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FOOD SECURITY AND FOOD SOVEREIGNTY
IN THE MIDDLE EAST

SUMMARY REPORT

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WORKING GROUP SUMMARY REPORT

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FOOD SECURITY AND FOOD SOVEREIGNTY IN THE MIDDLE EAST WORKING GROUP SUMMARY REPORT

The sudden increase in global food prices in 2007-2008 brought to a head a steady trend in food insecurity across many regions of the world. No longer was food insecurity a problem only of the poor and the underdeveloped; its reach was global and its consequences felt as much by the wealthy and developing countries. This volume, comprising of several chapters that grew out of original fieldwork, looks at the issue of food security in the Middle East—a region historically associated with food abundance. Once a bread basket feeding itself and nearby areas, the processes and consequences of development have made the Middle East increasingly food insecure in recent decades. As one of the world's most rapidly developing regions, the Middle East has had to grapple with many of the deliberate and unintended consequences of modernization, some of the more dramatic of which include increased birthrates and rapidly expanding populations, urban bias among policymakers leading to rural neglect and rural-urban migration, and the expansion of the state and the widespread introduction of statist policies across the region. Largely ignored in the process has been agricultural development, resulting in serious lags between national demands for food and the availability of domestic food sources. From Iran in the east to Morocco in the west, the Middle East has seen a steady deepening of its dependence on food imports, resulting in the region's growing sense of food insecurity. The economic shock of 2007-2008 may have dissipated for now, but the structural dependence of the Middle East on food imports continues largely unabated. In fact, as the dramatic events of the Arab Spring have shown, the availability of food at affordable prices, or lack thereof, continues to be one of the most salient features of the economic, social, and political landscapes across the Arab world and the Middle East.

This initiative explores the phenomenon of food security in the Middle East from multi-disciplinary perspectives. How did a region so abundantly rich in agriculture mere decades ago become such a net food importer? What national policies have political leaders adopted in ameliorating their countries' dependence on food imports? Do overseas agricultural land purchases by the wealthier states of the Persian Gulf in parts of Africa and Southeast Asia challenge traditional conceptions of national sovereignty? Do supply chains stretching from growers to modern supermarkets influence food consumption patterns among the urban middle classes? Do traditionally “strong” states such as Iran and Egypt deal with issues of food security differently than less stable and more fragile states such as Yemen and Lebanon? What consequences are there for food security in an occupied land such as Palestine? How do rapid changes to traditional dietary practices and consumption patterns, along with limitless access to fast foods and preserved foods, as is visible in Qatar, impact on national nutrition, obesity, and health levels?

The research initiative is comprised of original, empirically-grounded chapters that collectively offer the most comprehensive study available to date on food security in the Middle East. Some of the major themes examined include the ascent and decline of various food regimes, urban agriculture, overseas agricultural land purchases, national food self-sufficiency strategies, distribution networks and food consumption patterns, and nutrition transitions and healthcare. Collectively, the chapters represent highly original contributions to the disciplines of political science, economics, agricultural studies, and healthcare policy. The forthcoming book is the result of a two-year research initiative in which experts and specialists on the topic of food security in the Middle East region contributed chapters on each of these topics. The CIRS-sponsored working group meetings held in Doha, Qatar, meant that authors were able to work closely together in order for the individual chapters to cross-reference each other for better coherence and intellectual synergy of the volume. The authors were asked to contribute original, empirically grounded analyses that added empirical and theoretical contributions to the study of food security and food sovereignty in the Middle East.

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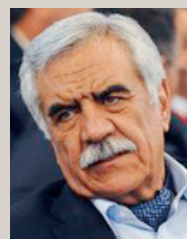
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1. *Food Security and Food Sovereignty in the Middle East*

Mehran Kamrava and Zahra Babar

Soaring prices for agricultural commodities in 2007-2008 and again in 2011 reinvigorated the global discussion on food security. According to the World Bank, by 2008, international food prices had increased by an alarming 83 percent over the course of the previous three years. For the Arab World, which imports over 50 percent of its caloric needs every year, the impact of such an escalation in food costs cannot be overstated. The following year, the World Bank very unambiguously urged Arab states to try to contain the expected effects of a major food crisis in their countries. Before long, however, in 2011, food prices once again spiked globally, pushing an estimated 44 million people into poverty. This had particularly devastating consequences for the Middle East, as nearly one-quarter of the region's population is poor and about three-quarters of those poor people live in rural areas with at best uneven access to food resources.

As part of their respective ruling bargains on which political rule was justified, almost all states of Middle East heavily subsidize food prices, spurred especially by the so-called “bread riots” of the late 1980s and the 1990s and the Arab Spring uprisings that have swept across the region since 2011. Despite heavy state subsidies, however, international food price shocks tend to rapidly translate into price hikes in the domestic markets across the region. From 2006 to 2011, for example, food prices rose by an average of 10 percent annually in Egypt, Iran, and Yemen, and by nearly 5 percent or more in Djibouti, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Ironically, although international food price increases are often quickly reflected in domestic markets across the Middle East, declines in world food prices are rarely similarly transmitted domestically.

The reasons given for the spike in food prices are varied, with experts unable to agree on a single factor as the cause of the sudden jump. In reality, the soaring prices resulted from a coalescing of various structural, supply-side dynamics, including a slow-down in global cereal productivity, insufficient cereal stockpiles worldwide, trade restrictions or export bans on key agricultural products, diversion of agricultural land for bio-fuel production, the high cost of petroleum and the resulting higher expenditures for fertilizer and energy, and speculative investment in commodities. Demand-side pressures pushing up prices were also responsible for the rise of food prices, largely resulting from the increasing global population and changing patterns of consumption in the developing world.

While food prices have dropped since the 2008 highs, they remain significantly higher than pre-crisis levels. Expert opinion suggests that this will continue to be the case as the factors that led to elevated costs in the first place have not been adequately dealt with. Bio-fuel production programs continue to be encouraged in major grain-producing countries; global grain reserves have not been sufficiently enhanced in the intervening years; and food supplies have not kept pace with the increasing demands arising out of higher per capita incomes and changing consumption patterns in certain parts of the developing world.

In specific relation to the Middle East, several structural factors particular to the region are likely to continue to aggravate issues of food insecurity and food sovereignty. Throughout the Middle East, arable farmlands tend to be highly fragmented due to successive land reform programs by the region's many populist regimes. In Egypt, for example, some 90 percent of landlords own less than 1 hectare. Landholdings elsewhere in the region—most notably in Algeria, Jordan, Saudi Arabia, and Tunisia—tend to be also relatively small for largely similar reasons.

Aridity, periodic droughts, and chronic water scarcity also tend to be endemic features of the Middle East, as are generally inefficient distribution networks of ports, roads, wholesale markets, supermarkets, and other stores, because of which wastage across the region tends to be extremely high. Finally, official rhetoric notwithstanding, most policymakers in the Middle East have an urban bias that results in the preferential treatment of modern industries located around urban centers, thus frequently neglecting rural areas and the agricultural sector.

The contributions in this volume analyze both the historic trajectories of agricultural development in the Middle East, and how the globalization of food production has impacted domestic food security. The volume draws on original research undertaken on the causes and consequences of macro-level Middle Eastern food security (at the national and regional levels), as well as the causes and consequences of food security at the micro-level (household and individual). As amply demonstrated in the studies to come, there is historical memory of food shortages and scarcity in the region, and this has had an impact on the formulation of thinking on food security. If economic and political factors in the past have led to sudden disruption in food availability, this provides a logical rationality for why Middle Eastern states might currently be considering means by which to make themselves food self-sufficient. Another consistent theme that runs through this volume is the impact that rentier earnings have had on the development of agriculture in the Middle East or the lack of domestic investment in the agricultural sector. The ongoing sense of being food dependent, or forcibly having been made food dependent through food aid schemes has informed much of regional thinking on food security.

Mehran Kamrava is Professor and Director of the Center for International and Regional Studies at the Georgetown University School of Foreign Service in Qatar. His current areas of research interest are on the international and domestic politics of the Gulf. In addition to a number of publications, he is the author of *The Modern Middle East: A Political History since the First World War* (2005), and *Iran's Intellectual Revolution* (2008). Kamrava's edited volumes include *The International Politics of the Persian Gulf* (2011); *Innovation in Islam: Traditions and Contributions* (2011); *The Nuclear Question in the Middle East* (2012); and *The Political Economy of the Persian Gulf* (2012).

Zahra Babar is Assistant Director of Research at the Center for International and Regional Studies, Georgetown University School of Foreign Service in Qatar. Previously, she worked in the international aid, community development, and poverty alleviation sectors. She has served with the International Labour Organisation and the United Nations Development Programme. Her current research interests lie in rural development, Gulf migration and labor policies, citizenship in the Persian Gulf states, and GCC regional integration. Babar has co-edited with Mehran Kamrava a volume titled, *Migrant Labor in the Persian Gulf* (2012).

2. *Historic Food Regimes and the Middle East*

Eckart Woertz

The Middle East imports about a third of globally traded grains and so was heavily affected by the global food crisis in 2008. Rising imports bills were a drain on scarce foreign exchange for the poorer countries. Even the well-endowed oil exporters were worried as food exporters like Russia, Argentina, and Vietnam announced export restrictions. Reactions have differed. Some countries raised subsidies to counter price hikes and increased strategic food storage, while the richer ones announced agro-investments abroad. At times, unrealistic food self-sufficiency visions were evoked that are not an option for the water scarce Middle East.

The reactions of Middle Eastern countries have not only been informed by the changing fortunes of international food production and distribution systems, but also by their collective memory of past challenges to their food security; most notably, their food import dependence and their vulnerability to supply disruptions. Against this backdrop, this chapter gives a broad overview of how agriculture in the Middle East has developed since the nineteenth century, how the food import dependence has come about, and how it has been a geopolitical liability. International food trade has been used to further foreign policy goals by outside powers on numerous occasions ranging from the two world wars to US threats of food embargoes in retaliation to the Arab oil boycott in the 1970s.

Naturally, conditions differ from one country to another in the Middle East. An overview chapter cannot do justice to the detailed aspects of each. Still, there are some striking similarities, which the chapter highlights by focusing on the Gulf countries, the Mashreq, and Egypt. It uses Harriet Friedmann and Philip McMichael's concept of "food regimes" to illustrate how Middle Eastern countries have been integrated into international food economies in different ways over their recent history.

The "first international food regime" lasted from the 1870s to the 1930s. It was characterized by grain supplies from Australia, the US, Canada, Russia, and India being exported to the UK and other industrializing countries in Europe. Another important factor was the colonial export trade in tropical commodities. Egypt, Turkey, and Iran were centers of cotton cultivation in the nineteenth century. Later on, it expanded in Sudan, where Great Britain launched the Gezira irrigation scheme in the south of Khartoum in 1925. Vine was produced in the Levant, tobacco in Turkey and Syria, and silk in Mount Lebanon and Iran. The latter also was a major cultivator of opium, as was Turkey.

There was increased social stratification alongside the integration in the colonial export trade. Western style land codes were introduced and there was increased concentration of land ownership by a class of absentee landlords, most notably in Egypt, Iraq, and Syria. Access to food was compromised by rural income inequalities, missing urban development, and lack of government intervention to facilitate industrialization and overcome the shock of falling commodity prices in the wake of the Great Depression. Domestic industries failed to give a strong demand impetus for agriculture and enhance its value chain.

The Middle East, in general, was still self-sufficient in staple foods at that time, but there was a need to level out regional imbalances. Iraq, and to a lesser extent Egypt and Syria, had export capacities in cereals. The Gulf not only received grains from these neighboring countries, but also from places further away like India and later Australia that were involved in the peripheral grain trade of the international food regime. Palestine was another part of the Middle East that required imports of staple foods.

The vulnerability to supply disruptions is illustrated by the Middle East's supply arrangements and agricultural policies during the two World Wars. In both cases, it was crucial for Arab leaders to maintain good diplomatic relations with powers that were in a position to guarantee the flow of food supplies and agricultural inputs. During World War I, the British reopened grain supplies via the Red Sea to Jeddah in 1915 after Hussain, the Sherif of Mecca, had signaled his support. One year later, he would launch the Arab revolt against the Ottomans. At the same time, Greater Syria suffered a devastating famine as a result of the naval blockade of Entente forces against the Ottoman Empire. During World War II, the Allied Middle East Supply Center in Cairo spurred agricultural self-sufficiency in the region in order to save scarce shipping space for the war effort. It also administered a rationing and procurement scheme that managed to avoid famines during the war.

After a period of crisis and adjustment, the “second food regime” emerged after World War II. Subsidized agriculture in industrialized countries and surplus disposal in developing countries were at its core. Population growth, limits to land expansion, neglect of agriculture in the wake of oil booms, and the Western food export promotion led to growing food imports. By the 1970s, all countries in the Middle East were heavily dependent on grain imports. Egypt in particular relied on subsidized P.L. 480 food imports from the US, which were cut off in 1965 for political reasons. They only resumed in 1974 when Egypt and Israel entered peace negotiations.

At the same time, the food regime faced a crisis with reduced grain stocks and diminished availability of food aid that ushered in the world food crisis of 1973/74. Depending on their factor endowment, Middle Eastern countries had different options at their disposal to deal with the crisis. Oil- and cash-rich countries were obviously in a more convenient position, yet they faced threats of food embargoes in retaliation to their oil boycott. As a result, Gulf countries flirted with the idea of developing Sudan as an Arab “bread basket,” but the project failed. Instead, Saudi Arabia embarked on an ill-fated attempt to achieve self-sufficiency via subsidized wheat cultivation. This project will be phased out from 2008-2016 because of lack of water.

With falling commodity prices in the 1980s and 1990s, Malthusian fears of the 1970s subsided, but resurfaced in the wake of the global food crisis of 2008. It is an open debate whether we can speak of a “third food regime” that has developed since the 1980s with World Trade Organization (WTO) sponsored liberalization policies and increased corporatization of value chains in global food production. In conclusion, the chapter discusses implications for Middle Eastern countries and speculates how they might situate themselves in the changing international political economy of food supplies.

Eckart Woertz is a visiting fellow at Princeton University. Formerly he was Director of Economic Studies at the Gulf Research Center (GRC) in Dubai and worked for financial services companies in Germany and the UAE. He has consulted international and regional organizations such as UNCTAD, the Jeddah Chamber of Commerce and Industry and the Saudi Ministry of Economy and Planning. His op-eds have appeared in international

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3. *An Economic Analysis of National Food Sovereignty Policies in the Middle East: The Case of Lebanon and Jordan* Jane Harrigan

The sharp rise in global food prices in 2007/2008 refocused the attention of many countries on the issues of food security, and the Middle East and North Africa (MENA) region was no exception. Since the early 1970s there has been a steady growth of food imports to MENA stimulated by rapid population growth and changing patterns of food consumption based on rising incomes that favor higher valued foods. Ecological constraints on food production, however, are severe due to the region's lack of arable land and its water scarcity. As a result of these demand and supply factors, most Arab countries now import at least 50 percent of the food calories they consume and the region is the largest importer of cereal in the world. The region's dependence on food imports is projected to increase in the coming two decades. These projections and the assumption that international food prices are likely to remain high and volatile for the foreseeable future mean that MENA governments have become acutely aware of the vulnerability caused by reliance on global food markets to meet domestic demand.

There are three traditional routes to national food security: 1) domestic production, which contributes to self-sufficiency; 2) commercial food imports; and 3) international food aid. Hence, a clear distinction needs to be made between self-sufficiency and food security, in that the former is only one possible route to food security at the national level. However, since 2007/2008, many MENA governments have started to consider greater levels of domestic food production as part of their national aggregate food security policies. Although from a political and strategic point of view such an approach may be justified in that it can help stabilize domestic food prices and reduce vulnerability to international markets and reliance on other countries, it comes at an economic cost. This is because the resource endowments of most MENA countries—water scarcity and lack of arable land—are not well-suited to food production, particularly cereal production, and these countries' comparative international advantages lie in other economic activities. Indeed, many of the international organizations involved in the MENA economies during the 1990s and the 2000s advocated a food security strategy for most countries that relied upon diversification away from agriculture towards other activities, including manufacturing exports, with the resulting foreign exchange used to purchase food imports. Within the agricultural sector there has also been emphasis on shifting resources into high-value crops that are most efficient in water use, such as fruits, vegetables, and tree crops, often with a focus on export markets, instead of cereal production for domestic consumption.

The overall purpose of this chapter is to assess the economic implications of increasing domestic food production and to highlight the nature of the debate that is likely to take place between those who advocate greater reliance on domestic food production and those who continue to advocate a predominately trade-based food security strategy heavily dependent on food imports. The former group invokes considerations that go beyond mere economic analysis and include political, social, and environmental concerns. The latter group mainly relies on the narrow neoclassical economic analysis of international comparative advantage. By articulating this debate and analyzing its economic parameters we hope to be able to help policymakers develop a comprehensive strategy. In order to do this, the chapter addresses the following research questions:

1. What was the economic impact of the global food price shock of 2007/2008 on MENA countries?
2. Following the food price shock, to what extent are these countries re-orientating their food security strategies towards more domestic production?
3. What are the economic opportunity costs of such a strategy? i.e. how much does this involve violating international comparative advantage in the production process?
4. Within the agricultural sector of MENA countries, what production pattern and crop choice does international comparative advantage dictate, particularly in view of water scarcity?
5. What are the broader concerns beyond this narrow neoclassical economic analysis that will shape future approaches to food security and food sovereignty in the MENA region?

Answering the above research questions for all MENA countries cannot be done within the scope of the current research project. Hence, we adopt a country case study methodology. Two countries have been chosen for in-depth analysis, namely Jordan and Lebanon. These have been chosen because both suffer from significant food insecurity according to a variety of different measurements. Both are resource poor, non-oil exporting, middle-income countries with high cereal import dependency and fiscal and trade deficits. Hence, international food price shocks threaten macroeconomic stability and may increase poverty. There are also important differences between Jordan and Lebanon, making a comparative country analysis interesting. Lebanon is unusual in the region in that it has more than a quarter of its land under cultivation or pasture (along with Syria, Sudan, and Tunisia) and is fairly well-endowed with water. Lebanon can, therefore, generate lessons for other countries similar in this respect, i.e. Iraq, Syria, Turkey, Sudan, and Iran. Jordan is one of the least well water-endowed countries in MENA and hence can generate lessons for a separate country group, namely Libya, the Persian Gulf states, and Palestine.

The first stage of the research methodology involved semi-structured interviews in both countries with government officials, academics, and international organizations in order to address the first two research questions along with the last one. The second stage of the research addresses the third and fourth research questions, namely what are the economic opportunity costs of greater domestic food production? And to what extent does each country's planned food security strategy deviate from the economic dictates of international comparative advantage? To answer the former, we took a narrow neoclassical economic approach using international comparative advantage as a benchmark of economic efficiency. The first methodology employed to address this question was the calculation of Revealed Comparative Advantage (RCA). For both countries we calculated RCA across a wide range of activities in both the agricultural and non-agricultural sectors. Although a useful first indicator of relative comparative advantage across different economic activities, RCA is based on actual trade shares that may be influenced by price distortions. To address this problem of distortions we employed a methodology known as the Policy Analysis Matrix (PAM).

Our findings show that the 2007/2008 global food price shock had a major impact on both countries and that, in addition to responding with fiscally costly mitigating measures, both governments have also indicated that they

want to increase domestic food production, especially grain production. The RCA and PAM analyses indicate that increased grain production is not an efficient use of domestic resources. However, we argue that policymakers need to go beyond this neo-classical economic analysis and consider political, social, and environmental factors when deciding on an appropriate food security strategy.

Jane Harrigan is Professor of Economics at the School of Oriental and African Studies (SOAS), University of London. She has worked extensively on World Bank and IMF activities in sub-Saharan Africa and the MENA region and is co-author of three recent books on MENA: *Aid and Power in the Arab World: IMF and World Bank Policy-Based lending in the Middle East and North Africa*; *Economic Liberalisation, Social Capital and Islamic Welfare Provision*; and *Globalisation, Democratisation and Radicalisation in the Arab World*. She has also worked on the political economy of foreign aid to both Africa and MENA and on agricultural policy and food security issues in Africa. Harrigan has written eight books and is the author of numerous journal articles, including papers in *World Development*, *Food Policy*, *The Middle East Journal* and *Review of Middle East Economics and Finance*.

4. *Food Security and Food Sovereignty in Egypt*

Raymond Bush

Food security has been a persistent and recurrent feature of Egypt's political economy since the 1950s. One of the slogans used by protestors in the January 2011 Egyptian uprising was: "Aish, horreya, 'adala igtema'yya," which translates into: "bread, freedom, social justice." High levels of malnutrition, poverty, and inequality underpinned the spur for the uprising as well as persistent and recurrent worker strikes and demonstrations against the old regime. This chapter tries to broaden the debate about food insecurity in Egypt beyond the usual preoccupation with macro-economic policy and its role in facilitating food, particularly grain imports to meet local patterns of consumption. Instead, by looking at some of the pitfalls of recent policy documents, I want to indicate how important it is to include a discussion of how food insecurity impacts on rural development and farmer livelihoods that have been shaped by agricultural reform since the mid-1980s. This locates farmers, and especially small farmers (those with less than 5 feddans), to the center of the narrative about food security in Egypt. It thus contributes to the debate about agricultural modernization, broadly defined, and how different strategies have been shaped not simply by government policy, but by patterns of capital accumulation in Egypt that have underpinned it. I want to explore issues that help understand the politics of food insecurity in Egypt, the role that farmers and the rural landless played in the context in which the January 25, 2011, uprising took place, and how rural social classes may play an important part in the continuing struggles for democratic deepening in contemporary Egypt.

Looking at food security in Egypt in this broader way, including an understanding of the lives and livelihoods of food producers, I try to move away from focusing primarily on the issues of wheat dependency and food subsidies that have been central to mainstream debate about Egypt's food security. I want to nudge discussion about food security to an understanding about the ways in which political and economic power have shaped the well-being of rural producers. I argue that food security can only be understood in terms of exploring how rural relations of production and reproduction are shaped by political and economic power, patterns of land ownership, and, ultimately, how Egypt's agricultural sector is unevenly integrated into the world economy. Food security can thus only be properly understood as part of broader processes of accumulation and dispossession. I identify continuity in the way in which Egyptian farming has been understood by the Government of Egypt (GoE) and international financial institutions (IFIs) over many years. In doing this there is an opportunity to raise questions about the class character of the Egyptian state in terms of which elements of the agricultural sector and which types of owners of landholdings have benefitted from agricultural reform since the mid-1980s.

The GoE strategy for food security has been to integrate Egypt's agricultural sector more effectively into international trade and to do so by promoting capital-intensive export agriculture. The period of economic adjustment led to the neglect of agriculture in the old lands in the Delta and it marginalized small farmers cultivating less than 5 feddans.

During the 90s, Hosni Mubarak and the Ministry of Agriculture and Land Reclamation (MALR) had skewed agricultural spending towards large-scale scheme agriculture. The largest of these was at Toshka in the New Valley Governorate to the west of Luxor, and there were also large schemes in Sinai and the northern desert. The schemes were intended to boost horticultural exports and attract labor from an "overpopulated" Delta: they achieved neither.

In the 90s and early new millennium, the GoE “strategy” to invest resources in large-scale schemes served to shift the focus of Egypt’s food security debate. The focus took on a new momentum of government action to deliver food security and reduce poverty. The strategy, however, remained focused on a trade-based perspective. Egypt’s natural greenhouse was seen to be able to deliver agricultural growth that would generate higher levels of food self-sufficiency while also addressing the country’s agricultural crisis. There has been a persistent refusal to prioritize issues of rural peoples’ livelihoods and of the need to improve household access to land and work. There has also been the refusal to consider the long-term processes that shape the character of rural power and politics. These include the character of social differentiation and inequality and gender divisions of labor including the role that women play as heads of households and the particular difficulties that they are confronted with. The debate about food security has been substituted for rural development and agricultural modernization that might instead have placed food sovereignty in the context of supporting the rural households that are both producers and consumers of food. There has been an almost total neglect of farmers with less than 5 feddan of land, the majority of whom struggle for access to food for self-provisioning.

The foregrounding of the 1991 Economic Reform and Structural Adjustment Program (ERSAP) with agricultural reform from the mid-80s could have led to a more nuanced approach to bolster rural incomes and livelihoods as a precondition to improve food security. Instead, the emphasis on the primacy of “the market” and a trade-driven approach to food security concentrated on boosting the economic well-being of larger landholders, allocating resources to new land development, and asserting that improvement in horticulture would provide stable income to help purchase the country’s food needs. Thus, food sovereignty for the producers of food was substituted by an idea of food security for the nation. This was well captured by posters advocating the re-election of Hosni Mubarak in presidential “campaigns” from 2000. In these posters, Mubarak was often portrayed standing among tall sheaths of wheat ready to be harvested, and was caricatured as a father of the nation advancing the country’s food security.

When examining households that experience famine, it has long been one of the greatest ironies that it is the producers of food who are the first to suffer. Smallholder households eek out an existence and are not exempt from the fear and reality of slipping into starvation. Food insecurity threatens rural conditions of existence. Women respondents would often recall strains in the community where the opportunity to try and socialize with neighbors had diminished. Their communities were also locations of increased crime, not least of which were household thefts and thefts of crops from the fields. Theft and rural violence had increased as household debt soared and when there was little opportunity for work.

It is clear that myriad social relations exist in farming communities and this raises the importance of understanding the different needs and aspirations of different categories of labor. These go beyond categories of ownership and non-ownership of land or simple tenancy or sharecropping relations. It also requires an exploration of labor migration and the different length and distances involved in migration as well as types of remittance. I have noted how social differentiation has been shaped by government policy and rhetoric about food security, but, to get a handle on who exactly is affected by shifts in the ability to access food, it is necessary to engage more

precisely with the different types of agricultural modernization efforts that have taken place in Egypt over the last thirty years. It is then necessary to look at the different types of rural labor that are evident and what kinds of relations of power and authority and dominance and subordination they may be part of in the transformation of rural life and how this impacts food production and strategies for the development of capitalism in agriculture.

One of the consequences of agricultural modernization that has pushed small farmers away from access to inputs, land, and resources has been the empowerment of larger landholders and merchants. Rural markets have not become more competitive. They are arenas for the rich and powerful to exact increased profits from farmers who have very limited access to alternative sources of farming, inputs, or other income earning possibilities. Market reform has not created conditions for generalized and shared rural accumulation and increased productivity. It seems instead to have led to a stymied level of rural growth and considerable resentment by farmers against merchant monopoly. As a consequence, there has been little progress in promoting food security in Egypt.

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5. *Prospects for Food Self-Sufficiency in Iran in 2025*

Habibollah Salami, Toktam Mohtashami, and Mohamad Saeid Noori Naeini

Meeting the needs of the growing and increasingly urbanized population in Iran requires a substantial increase in food supply. Alleviating poverty and improving the level of food security depends, to a large extent, on sustainable agricultural development, as most rural communities depend heavily on the agricultural sector as their source of employment and income generation. In addition, enhanced domestic production of food commodities is a matter of cultural and political pride in Iran. Although domestic production of all food requirements might be hard to justify purely on the basis of economic principles, the full food sufficiency strategy is supported both by the government and the people in Iran. All governments in Iran after the 1979 Islamic Revolution have sought self-sufficiency in foodstuffs as a major objective in the overall goals of agricultural as well as economic development in the country. This strategy is backed by a variety of price and non-price support policies including: subsidized credits and inputs, subsidized insurance against natural hazard, cheap foreign currency, guaranteed commodity prices, tax exemptions, and tariff protection to agricultural producers, specifically for foodstuff producers.

The role of agriculture in poverty reduction and income creation is an important element of food security. Prominent scholars conducting research in rural areas in developing countries have empirically demonstrated the links between agricultural development and poverty reduction. The critical role of agriculture has been acknowledged in the eight Millennium Development Goals agreed to in 2000 by United Nations member-states, particularly for its role in reducing hunger, fostering gender equality, and maintaining a sustainable management of the environment. It is also important to note that sustainable agricultural and rural development has been highly prioritized within The Strategic Framework of the Food and Agriculture Organization: 2000-2015.

This chapter provides a review of the conditions for food self-sufficiency in Iran, examining the past trends of self-sufficiency, and attempting to provide some critical analysis for what the future prospects of food self-sufficiency in 2025 look like for Iran. We aim to project the demand and supply of major food commodities in Iran for the year 2025, and, hence, forecast both levels of national food self-sufficiency, and food per capita consumption. Our projections are based on a policy simulation model specifically developed for Iran.

Overall, food self-sufficiency, especially in major food staples of wheat, rice, poultry, and red meat, forms the overriding political goal of agricultural development in Iran, particularly after the 1979 Islamic Revolution. Although this strategy might not be consistent with basic economic principles which encourage a more trade-based approach as opposed to a self-sufficiency one, the recent food crisis of 2008 as well as trade restrictions and non-economic market interventions by many governments based on national considerations, has provided some ex-post justifications for such political considerations. With a fairly high degree of confidence, we argue that Iran is very close to agricultural commodity self-sufficiency based on domestic supply and demand for food.

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and CGE modeling, production structure analysis and modelling, productivity measurement, measurement of technological change, trade and agricultural policy analysis, as well as income distribution, agricultural project, and water pricing analysis. He has published over fifty journal articles on topics related to agricultural economics across the Middle East and food security in Iran.

Toktam Mohtashami received her undergraduate degree from Ferdosi University with a specialization in Agricultural Economics. She continued her MA and Ph.D. in the Faculty of Economic and Agricultural Development, University of Tehran. Agricultural policy and Development is her major field of study. Mohtashami's research interests include time series modeling, quantitative agricultural sector analysis using positive mathematical programming, partial equilibrium modeling, analysis of trade related issues in agriculture, credit scoring, and agricultural policy analysis. She has published several articles in these fields and has participated in research projects supported by various Iranian organizations.

Mohamad Saeid Noori Naeini has served as the Ambassador of the Islamic Republic of Iran to the International Fund for Agricultural Development, Food and Agriculture Organization of the UN, and the World Food Program (WFP), and as President of the Executive Board of WFP. Noori has also served as the Vice Chancellor of Shahid Beheshti University in Iran, as Deputy Dean of the Faculty of Economics and Political Science, and as Professor of Agricultural Economics. He is the author of over thirty articles on various topics ranging from resource allocation in smallholder agriculture, food security, and rural poverty alleviation projects to evaluation of agricultural projects and land tenure issues.

6. *Neither Security nor Sovereignty: Agriculture and Food Production in Yemen*
Martha Mundy, Amin al-Hakimi, and Frédéric Pelat

In the autumn of 2011, Oxfam warned of the narrow window of opportunity before food insufficiency gave way to famine for important sectors of the Yemeni population, calling on the “The Friends of Yemen” to start the immediate provision of food aid. In March 2012, the World Food Programme (WFP) stated that between one-fifth and one-quarter of the Yemeni population now required emergency food aid and that no response had been forthcoming to Oxfam’s call. The levels of child malnutrition and emergent hunger are comparable to, or even worse than, those in Afghanistan where nearly half the children are underweight. Yemen has its internal conflicts, but, unlike Afghanistan, has not been the object of international war and foreign occupation for over three decades. Agriculture and livestock production remain central to the livelihood of the Yemeni people. How then to explain the starkness of the food crisis in Yemen?

This chapter seeks an answer to this question through an analysis of the background to the present food crisis. The crisis is much exacerbated by the shutting down of basic supplies (fuel, electricity, and some foodstuffs) following the political contestation of 2011-2012, but its core elements antedate the present political contestation.

We begin by a sketch of the wider political economy since the early 1970s. This forms the background to the patterns of change in agricultural policy, food production, and the physical environment. Change in a food system is, by definition, simultaneously agricultural, social, environmental, and political. Against this background we then sketch the changes in agricultural and livestock production. At the end we close with the kind of responses required to reconstruct the bases of production in Yemen.

Smallholding agriculture has been severely reduced in terms of both the food staples it produces and the environmental conditions for continuing production. Understanding this process requires that we consider the location of food producers within the state and regional political-economic order as this has developed since the 1970s. Yemen is not unique in the marginalization and impoverishment of smallholding agriculturalists in the face of large-scale capitalist farming, nor in the difficulty of politically representing physically dispersed agriculturalists, whether small landholders, landless cultivators, or herders. For a country where such a high proportion of the population remains resident in small rural settlements, however, the silencing of their interests within the political order is stark by any terms. It can only be understood in terms of a progressive marginalization within a governing polity constructed around international and national rent flows. Indeed, evidence suggests that many who remain on the land today may be better described as proletariat rather than farmers. It is this difficult legacy that will need to be challenged for their livelihoods and for the environmental basis of Yemen itself to be insured.

Martha Mundy is Reader in Anthropology at the London School of Economics and Political Science. Mundy is a specialist in the anthropology of the Arab World whose research has concerned anthropology of law and

the state, the comparative sociology of agrarian systems, and the anthropology of kinship and family. Her first major fieldwork was conducted from 1973-77 in North Yemen. During that time she began to work on the anthropology of Islamic law. Before joining the LSE she taught at UCLA, Lyon 2 Lumière University, the American University of Beirut, and Yarmouk University in Jordan. During her ten years in Jordan (1982-92) she began a project of historical anthropology examining the transformation of political and economic relations in late Ottoman Southern Syria, present north Jordan. This combines work on law, on the state, and on village society and has involved archival work in Istanbul and Damascus as well as research into oral history and administrative records in Jordan. From 2000-02 she held a British Academy Research Readership; she has recently returned to work on contemporary issues of law and society and the crisis of agriculture in the Arab East. Her books include *Law and Anthropology*; *The Transformation of Nomadic Society*; and *Domestic Government: Kinship, Community and Politics in North Yemen*.

Amin al-Hakimi is Director of the Yemeni Genetic Resources Center, Faculty of Agriculture, Sana'a University. He received his Ph.D. in Agronomy from the Practical School of High Studies, Montpellier, France. Al-Hakimi served as UNESCO Chair in Genetics, and is a member of the Yemeni Society of Biology as well as the National Committee for Genetic Resources. He has published in the areas of plant biodiversity; sustainable agriculture; indigenous knowledge; germplasm management; food security; protected area management; environment conservation; and environment monitoring systems.

Frédéric Pelat is an agronomist who studied tropical agronomy in Toulouse (ENSAT) and Montpellier (CNEARC/IRC). He lived in Yemen from 1998 to 2011, working through the NGO that he created (Iddeales) on small development projects aiming at the enhancement of local resources and farmers' knowledge. He is presently studying Social Anthropology at the London School of Economics and plans to pursue doctoral study in anthropology. Pelat's recent publications include, "Health Issues in the Mountains of Yemen: Healing Practices as Part of Farmers' Traditional Knowledge," in *Herbal Medicine in Yemen: Traditional Knowledge and Practice and their Value for Today's World*, eds. I. Hehmeyer, H. Schonig & A. Regourd (Leiden: Brill Publishers, 2012), co-authored with Al-Hakimi and Ya'ni.

7. *Urban Agriculture and Food Security in the Middle Eastern Context: A Case Study from Lebanon and Jordan*
Shadi Hamadeh, Salwa Tawk, and Mounir Abi Said

Due to its heavy reliance on food imports, the Middle East and North Africa (MENA) region is considered to be one of the most food insecure regions in the world. Urban Agriculture (UA), a traditional practice in the MENA region, is an important source of income for many urban and peri-urban households. The most important distinguishing feature of UA is the fact that it is an integral part of the urban economic, social, and ecological systems. Further, it is strongly influenced by urban conditions such as policies, competition for land, and urban markets and prices, and makes a strong impact on the urban system. Studying the role of urban agriculture in the MENA region could provide a better understanding of its role in food security.

The present study was conducted to investigate food security as related to peri-urban and urban agriculture in two peri-urban locations: Bebnine in Lebanon, where agriculture lacks support, and in Wadi el Seer in Jordan, where urban agriculture is being institutionalized. Our research is based on data collected from a representative sample of a total of 800 low-income producing/farming households as well as low-income non-producing/farming households per location and serving as a control group, in addition to two focus group discussions with producers in each location. The findings indicate the prevalence of high food insecurity in both locations demonstrating that producers are more food insecure than non-producers, and that food security is strongly associated with poverty and the number of household members.

Agricultural production in and around cities is integral to Mediterranean cultural landscapes and has been a long-standing traditional practice in the MENA region. The Middle East has one of the highest urbanization rates in the developing world, but, despite the increasing demand for land and water, crop cultivation and animal husbandry remain common throughout the region's cities. Fertile agricultural areas are still considerable and are expected to remain productive for years to come as they provide an important source of income and job opportunities. At the beginning of the twenty-first century, 6 percent of MENA's population was involved in UA as compared to an average of 2 percent in other regions. Nevertheless, MENA's urban production suffers from a lack of recognition by city planners, agriculturists, policymakers, researchers, and even its practitioners. Until now, the most successful instances of UA have been in cities and regions where conflict and extreme poverty has defined life, such as in Gaza in Palestine and in refugee camps. In these places, the need for survival has led communities towards UA as a solution to food insecurity.

The current study reveals the need for further research investigating the contribution of urban agriculture to the livelihoods and household consumption of producing families, as well as for the consumption of non-producing households in the area. Currently, there are no studies demonstrating the benefits and value of urban agriculture to these families. It is hypothesized that although the producing families are currently food insecure, if they were no longer producing they would likely face more extreme degrees of food insecurity, including hunger. This would also affect the availability of food in the region, linking back to the food availability and access issues mentioned by World Health Organization (WHO) in their three pillars of food security. Furthermore, it would

be important to investigate whether these producing families in peri-urban areas have improved access to food diversity, therefore demonstrating the significant nutritional benefits derived through urban agriculture, which are not captured by the overall food security score.

Salwa Tohmé Tawk studied at the American University of Beirut and at the Institut National de Recherche Agronomique Paris-Grignon France. She has been an associate researcher and lecturer at the American University of Beirut since 2005. Tawk's research interest focuses mainly on sustainable farming systems in urban and rural contexts and in field surveys. She is currently leading the knowledge management activities at the Environment and Sustainable Development Unit at the American University of Beirut, including training and facilitating various development projects covering countries in the Middle East and North Africa region (Lebanon, Jordan, Syria, and Yemen). She is the editor of the Arabic version of an urban agriculture magazine and is also serving on the board of "MADA," a Lebanese non-governmental organization.

Mounir Abi Said studied at the American University of Beirut (AUB) and at the University of Kent at Canterbury in the United Kingdom. He has been a part-time lecturer in several universities including the American University of Beirut and the Lebanese University. His research interests range from biodiversity conservation and resolving human wildlife conflict to sustainable development and use of natural resources. He is currently serving as the president of the Animal Encounter, a leading educational center for wildlife conservation. Besides, he is serving on different international boards related to biodiversity and sustainable development. His major challenges are to develop new approaches towards sustainable use of natural resources and biodiversity conservation in the region.

Shadi Hamadeh studied at the American University of Beirut (AUB) and at New Mexico State University in the USA. He has been a professor of animal science at AUB since 1988. His research interests range from animal environment interactions to sustainable farming systems. He is currently leading the Environment and Sustainable Development Unit at AUB and serving on the executive board of the Resource Centers on Urban Agriculture and Food Security. His major challenge is to reconcile chaos theory with the bitter realities of rural development in the Arab world.

8. *Food Security and the Supermarket Transition in the Middle East – Two Case Studies*
Karin Seyfert, Jad Chaaban, and Hala Ghattas

Over the past decade, a number of developing countries have witnessed two food system transitions affecting their food security. The first, known as the “nutrition transition,” is a shift from so-called “traditional” diets based on the consumption of foods high in fiber such as cereals, legumes, fruits, and vegetables to so-called “modern” diets, which feature larger proportions of saturated fats, sugar, and processed foods. This dietary shift has been facilitated by the second transition in food procurement known as the “supermarket transition” or the “third and corporate food regime.” This chapter focuses on changes in national procurement channels. The supermarket transition involves a shift from food production and processing in small units—whose output is sold to small retailers at wholesale spot markets—to one consisting of larger retail outlets trading with dedicated or contracted specialized wholesalers and food producers.

This transition is presently underway in Lebanon and Qatar, our two case study countries. Two reasons motivate the choice of Qatar and Lebanon as case studies. Firstly, both are small, making them easier to analyze and therefore more apt for a comparative case study. Secondly, Qatar and Lebanon embody a key distinction among countries of the Middle East: Qatar is fiscally stable, relying on oil and gas exports, but dependent on food imports, while Lebanon is fiscally unstable but possesses a productive agricultural sector by regional standards. Aspects of the Lebanese and Qatari political economies may slow or suspend the supermarket transition and, by extension, the corporatization of their food supply chains. These impediments are not the product of orchestrated political resistance but are, rather, the unintended consequence of a marginally functioning state in Lebanon and of wholesale price controls in Qatar, introduced as a “rentier bargain” policy aimed at protecting consumers from price volatility and obtaining their acquiescence.

Food insecurity is often equated with under-nutrition resulting from calorie-deficiency, however, in developed countries and increasingly in Middle East and North Africa (MENA) countries, food insecurity manifests as poor quality diets rather than calorie-deficient diets. Diets high in saturated fats, low in fiber, and high in sugar and refined foods significantly contribute to increases in the burden of chronic disease in MENA country populations. Diabetes and cardiovascular disease rates in the Middle East are already among the highest in the world. Data from the region shows that stunted children are more likely to be overweight. Such a double burden of disease is likely due to the simultaneous occurrence of micronutrient deficiencies and calorie excess in the same populations, often referred to as “hidden hunger.”

In parallel to the nutritional transition in diets, a structural transition took place in the retail food procurement sector. In a “traditional” procurement system, each retail outlet procures its own stock, wholesale markets are the main procurement source, and retailers rely on spot markets and prices rather than on contracts. Conversely, in a “modern” procurement system, retail outlets are supplied by centralized distribution centers, wholesalers specialize in certain products and quality standards, and retailers deal with preferred suppliers through contractual agreements. On the production level, pressure in profit margins leads to the abandonment of agriculture in marginal lands and the concentration of land ownership among fewer industrial farms. The relative

ability of modern and traditional food systems to offer cheap, high-quality food has important food security implications. Available evidence is conflicted as to which procurement system supplies superior quality at better prices.

To address these questions for Lebanon and Qatar, we interviewed 265 respondents, comprising 108 retailers, 118 wholesalers and 39 producers. Data was collected in Lebanon and Qatar between October 2011 and April 2012. While the nutrition transition is well underway in both Lebanon and Qatar, the supermarket transition is not. Qatar is much more incorporated into the “third food regime” than Lebanon. This is not by policy design, but rather due to the complacency of the Lebanese government which does not furnish the infrastructure necessary to run standardized modern food procurement channels, which instead remain informal and based on personal relationships. On the one hand, the complacency of the Lebanese government extends, if briefly, the lifespan of Lebanese small scale farmers, still under threat from global prices. On the other, it does not stem the tide of land abandonment and concentration. Contrary to the dictates of the supermarket transition, wholesale markets in both countries play a crucial role in fresh fruits and vegetables (FFV). In Lebanon, they act as a clearing-house absorbing much of the coordination costs inherent in informal transactions, while in Qatar the wholesale market is a key site of government intervention.

Karin Seyfert is project manager of the American University of Beirut (AUB) research project on “Fresh Foods and Value Chains Project,” a firm-survey based research project which compares Lebanon and Qatar. She also held an appointment as an Economist in the Office of the Chief Economic Adviser with the Scottish Executive in Edinburgh. Karin is about to complete her Ph.D. thesis with the School of Oriental and African Studies, a college of the University of London. Her research involves a critical assessment of NGOs’ ability to foster sustainable rural development. Karin holds an MA in Arabic and Economics from the University of Edinburgh and an MSc from the Toulouse School of Economics.

Jad Chaaban joined the American University of Beirut (AUB) as an Assistant Professor of Economics in September 2006, where he currently teaches development and agricultural economics. Prior to coming to AUB, he was an Economist in the World Bank’s regional office in Beirut, where he undertook research related to poverty reduction and economic management, covering Lebanon, Syria, Jordan, and Egypt. Chaaban is the president and founding member of the Lebanese Economic Association. He also currently serves as an expert for the Middle East Youth Initiative at the Wolfensohn Center for Development at Brookings and as an Associate Researcher with the Toulouse School of Economics in France. Chaaban holds an MBA from the European School of Management (2000), a Masters in Environmental and Natural Resources Economics from the Toulouse

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Hala Ghattas joined the American University of Beirut as Assistant Professor of Community Nutrition in 2009. Her research interests include nutrition- infection interactions, micronutrient interventions, and the measurement and prevention of food insecurity and malnutrition. Ghattas holds an MSc in Public Health Nutrition from the London School of Hygiene and Tropical Medicine (2000) and a Ph.D. from the University of London (2004). She is a part-time lecturer at the London School of Hygiene and Tropical Medicine, and Managing Editor of the BioMed Central journal *Emerging Themes in Epidemiology*. Ghattas's previous research focused on maternal and child nutrition and its interactions with immunity, morbidity, and mortality in the Gambia, Zanzibar, and Cote d'Ivoire. Ghattas has been conducting research on the prevalence and determinants of food insecurity and malnutrition in marginalized populations and those vulnerable to emergencies in Lebanon, including Bedouin populations, Palestinian refugees, and those living in conflict-prone areas.

9. *Win-Win versus Lose-Lose: Investments in Foreign Agriculture as a Food Security Strategy for the Persian Gulf States*
Mary Ann Tétreault Deborah Wheeler, and Benjamin Shepherd

As part of their strategic focus on food security, the Arab states of the Persian Gulf have become increasingly interested and involved in the acquisition of foreign farmlands. As managers of major sovereign wealth funds (SWFs), their investments present the opportunity to influence best-practice for case examples of the positive potential of foreign investment in agricultural land development. Investor interests are multiple and long-term, and therefore encompass goals in addition to simple profit-maximization. Yet, foreign investments by rich states in agricultural land in developing countries have been the subject of significant criticism.

Investors and supporters of the deals argue that they can create “win-win” outcomes that benefit the countries hosting the projects at the same time that they deliver returns to the investor. Countering this optimism are recent studies which argue that although win-win outcomes are possible in theory, the likelihood that they will be achieved in practice is very small. Our study is an attempt to assess the validity of these opposing positions through empirical research. In particular, we set out to examine the social and political environments within which Gulf states are investing in foreign agricultural land and, as much as possible at this early stage of policy implementation, how these investments are playing out in local settings. We concentrated on two cases, Ethiopia and Cambodia, both recipients and targets of Gulf state investments in the agricultural sector.

The primary objective of our research is to expose the layers of relationships that result from overseas agricultural investments, not only between home and host governments but also between investing enterprises, and local residents. Our investigations uncovered harm and insecurity created by farmland investments that directly affect vulnerable host-country communities, especially those displaced by the new owners. We also explore the vulnerabilities of investors to short- and long-term unintended consequences of observed reactions by displaced farmers, and the impact of such contentious politics on the reputation of GCC investors.

Moral arguments focusing on host countries and their populations can, are, and must be made against investment practices that lead to negative results for local populations. The intent of this article, however, is to lay out the problems and risks that such practices pose to investors that are the governments or agents of politically vulnerable states which themselves possess natural resources that other states covet. The purpose for doing so is to demonstrate that, in addition to the moral arguments, farmland investments as they are currently conceived and executed are bad business practice and poor policy. Our intention is not to dismiss the harm occasioned to communities in developing countries, but instead to demonstrate that this harm—in the form of the risks it generates for investors—must be properly evaluated, recognized, and mitigated if projects are to deliver the promised win-win outcomes and avoid win-lose, or even lose-lose, scenarios. As things currently stand, the latter outcomes appear considerably more likely than the former.

Some negative outcomes are similar and obvious across the two cases. For example, the effects of uncompensated population displacement range from a lack of availability of cooperative labor for the investors’ farms to the potential for sabotage against farm installations and supporting infrastructure by desperate former owners. Other risks are less obvious, such as the unanticipated additional costs of endemic corruption in host countries like Cambodia, or the financial demands arising from a severe dearth of infrastructure requiring extensive investment in essential goods and services ranging from transportation to facilities to basic worker training and

healthcare. Some are functions of the early stage of these investments. For example, uncertainty contributes to tensions over whether the principle aim of these projects is to grow crops for home-country markets as a way of sheltering them from price volatility, to increase production as a means of keeping global food prices low, or to engage in various speculative activities. The former risks abandoning host country populations to continued food insecurity while a potential consequence of the latter is the risk of affecting world food prices in ways that are likely to be highly deleterious regardless of the return to investors. Other negative outcomes are likely results of policies that are still at the planning stages, such as the sharp narrowing of time horizons and investment goals that will result from turning state investments over to the private sector. Still others envision eventualities arising from host-country vulnerability and instability that could result in expropriation of the investment.

Over all, we conclude that it is possible for GCC governments to shape their foreign investment in agriculture to produce win-win outcomes. It is, however, unlikely that these would be structured as land acquisitions that dispossess locals and risk increasing impoverishment and violent politics in the developing country hosts. If inclined to do so, their constructive efforts to re-shape foreign agricultural investment practice could bear fruit that would enhance both the value of their investments and the reputations of investing states as supporters of responsible and sustainable agricultural and investment practices beneficial to themselves and their local partners. The time available to construct investments in agricultural land in this way is limited, however, because prior decisions limit the options available for future moves.

Our recommendations include acting on a broad front to build coalitions within host countries and between compatible interests in both home and host countries whose cooperation would vastly improve the likelihood of generating the positive outcomes that “win-win” advocates envision. Such actions should proactively develop assets, incomes, and sustainable livelihoods for communities at the local level. Investors should neither assume that host governments have the capacity to ensure that investment benefits reach their rural constituents, nor take host government assurances about such matters at face value. Given the new visibility of GCC states in foreign policy and as leaders in innovative approaches to sustainability in a variety of settings, the reputational costs of insufficiently thought-out investment policy in developing-country agriculture is perhaps the greatest risk to these investors and their long-term security.

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Global Political Economy: Emerging Issues and Unfolding Odysseys (2003); *Feminist Approaches to Social Movements, Community, and Power* (2003); and *Stories of Democracy: Politics and Society in Contemporary Kuwait* (2000).

Deborah L. Wheeler is an Associate Professor of Political Science at the United States Naval Academy in Annapolis and a Visiting Professor of Political Science at the American University of Kuwait. Her interests in food security developed from a focus on questions of human security and political stability in the Middle East. Her research on food security in the Middle East adds another layer to considerations of ways in which non-traditional security questions affect political stability in the Middle East. Her publications include: *The Internet and the Middle East: Global Expectations and Local Imaginations in Kuwait* (Albany: State University of New York Press, 2006) and a wide range of articles and book chapters spanning a decade and a half of research on the Middle East. She has conducted field work in Morocco, Tunisia, Egypt, Jordan, Israel/Palestine, United Arab Emirates, Syria, Turkey, Kuwait, and Oman.

Ben Shepherd is a Ph.D. candidate in the Food Security program at the Centre for International Security Studies, University of Sydney. Shepherd's research is examining foreign investment in developing country farmlands. This project has included field research in the Philippines, Cambodia, and Ethiopia. Shepherd was 2010 Research Fellow at the Centre for Non-Traditional Security Studies in Asia. Prior to embarking on the Ph.D., Shepherd had a corporate career which included selling and implementing data secrecy technologies with government agencies and financial institutions around the world.

10. *Food Insecurity in the West Bank*
Elisa Cavatorta and Sam Waples

This study explores the spatial patterns of food insecurity in the West Bank region of the Palestinian Territories, and how community-level factors, such as environmental factors and resource accessibility, can explain these patterns. It constructs an original dataset combining household survey data on food insecurity, census data on community level characteristics, and environmental information extracted by elaborating Geographic Information System (GIS) surfaces. Unique in its approach, this study estimates a multilevel model of household food insecurity, including household, community characteristics, and a spatial lag of surrounding community characteristics. We predict food insecurity incidences at the community-level for the entire West Bank and analyze the geographical patterns of food insecurity. The study finds strong influences of local environmental characteristics in explaining household food insecurity. It also finds evidence of distinctive geographical patterns of food insecurity incidences, suggesting a role for geographically-targeted interventions.

We build an econometric model including both household and community information to identify the effect of these factors on the household probability of food insecurity. The model allows us to predict the incidence of food insecurity across the entire West Bank and we analyze the spatial patterns that emerge. To shed some light on the consequences of possible policy interventions, we simulate changes in probability of food insecurity that would arise under a number of hypothetical scenarios. The policy scenarios hypothesized in the study highlight the responsiveness of food insecurity incidences to improvements in employment rates, removal of mobility restrictions, and infrastructure development. The study is the result of an interdisciplinary research cooperation between the authors and collaboration with Palestinian partners, who shared knowledge and data. To collect the data, the authors engaged in an extensive data analysis, a number of visits at the Palestinian Bureau of Statistics, and consulted several Palestinian authorities and international bodies.

Socio-economic development policies are often designed to address social disparities in particular types of geographical and economic environments. In the food security literature, there is recognition of the importance of environmental factors, such as market access or agricultural potential, to explain food insecurity, but these linkages are rarely assessed in an explicit geographical way even though, in certain contexts, these appear to be critical.

The West Bank region of the Palestinian Territories is among one of these cases where there is a direct link between geography and food insecurity. Plagued by an enduring political stalemate, Palestinian growth and development has been significantly affected by the lack of progress to peace and the legacies of this unresolved conflict. On the ground, access to market and resources is constrained by unequal development and hindered by mobility restrictions of people and goods. Israel retains control over security and planning on significant portions of land reserves as well as agricultural and grazing land. Employment possibilities are limited and livelihood opportunities depend on the surrounding environment. As a result, the West Bank demonstrates chronic levels

of poverty and food insecurity. For example, the Food and Agriculture Organization (FAO) estimates that 22 percent of the population of the West Bank was food insecure in 2010.

The analysis of the spatial distribution of the prevalence of food insecurity and environment factors across communities has a number of policy implications. First, it can help identify and quantify regional disparities in food insecurity behind the crude governorate statistics usually available from policy reports. Secondly, it may help identify the areas most deprived, which may inform policymakers about which areas to prioritize. Third, the analysis of the spatial distribution of food insecurity together with the spatial patterns of environmental factors, such as agricultural potential and market access, and their simulated changes, is able to show which environmental factors are most important. This may inform policymakers on which interventions to prioritize for long-term improvement in food security

Elisa Cavatorta is a Post-Doctoral Fellow at the School of Oriental and African Studies, University of London, and an associate researcher at Birkbeck College, University of London, where she obtained her Ph.D. in Economics. Her research interests are in the areas of development economics, applied microeconomics, defence economics, and GIS. She is particularly interested in questions related to food insecurity, risk attitudes, and agricultural-health linkages. Cavatorta has worked in the Middle East, conducting research for the FAO and regional research institutes. She has presented her research at several international conferences, including ERF Annual Conferences and the African Econometric Society meetings.

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11. *The Nutrition Transition and Obesity in Qatar*

Tahra ElObeid and Abdelmoniem Hassan

Qatar is one of the most food import-dependent countries in the world, and net food imports are anticipated to rise even further in the future. About forty years ago, Qatar had very limited food choices due to the arid nature of the country. The main components of traditional diets at that time consisted of rice and seafood and, due to historic migration patterns, local cuisine was strongly influenced by the Persian and Indian kitchens. In this study, we discuss the issue of a nutrition transition and food security in Qatar, and how this transition has led to the increase in the prevalence of obesity and other non-communicable diseases among the different sectors of the society.

Qatar is now one of the leading countries in the world in terms of oil and natural gas production and has had sharp economic growth during the past few decades. With this economic boom, food imports have increased and now account for more than 90 percent of national food consumption. This high dependence on imported food can be attributed to both demand and supply-side factors. The demand-side factors are comprised of the rising population due to the immigration of people from different parts of the world for employment purposes, and the change in food habits of the Qatari society due to higher income and the incorporation of Western foods into their diet.

The supply-side factors include limited natural resources such as arable land and water. Wealth, globalization, and immigration of people from different parts of the world to Qatar have led to a nutrition transition in the country. The levels of overweight and obesity have increased significantly in Qatar. As a consequence, the prevalence of obesity-related health-complications is increasing. Change in local food habits due to the evolution of traditional diets to more Westernized meals, and the introduction of unhealthy, high caloric, fast-food, is a primary cause for the increasing prevalence of obesity. The movement towards urbanization from a typically rural or nomadic life-style has also aggravated the problem of obesity in Qatar. Economic progress and wealth has led to the adoption of a more sedentary lifestyle, with greater dependence on labor-saving technology in people's daily activities.

In the case of Qatar, there is the problem of over-consumption as well as unhealthy food choices for both the higher income sector of the society as well as the lower income population, who face the same consequence of obesity and its related complications due to their consumption of "cheap, high fat, high carbohydrate, low nutritive value filling foods." What Qatar is facing can be explained by the concept of "the double burden of disease," which is a term used to describe the situation in most developing and booming economies, where under-nutrition and malnutrition occur alongside diseases that may be due to over-consumption of food and eating unhealthy food. Although Qatar is now considered as a country with the highest level of overweight and obesity, studies are limited in this area and statistics of the actual prevalence is still unavailable.

Qatar has become one of the leading nations to promote athletics and has successful institutions which educate and promote athletes, and, in 2022, it will host the World Cup. In this line, the awareness of the importance of physical activity has also risen and it is covered intensively by the media. Qatar is making serious attempts to solve the problem of obesity and its related complications, but this is a task that will require much effort and intervention from all the different stakeholders. Many other countries have tried to reduce levels of

obesity and NCD through various national plans with little success. Qatar has a strong chance of success due to the relatively small population and adequate financial resources that will help in the implementation of the different areas in the action plan.

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