



HOW TO FEED EGYPT

Enhancing Food Availability and Nutrition for a Bulging Population

By Perrihan Al-Riffai

The ancient Egyptians developed their great civilization with a strong agriculture. The Nile River and its fertile banks enabled Egyptians to be among the first in human history to practice farming on a large scale. In our modern time, however, Egypt faces crippling development challenges in feeding its people. Its rapidly growing population is squeezing the country's traditional farmland along the Nile Valley and the Delta. For nearly a decade, Egypt has ranked as the world's leading importer of wheat, an indigenous crop for thousands of years. Efforts to tackle food security are required on multiple fronts, such as fostering rural development, promoting job-creating growth, providing a healthy investment climate, and delivering sound health, education, and nutrition programs.

Egypt, with a population of more than 85 million people, is the largest Arab country. Despite having the fifth-biggest economy, its per capita income is among the lowest in the region. Signs of development challenges began to appear even before the January 25 Revolution and subsequent turmoil dealt a severe blow to Egyptian tourism and other sectors. To make a striking comparison, Egypt, India, and Brazil all enjoyed gross domestic product (GDP) growth rates in the mid-1990s between 3 and 5 percent; an upward trend ensued for India and Brazil through 2013, but in Egypt the overall trend remained relatively flat over the entire period. India and Brazil saw upward trends in exports and investments whereas Egypt's export trend stagnated and investment trend declined. Egypt, meanwhile, is more dependent on food imports: since 2000, on average 17 percent of its import bill pays for food products, compared to only around 3 percent for India and 4 percent for Brazil.

Egypt's food security challenges include both the availability of food at the national level and access to and utilization of that food at the household level. From a macroeconomic perspective, this

◀ *Bicycle bread delivery, Cairo, Sept. 14, 2013. Khaled El-Fiqi/ European Pressphoto Agency*

means having the capacity to rely on domestic food production or having enough foreign exchange earnings to finance whatever food imports the nation may require. At the microeconomic level, households must be able either to grow their own food or have the resources to buy food from the market.

Farming Along the Nile

Egypt is largely self-sufficient in the production of most agricultural products except for wheat, oil, and sugar. The country's agricultural yield for rice is among the highest in the world; throughout the past six years, Egypt's rice yields have consistently surpassed those of the other leading producers, China, India, and Indonesia. This success is due to new crop varieties that produce more rice with less water and land. Although some production has been diverted to satisfy domestic demand, Egyptian rice exports have risen steadily since 1980. Similarly, Egyptian exports of citrus and potato have climbed over the past three decades. During the same period, cotton exports have declined due to falling global demand for Egypt's long and extra-long staple cotton—shorter staple cotton is less expensive and, as a result of technological advances, can now be used in fine textile production.

Cereals represent Egypt's most serious shortfall. Throughout the 1990s, Egypt imported a little more than one-third of its cereal products including wheat. From 2009 to 2011, however, imports reached an annual average of 44 percent. Since the mid-1990s, Egypt has been among the top three wheat-importing countries; it has been the biggest importer since 2007/2008, an upward trend that seems likely to continue in a country with one of the highest per capita wheat consumption rates in the world. This reliance on wheat and cereal imports to feed an ever-growing population makes Egypt especially vulnerable to international price volatility and supply shocks.

In discussing food production, it is also important to examine underlying factors affecting food availability. Climate change is becoming one of Egypt's most significant challenges. Rising sea levels along the Mediterranean coastline are compacting soil areas and increasing salinity in the Nile Delta, which comprises a large area of Egypt's high-value agricultural land. The Ministry of Environment expects climate change to have a negative impact on the agriculture and fishing sectors; studies indicate that wheat and corn production would be among the crops affected, thereby increasing Egypt's dependence on food imports and its vulnerability to global price volatility. Changing Nile River flows related to the construction of upstream dams such as the Grand Ethiopian Renaissance Dam represent another potential threat to Egyptian agriculture. Studies indicate that Egypt will be the country most adversely affected by the dam's reservoir filling time.

Another challenge is the declining interest in farming among rural youth, who increasingly migrate to Cairo and other urban areas in search of job opportunities.

The young generation looks down on farming livelihoods in favor of more technologically advanced professions. Furthermore, land fragmentation is reducing income potential in agriculture and is thus a threat to traditional farming.

Egypt's bulging population, estimated to grow by an average of two million people a year, is fast eroding the country's ability to rely on domestic production as the major source of its food. Population density in the past half century has risen from under twenty-nine to more than eighty-two people per square kilometer—an increase of around ten people per square kilometer per decade. The figure takes on more worrisome dimensions when factoring in that the population is concentrated along the Nile on less than 4 percent of Egypt's total land area. Dwellings and infrastructure needed to accommodate the expanding populace are encroaching on agricultural land, placing constraints on the potential for increasing agricultural production.

If food self-sufficiency is thus not a realistic prospect in Egypt's future, then the trade that is crucial for ensuring food availability faces its own challenge. An overvalued Egyptian exchange rate has been an obstacle to promoting the exports needed to generate foreign exchange in order to finance food imports. Egypt's competitiveness is in decline because the goods it produces are overpriced. The Central Bank of Egypt protects Egyptian currency through the use of reserves for the purposes of macro stability and minimizing day-to-day volatility in the exchange rate. But Egypt's foreign currency demand problem has been compounded by the faltering of the tourism sector, which accounts for almost a quarter of export earnings; government statistics showed a 50 percent decline in tourist receipts from 2010 to 2013. The Central Bank has been rationing foreign currency, but ultimately may wind up having to depreciate the Egyptian pound to avoid depleting reserves. That in turn would make food imports more expensive and trigger inflation.

Imperative of Nutrition

Egypt began experiencing a growth nutrition gap in 2003. The country succeeded in lowering the stunting rate from a little under 35 percent in 1991 to just over 20 percent in 2003. But despite Egypt's high growth rates in subsequent years, child stunting began to rise again—a surprising paradox, given that nations typically see health improvements not reversals as they register economic growth. Some of the increase in stunting may be due to recent economic crises and underinvestment in nutrition-related infrastructure and public services. Another reason may be a lack of nutritional awareness and also access to safe and stable sources of nutritious food. An increase in child stunting figures reflects the serious health and economic challenge of malnutrition. More than one-third of Egyptian children are stunted. Egypt also registers one of the highest rates in the world of what is known as the double burden of malnutrition: besides the

problem of stunted children, more than three-quarters of all women above the age of 20 are overweight. One in five stunted children has a mother who is overweight.

Childhood stunting is deemed one of the most significant obstacles to human development. The adverse effects of stunting include reduced cognitive development as well as an unhealthy physical development, both of which will ultimately impact not only the individual's income and well-being but the nation's economy as a whole. It has been estimated that a 1 percent loss in adult height as a result of childhood stunting translates into a 1.4 percent reduction in economic productivity; income earnings of these individuals tend to be a fifth of those of their healthier counterparts.

There appears to be a significant correlation between income poverty and inadequate access to food in Egypt. One way the government has addressed poverty and its manifestations is through food subsidies. Together, food and fuel subsidies make up close to 10 percent of GDP, or 30 percent of the national budget. The subsidies are a significant portion of the government's massive social safety net to protect citizens against food price volatility. Subsidies have provided relief to millions of Egyptians, especially after the multiple crises affecting food security of the past ten years; for example, avian flu led to the extermination of thousands of poultry, restricting the access of poor households to an affordable and consistent source of protein. Subsidized food represents close to a fifth of the poor's spending on food. More than 70 percent of Egyptian households use or rely on food subsidies for their dietary intake.

A longstanding problem with food subsidies, however, is that they have promoted the consumption of an unbalanced diet overly rich in calorie-dense and nutrition-poor foods. Subsidies have provided beneficiaries with allotted quantities of food choices including bread, cooking oil, sugar, and rice that may have exacerbated malnutrition. Weak targeting of food subsidies is another problem. Studies have estimated that a significant number of those covered by the ration card system are deemed non-poor, while nearly 20 percent of the vulnerable are not covered.

Most Egyptians see the bread subsidy as a social entitlement, which makes removing it a politically sensitive issue. As part of a wider food subsidy reform, President Anwar Sadat eliminated the bread subsidy in 1977; the move triggered riots, and was quickly reversed. Since taking office in 2014, President Abdel Fattah El-Sisi has initiated new reforms to the food subsidy system especially covering the *baladi* bread favored by the Egyptian masses. Though still priced at five piasters a loaf, it is now a part of a ration card system under which beneficiaries are entitled to up to 150 loaves a month. The new system eliminates quantity-based quotas for subsidized food items. Instead, beneficiaries receive a monthly cash allotment on a smart card, which can be redeemed for any of the subsidized commodities in any of the available packaged units. The change may have a positive effect on dietary habits, as it reduces—but does

not fully remove—the considerable economic incentives that promoted the consumption of an unbalanced diet.

A Comprehensive Policy

Egypt's current food security challenges can be traced back to policies that tried to improve rural poverty and inequality and to fuel growth and development through industrialization. Instead, they created a growing food import bill, poor public service delivery, inequality, and more poverty. In the 1950s, President Gamal Abdel Nasser's attempt to abolish feudalism and tackle inequality led to cronyism throughout the agricultural sector. His agricultural price controls and urban bias in investment further crippled incentives for small farmers. In the Sadat era, the migration of workers to oil-boom Gulf countries disrupted the agricultural and other labor markets; greater urbanization increased food subsidies and food imports; and land fragmentation (due to inheritance customs) and worsening drainage sent agricultural sector growth rates into decline. President Hosni Mubarak eased or even removed price and quantity controls from strategic crops, and opened agriculture to the private sector; yet the growing population, urban bias, rampant cronyism, and worsening public service delivery continued to threaten Egypt's food security.

Tackling Egypt's food security challenges will require a commitment at the highest level—no less than a presidential initiative. The key drivers of food insecurity must be identified and addressed in their entirety. The national development strategy needs to be an integrative exercise that addresses food security at the macro and micro levels as a theme across all development sectors, bilateral initiatives, and programs. The strategy must include upgrading public health services, investing in water and sanitation, and engaging in large-scale nutritional interventions, among others.

Egypt requires better information for better lives. Economic and development strategy research in the Arab region has a history of lagging behind other regions. The Middle East and North Africa region ranks poorly in the number of research publications between 1985 and 2010. Key goals should include improving data quality, availability, analysis, and presentation across Egypt, and identifying knowledge gaps and synergies across all the global, regional, and national development partners. In Egypt, there are several initiatives that indicate a changing perspective on data transparency and accessibility. The Central Agency for Public Mobilization and Statistics, supported by the Economic Research Forum, is enabling online availability of Egypt's labor market surveys and portions of its Household Income, Expenditure and Consumption Surveys. Recently, the Arab Spatial Knowledge platform, a regional information tool that attempts to provide this missing data and information, also includes the first-ever food and nutrition security blog on the Arab World. A handful of ministries keep the public informed either through updated releases of policy changes or through frequent

statistical and economic reports on development challenges and indicators of development. All are positive achievements that signal a movement toward open access to data.

Prospects for deriving higher productivity from Egypt's traditional farmland along the Nile are limited due to the problems of rising soil salinity and increasing urban encroachment. The government has plans to reclaim one million acres of land to increase agricultural area and thus volume, which will require using non-renewable groundwater for 90 percent of the irrigation needs. But there are questions about the sustainability of drawing on non-renewable water sources. Egypt's agricultural sector relies almost completely on irrigation from the Nile—rainfed agriculture in the country is nonexistent. The Nile accounts for more than 97 percent of both Nile and groundwater sources together, of which 85 percent is used in agriculture.

If the government develops new agricultural land, it will need to take certain considerations into account. Given that Egypt has a history of land reclamation, it is important to carefully study its experience and apply the lessons learned in the process of planning new projects. To make the most efficient use of scarce water resources, the focus should be on producing high-value, high-quality crops and livestock (such as poultry and large animals for dairy) rather than staple crops like wheat and corn. The government should also consider using reclaimed land for expanding Egypt's services sector and establishing new industrial communities, which would contribute to economic growth and employment opportunities.

There may also be alternatives to relying solely on groundwater depletion for agriculture in reclaimed lands, such as increased water harvesting from rain occurrences and flashfloods, desalination, and improved treatment of wastewater for agricultural and industrial use. Currently around 50 percent of wastewater is treated, and less than 25 percent of that is reused in agriculture.

The right incentives and the management of those incentives will be important factors in the success of new land development. There needs to be a significant investment in a reliable road and transportation system that will connect the reclaimed areas with the nearest cities, towns and villages, as well as functional markets. If the government wants farmers to settle on the new lands, it must carefully study how to create well-integrated and self-sufficient new communities—research is needed on the infrastructure to entice these settlers to reside there with their families, and on the upstream and downstream economic activities best suited to complement the new agricultural production. Preferably infrastructure including road networks and public services like water and electricity should be in place before the settlers arrive. Planners must find meaningful incentives for private investors and effective public-private partnerships, or PPPs. They must also provide land ownership opportunities that will entice Egyptians to pass up a potential city job for work in remote marginal areas. The scheme must be devoid of political pressures and corruption that could contribute to failure.

Rural development must become a broad national priority, going beyond agricultural development to increasing and expanding rural livelihoods in general. Employment opportunities are scarce in rural areas, driving young graduates to migrate to metropolitan cities and other urban areas in search of employment. More often than not they wind up in the informal sector working in menial jobs not commensurate with their educational background. The random migration, which began when President Nasser launched major industrialization initiatives in the 1950s, places unbearable economic and social stresses on urban areas that are unable to absorb the expanding number of arrivals.

The private sector, both Egyptian and foreign, can be an important partner in rural development and in the promotion of inclusive growth. However, this will require rules and regulations that are not stifling for investors, and arrangements that reconcile the private sector's goal of maximizing profits with the government's goal of maximizing social welfare. Economic structural reforms are needed to enhance competitiveness for exports and attract foreign direct investment—building a more conducive business environment, promoting the transparency of rules, and ensuring fair and speedy settlement of disputes.

The government must address various issues related to monetary policy. It will be necessary to allow a flexible exchange rate to fight the loss of competitiveness and rising speculative currency demand all the while managing domestic inflationary pressures. The government's strategy must include more long-term solutions for increasing and diversifying Egypt's sources of foreign currency; the new project to expand the Suez Canal is a step in the right direction.

Improvements along the value chain across all activities are necessary to improve producer and consumer access to domestic and international markets. This will mean more diverse and higher quality products for consumers and larger markets for producers. To drive greater exports, especially of perishable goods, the government must ensure reliable road transport networks, proper storage facilities, and efficient export clearance procedures at the ports.

At the household level, a significant public awareness campaign must be launched to promote a more nutritious Egyptian diet. The fact that the stunting prevalence also includes some children in higher income brackets points to the dire need for nutritional education. Programs targeting mothers will be crucial in preventing nutrition deficiencies during the important first thousand days of a child's physical development. Focusing on better public service delivery can go a long way toward reversing food insecurity at the household and individual levels. More spending on improved water and wastewater infrastructure is necessary in order to reduce chronic occurrences of diseases such as diarrhea that exacerbate micro nutrient deficiency in children.