it suffers from serious diseconomies of agglomeration (Figure 7.1). This report focuses on two of them: traffic congestion and the lack of integration of the city's huge and growing informal areas into the metropolis as a whole. Dealing with these manifestations of the diseconomies of agglomeration is a necessary complement to inclusive development. The ills of Greater Cairo's urban concentration, like poverty in Upper Egypt, poses a central challenge that must be met if there is to be more inclusive and sustainable growth in the country as a whole.

Figure 7.1 Air quality and congestion in selected megacities, 2000



Source: Parry and Timilsina 2012.

Congestion

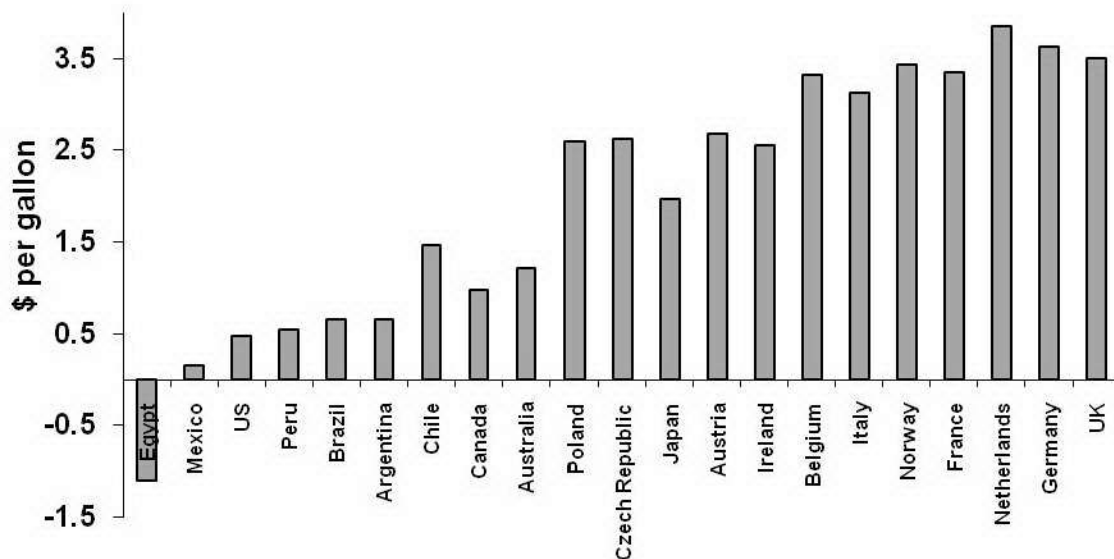
122. Despite government efforts to tackle traffic congestion and environmental deterioration by introducing a metro system and a comprehensive bus network, congestion remains a serious problem in Greater Cairo. The causes of congestion are complex, as are the possible policies and investments that could be used to address them.

123. Congestion negatively affects labor productivity and employment generation, as has been documented worldwide. Rice and Venables (2004) showed that reducing commuting costs 10 percent would increase labor productivity by 1–2 percent. Similarly, employment growth is negatively associated with congestion, with reported elasticity ranging between 0.25 and 0.47 (Hymel 2009)—reducing travel times 10 percent would increase job creation by 2.5–4.7 percent. So, international evidence can estimate the expected benefits of reducing congestion costs for sustainable and equitable long-term growth in Egypt.

124. The direct and indirect economic costs of congestion in Greater Cairo are very high. A study commissioned by the World Bank estimates that the total annual direct congestion costs for Greater Cairo are about LE 13–14 billion, equivalent to 1.2 percent of national GDP in 2010 (ECORYS 2010). The highest shares of the total direct costs are for travel-time delays, which affect both passengers and freight (36 percent); excess fuel consumption (37 percent, of which users pay half and government fuel subsidies the other); unreliability costs (25 percent); and the CO₂ emissions cost (less than 1 percent). The direct causes of congestion mostly have to do with bad design of the road network, such as poor road surfaces, speed bumps, and excessive U-turn points; inadequate traffic management and control; and unawareness of road etiquette. Traffic management failures are related to poor control at intersections, and the lack of pedestrians' bridges and underpasses forces more foot traffic into the streets. The unawareness of road etiquette is exemplified by random car stops, particularly of minibuses (ECORYS 2010).

125. Congestion occurs because the demand for road travel exceeds capacity. The solution must thus include increasing the price paid for road travel, as well as other demand and supply measures. Most countries and cities tackle congestion with supply-side measures—expanding road networks, expanding or building metro systems, and developing other public transport. But background technical work for this volume indicates that demand-side measures are also required. Parry and Timilsina (2012) examine the effects of changing gasoline taxes, imposing congestion tolls for automobiles and minibuses, and granting subsidies for public transport in the Greater Cairo metropolitan area. Their model focuses on maximizing social welfare, with such externalities as pollution, road congestion, and accident fatalities. It provides estimates of the price structure that would maximize social welfare. Some useful insights are that gasoline should not be subsidized (Figure 7.2) and that its consumption should be subject to a progressive tax. Eliminating the fuel subsidy and imposing the optimal fuel tax would trigger dramatic change, reducing fuel use by an estimated 40 percent in the long term. Partial pricing reform would also yield substantial benefit—removing the fuel subsidy alone would achieve almost three-quarters of the estimated net economic benefits from implementing the optimal fuel tax.

Figure 7.2 Gasoline taxes in selected countries, 2008



Source: Parry and Timilsina 2012.

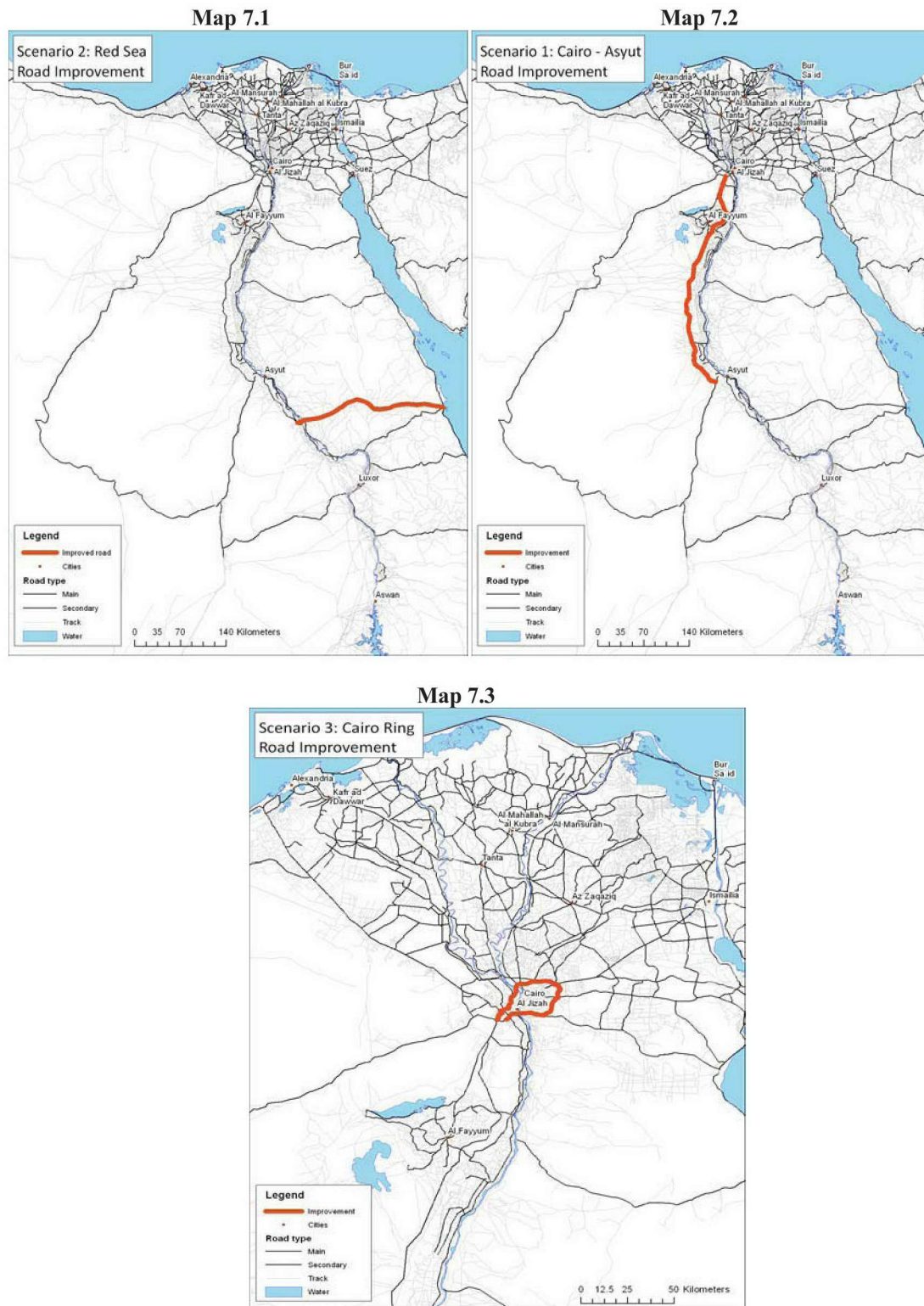
126. On the demand side gasoline price subsidies promote the excessive use of cars—especially private cars and minibuses that cause the largest negative road externalities—which could be taxed, by using tolls or by annually inspecting the odometer and taxing miles. Although implementing tolls is challenging, alternatives such as global positioning systems or electronic tolling can be considered. Finally, more regular and effective vehicle inspection will reduce breakdowns.

127. A modal shift to mass transit systems must be part of the solution, thus subsidized prices for mass transit are justified. There could be dedicated bus lanes in specific transit corridors, as some Latin American cities, such as Curitiba, Bogotá, and Santiago, have opted for. And traffic and parking laws must be more thoroughly enforced.

128. Reducing congestion also requires connective infrastructure. But adequate institutions are needed to enhance the likelihood that public spending effectively reduces transport costs. In other countries it has been shown that each dollar of road spending only reduces congestion costs by 11 cents (Winston and others 2006). This low impact of public spending on reducing the actual congestion costs may be explained by many factors: poor road design that causes excessive maintenance costs, slow and inappropriate response to changes in urban demographics, inflated costs to the public sector, or simply pork barrel politics. Hence, an effective congestion cost reduction strategy requires, in addition to the demand-side policies discussed above, that public spending be routinely evaluated and monitored—and that the project selection process be guided by a technical cost-benefit analysis in which transport cost reduction is prioritized.

129. To illustrate the importance of infrastructure for transport cost reduction, this report considered alternative infrastructure projects included in the five-year investment plan and compared their impact on

reducing travel time and transport costs through road improvements in three *kisms* (districts): Cairo-Assiut (Map 7.1), Sohag-Red Sea (Map 7.2), and Cairo Ring Road (Map 7.3).



Source: Felkner, Wilson, and Blankespoor 2012

130. The benefits of the projects were estimated in reduced travel time and reduced shipping costs. The travel time estimates were based on the GIS road information provided by the Central Agency for Public Mobilization and Statistics and EUROMED. The reduced costs from improving roads was estimated with a transport cost model, in which the dependent variable was the shipping costs between two nodes (obtained through surveys), and the explanatory variables were shipping volumes, road congestion, and a proxy for “friction” costs that depends on the road quality (Felkner, Wilson, and Blankespoor 2012).

131. The three projects have very different benefit levels and costs. But all have a NPV, and thus, without resource constraints, all should be funded. The highest NPV is the improvement of Cairo’s Ring Road, partly because the population that would be affected by this project is almost three times the population affected by the Cairo-Assiut road project, and more than four times that affected by the Sohag–Red Sea project. The number of poor affected by the Ring Road improvement would be almost twice that for the Cairo-Assiut project, and almost three times that for the Sohag–Red Sea project.

Informal settlements, new towns, and urban integration

132. Throughout Egypt the phenomenon of informal urban development has become so extensive that by some measures it now involves the majority of the population of most cities. For example, a recent draft World Bank report estimates that two-thirds of the present population of Greater Cairo—some 12 million persons—live in informal areas, and that these areas are absorbing some 75 percent of all additions to the population of the metropolis (World Bank 2012). Urban informality is complicated subject, but it is important to understand some of its main features (Box 7.1). Urban informal areas are “unplanned” but are not slums. One reason for their appearance and continued expansion into peri-urban areas is that the informal process produces modest housing solutions that are affordable by most urban households. Another reason is that the state has not offered viable housing alternatives. The state has not produced social housing at anywhere near the required level, and social housing is badly targeted, with most of it in the far-flung new towns around Cairo, where low-income families find it difficult to live. Over four decades the government has prohibited formal expansion on agricultural land (the nearest, most logical expansion areas around the Cairo agglomeration), with the perverse result that unauthorized and unplanned informal development in these areas has been enormous.

Box 7.1 Main features of informal settlements in Greater Cairo

Most housing in informal settlements is built by private landowners (only about 10 percent of these settlements are built by those squatting on state land). The security of tenure is good. Informal housing is durable and structurally solid, mainly in four-to-seven-floor walkup apartment blocks with small units (averaging 40–70 square meters). Almost all housing units in informal areas are connected to water, sewerage, and electricity networks, but usually these networks are dilapidated and overburdened, and in peri-urban areas only half of households are connected to sewerage networks. Housing markets are vibrant in informal areas, with renting under the new rental law becoming very popular.

Informal areas may be small or large, and there are eight large informal agglomerations in Greater Cairo, each with more than 500,000 inhabitants. Although primarily residential, larger informal areas contain a wide variety of small commercial, service, and manufacturing enterprises that generate significant employment. The main problems with informal areas are run-down infrastructure services, bad road accessibility, narrow local streets, and a scarcity of open space and public services. In addition, because plots are always totally covered, some housing units have problems with light and ventilation.

Source: World Bank 2012.

133. Urban planning in Egypt has, until recently, been preoccupied with designing for urban expansion in the desert. Because the land there is state-owned, development is a simple matter of physical planning, infrastructure provision, and land allocation. But urban plans under the NUCA—responsible for planning and managing all new towns—have imposed very high planning and building standards that, while meeting what are considered to be modern city prerequisites, have discouraged affordable development that could offer an alternative to informal settlements. In the past few years there has been a recognition that the prevailing model does not work, and the General Organization for Physical Planning (part of MHUUD) has conceived of a *tahzim* or “containment” strategy that would allow some planned expansion on the agricultural fringes of Egyptian cities. But the practical details of such an approach have not been worked out, and the planning tools to guide urban development on private land—such as land assembly/land pooling, betterment taxes, liens on property for infrastructure, and other legal instruments—are still needed. Informal urban development continues unabated and, due to the lack of police control following the January Revolution, its pace has accelerated.

Recommendations relating to informal urban development and new towns

134. Thus while in the long run alternatives to informal urban development can be put in place and further informal expansion can be halted, in the short and medium terms the recognition of informality must be incorporated into urban policies. Specifically, informal settlements need to be upgraded in infrastructure, public services, and the environment, and they need to be better integrated into metropolitan transport and economic networks. Since they make up such a large portion of the population of Egyptian cities—and this population is younger than the urban average—education and other basic services in these areas need to be dramatically improved first to prepare youth as they enter the labor force, and then the mobility of capital, goods, and especially labor between these areas and other parts of the metropolis needs to be guaranteed through integrated planning.

135. A program for comprehensive upgrading of Greater Cairo’s informal settlements has recently been drafted (World Bank 2012). It calls for coordinated efforts to use all possible means and engage all possible partners. Reviewing the current situation and the main needs of these areas, it proposes a number of interventions, some of which are location-specific and some are sectoral and systemic. Depending on the needs of an area, they might include:

- New wastewater networks.
- Rehabilitation of water and wastewater networks.
- Extensive road paving.
- New road corridor links to improve access.
- Electricity extension and rehabilitation.
- Canal covering (combined with road improvements).
- New and rehabilitated public facilities, especially schools.
- Workshop/small and medium enterprise (SME) clusters.
- Business and SME support.
- Vocational training.
- Land titling.
- Poverty-alleviation programs.

136. For such a strategy to work, the government’s budget priorities must be shifted, and the decades of neglect of these areas must be reversed. *All* of Greater Cairo’s informal areas could be upgraded to an acceptable standard for an estimated total investment cost of between LE 16.2 billion (\$2.7 billion) and LE 19.8 billion (\$3.3 billion) in 2010 prices. If projected over 10 years, annual investments would amount

to roughly \$300 million. To put this amount into perspective, it represents only about 6 percent of annual Suez Canal revenues (World Bank 2012).

137. The new towns around Cairo, into which both the government and the private sector have poured investments, also need to be better integrated into the rest of the metropolis so that both capital and labor can find their most productive uses. This means that rapid public transport needs to be installed, planning and building standards in the new towns need to be more realistic, and land allocation policies need to be overhauled and made to reflect real market signals and prices. Concessionary land allocation needs to be avoided except for justified social benefits.

138. Finally, there are large tracts of vacant and underused land in the hands of the state or its authorities that could be used for future urban expansion in Greater Cairo. This is desert land fairly close to the central agglomeration, much closer than the main new towns (see Map 7.2). Hundreds of square kilometers of this land are between 10 and 20 kilometers from the center. It represents an opportunity to develop social housing, including sites and services systems, small SME industrial clusters, a range of public services, and commercial hubs built around transport nodes.

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