THE MAKING OF THE CORPORATE AGRI-FOOD SYSTEM IN EGYPT

A Dissertation

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

by

Marion Wood Dixon

August 2013

THE MAKING OF THE CORPORATE AGRI-FOOD SYSTEM IN EGYPT

Marion Wood Dixon, Ph. D.

Cornell University 2013

This dissertation explores the histories and conditions that have enabled and that limit heightened commodification of food in Egypt. Multi-method research in Egypt indicated that while the growth of food that is made into a commodity form by corporations is not substantial in Egypt, it has contributed to the reconstitution of smallholder agriculture, growing class conflict, desert ecosystem damage, public health crises (namely, an overweight/obesity epidemic and Avian flu pandemic), and the capitalization of agriculture and food systems of neighboring countries. The dissertation examines specifically the growth over the past thirty or so years of an agroexport market (of fresh and processed high-value agriculture), an animal protein complex (of large-scale, industrial poultry, fish, dairy and beef production and/or processing) and corporate food service (e.g. franchises) and food retail (e.g. supermarkets). The research methodology contextualizes this system within a framework of 'frontier making' – the expansion of agricultural (and industrial) areas as sites of capital accumulation – in the two eras of globalization or regimes of global value relations of the long 19th century and of the neoliberal period. Building on the social science critique of historicism the double movement of the system – heightened capital accumulation in agriculture and food and limits to capital accumulation – is analyzed through three lenses: the reconstitution of peasantries, the reproductive logics of the dominant class, and parasite ecology. These three lenses complicate critiques in agrarian and food studies that the limits to food commodification via corporate control are found in producer and/or consumer agency or reflect the country's condition of

underdevelopment. This research draws on political economy, agrarian studies, food studies and political ecology to explore an understudied issue in area (Middle East and North Africa) studies: agrarian change and food system re-/making in the early 21st century.

BIOGRAPHICAL SKETCH

Marion Wood Dixon graduated with a MS degree from the Department of Development Sociology at Cornell University and a BA from the University of Michigan, Ann Arbor. She has studied international development at the University of Oxford and the University of Cape Town in South Africa. Previously, she worked in community development projects in the US, Morocco, India and Russia.

To Anouar

ACKNOWLEDGMENTS

Like most doctoral students I have many to thank for the years of support, encouragement and cooperation. Institutionally I have many debts. My committee members – Fouad Makki, Vilma Santiago-Irizarry, and Timothy Mitchell – gave critical feedback on my research through this project's duration. My committee chair, Philip McMichael, especially has contributed immensely to my growth intellectually and this project's evolution – and completion. I cannot thank Phil enough for his advice and care since I entered the Department of Development Sociology in 2005.

The Department of Development Sociology was particularly helpful when I returned to Cornell following a long stay in Egypt, in 2012-2013. If it were not for the additional support afforded to me within the department, writing this dissertation would have been much more of a challenge. Also, for assistance with the writing of this dissertation at Cornell I want to acknowledge the Maps and Geospatial Information Department of Olin and Uris Libraries for the three maps in this dissertation. In particular, I thank Boris Michev for making the department resources available to me for these purposes, and Johannes Plambeck for making first-rate maps. Also, this research was supported by a number of research funds within Cornell University, including: the Richard Bradfield Research Award, the Polson Institute for Global Development Dissertation Award, the Institute for Social Sciences Travel Grant, and the Mario Einaudi Centre for International Studies Travel Grant.

Likewise my gratitude and appreciation for colleagues in Egypt is too considerable to adequately represent here. I am of course thankful to the anonymous interviewees who agreed to meet with me. And many fellow researchers and advocates contributed to this research and spent their precious time to meet with me and to introduce me to others. I would like to thank especially Raymond Bush, who I first

met in Egypt, and who has been supportive of my research and my growth professionally beyond measure since our first meeting. Also, I thank Bashir Sakr in particular for being accommodating to my many questions and being my 'father away from home' – and for his many years of advocacy. And I want to acknowledge Mark Gamal for his years of painstaking Arabic lessons, translation and interpretation – and most importantly, patience. There are many others to thank who I could name individually but I will list here alphabetically (by last name): Enas Abbas Saleh, Abla Abdel-Latif, Doug Anderson, Habib Ayeb, Tarek Baz, Joel Beinin, Jennifer Bremer, Nader Fergany, Millie Gadbois, Mamdouh Habashi, Nicholas Hopkins, Abdelmawla Ismail, Shahinda Maqlad, Mohammad Mohieddin, Richard Tutweiler, Hoda Rashad, Reem Saad, Karam Sabar, Mirjam van Dorssen, Fatma Ramadan, Herb Williamson, Sahar Zaghloul.

More broadly, I want to acknowledge a number of institutions (of which some of the above individuals are representatives) for accommodating my research inquiries. These institutions include the Arab and African Research Centre, Desert Development Centre at the American University in Cairo, Economic Research Forum, General Authority for Investment, Land Centre for Human Rights, National Nutrition Institute, and World Food Program.

The writing of this dissertation went through several phases, all of which were boosted by participation in conferences and workshops. I am thankful to Sylvia Bergh for convening a workshop in which I presented at the Twelfth Mediterranean Research Meeting in 2011, and to colleagues who presented their work at the workshop for lively discussion and debate. Participation in this workshop shaped what chapter three became two years later. Participation in the 2012 African Studies Association of the UK (ASAUK) Conference was invaluable for the development of the theoretical and

analytical frameworks that I develop in this dissertation and for the refinement of chapter six in particular. I thank Raymond Bush and colleagues with the *Review of African Political Economy* (ROAPE) for their generous support and encouragement. Also, chapter six was strengthened by the anonymous reviewers of a manuscript that I submitted to ROAPE, and by participating in the Land Grabbing II conference of the Land Deal Politics Initiative that was held at Cornell University in 2012. Presenting at the Land Grabbing II conference was helpful in a number of ways, including by strengthening chapter four and the concept of frontier that I use in the dissertation. Lastly, I thank Fouad Makki and Charles Geisler for organizing and inviting me to present with the New Enclosures Working Group at Cornell University in 2012. Participation in this workshop with seasoned scholars was incredibly useful for building chapter five in particular.

Throughout the many years that it took to complete this dissertation, my friends and family were the rock to stand on when I felt that the ground was moving underneath my feet. And there were many such moments. I will forever feel the loss of Irena Chalpin, Nicole Fisk and John Westley. My mother, Camille Westley, and my grandfather, George Rayl, have been especially supportive of my education and wellbeing. Most of all, my two greatest companions have made this all worthwhile; Elias, I research and write to help make this world a better place, and Anouar, I could not have asked for a better translator, interlocutor and partner.

All interpretations and arguments made in this dissertation are mine alone and should not be attributed to any of the individuals or institutions named above.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

In this dissertation I ask how, why and to what effect food is made into a commodity form by corporations in Egypt. I explore the histories and conditions that have enabled and that limit heightened commodification of food. Drawing on a social science tradition in agrarian/food studies that examines the differentiated ways in which corporate agri-food supply chains are constructed, I use supply-chains as a starting point for analysing how the corporate agri-food system was made through and shaped by historical and contemporary agrarian change in Egypt. In Egypt, as in many countries of the global South, a growing percentage of the domestic food economy is driven by local, regional and transnational corporations. Over the past thirty or so years an agroexport market (of fresh and processed high-value agriculture), an animal protein complex (of large-scale, industrial poultry, fish, dairy and beef production and/or processing) and corporate food service (e.g. franchises) and food retail (e.g. supermarkets) has grown. This growth is not substantial in Egypt, but it has affected smallholder agriculture, capitalist class (re)formation, desert ecosystems and development, public health crises, and the agriculture and food systems of neighbouring countries. Rather than view the development and growth of corporate food as a process unfolding in time, through Egypt's uneven integration into the world system, following Chakrabarty (2000) this study shows that there are linear and non-linear movements toward the production and consumption of corporate food.

This study was born out of two concerns. The first concern was the dispossession of smallholders from land, water and critical resources in a violent land grab in Egypt that followed the counter agrarian reforms of the 1990s. I asked how small-scale farmers were responding to the land grab, and why they were or were not organized in their resistance to it. The second concern was to conduct research that

was meaningful for not only the research community from which I had come, but for the subjects of the research. In fact, my decision to conduct research in Egypt was informed largely by the interest of colleagues in Egypt in a collaborative research project. However, these two initial concerns were at odds in some ways. A social science research project on smallholders would not necessarily have meaning for the smallholder communities involved. I faced this dilemma when I first came to Egypt in 2008, and I was brought by an advocacy organization to a village in the Delta. I sat with the organizer and the villagers, while the villagers told of their lack of schools, clean water and housing rights, and so on. The organizer told me to write notes. And I did but I did not know what I would do with those notes. The villagers wanted to be heard, but I was not a journalist or a representative from a development agency. I did not know how I would use the notes, or how I would interpret their voices, or when I would publicize their issues. This was uncomfortable for me, and many of the decisions governing this research that I made since that village visit were informed by an attempt to find a more comfortable place from which to situate myself as an American researcher writing in English 'about Egypt'.

There were also a host of political and security constraints that shaped this study. It was early 2008 when I began preliminary field research, and there were government restrictions placed on foreigners living outside the metropolitan areas and tourist resorts. On several occasions I visited the Delta, and this movement was not monitored, but if I chose to stay in the Delta, then my presence may have caused problems for Egyptians who were associated with me. When I first visited Middle Egypt in 2010, I was escorted by the police, shuttled into a hotel, had to sign in and out of the hotel, and was instructed by the local NGO that was hosting me to tell the authorities that I was a volunteer (and not a researcher). When I visited the second

time in 2010, I walked by the authorities, did not have anyone escort me while I was visiting, and was able to be 'off the radar'. But this was a temporary visit, and evading the authorities during a longer-term stay would have been exhausting if not impossible.

How the security apparatus operated at the time in part reflected the politicized times. Not only were their recurring instances of sectarian violence (for example, there was a violent sectarian attack on a train coming from the same city in Middle Egypt that I visited that same year), but there was on going political unrest against the Mubarak regime. The field research for this dissertation began in its preliminary stages in January 2008 and ended in January 2012. January 2008 was the height of the global food crisis, when food prices were spirally out of control in Egypt. Protests mounted, culminating in a protest of over fifteen thousand in an industrial town Mahalla in April in what became a violent clash between protestors and police, and igniting the April 6th national day of protest and the April 6th movement, one of the many movements that was behind the 25 January 2011 uprising. These protests followed five years or more of labour agitation – sit-in strikes, work stoppages, hunger strikes and demonstrations. Food prices dropped by the end of 2008, but they never resumed their pre-2008 levels, and began to rise in 2009 and spike by the end of 2010. This was the beginning of the 'Arab Spring', and by January 2012 the uprising appeared to be more clearly an on-going revolution.

The particular historical moment and my initial concerns shaped the phases of the field research for this study. I began with participant observation with smallholder advocates largely in Cairo, and after the first year or so there was a nagging, less than fully articulated question: I attended a conference, seminars and working groups with those struggling against the violent land grab that followed the counter agrarian

reforms of the 1990s, and I had conversations with advocates of small-scale farmers and fisherfolk. From this participant observation I understood that the struggles over land were largely localized; maybe it was the sheikh of the village or the heir of a former landlord or a local businessman who was dispossessing (or attempting to dispossess) agrarian reform beneficiaries from the land and resources as the price of land rose. Yet, living in Cairo (and having travelled to Alexandria and the Sinai) I saw 'corporate food' everywhere, and I wondered how agribusinesses had grown so large if they were not behind the land grab. In attempting to answer this question I began a second line of research inquiry – of agribusiness and the agri-food industry.

This study then became organized around two lines of inquiry: of smallholders 'with' advocates and activists; and of agribusiness and the agri-food industry 'with' the capitalist classes. During the following two years of field research I maintained communication with smallholder advocates and participated in advocacy events and so on, but I began to focus more on the new line of research – a shift that in many ways resolved the formidable challenges of doing research in the countryside and around a highly politicized subject (of violent dispossession from land and resources). The broader study – of the making of the corporate agri-food system – was in fact born when an assumption that I held about the relationship between corporate food and dispossession began to be questioned. This assumption is supported by literature on the global food system or economy that concludes that processes of food commodification are realized through dispossession – of smallholders, villagers and others from land, water and other community resources. And it is this literature that I problematize in this study, as I detail in the following section. Although doing so was not my initial concern of 'inverting' research by making the subjects of the research participants in the study (and in many ways this study is a conventional political

economy study of trends and trajectories) – I have designed this study to be relevant to advocates and activists in Egypt who are struggling for social justice, rural livelihoods and food security for the masses.

Overview of the argument

Much of the literature on corporate food focuses on the industrialized world or global North. When I looked for literature that would help explain analytically and theoretically the development and growth of corporate food in Egypt, I looked outside of area/Egypt studies as there is not food studies or related scholarship on contemporary Egypt. Drawing on the literature on corporate food in the global North would be inadequate, and there is not a study of a national 'corporate agri-food system' in the global South that is similar to the one that I was planning to do. However, I found it useful to compare and contrast aspects of corporate agri-food systems in other parts of the global South. For example, I draw on scholarship on the emergence and growth of supermarkets and hypermarkets in the global South (see Alvarado and Charmel 2002; Faiguenbaum et al 2002; Weatherspoon and Reardon 2003), and on commodity chain analysis for the feminization of labour regimes within agroexport markets (see Barndt 2002).

The literature on global food system change is another body of literature that may have helped in constructing a country study that is not of a contained system but rather relates to other system changes and in other parts of the world. This literature (e.g. Friedmann 2005; GRAIN 2012; Patel 2007; Weis 2007) tends to paint a picture of food systems change by corporations spreading from the global North to other parts of the globe through an 'international' or imperial infrastructure that privileges corporations access to markets overseas – through free trade agreements, international commodity markets, privatization, etc. As the spread and wealth of corporations

grows, a growing percentage of food is being captured in a commodity form by corporations – and with the remaking of food systems there is simultaneously a growing gap in quality/quantity of food and a convergence of chronic diseases (e.g. diabetes, overweight/obesity) across class and between the global North and the global South (see, for example, FAO 2006; FAO 2006a; Haslam and James 2005 on conclusions that link overweight/obesity to changing diets globally). I confirm parts of this narrative in this study, but I also set out to problematize it as inadequate for explaining the making of a corporate agri-food system in a country like Egypt. Corporations have grown enormously powerful and have entered into numerous markets in the global South, including in Egypt, through bilateral trade agreements, privatization and so on. As in numerous countries of the global South, corporate food has been growing as a percentage of food in Egypt, at least up to the 25 January 2011 uprising. Nonetheless, I problematize this narrative as a whole to help explain food system change in Egypt.

To begin, as social science critiques of historicism illuminate, such a narrative is one of social change as a linear movement in historical time (for critiques of historicism see subaltern studies; I rely on Chakrabarty 2000 in particular). In the case of the literature on the 'global food economy', change is understood generally as emanating from the historical centre of industrialization and corporatization and then spreading to the 'peripheries'. However, historicism, or the 'idea that to understand anything it has to be seen both as a unity and its historical development' (Chakrabarty 2000:6), is not just the idea that capital has its beginnings in one place and then develops globally over time, but is also a way of thinking about capital as global in its original form (ibid.: 47). Both ideas see capital undergoing a 'process of development in historical time', even if historical differences are acknowledged in its development

(ibid.). In the historicist narratives on corporate food, this movement in historical time entails a transformation from the non-industrial to the industrial, or even the non-modern to the modern, from small-scales of production to large scales, from consumption for the masses to consumption for the global consumer class. In the global South, in particular, capitalist production replaces peasant production through dispossession of peasantries from land, water, and other critical resources (see lively agrarian question debates on the relationship between peasantries and capital accumulation in the 21st century, e.g. Akram-Lodhi and Kay 2010, 2010b; Bernstein 2009; Watts and Goodman 1997; Weis 2007).

The critique of historicism: empirical implications

In the simplest sense corporations are given too much power in much of the literature on the global food system. More than this, the narratives simplify the historical constitution of corporate power or hegemony. For example, there is much evidence to support the assertion that there is an absence or gap of control along most 'global' corporate food commodity chains. As Watts and Goodman (1997) are at pains to demonstrate, the global food system is nuanced and heterogeneous with many different actors and sets of relations at work, since most food manufacturing companies and retailers do not operate vertically (based on the 'industrial model of transnationalism'). For example, often at the forefront of corporate food in the global South are not transnational corporations but regional and local corporations as well as local capitalists (see Rosset et al 1999 for a survey of agroexporting countries in the global South; also the literature on super/hypermarkets in the global South). This is certainly the case in Egypt where local corporations, regional corporations, transnational corporations and finance capitalists (along with the military) play

complementary and competing roles in shaping the food system, as I detail in this dissertation.

Furthermore, the evidence points to 'contradictory' or varied relationships between a globalising food system and smallholders/peasants in the global South. In addition to corporate/industrial farms unilaterally replacing smallholder farming systems, through various forms of dispossession, there is also evidence that small-scale farming and gardening systems in parts of the global South are resurging or maintaining levels (e.g. Rosset 2006; van der Ploeg 2008; Watts 2009). Contract farming is widespread in some commodity chains with implications for smallholder agriculture that are nuanced (e.g. Little and Watts 1994 for sub-Saharan Africa; Key and Runsten 1999 on Latin America; special issue in *World Development* (Vol. 37, Issue 11) on 'Agrifood Industry Transformation and Small Farmers in Developing Countries'). As I have already indicated, in Egypt the relationship between heightened capital accumulation in agriculture and peasantries is anything but linear.

The critique of historicism: theoretical implications

The social science critique of historicism illuminates more than the nuanced workings of corporate power in food systems around the world. This critique questions theorising corporate food in Egypt as being 'not yet' – as big a percentage of food distributed and consumed as, say, in Europe –; as 'not yet' eliminating or taking over street food or food markets, and so on. As a movement 'not yet' where it may, could or should be – it can be interrupted, but by that which theoretically lies outside it – say, by social movements. This is in essence the flipside of the conclusion drawn in the industry (or 'pro-business') literature; that is, the movement toward corporate food is interrupted by various 'obstacles to growth' (for example, a population of low-

income consumers) (on Egypt's agri-food industry see Business Monitor 2011, GAFI 2010b, IMC 2005, USDA 2000).

The social science critique of historicism further questions another common theoretical explanation of food system change in the global South: food system change being a structural feature of underdevelopment or uneven integration into the 'world system' or global capitalism (see Watts and Goodman 1997 for similar conclusions). In this explanation historical time is not interrupted but rather collapses (Chakrabarty 2000).

Whether capitalist history is a history of the metropole or is a 'global history' from the outset, historicist narratives fail to capture how capitalist history or histories have always been a marrying of the metropole and periphery. (Demonstrating such as a social scientist is Chakrabarty's project of 'provincializing Europe'.) In his classic work on the making of the modern consumer, Mintz (1985) questions the assumption that Europe developed the colonial world after Europe by connecting historically the rise of slavery in the colonies with proletarianization in Europe. Industrialization in Europe fuelled the plantation systems, just as the plantation systems fed the new working classes (and profits of capitalist classes) in Europe.

This critique of historicism that has inspired new ways of understanding capitalist history or capitalism is more broadly a questioning of History itself (note the capital "H" in history); that is, what it means to be human. One aspect of Chakrabarty's (2000: 16) project of 'provincializing Europe' is to move away from assumptions in the social sciences that 'the human exists in a frame of a single and secular historical time that envelops other kinds of time'. He argues that, in contrast to the assumption that the human is ontologically singular, gods and spirits should be understood not just as 'social facts' but as part of what it means to be human. In this

study I am not concerned with demonstrating how humans and gods and spirits co-evolve. However, this critique has animated questions within the social sciences of historical time that is singular vis-à-vis the 'rest of Nature' (see, for example, actor network theory in science studies), which are a concern of this study. Although I draw on some of the vast literature on the effects of human activity 'on Nature' within the social sciences as well as the biological, physical and geological sciences – addressing this concern I work with theories of the mutual constitution of the human and the nonhuman (or extra-nature or Nature) (namely, Latour (1993) and those influenced by Latour (e.g. Mitchell 2002), as well as Moore (2010, 2011, 2012) who has been influenced by left/political ecology).

Bringing back this line of questioning to theoretical frameworks of capitalist or modern histories, Chakrabarty (2000) proposes that capital reproduces with double possibilities – that which necessarily reproduces it and that which does not. This intervention is larger than the project of 'provincializing Europe'. Demonstrating that the dominant metropolitan histories and the subaltern peripheral pasts (and presents) co-produce one another is one way to reflect capital's double possibilities. But there are other ways. In this intervention the subaltern, Nature, the gods, and so on are not the second possibility of capital that does not necessarily reproduce it; rather, the subaltern, Nature, the gods, etc. are impossible to separate from one another and other social categories and forces that may or may not reproduce capital.

It is through Chakrabarty's intervention that I construct the corporate agri-food system in Egypt. As I detail in the following sub-section, the unit of analysis of this study becomes not the so-called 'establishments' of corporate food, or what I refer to as the 'agri-food industry' (e.g. the corporations, the franchises and so on), but a

corporate agri-food *system* that is defined as including that which necessarily reproduces corporate food and that which does not.

Framing this study

Methodologically the corporate agri-food system, as that which reproduces with double possibilities, is constructed through a framework of frontier making. A main argument of my dissertation is that heightened capital accumulation in agriculture and food has been possible in modern day Egypt through the horizontal and vertical expansion of socio-ecological spaces for cultivation (and industry) from the Delta and Nile Valley in the two eras of globalization or free trade regimes (in the long 19th century and in the neoliberal period). I contextualize these expanded socio-ecological spaces for agricultural production (and food processing) (or 'frontier') as:

- A double movement – heightened capital accumulation in agriculture and limits to heightened capital accumulation in agriculture [The enablers and limits are both of human and nonhuman (or Nature) doing. It is not that Nature interrupts and humans enable, but rather, the two in relation make and unmake simultaneously.]

- Part of two 'regimes of global value relations' or 'free trade regimes' of the long 19th century and the neoliberal period [That is, rather than Egypt being integrated or incorporated into the regime, there is a marrying of 'outside' and 'inside' influences, forces, and relations that produce capitalist relations in Egypt, which in turn makes and remakes a global regime.]

I build on Moore's (2000, 2010a, 2011) concept of frontier to develop this framework. For Moore frontiers may be characterized by quick booms and busts, which are often characterized not by total exhaustion but 'relative exhaustion' (Moore 2011) of socio-

ecological spaces that were carved out, for example, for cash crop monocultures or raw material extraction. This exhaustion then leads to the making of new frontiers. Moore's concept is useful for this study for two main reasons: Firstly, Moore's concept of frontier embodies ecological relations, and is supposed to demonstrate that capitalism does not just create ecosystem damage, but that capital reproduces through nature-society relations. Secondly, the concept is connected to the 'metabolic rift' or Foster's (1999) concept (attributed to Marx) of a rupture in nature-society relations with capitalist development. For Moore the metabolic rift is useful methodologically to demonstrate the importance of frontiers in capitalism. This use of the concept has been particularly helpful to me in connecting frontier making in Egypt not only to the subsumption of agricultural areas in the Nile Valley and Delta with capitalist development, but also to frontiers in other regions of the globe in these two historical moments of expanded capitalist reproduction.

What is problematic about Moore's concept is it tends to be spatially and temporally linear, as capital moves in time from one socio-ecological space to the next. This linearity flattens the conceptualization of frontiers as 'nature-society' bundles. I argue that rather than being linear, frontiers may be understood as 'bioregions' (Friedmann 2000) – specialized zones of commodity production that disrupt natural cycles, in Friedmann's terms, but that are also disrupted by these cycles. Thus, capital may be theorized as accumulating 'regionally', rather than expanding from one place of origin or as global in origin. Further, as bioregions frontiers may be understood not just as made and then exhausted, but as expanded, deepened and limited in relation to other socio-ecological spaces of capital accumulation. In other words, frontier making is a dynamic, relational rather than

singular, causal process. The frontier is not a physical place but rather a socio-ecological space that becomes a site of capital accumulation.

My account of frontier making in this dissertation (to be briefly told here) is that the expansion of agricultural areas for agroexport production (for industrializing Europe) within what is modern day Egypt beginning in the early 19th century followed the relative exhaustion of the 'agricultural district' of England (Ireland) in the late 18th century. In other words, the peripheral bioregion of Ireland began to experience falling returns and in response new bioregions in different parts of the world began to develop, including in the Ottoman provinces. The expansion and intensification of agricultural production for export within the Ottoman province of Egypt (and later the British colony) led to an ever expanding frontier of newly cultivated lands throughout the long 19th century. When production overall began to decline by the turn of the 20th century, a new frontier began to be carved out in what was then Anglo-Egyptian Sudan.

In this account of frontier making in the long 19th century, following Moore the frontier is not just within the borders of Egypt but rather this frontier is inseparable from frontier making in other regions. And the movement of capital is from one peripheral bioregion (Ireland and then Egypt) to another peripheral bioregion (Egypt and then Sudan). If contained within the long 19th century, frontier making maintains Moore's linearity. But as I demonstrate, the bioregion of Ottoman/Colonial Egypt was not completely subsumed; rather, due to intensification the frontier went through a period of relative exhaustion during roughly the first half of the 20th century. The frontier then underwent a number of transformations (and expansions 'into the desert') as largely a state project in the development or postcolonial era. With the resurgence of expanded reproduction of capital (heightened circuits of capital globally) in the

neoliberal period, there was an expansion of industrial agricultural and food systems in many regions of the world. In Egypt the ‘desert frontier’ became not only an agroexport platform for high-value agriculture for the hypermarkets and supermarkets of Europe, but also industrial animal agriculture (and aquaculture) and food processing for largely the domestic market. Again, due to limits to expanded capital accumulation within Egypt and beyond (marked in part by the 2007-2008 global food-fuel-financial crises) at the time of writing the frontier has been moving south, to the south of the country (Upper Egypt) and southern neighbouring countries.

In this world-historical view, the bioregion within Egypt is transformed not once but multiple times – and in similar and diverging ways. There is a chronological sequencing to the frontier as I develop the concept; in other words, what the frontier was before shapes what it became. (And in this concept, that would include largely, but not exclusively, the ‘colonial legacies’.) There are also logics that govern, but do not determine, the frontier – logics, which I argue took shape in the Ottoman/colonial period of frontier making and operate translocally (or put differently, across bioregions). The concept is not linear though. If the account of frontier making were truncated, say, at the start of the neoliberal period, then it may appear to be spatially and temporally linear. Transnational corporations and capital spread from the metropolitan centres to the peripheries facing falling rates of profit. However, with a world-historical view, and as I detail in the dissertation, the ‘desert frontier’ was and is shaped by inside and outside forces and processes that could be considered conjunctural and by previous formations of the frontier (and the logics that governed it).

Frontier making is the framework for understanding the enablers of and the limits to heightened capital accumulation in agriculture and food in Egypt. It should

not be understood as a stand-alone process but rather is one process in the production and expansion of capitalist relations in the long 19th century and in the neoliberal period. In particular, I analyse the framework as part of a 'regime of global value relations' (Araghi 2003), the global sets of relations that expand and intensify the production of value, or the benefit (profit but also privilege, prestige, etc.) that is extracted from the exchange of commodities within a generalized system of wage labour (but including diverse forms of labour). As such, I am not showing the particular ways in which Egypt is incorporated into the regime, but rather I attempt to show the alliance of 'inside' and 'outside' meanings and relations that shape the production of value relations in Egypt. This regime includes, for instance, the global hegemonic monetary system (of hard currencies in the metropole, soft currencies in the periphery) and the global hegemonic political order (laissez-fairism abroad (in the periphery) and protectionism at home (in the metropole), institutionalized by the World Trade Organization), state aggression, occupation and war, and so on. For Araghi (2003) the regime also includes, for instance, the diverse character of private property within states with the expansion of the labour market, land market and so on. In this study I am not writing at the scale of the regime and then moving downward, but I do routinely return to the global regime to demonstrate that it is in the making as well and does not operate above or onto the corporate agri-food system in Egypt.

I detail the character of the frontier not only as part of the regime in the long 19th century and the neoliberal period, but also (the state frontier) of the development era. In chapter two I summarize the similarities and differences of the 'three frontiers'. Much of this dissertation, though, is devoted to the particular workings of the desert frontier of the neoliberal period – in terms of the generalized labour market (and its diverse forms), new actors (food corporations, 'new peasantries', etc.), institutions of

political modernity (bureaucracy, universal rights/citizenship, etc.), processes of standardization (for industry), global governance, and so on. It is within the framework of the desert frontier that I critique the literature on corporate food as inadequate for explaining how corporate food has been realized and, especially, the limits to the commodification of food in Egypt. As I have already introduced here, and as I detail in the chapters to follow, frontier making has been a significant enabler of corporate food.

In terms of the limits to the commodification of food, I intervene in the literature on corporate food in the following way: The literature on corporate food[1] offers two general lenses on the limits to food commodification via corporate control – a lens on producer and/or consumer agency (e.g. peasant resiliency, organized resistance) or a lens on the condition of underdevelopment (an expression of the unevenness of the hegemonic capitalist state system). Following the critique of historicism I argue that the limits to the commodification of food are also found within the corporate agri-food system itself; that is, in the realization of corporate agri-food supply chains there lies a tension over the power to decide what and how to produce, distribute and consume food. I demonstrate this tension through three lenses: the reconstitution of peasantries, the reproductive logics of the dominant class, and parasite ecology.

Reconstitution of peasantries. My research on corporate food in Egypt challenges assumptions that I held about corporate food being realized through a kind of primitive accumulation of peasantries. I find that corporate agri-food supply chains have developed and grown not through violent dispossession of smallholders but largely

[1] This literature is expansive and here refers to three overlapping bodies: agriculture and food studies that focuses on corporate control (e.g. Bonanno et al 1994; Weis 2007); food regime analysis (e.g. McMichael 2000); Friedmann 2005); and agrarian question debates (e.g. Goodman and Watts 1997; Akram-Lodhi and Kay 2010, 2010b).

through other forms of dispossession. Corporate agri-food supply chains have of course thrived under processes of liberalization and privatization that have created landlessness, un/underemployment, etc. – i.e. a 'reserve army of labour' that has depressed wages and labour rights for the food processing centres, the franchises, supermarkets and so on. The expansion of corporate farms into the western desert has displaced Bedouins from ancestral lands, has depleted ancient aquifers and the northern lagoons, and has siphoned irrigation water and state revenues away from the Nile Valley and Delta. The forms of dispossession are many. At the same time, there is a tension: While corporate food as a percentage of food distributed in Egypt is small but growing in Egypt, and there is evidence of growing differentiation among producers and distributors, the growth of corporate food is also made possible in part through smaller scales of production, distribution and markets. In fact, much agricultural production is small-scale, or subsistence/household and/or 'informal'. And while constructing corporate agri-food supply chains it became impossible to differentiate them from household/subsistence and informal production and distribution.

The crisscrossing, reinforcing and contradicting, agriculture and food sectors in the country challenge the historicist notion of a linear movement of capital accumulation in agriculture. As a critique of historicism, this study intervenes in agrarian question debates regarding the relationship between peasantries and capital accumulation. For the last century and a half agrarian question debates have been punctuated by assumptions about 'the political' – should, would and could peasantries be political agents of revolutionary change – and the fate of peasantries in capital's march in time – the when and why not of peasant disappearance. In his debate with Brass (2002), Beverely (2004) questions these assumptions. Beverely argues that

Brass follows the tradition of Trotskyist thought, which privileges the urban proletariat and the rural unions of agricultural workers over peasantries as an agent of revolutionary change – and as such, peasants are viewed as anachronisms, as a reactionary force or class against progressive change. In this view peasants *persist* – the historicist notion of a 'before or after capital' as being 'outside' (Chakrabarty 2000 cited in Beverely 2004). Following Chakrabarty (2000) Beverely counters that there is nothing 'outside' per se, as the 'outside' is on the border, attached to the category of 'capital'. In other words, the transformations in 'peasantries' is part and parcel of capitalist histories; for example, peasant resistance to dispossession makes these histories as does peasant production that furthers capital accumulation in agriculture and food.

In my intervention in agrarian question debates of the early 21st century, about the widespread existence of 'peasantries' at a time of growing corporate dominance, I follow Beverely (2004) by applying the critique of historicism to the agrarian question. Specifically, I use the category of the reconstitution of peasantries and build on van der Ploeg's (2008) theory of peasantries being reconstituted in Empire (Hardt and Negri 2000) through struggles for autonomy and livelihoods. What is useful about how van der Ploeg's peasantries 'in Empire' is that the social category is fluid; peasantries reproduce themselves in diverging ways. The question of peasant agency is important to this study. While I was immersed in the attempt to understand the struggles of smallholders for a livelihood as they faced incredible pressure from structural adjustments, before I even began to attempt to map out what I am calling the country's 'corporate agri-food system', the way that I saw the position of smallholders within Egyptian society became blurred. Government bureaucrats, agricultural extension agents, judges and other agents of the state were involved in smallholder

advocacy. And around the time that I was mobilizing with others in Cairo in concert with the TckTckTck coalition and 350.org around the fateful 2009 Copenhagen conference on climate change that President Hosni Mubarak gave a 'state of the union' address to the People's Assembly that was interrupted by a farmer. In that speech Mubarak was fuelling the fire of a diplomatic war between Egypt and Algeria following violence that had erupted during the World Cup qualifications, and a farmer Assembly member stood up and interrupted him with the plea, 'Mr. President, farmers are suffering'. Mubarak responded patronizingly and offered only platitudes, but this public confrontation planted the seed, so to speak, for me to understand how smallholders and other subaltern classes are not only victims or marginalized within the body politic, but are also a political constituency, economic actors, and part of the nation.

In this study, then, peasantries are not just struggling for livelihoods in a context of heightened commodification of food, water, land and so on (i.e. 'in Empire'), but they are also struggling for social justice within the courts and through the media, are citizens, are grantees of rural policy, and active participants in the implementation of that policy, and so on (i.e. the various institutions of political modernity). In other words, through my research of smallholder struggles I began to understand smallholders as both objects and subjects of political modernity. For my theoretical category of 'reconstituted peasantries' in Egypt I add institutions of political modernity, following Chakrabarty (2000), to van der Ploeg's general category. Frontier making in fact expresses the tension embodied in this category. Simply put, as the agrarian reform institutions have been dismantled, the state has reclaimed desert land for graduates, the landless and others while state desert development has subsidized capital accumulation in agriculture and food. But there is

much more to the relationship between capital accumulation in agriculture and peasantries. In fact, I explore how peasantries in the former agrarian reform areas in the Delta and Nile Valley have been reconstituted through their integration into and exclusion from corporate agri-food supply chains. And I conclude that more than constructing corporate agri-food supply chains, peasantries have re-made the 'national consumer', i.e. dietary shifts domestically toward foods higher in animal fats and proteins as well as processed foods.

As an intervention in agrarian question debates, the category of reconstituted peasantries demonstrates that the transformation of production for use to production for exchange through capitalist relations is not unidirectional but dynamic, and can include the reversibility of this transformation. The corporate agri-food system then may be understood as realized not only through dispossession but through the reconstitution of peasantries. And, finally, this approach addresses the new set of alliance building possibilities (Araghi 2000) among reconstituted peasantries – vis-à-vis (at least) their relations to one another in supply chains and to consumers who are moving toward processed, corporate food.

Reproductive logics of the dominant class. At around the time that I began research on agribusiness in the country, an opportunity arose to work part-time in an Egyptian consulting firm at the heart of the commercial district of Cairo. The decision to orient my research toward agribusiness and the business elite generally was in no small part informed by Karl Marx's (1964, 2001) nuanced analysis of the French bourgeoisie at the time of the French Revolution of 1848-1851, in *Class Struggles in France, 1848-1850* and *The 18th Brumaire of Louis Bonaparte*. According to Yanagisako (2002), this analysis is one of the few accounts in which Marx gives agency and depth to the bourgeoisie (as opposed to in his other works in which he gives a nuanced

understanding of the proletariat). And my experience at the firm, in particular, became more relevant during that year and the following year as I met with other members of the dominant class – in finance, high-level bureaucracy, agribusiness – and finally in the context of the political uprising and on-going revolution. There were apparent 'cultural' similarities among these members (e.g. degrees from English-medium universities, similar office décor), and similarities in the organizational structure of their respective institutions (what I call a 'corporatized' structure – with some degree of separation between ownership and management, (often) a board of directors, etc.). Plus, individual firms are often part of much larger 'business groups' – family-based, diversified investment holdings – that are tied closely in social networks and in business to foreign capital and states (Egyptian and foreign).

The social networks and cultural and organization forms among the corporate family business groups, financial firms and other capitalist enterprises were in fact an important part of the ways of 'doing business' in the integrated ('formal') economy – through the stock exchange, public-private partnerships, contracts with the state and corporate partners, consortiums with foreign companies, franchise agreements, consultancies, and on and on. This architecture of social, cultural, legal and economic institutions, protocols, and norms that reproduces the dominant social structure is what I refer to as the 'corporate form' (Welker et al 2011), following the anthropological literature on the 'new economy' (see Ong 2005). Following Bourdieu (1989) I treat these institutions, protocols and norms as 'forms of capital' that are social, cultural and economic – and mutually convertible. I argue that the forms of capital that are part of the 'corporate form' have in fact become predominate as means of transmitting wealth and privilege among the dominant class in Egypt. Further, following Ong (1999) I analyse these newer forms as negotiated within the 'East-West divide'; they are

translocal in character, involving US government agencies, transnational corporations, global governance institutions and other hegemonic centres of governance, business and education – and may be understood as a negotiation between existing and newer relations to capital.

I explore how the agri-food industry was reconstructed since the 1970s through the 'reproductive logics' of the dominant class that become transformed in and through the corporate form. I offer three frameworks of the 'East-West divide' to demonstrate how the capitalist classes became reorganized and the effect of this reorganization on the agri-food industry: structural adjustments; USAID policies to promote industrial agriculture in reclaimed lands; and the cultural and social institutions of the 'corporate standard', or the non-economic forms of capital that mediate economic capital exchange. These frameworks cut across three periods of the neoliberal era: 1) the rise of agribusiness as a political coalition; 2) corporatization (the rise of corporate family business groups, entrance of regional and transnational corporations); and 3) financialization (including the rise of a class of finance capitalists).

What is significant about capitalist class formation in the making of the corporate agri-food system is that the reproduction of agribusinesses-turned-family business conglomerates (as well as regional MNCs and TNCs) was institutionalized through corporate standards – and there are demonstrable limits to this institutionalization across the class structure. I intervene in the literature on the elite (Bourdieu 1989; Ho 2009; Ong 1999; Ong 2005; Yanagisako 2002) by arguing that the reproductive logics of the elite do not just reproduce the dominant social structure but they limit its reproduction through heightened class conflict. Corporatization and financialization of the formal economy (including the agri-food industry) during

structural adjustments in Egypt in fact debilitated the economy for labour and contributed to the growing vulnerability of the poor to food price shocks, culminating in the food crises, protests and the uprising.

Parasite ecology. Throughout my field research there were recurring crises in animal agriculture in Egypt. In 2008 the Avian flu became endemic to the poultry industry. In 2009 in blood and tears the pig population in Egypt was decimated in frenzied anticipation of the swine flu. At the time of writing, in 2012, foot and mouth disease has been killing off hooved animals throughout the Nile Delta. I followed these events, but it was when I began taking trips to corporate farms in reclaimed areas (the 'desert frontier') and interviewed agribusiness executives in 2011 that I came to understand how significant the 'crises' of industrial agriculture worldwide had been to the expansion of the desert frontier and to the consolidation of industrial animal agriculture and the agroexport market in Egypt. In the reclaimed areas, where there are concentrations of corporate farms, there are abandoned poultry houses, which have since been moved farther into the desert to 'escape' the Avian flu. Many of the largest agroexporters that I interviewed were also corporate players in the consolidation of the poultry industry, and were building capital-intensive, coercive 'biosecure' poultry houses 'in the desert'. And when I toured the farms of 'high-value' certified fruits and vegetables I witnessed vulnerability to 'natural' forces as, for instance, a tomato virus was decimating monocultures of tomatoes.

I explore the particular character of the frontier of capital today through the lens of parasite ecology. The desert frontier is a site of (not only) intensive industrial agriculture, and two features of the frontier that I focus on are 'biosecure' poultry houses and 'plasticulture' or the use of plastics as an 'environment controlled' system of horticulture production. I use these biosecurity production systems as a lens on the

crises of industrial agriculture through which the corporate agri-food system has grown.

If the literature on corporate food discusses corporate food systems as an ecological or socio-ecological relation, it largely does so in terms of the outcomes or effects of commodification on the ecosystem (e.g. the loss in animal and plant diversity) (e.g. Barndt 2002; Weis 2007). Although I address these outcomes as well, through the lens of parasite ecology I attempt rather to show frontier making as constitutive of nature-society relations. More specifically, by focusing on the environment controlled or biosecure production systems in the desert frontier that attempt to manage parasite populations and, in turn, remake them and are remade by them – I demonstrate that the corporate agri-food system lies at the nexus of, and is a vector of, the crises of industrial agriculture and capitalism generally that are creating monsters (e.g. the Avian flu) (Latour 1993) that are not easily controlled. Or put differently, I demonstrate that capital accumulates in agriculture through these crises and is limited by them.

In conclusion, this thesis is about how the corporate agri-food system is made and unmade simultaneously. Following the social science critique of historicism, this is an argument not about the 'internal contradictions' of the system in an orthodox Marxist sense, but about how the system reproduces with double possibilities – that which necessarily reproduces the system and that which does not (Chakrabarty 2000). On the one hand, I use the above lenses to demonstrate the limits to commodification in the present day. On the other hand, I show how capital accumulates in agriculture and the effects of processes of commodification on livelihoods, ecosystems, the class structure and so on. The framework that anchors this study is frontier making – the process of creating socio-ecological spaces as sites of capital accumulation that is a

response to, or follows, a 'metabolic rift' and its deepening with intensified capital accumulation in existing agricultural areas. Frontier making in what is modern day Egypt is constitutive of the 'regime of global value relations' (Araghi 2003), or what is commonly referred to as the 'free trade regime', of the long 19th century and in the neoliberal period of roughly the 1970s to the present day.

Methodology and methods

The field research for this thesis was organized around two general overlapping lines of inquiry: of smallholder struggles for livelihoods at a time of a violent land grab and structural adjustments; and of the agri-food industry, including in particular the growth of corporate farms in reclaimed desert lands. During field research I went back and forth continuously between observations, 'facts', concepts, events, interpretations and re-interpretations, and so on to arrive at and structure these lines of inquiry. Within these lines I used a multi-method approach, including: 'embedded research' (participant observation, (the initial stages of) participatory action research, and ethnographic research at a firm); meetings with fellow researchers; semi-structured interviews; visits to villages (in the Delta and Middle Egypt), corporate farms and a state reclamation community; and primary and secondary source data collection. Many of the meetings and interviews were secured through contacts or 'snowball sampling'.

Line of inquiry I: smallholder livelihoods

(i) Participant observation

I attended conferences, seminars, informal gatherings and meetings with advocates of smallholders and smallholders in Cairo and in the Delta. Most of these gatherings were organized around struggles against the land grab, but they also involved generally the lack of bank credit, skyrocketing debt and other grievances brought by

the divested state infrastructure for rural communities and small-scale farming. I was invited to attend these gatherings by advocates, and my direct interaction with smallholders was minimal. Most of this participant observation took place during my preliminary field research in early 2008 and the first year of my stay in Egypt, in 2009, but participation in meetings continued more sporadically until I returned to Cornell in January 2012. Also, this participant observation included listening, watching and reading local news media for commentary related to agriculture and food generally. Most of the conversations at the gatherings and much of the news media were in Arabic, and by my second year in Egypt I was highly conversational but not fluent. I could understand more than I could speak, and I had a translator with me to help with communication at a number of informal gatherings with advocates and to answer my questions about news information.

(ii) Participatory action research

While I was developing relations with the network of advocates and activists, I approached one advocate-colleague about carrying out a participatory action research (PAR) project with villagers who are a part of the network. The general idea of PAR is that the traditional subjects of research (in this case, smallholders) become the active participants in the research so that the research activities and findings serve the needs of their communities (see Greenwood and Levin 1998; Herr and Anderson 2005). This particular advocate was a member of a loosely-knit group of villagers and advocates, and I sought out the possibility of doing a PAR project collaboratively with this group. This involved translating the general ideas of PAR into Arabic, and slowly broaching the topic with him in casual conversations over the course of a year or so. We eventually had a formal meeting about the project, and in the end we decided that the project would not work. I wrote about this meeting in my journal:

> ‘Why can’t I do conventional research – interview some people, do some primary and secondary source analysis – take my data and be done with it?! Instead, I am proposing a project that is not only politically threatening, but that is heavily reliant on an unknown methodology’… ‘I had spent literally a month or more – and lots of money – preparing, typing and editing with my tutor the summary/outline of a 1st PAR meeting’… ‘So when I went to this meeting with P and Z […] I quickly realized that not only had P not read any of the documents (which is not surprising given the fact that he told me he wanted printed copies) but Z had not either’… ‘I realized that there remain major issues of trust on both sides. I remain not to trust P because he is an older organizer who continues to think he needs to represent peasants […] And resounding in my memory is a comment he made to me, that peasants do not know anything’… ‘And Z I probably have even bigger issues of trust with her, firstly, because we have only met twice. She has showed deep caution and a somewhat conventional approach to it all. I am understanding though that this in part has to do with the dangers involved and the level of interrogation common here’ (field notes 30 October 2009)

In addition to the dizzying distrust, there was the issue of a lack of clear organization or structure through which to facilitate such a project. It is not that I distrusted this colleague as a person, but there was not enough trust and understanding to carry out a joint project together then. We remain close colleagues, but in my search for a partner for the PAR project I turned to a local NGO that advocates for smallholders in Middle Egypt, following a number of interviews with NGO representatives. The director of one of the NGOs expressed an interest in a collaborative PAR project, and we met on a couple of occasions to discuss the project. I then visited the NGO and the communities with which they work on a couple of occasions in 2010. First, they invited me to participate in a workshop for smallholders. And then I returned to organize a next step meeting for the project with not only the director but other NGO staff members. After this meeting, the project did not continue in part because 25 January 2011 happened and life ‘stood still’ for awhile and priorities changed. But also there was an organizational issue: they are an NGO that has a paid staff, and their

staff would have been involved in this project but this project would not provide anyone's salary. In other words, I was asking a commitment from them that they were not willing to make organizationally.

Although the PAR project is not directly part of this dissertation, the effort of conducting the initial stages of the project impacted my relationships with advocates and my knowledge of the struggles that smallholders and advocates face. For example, my interview and working relationship with the NGO in Middle Egypt, and the visits to the communities there, clarified the 'uneven development' of the corporate agri-food system and the ways in which corporate farms and supply chains are expanding from Lower Egypt to Middle Egypt particularly since the 2007-2008 crises.

Line of inquiry II: the agri-food industry

(i) Agribusiness and finance

At the time that I was communicating with advocates and beginning the initial stages of the PAR project, I began to research agribusiness, including financial firms with investments in agribusiness. I had become familiar with one Egyptian private equity firm, Citadel Capital, who had received publicity for being involved in land grabbing in Sudan in the midst of the 2007-2008 crises. This line of inquiry began mostly online, by compiling a list of agribusinesses and reading articles from business journals (both international ones like *Bloomberg* and the *Financial Times*, but also mostly prominently *Business Today Egypt*). Then, I conducted two interviews early on that expedited this effort: with 1) a government agent from the General Authority for Investment (GAFI) who gave me several GAFI-issued lists of the largest agribusinesses operating in the country; and 2) an employee at a financial services firm who gave me a breakdown of finance in the country. The second interview in

particular gave me the idea of becoming embedded in, or somehow orientating my research effort more toward, the business elite. The employee did not know much about Citadel Capital, and in the end I was not able to secure an interview with members of Citadel Capital or any other financial firm. However, a year or so later Citadel Capital went on the stock exchange and many of their investments went public anyway.

Also, at this time I met with Professor Raymond Bush, who conducts research on violent land grabbing and structural adjustments in Egypt, and he suggested that I compare the agricultural lands of the Nile Valley and Delta with the reclaimed desert agricultural lands, in order to understand contemporary agrarian change. This conceptualization greatly impacted my research of agribusiness. While compiling the list of agribusinesses, I had noticed that many had farms in the 'new' reclaimed lands. Also, I had already conducted some research on state desert development that became a centrepiece of privatization and liberalization. Following Bush's suggestion, I began to frame my research inquiries of agribusiness within this comparison.

(ii) ethnographic research in a firm

When I decided to work part-time at a firm in the commercial district of Cairo, I cautiously embraced the contradiction of working for the 'elites', and I knew that it was an opportunity that Egyptian advocates did not have – to get a close-up look at the business elite. In fact, it often seemed in conversations amongst advocates and activists that the dominant class or 'elites' were held on a pedestal – not to be worshipped but in the sense of being beyond their reach. Joining the firm as an assistant represented, in anthropologist Annelise Riles's (2000) words, 'something of a leap of faith'. Similar to Riles, who was doing research on Part-Europeans in Fiji and then got involved in 'women in development' activities, I saw no direct analytical

connection between the violent land grab and the business elite. However, I realized that a broader picture of agrarian change in Egypt required an understanding of the national capitalist classes – i.e. not just the local or regional bourgeoisie in the Delta, for example, but those with a larger reach within the domestic economy and beyond.

I call my work at the private firm in Mohandiseen an 'ethnography' because for three days a week for nearly ten months I was embedded in networks and relationships of wealth and privilege. I did not interview people at the firm nor did I take daily notes. However, I regularly took notes about what I was learning about the corporate world in Egypt. And for ethical reasons I never used these work contacts for my research.

This ethnographic research became a window onto the 'invisibilized' infrastructure of cultural norms, ideologies, social networks, legalities, and so on through which the 'formal' private economy operates in Egypt and transnationally. Further, as I was embedded in networks and relationships among Egyptian businesses, Egyptian government agencies, foreign state agencies, transnational corporations, international finance institutions, foreign institutions of higher education, and so on – I was able to make a number of important analytical connections for this study on agri-food. The first connection was between and among the capitalist classes in Egypt; in particular, the organization of large-scale capitalist enterprise as family business groups and the rise of a class of finance capitalists. The second connection was between capitalist class formation of the first half of the 20th century and the class's re-formation in the neoliberal period. It was this connection in particular that helped frame this study within the two 'regimes of global value relations'.

(iii) corporate farms and reclamation

This line of inquiry became the cement of this research project. I devoted the last year of the field research to investigate the so-called infrastructure of the corporate agri-food system, and in particular the intersections of corporate farming and desert reclamation. This research involved interviews and meetings with fellow researchers, policy makers, corporate executives, corporate managers, development workers and bureaucrats. Some of these meetings were just to discuss reclamation, state and private, others were to discuss the corporate food sector, and still others both reclamation and corporate food. In particular, I met with government officials and foreign officials who specialized in international trade, the privatization of state agribusiness and the agroexport market. I also met with a handful of international development workers who were involved in value-chain agriculture projects. I was finally able to secure interviews with executives and representatives of ten of the largest agribusinesses (agroexporters and processors). And I visited (state, corporate and informal) reclaimed areas to the west and east of Delta, including one visit to the east (near to 10th of Ramadan city) and several to the west (including a state reclamation community).

In addition to these meetings, interviews and visits, I obtained primary and secondary reading materials including corporate reports and brochures, government issued papers on privatization and the agroexport market, technical business journals and reports, Egyptian government reports on food processing and agribusiness generally, USAID reports on its agricultural modernization projects during the last three decades, GRAIN (US state department) reports on the state of the agriculture sectors, and other industry and development related reports.

Dissertation overview

This dissertation is organized into six chapters. In chapter 1 I introduce the contours of what I am calling the 'corporate agri-food system' in Egypt as they were at the time of writing. I position this system – that is, the growth of an agroexport market, animal protein complex, and food service and food retail sectors – with other corporate food economies in the global South during the decades of privatization and liberalization. Following the food regime literature I use the concept of New Agricultural Country (NAC) to explain the development and growth of the corporate agri-food system within the reordering of circuits of capital internationally and the hegemonic state system. Capital markets began to expand in the indebted, formerly colonized world and US hegemony began to decline as a state system of regional powers began to emerge. A reflection of this reordering was the rise of NACs in the global South. I argue, though, that the emergence of Egypt as an NAC demonstrates that the corporate agri-food system developed and grew not only from the influx of capital (through liberalization and privatization) and the rise of regional powers (like Brazil, Argentina) but also out of the transformations of the nation-state (through processes of informalization). I summarize that corporate and informal (as well as military and state) food economies are impossible to separate. And I conclude that the system may be analysed upside down to understand how the system has been made through and has remade that which does not necessarily reproduce it (i.e. production for household use, informal markets, and so on).

In chapter 2 I introduce my argument that frontiers, or expanded cultivated lands by state and capital, has been a central enabling condition of heightened capital accumulation in agriculture in Egypt in the long 19th century and in the neoliberal period. I detail the frontier in the long 19th century as an outcome of expanded and intensified cash crop production for industrializing Europe. I demonstrate that the

frontier was organizational force behind the establishment of a regime of unfree labour and a new class of royal notables. This organization later led to the consolidation of the landed estates, which expanded the frontier even more at the time of direct colonial rule. I argue that agrarian restructuring (including frontier making) at this time reflects the ways in which value relations became constructed in the Ottoman province and then as a British colony, as constitutive of the 'regime of global value relations' (Araghi 2003). The relations, institutions and so on that produced and reproduced capitalist relations has been hugely consequential for the reconstruction of these relations in the re-emergent regime of the present day. Also, the domination of the agroexport market (especially for cotton) at the time of the post-war and post-colonial period shaped how agrarian reforms transformed land/labour relations in the context of an 'international food aid order' (Friedmann and McMichael 1989). I demonstrate that this interaction of 'internal' and 'external' forces in the post-colonial period led to the reinforcing processes of informalization and corporatization/integration, which bears light on the corporate-informal character of the agri-food system today.

In chapter 3 I elaborate on the thesis of the mutually-constituted 'corporate' and 'informal' food sectors through the lens of 'new peasantries' (van der Ploeg 2008). I show how peasantries have been reconstituted through the dismantling of agrarian reforms and the ensuing violent land grab during the last two decades. Through the framework of the changing relationship between the existing agricultural areas of the Nile Valley and Delta and reclaimed desert areas, I demonstrate that in the neoliberal era peasantries and more generally rural subaltern classes have not only been beneficiaries or victims of rural policy but they have also been active participants in policy programmes. I show that there is a trend of 'repeasantization' (van der Ploeg 2008) through state reclamation. Also, smallholders in state reclamation communities

work as labourers and as producers for corporate farms as a way to 'stay on the land'. And smallholders or members of village households in Upper Egypt migrate to Cairo/Lower Egypt to support the family – a trend in migratory labour that reflects in part the 'uneven development' of the corporate agri-food system itself, as corporate farms and agri-food supply chains are largely located in and around, and constructed through, agricultural systems in Lower Egypt/Delta. In this chapter I also address how smallholders in the Nile Valley and Delta are integrated into and excluded from corporate agri-food supply chains. And I conclude that 'new peasantries' have played a vital role in not only constructing agri-food supply chains but in shifting domestic diets toward corporate food. I explore how this positioning of peasantries within the polity presents new possibilities for building alliances and new kinds of alliances for peasant livelihoods.

In chapter 4 I explore how the corporate agri-food system developed and grew through the reorganization of the dominant class in Egypt. Through the lens of capitalist class re-formation I demonstrate how social, cultural and economic institutions, relations and norms corporatized not only the formal economy but also the state, educational institutions, NGOs and other organizations. This process of corporatization in the agri-food system has meant that the system went through waves of consolidation – first with the rise of the agribusiness coalition, then the rise of local (and regional and transnational corporations) and then finally the rise of finance. I demonstrate that this process of consolidation, which represents a formal concretization of the social structure, was not just a process of Westernization but was a process of negotiation between existing and newer relations to capital exchange (for example, between the state corporatist associations for the professional organizations and the autonomous business associations established privately and often in

partnership with US agencies). I conclude that this process became institutionalized and legitimized within the institutions and structures of not only the domestic elite but the global governance institutions, foreign states, and so on – but did not become normalized within Egyptian society as a whole. I demonstrate this tension by juxtaposing the ways in which the wealthy and privileged secured ever more direct, formal means of reproducing themselves and the declining private sector for labouring conditions and the growing vulnerability domestically to global food crises during the decades of structural adjustments.

In chapter 5 I offer a political ecology perspective of the desert frontier of the current era. As a site of industrial agriculture, I use the frontier to illustrate how the agroexport market and animal protein complex in particular have become heavily concentrated in the hands of corporations (local, regional and multinational) by managing the potential crises that industrial agriculture creates. They have adopted biosecure production systems, which are capital intensive and coercive in their attempt to control the 'inside' of production zones that are of human design and the 'outside' that are of Nature. Following the political ecology literature (Latour 1993, Mitchell 2002), I argue that it is not Nature that makes the outcome of the production process uncertain – but rather it is the interaction of the human and non-human (Bedouins, agribusinesses, the state, smallholders, desert sands, winds, H5N1 virus, and so on) that creates unknowns and the unanticipated. While the desert frontier expands to the south of the country (Upper Egypt) and to southern neighbouring countries, I conclude that the continued expansion of capital accumulation in agriculture is far from inevitable.

I continue this analysis of the expansion of the capital frontier in Egypt in chapter 6, by examining the role of an Egyptian private equity firm in grabbing land

and other resources in southern neighbouring countries since the 2007-2008 food-financial-fuel crises. I use this one case study (of Citadel Capital) to demonstrate that land grabbing (anticipated and actual) by Egyptian agribusinesses and financial firms is in part an expansion of the country's corporate agri-food system, as they seek ways to vertically integrate their agri-food companies. Further, I analyse the role of Egyptian capital and state in land grabbing in southern neighbouring countries since the 2007-2008 crises through the lens of the changing hegemonic state system from the Ottoman and colonial eras. I argue that just as the 'relative exhaustion' (Moore 2011) of intensive cash crop production for export in colonial Egypt in the first decade of the 20th century led the British to expand the frontier to what was then Anglo-Egyptian Sudan, with the building of the Gezira Scheme, the limits to capital accumulation in agriculture in Egypt in this era have spawned largely private capital to expand the frontier to Sudan and South Sudan primarily.

CHAPTER 1

THE CORPORATE AGRI-FOOD SYSTEM IN EGYPT – STANDING ON ITS HEAD

In the last three decades or so in Egypt a growing percentage of food has been captured in a durable commodity form and in the hands of corporations. Egypt is like other New Agricultural Countries (NACs) (Friedmann 1993) of the global South that have developed agroexport markets and animal protein complexes alongside corporate retail and service sectors during the previous decades of privatization and liberalization. The designation of this system as 'corporate' does not mean that the system was made in corporate board rooms, so to speak. Rather, by standing this system on its head I argue that Egypt's corporate agri-food system was made and remade through that which does *not necessarily* reproduce it – i.e. processes that have reconstituted low-cost food provisioning as 'informal/-ized' peasant production, commercial production, street vending, food markets, grocers and so on. Through this lens of the corporate agri-food system 'upside down' Egypt may be understood as emerging as an NAC through this tension.

In this chapter I argue that there are unique ways through which processes of heightened capital accumulation in agriculture have taken shape in the re-emergent 'regime of global value relations' (or as is commonly referred to, the 'free trade regime'). I use the concept of New Agricultural Country (NAC) to demonstrate the processes that constitute the corporate agri-food system. I intervene in the literature on corporate food by arguing that the emergence of Egypt as an NAC is significant not just because it signals the reordering of the hegemonic state system (toward a system of regional powers, for example) or of the capital-labour relation (as international circuits of capital have led to dispossession and 'reserve armies of labour', for example) – but also because it signifies the reconfiguration of the nation-state (the

criss-crossing of informal/ized, military, state, commercial and corporate economic sectors with communities, state apparatuses, political constituencies, social and cultural institutions, and so on).

I begin this chapter with a summary of the globalizing system of food production and consumption – in terms of the kinds of foods, producers, consumers and general effects of this system or economy. I then place Egypt as a New Agricultural Country (NAC) and theorize the significance of the concept of NAC to illustrate the unique set of forces and relations that shape food and agriculture worldwide. Then, I draw the contours of the corporate agri-food system and specify one of its effects on public health (the rise of overweight/obesity) to demonstrate the convergence of domestic dietary shifts across classes toward foods high in animal protein and fats as well as processed foods.

'A global food economy'

There are a number of signifiers of the systemic and global character of the production and consumption of food in the early 21st century. In this section I focus on a few of these signifiers of a 'global food economy', including: waves of corporate consolidation over seeds and other inputs, technologies, land and markets; the growing ecological footprint of the food economy (in terms of carbon emissions, loss of plant and animal diversity, etc.); simultaneously the widening dietary gap between the rich and poor, and the convergence of diets across classes toward processed foods high in fats and sugars; and resulting emergence and re-emergence of global public health crises (e.g. chronic diseases like overweight and obesity, infectious diseases like the Avian flu).

Weis (2007) aptly characterizes the global food economy by 'food miles' – the energy intensive movement of largely durable foods over long distances that contributes significantly to greenhouse gas emissions (Friel et al 2009) and is increasingly controlled by transnational corporations (Weis 2007). In this economy wealthy consumers have access to a diverse, healthy diet and poor consumers more refined, durable foods, and as Weis (2007: 15) emphasizes, all classes increasingly consume junk food – 'soft drinks, packaged snacks and so-called convenience foods that are full of fats, sweeteners, artificial flavours and colouring'. This economy is built on an 'industrial grain-livestock complex' (Weis 2007), in which the diversity of crop species and the genetic diversity within species in agricultural systems around the world have been greatly reduced with plant breeding and genetic engineering during the 20th century (see Kloppenburg 2004). Ten crops (rice, wheat, maize, soybeans, sorghum, millet, potatoes, sweet potatoes, sugar cane/beet and bananas) dominate agricultural systems globally, and the 'big three' cereals alone (rice, wheat and maize) account for 85 per cent of the total volume of world grains produced (Weis 2007: 16).

These three cereals (along with soybeans, the fourth largest crop) are used principally as animal feed, the ingredients in processed foods and biofuels. The 'ecological hoofprint' of the system is growing with not just the meatification of diets, but with the industrialization of animal agriculture (Weis 2007). Factory farming, or the mass production of animal protein (meat/poultry/dairy) in confined feedlots, has been growing rapidly in many parts of the global South, especially in Asia and Latin America (Weis 2007: 20). Also, the global trade in processed foods (including, but not limited, to foods with animal protein) has grown rapidly: from 40 per cent of global agricultural trade in 1985 to 75 per cent in 2002 (IMC 2005).

In the last couple of decades there has also been an intensification of the global movement of fresh, 'quality' foods, or what is often referred to as 'high-value

agriculture'. Many countries in the global South became agroexport platforms for fresh and processed fruits and vegetables for the supermarket and hypermarket shelves of, namely, Europe and North America. As Watts and Goodman (1997) point out, the development of high-value agriculture in the global South has been highly uneven. The core of the 'new agricultural countries' (NACs) (Friedmann 1993) tend to be competitive in high-value agriculture as well as animal feed grains and durable foods (e.g. Brazilian soy, citrus and chicken). But there is an 'underbelly' of the NACs; for example, much of sub-Saharan Africa has returned to exporting colonial crops (Watts and Goodman 2007).

The emergence of high-value agriculture in the global South corresponded with the consolidation of corporate food retail (e.g. Carrefour), food service (e.g. McDonalds) and food processing (e.g. Nestle). The consolidation of these interrelated food sectors occurred in part via the institutionalization of private standards, which include certifications and other measures that determine how food is grown, processed, transported and stored as a final product to consumers. High-value fruits and vegetables are almost exclusively for corporate food retail, at home and abroad. In the global South supermarkets and hypermarkets have begun to swallow food retail sales. For example, by the turn of the 21st century supermarkets had a 55 per cent share of national food retail in South Africa, similar to the share in Argentina, Chile, the Philippines and Mexico (Weatherspoon and Reardon 2003).

The shift to a diet high in fat and sugar is recognized as a leading contributor to the rising prevalence of chronic diseases worldwide (FAO 2006a; WHO 2005; Haslam and James 2005; Prentice 2006). Chronic health problems include, namely, obesity, cardiovascular disease, chronic respiratory diseases and diabetes. Overweight and obesity have been shown to increase the risk for cardiovascular disease, type 2 diabetes, stroke, some cancers and a host of other illnesses (Haslam and James 2005;

Kim and Popkin 2006). The WHO (2005) warns that the explosion of chronic diseases during the last decade or two has occurred in low and middle income countries, so that Egypt, Mexico, Turkey, South Africa and UAE now have rates of overweight as high as in the United States. The sharp increase in the prevalence of chronic diseases in many parts of the global South has created a 'Double Burden of Disease', as large segments of the population face both chronic diseases and infectious diseases and underweight/hunger (Prentice 2006). In fact, the increasing prevalence of overweight adults and underweight children in the same household has been noted (ibid.). The convergence of chronic disease prevalence among the wealthy and poor reflects in part the space of dietary convergence among the classes.

Egypt as a New Agricultural Country

The New Agricultural Countries (NACs) of the global South are one important way to contextualize the 'global food economy', and placing Egypt as an NAC is one way to position Egypt within this economy. The transformation of NACs complicates at least the picture of transnational corporate control over food in the global economy. On the one hand, a handful of corporate commodity traders (e.g. Cargill) control a bulk of the global trade in commodities, and ten TNCs (e.g. Monsanto) control half of the global market for commercial seeds (GRAIN 2012) ; and on the other hand, in a study of the NACs Rosset et al (1999) found that in some cases domestic consumption was the key to what seemed like an export-led strategy of development and local capital was as important as foreign capital in developing an agroexport market. This may help explain the consolidation of food retail markets by local retail chains, for instance, in Costa Rica (Alvarado and Charmel 2002), Chile (Faiguenbaum et al 2002) and South Africa (Weatherspoon and Reardon 2003). In Egypt integrated food retail markets are also dominated by local business conglomerates (see the next section). More than this,

this study of the emergence of Egypt as an NAC reveals that the NACs represent a shift in the circuits of capital that was made possible in part by the partnerships and competition between transnational corporations, regional multinational corporations (MNCs) and local corporations. For example, some of the food TNCs that are 'aggressively global' (Watts and Goodman 1997: 14) – e.g. Kentucky Fried Chicken and McDonalds – are franchises and became important investments for local and regional business conglomerates, which try to diversify into and within the agri-food sector.

This shift in capital flows represents more broadly a shift in investment patterns toward highly capital-intensive production (e.g. oil, chemicals, automobiles, food processing, etc.) for the expansion of domestic and regional markets (Banaji 1996). The consolidation of agri-food companies via mergers and acquisitions, as part of a corporate strategy to expand market shares nationally and regionally, can be seen, for example, in the consolidation of Indian multinationals (Banaji 1996), the regional expansion of South African food retail (Weatherspoon and Reardon 2003), the regional expansion in Central America of the dairy industry (Hernández et al 1999) and supermarket giants (Alvarado and Charmel 2002), and the regional expansion of Egyptian food processing companies and franchises (chapter 6). In short, the making of an agroexport market for high-value agriculture and/or processed foods and/or animal feed/grains in countries of the global South in the last couple of decades demonstrates that in a number of countries of the global South this became part of a larger process of creating a domestic corporate food sector, constructed as much by local capital as by transnational corporations.

The food regime literature introduced the concept of New Agricultural Countries (NACs) to demonstrate the restructuring of capitalist relations and the

hegemonic state order in the 1970s through the 1980s. Some of the early agroexporters like Brazil had begun to develop industrial agricultural systems following a US model in the development era (Friedmann 1993), but it was trade liberalization and financialization of capital markets in the 1970s and 1980s that developed the CAIRNs group (of 'second rank' agroexporters, in the global North and South), which then pushed for greater liberalization in the GATT round, and that enabled (and provided the ideological justification for) the growth of agroexport platforms throughout the indebted South (Friedmann 2005). This new configuration characterized the restructuring of the 'food regime' – what has been called the corporate food regime (McMichael 2005), the corporate-environmental regime (Friedmann 2005), the neoliberal food regime (Pechlaner and Otero 2010). In other words, NACs are theorised generally as expressions of the reordering of the hegemonic state system through the expansion of corporate economic activity and political power.

Egypt's emergence as an agroexporter with a corporate food industry reveals that the concept of New Agricultural Country (NAC) is about more than the relationship between the state system and capital accumulation. A critique of food regime analysis is that it homogenises processes of capital accumulation in agriculture and occludes the particularities and contingencies of such processes in the global South (see Watts and Goodman 1997). For example, Friedmann (2005) characterizes the emerging corporate-environmental food regime by two distinct corporate strategies for rich and poor consumers worldwide: fresh, relatively unprocessed and low-chemical input products, and highly engineered edible commodities. And in contrast, Watts and Goodman (1997: 14) emphasize that the map of commodity filières within the global food system is nuanced and heterogeneous. 'Few food manufacturing companies or retailers conform to the industrial model of transnationalism; that is,

centralized, global intra-firm divisions of labour, with production-based sourcing of intermediate components from specialized sites for final assembly' (Watts and Goodman 1997: 15). The point here is not that the concept of NAC is problematic because it fails to capture the particularities of corporate control over food. Rather, what is useful about this critique for analysing the emergence of Egypt as an NAC is that it focuses on the nuanced ways in which corporate agri-food supply chains are constructed – and it is through studying how corporate chains are constructed that I intervene in theorizing NACs.

A corporate processor and retailer may have its own farm in the country, contract with other farmers and source on a non-contractual basis all at once (see, for example, Watts and Goodman 1997, GRAIN 2012, McCullough et al 2008). In fact, when I began to try to map the system in Egypt I founded it almost impossible. Corporations may not control farm production or the market. If there is any landscape to the corporate agri-food system in Egypt (and in other NACs like Egypt, with an agroexport market and animal protein complex, it may be mapped at the point of distribution as follows:

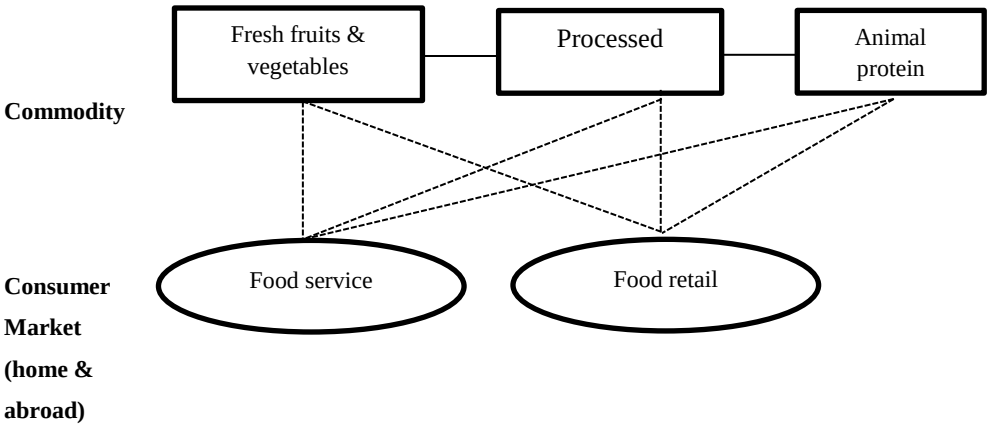

Figure 1 Corporate Food Distribution

The consumer market fits within a fairly wide spectrum from ‘low end’ (e.g. kiosks) to ‘middle end’ (e.g. discount supermarkets) to ‘high end’ (e.g. European supermarkets). For example, ‘quality’ fruits and vegetables are likely destined for the supermarket and hypermarket shelves of Europe, but they also find their way in the domestic supermarkets (which cut across the spectrum to a certain extent) and perhaps in corporate food service in country (e.g. fast food franchises).

The map of corporate food distribution in fact obscures how corporate food value chains are inseparable from informal ones – of peasant producers, commercial producers, small-scale grocers, street food peddlers, fresh fruit and vegetable street and market stalls, and so on. This study reveals that in Egypt corporate food supply-chains intersect at multiple points with household/subsistence and informal production and markets. For example, poultry chick production is largely controlled by corporations, who sell these chicks to medium-sized farms, who then sell the adult birds in live bird markets. Small-scale farming systems may supply high-value crops to agroexporters (who then supply to corporate retailers) and to wholesalers for informal food markets. Corporate processors distribute much of their junk food through low-end street kiosks and other small grocers. The impossibility of mapping the corporate agri-food system reveals that there are structural processes that have reconfigured not just the hegemonic state system and capital accumulation but also (in intersecting ways) the nation-state that help explain Egypt’s emergence as an NAC.

The varied ways in which corporate agri-food supply chains are constructed, including vis-à-vis informal and household production and markets, in Egypt is consistent with some of the literature on peasantries and the ways in which they are integrated into (or not) corporate agri-food supply chains in the global South. For example, smallholders may or may not be direct suppliers for supermarkets and

hypermarkets and the extent to which they benefit from such arrangements varies, depending on the ways in which smallholders have formalised production, how convenient the infrastructure from farm to market is, and so on (see Burch and Lawrence 2009; Weatherspoon and Reardon 2003). Peasantries may be suppliers to agroexporting farms and such integration into the agroexport market may boost their income and rural livelhoods (e.g. Rosset et al 1999, Watts 2009). If the literature on corporate food offers a systemic perspective on what has come to constitute the relationship between 'the informal' and 'the corporate' in the global South to help explain the phenomenal rise of middle and lower-middle incomes countries that have developed corporate food sectors, then this relationship is theorised as an outcome of structural processes (e.g. international food aid order and then structural adjustments) of the so-called 'free trade regime' (see Patel 2008, Weis 2007) and/or as an enabling process of corporate food through the creation of a 'reserve army of labour' (see Araghi 2009). Araghi's (2003, 2009) critique is particularly poignant – the rising costs of living (with the dismantling of food subsidies under structural adjustments, growing speculation on commodity markets, etc.), the deregulation of labour markets, the dismantling of labour organizations, and so on are all processes that are privileged within corporate agri-food supply chains. However, Araghi's critique too narrowly focuses on labour and thus fails to capture the dynamic historical relationship between the processes of informalization and integration/corporatization in Egypt. As I elaborate in the following section, informalization is an outcome of structural processes, but it is also a determinate of these processes. Processes of informalization in Egypt have come to reproduce *and* limit the reproduction of corporate food – and Egypt developed and grew as an NAC through this tension. In this way, I am flipping the system of corporate agri-food on its head.

The corporate agri-food system in Egypt

The formal sector of the agri-food system (what I also refer to as the agri-food industry) that is dominated by corporations – or put another way, the sector in which much of the value in exchange is extracted by corporations – is highly concentrated in the hands of a few corporate family business groups, regional multinational corporations (MNCs) (largely Gulf and European), transnational corporations and finance capitalists. The growth of corporate agri-food supply chains was made possible through the expansion of reclaimed desert lands, for agricultural and industrial purposes (see Figure 2). Most if not all of the food processors are located in the industrial zones of the new cities that were built in the desert in the 1980s and 1990s (10th Ramadan, 6th October, Sadat City, Borg El Arab). The horticulture and 'animal protein' (poultry, fish and (to a lesser extent) beef/dairy) farms are largely in reclaimed desert areas to the west and east of the Delta. Much of aquaculture production was built through reclamation of the northern Delta strip. Large food retailers (e.g. Carrefour) and fast food franchises (domestic and foreign) are concentrated in Cairo, Alexandria and tourist resorts.

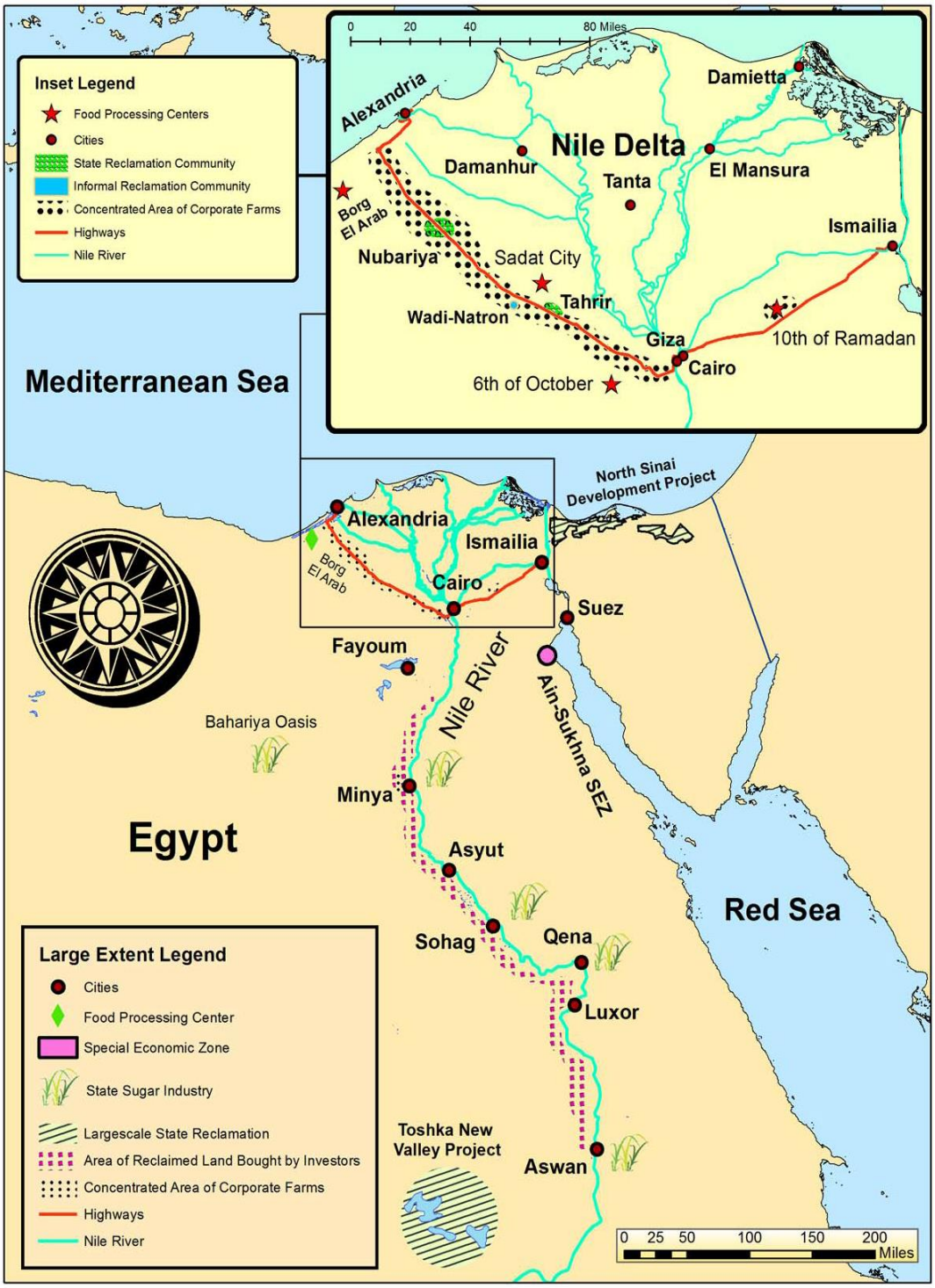

Figure 2: Key points in the corporate agri-food system

(Courtesy of Johannes Plambeck, Maps & Geospatial Information, Olin & Uris Libraries)

Within this integrated sector or agri-food industry there has been corporate consolidation especially in food processing and the agroexport market, with considerable overlap between them. The agroexport market in particular is nearly completely dominated by corporate players today. In 2010 the top 6.5 per cent of exporting companies (the top 49 companies out of 865 in terms of the value of exports) made up 41 per cent of the total value of agricultural exports (EDF 2011). In food processing, by 2005 ten companies were dominating the production of frozen vegetables and about seven or eight companies were dominating the processing and packaging of dairy products (IMC 2005). There also seems to be growing concentration within industrial animal agriculture and aquaculture. Most of the poultry consumed in Egypt is produced in the country, and in 2006 broiler production was already heavily concentrated in the hands of five poultry companies (FAO 2006b). There seems to have been even greater consolidation within the poultry industry since the breakout of the avian flu pandemic, beginning in 2006 (see chapter 5). Egypt was also one of the top 15 aquaculture producers by quantity in 2008 worldwide (FAO 2010), and according to Zwirn (2002: 136), only about 10-15 per cent of licensed fish farms are private but these farms account for the majority of aquaculture production, indicating that there is a degree of concentration as small-scale fish farmers are less likely to be licensed. A majority of beef distributed in the country is imported, and beef processing is also likely concentrated given that large-scale food processors like Mo'men (a family business conglomerate with a regional fast food franchise and other agribusiness investments) operate beef processing facilities (Schurgott 2008).

The degree of corporate consolidation today may be understood as an outcome of three waves of consolidation of the agri-food industry since the big push toward privatization and liberalization in the early 1990s with the passage of the Economic Reform and Structural Adjustment Programme (ERSAP) in 1991 (see chapters 4 and 6

for details). During this period of corporate consolidation the industry grew exponentially, especially the food processing sector. In 1995 annual real investment in the food industry was at roughly LE 400m and by 2008 shot up to about LE 1900m – the greatest annual real investment for 2008 (Abdel-Latif and Schmitz 2011). Between 1992 and 2002 food processing alone grew from 12.6 per cent to 17.1 per cent of total manufactured value added (IMC 2005). Between 1997 and 2004 the number of private companies in food processing rose by 16 per cent, while the number of public sector companies fell by 27 per cent (ibid.). Investment in processed fruit and vegetables increased by 615 per cent between 2003 and 2004 and by 71 per cent between 2004 and 2005 – reaching levels of LE 965.9 m and LE 1650.3 m in 2004 and 2005 respectively – a big jump from 1998 levels, which were at LE 379.6 m (Abdel-Latif and Schmitz 2011). Most of the largest food processors have been the largest agroexporters, and in 2004 the agroexport market was already heavily concentrated in the hands of the largest national and multinational food corporations, including Faragalla and Juhayna (two of the largest domestic food processors), Farm Frites (a regional multinational that partnered with Americana), and Cadbury and Nestle (two of the largest food TNCs). Eleven of these corporations accounted for 61.61 per cent of the total value of food exports (IMC 2005). For the 2002-2008 period alone food exports multiplied tenfold, rising from roughly LE 150m in value to LE 1500m (Abdel-Latif and Schmitz 2011).

These waves of consolidation further coincided with the rapid rise in the corporate food retail and food service sectors, the hyper/supermarkets and food franchises and snack food outlets/kiosks being among the largest markets for food processors in the country. Hypermarket sales as a percentage of total grocery sales rose from 13 per cent in 2003 to 26 per cent in 2011 (USDA 2010). In 2008 hypermarket sales reached $200m in 2008, with ten hypermarket outlets (e.g.

Carrefour, Spinneys) and more expected to open. More than 90 per cent of the products on sale in hypermarkets are from Egypt (ibid.). Local products also predominate in supermarkets, although much less so among the higher-end markets (e.g. Seoudi, Metro). In 2008 there were 550 supermarkets in the country, with a total sales value of about $1.6 b (USDA 2010). The largest supermarket chains are owned by Egyptian family business groups and are on the high-end of the urban consumer market (e.g. Metro) to the lower-middle ends of the market (e.g. Ragab Sons). The largest supermarket chain, Metro, owned by the Mansour family business group, had 60 stores in 2011 (Business Monitor 2011), and had sales ($110 m) exceeding those of Carrefour ($54 m) in 2007 (GAFI 2010). Family business conglomerates, domestic and regional, also dominate the food franchise market, which rose from seven chains in 1993 to 45 in 2010, and valued at more than $300m in 2010 (ibid.).

The industry is small as a percentage of total food distributed but has grown exponentially during a short period of time, and overlaps considerably with informal, state and military agri-food sectors. Estimates are that 70 per cent of processed food production and more than 80 per cent of employment in the food sector in the country comes from the informal or 'non-organized and independent' enterprises (IMC 2005). In 2007 about 70 per cent of food sales are from the informal sector (GAFI 2010) and about 90-95 per cent of the food outlets are small grocery stores (USDA 2010). The army seems to be a sizable food producer, processor and distributor, running, among other things, its own farms and factories that process frozen vegetables for agri-food companies (Mitchell 2002; IMC 2005). Also, the government maintains more than 50 per cent control over the distribution of wheat and monopolizes the sugar processing industry through the state-owned Sugar and Integrated Industries Company. In 1996-97 the food subsidy programme covered the four most important staple commodities

(flour, sugar, rice, tea) and about 1.9 per cent of total private consumption (Löfgren and El-said 2001: 66). In fact, the overlapping sectors that constitute the corporate agri-food system represent a space of dietary convergence. As the system has grown, food consumption domestically has shifted toward foods high in animal fats and proteins and processed carbohydrates and sugars.

Dietary shifts and overweight/obesity

During the growth of the agri-food industry national nutrition surveys indicate that food consumption has also shifted toward animal protein (namely, poultry, fish, eggs, milk and cheese) and that there has been growing disparity in energy intake between the wealthy and poor[2]. There is also an indication in these surveys of a general shift in consumption toward processed junk foods. A comparison of the National Nutrition Institute cross sectional survey data conducted in 1981 and then again in 1998 shows animal protein intake rose sharply between 1981 and 1998 (NNI 2000)[3]. In the 1998 survey almost half (48.2%) of survey respondents consumed excess (>10%) animal fat as a percentage of total energy intake. Also, from the NNI survey data Galal (2002) found that between 1981 and 1998 caloric intake actually dropped, but the percentage of people who consumed more than 3500 calories rose. This hints at growing inequality in caloric intake between classes, which Galal (2002) attributes to the 20 per cent drop in consumption experienced between 1990 and 1994 when food subsidies were nearly entirely dismantled and food prices rose. Further, those who had eaten meals away from home more than doubled: 20.4 per cent in 1981 compared to 48.5 per cent in 1998 (Galal 2002: 144). 'Meals away from home' should be

[2] Because respondents tend to under-report caloric intake and over-report certain types of foods (FAO 2006a), I use these survey results cautiously to show a patterned change in the national diet during a two-decade time period.
[3] I thank Dr. Sahar Zaghloul from the National Nutrition Institute (Cairo, Egypt) for pointing out this data and making it available to me.

understood to include junk foods eaten at franchises, local eateries and street food stalls – meals that cut across class lines to varying degrees.

Since the 1998 NNI survey there appears to have been a continued increase in the consumption of processed food, particularly junk food sold at the ubiquitous convenient stores and kiosks in the urban centres, including in the 'urbanized, rural' Delta. The clearest indication of a growing market for junk food is the rise in private investments made in the food processing industry. Food multinationals and finance capitalists have been buying into some of the biggest snack food producers in Egypt (see Table 1), indicating not only that the snack food market is large but that it has likely grown since the waves of mergers and acquisitions. For instance, in 2001 PepsiCo bought Chipsy, the largest potato chip manufacturer in the country. The National Company for Maize Products, the only processor of high fructose corn syrup and the second largest agribusiness in Egypt[4], was partially acquired in 2007 by Gozour, the agribusiness holding company of Citadel Capital, a private equity firm. At around the same time EFG-Hermes private equity bought into and later sold Edita, a subsidiary of the Greek food multinational corporation (MNC) Chapita and one of the largest snack food companies in Egypt.

[4] This ranking is based on a General Authority for Investment and Free Zones (GAFI) internally-distributed document listing the top agribusinesses in Egypt, based on the total issued capital between January 1970 and May 2010.

Table 1: Sample of mergers and acquisitions within the Egyptian corporate agri-food system

(shaded rows are of private equity activity)

1993	Coca-Cola (re-)acquires Coca-Cola Egypt
1997	Cadbury buys Bim Bim
2000	Best foods/Unilever partly acquires Rashidi El-Mizan
2000	Bongrain partly acquires Rachid Mashreq[5]
2001	Ajwa acquires Safola Oil[6]
2001	Tasty Foods/PepsiCo acquires Chipsy[7]
2002	Ajwa acquires Basma[8]
2002	Heineken acquires Al-Ahram beverages[9]
2002	Hero acquires Vitrac[10]
2003	Kraft foods acquires Family Nutrition[11]
2003	Unilever partly acquires Fine Foods[12]
2003	Danone joins Rachid Mashreq
2003	Cadbury Schweppes acquires SONUT[13]
2003	Actis acquires Rashidi El-Mizan from Unilever
2004	Americana acquires Greenland
2005	Haykala acquires Enjoy
2005	Concord International Investments acquires majority stake in Bisco Misr[14]
2006	Haykala acquires Honeywell
2007	Citadel Capital's Gozour acquires Dina Farms
2007	EFG-Hermes acquires Al Misrieen
2007	EFG-Hermes acquires minority stake in Adita
2008	Actis acquires minority stake in Mo'men Group[15]
2008	Gozour acquires Rashidi El-Mizan from Actis
2008	Gozour acquires Al-Misrieen from EFG-Hermes
2008	Gozour acquires minority stake in National Company for Maize Products
2008	Gozour acquires majority stake in Mom's Food
2008	Gozour acquires Al Aguizy Farms
2009	Gozour acquires Enjoy from Haykala
2009	EFG-Hermes acquires minority stake in Wadi Foods
2009	EFG-Hermes acquires Sokhna Beef

[5] Bongrain is a French food multinational corporation (MNC) and Rachid Mashreq is the consumer goods company of the Rachid family.
[6] Ajwaa Group for Food Industries is a Saudi company.
[7] Chipsy was a leading potato chip producer.
[8] Basmah was a leading frozen fruits and vegetables company.
[9] Al-ahram beverages was the dominant Egyptian alcoholic beverages company.
[10] Hero is a Swiss food MNC and Vitrac was a leading fruit product company.
[11] Family Nutrition was a leading biscuits producer.
[12] Fine Foods was a member of the Rachid group.
[13] SONUT is part of the SONID group, an Egyptian investment group.
[14] Bisco Misr was the leading public company of baked goods and confectionary.
[15] Mo'men Group is a large agro-food family conglomerate.

2009	Almarai and Pepsi acquire Beyti[16]

(compiled by author from (Citadel Capital 2010; HC Brockerage 2009; IMC 2005; Ismail 2009; Roll 2010; Schurgott 2008))

The capitalization of food processing – especially foods high in saturated fats and sugars and simple carbohydrates – as well as the growth in animal protein consumption point to an important factor in the 'double burden of malnutrition' (FAO 2006) (and the spread of related chronic diseases) in the country. Dietary changes toward industrial foods have contributed to the double burden of underweight (and stunting) and overweight and obesity[17]. I am not suggesting here that dietary shifts alone have led to the rise of overweight/obesity[18], or that the energy balance model (the balance struck between energy/calories in and energy expended (exercise)) explains how dietary shifts have contributed to overweight/obesity[19]. Rather, I am arguing that in so far as a rise in overweight/obesity can be attributed to dietary shifts, these shifts are toward foods that may be higher in calories and are also in various forms that effect the metabolism (for example, the proliferation of refined grain (rather than whole grain) use in flours for not only processed foods but for privatized bread loaves and baked goods) (see Guthman 2011 for a critique of the energy balance model).

I highlight here processed foods, particularly snack foods, for a number of reasons. First of all, not only is survey data unreliable because respondents tend to underreport certain foods (and over report others), but the consumption of snack foods

[16] Almarai is a Saudi food MNC and Beyti is one of the leading dairy and juice companies.
[17] There has been a rise in the rate of related chronic diseases, of which overweight and obesity increase the prevalence. The main chronic diseases are cardiovascular diseases (mainly heart disease and stroke), chronic respiratory diseases and diabetes (WHO 2005). I will address some of these diseases that plague Lower Egypt in chapter 5.
[18] For instance, there is evidence to suggest that pollutants that are not ingested through food like air pollutants are a contributing factor in weight gain (Guthman 2011).
[19] Survey data indicates that in fact caloric intake has dropped since 1980 (NNI 1998; FAO 2006).

(and beverages) in the two-decade national nutrition survey in particular is underreported. The ‘eating out’ category in the survey may include ‘eating on the go’ but only meals and not snacks. Second of all, processed foods represent a space of dietary convergence across class, and the rate increase in overweight/obesity in the country also represents a convergence across class (and the rural-urban demographic). Third of all, the rapid rate increase, and its convergence across class, corresponded with the rapid consolidation of the agri-food industry beginning in the early 1990s with the comprehensive structural adjustment package.

Surveys indicate that between 1992 and 2005 overweight and obesity have skyrocketed, particularly among women in the Delta/Lower Egypt. I issue a caution when using this survey data given that the use of the body mass index (BMI) to measure overweight and obesity has been criticized for over-determining a ‘weight problem’ globally (Orbach 2006, 2009). However, I use the figures to show a patterned change in weight toward overweight, given the drastic difference in weight that the surveys indicate. In the 1998 NNI survey 41.9 per cent of mothers were obese (BMI > or = 40), 31.3 per cent of mothers were overweight (BMI 25<30), and 25.9 per cent of pre-school children were stunted. The percentage of stunted and underweight children actually dropped while the percentage of overweight children rose from 1990 levels (FAO 2006). Galal (2002) observes that the phenomenon of overweight and obesity among women was evident in the 1981 survey, but according to Nahmias (2010), there was a huge jump in obesity rates among women between 1992 and 2005. In 2005 nearly 50 per cent of women of reproductive age were obese, a rate of prevalence consistent with rates in the region, which the WHO warns are at alarming levels (ibid.). In the region obesity is more prevalent among women and in urban areas, but Nahmias (2010) demonstrates that in Egypt during this period the prevalence of obesity between classes has evened out and has shifted from urban to

rural governorates. Changes in obesity among the richest women have been insignificant, while obesity rates among the poorest have nearly trebled from 8 per cent in 1992 to 23 per cent in 2005 (Nahmias 2010: 76). Further, the urban-rural differential has shrunk: In 1992 the group with the highest predicted probability of obesity was the richest in urban Lower Egypt, but in the period 1992-2005 there were only small increases in obesity in urban governorates and urban Lower Egypt, and in rural areas obesity rates more than doubled. Relative increases have been greatest in rural Lower Egypt, whereas rates in rural Upper Egypt remain relatively low.

The particular character of the increase in overweight/obesity during the last two decades – concentrated in 'rural' Lower Egypt – lends little to no support to the assertion that Egypt's food subsidy programme may have contributed to overweight/obesity (Asfaw, 2007). The food subsidy programme was in fact being dismantled as overweight/obesity was on the rise in the 'rural Delta'. Rather, the character of the increase in overweight/obesity since the early 1990s suggests that overweight/obesity may be understood within the context of rural 'urbanization', or the rapid growth of large villages and small towns in Lower Egypt since the 1970s (Bayat and Denis 2000). If anything, in the context of rapid urbanization and structural adjustments it was the deregulation of the food system (alongside industry) that has contributed to the rising rates of overweight/obesity. Why are the rates highest among women of reproductive age though? If the gender differential is to be explained in part by cultural norms governing women's bodies (see Galal 2002, Nahmias 2010), then these norms may be understood within the context of urbanization as well – processes which, for example, introduced more sedentary lifestyles for women[20]. Over all, the

[20] Of course urbanization has been accompanied by many trends, not only dietary shifts toward more industrial food and sedentary lifestyles, but also the profileration of pollutants in the food, air, and water. This has been particularly the case in the Delta, which I address in more detail in chapter 5. And there is some evidence suggesting that pollutants may be a contributor to overweight/obesity (Guthman 2011).

point here is that this ‘epidemiologic transition’ toward chronic health problems like overweight/obesity that now affect rich and poor alike is conjunctural, emerging out of historical processes through which the value of food has been increasingly captured in a durable commodity form.

Conclusion

The convergence of overweight/obesity across class in Egypt illustrates how food system change is non-linear, criss-crossing ‘informal’ and ‘formal’ and state economic sectors. In other words, the historical processes of urbanization are made up of all three sectors – e.g. street food stalls (‘informal’), franchises (‘corporate’), subsidized bread (state) – and ‘the in-between’ (e.g. snack food kiosks that the state licenses to private individuals) that produce and provision foods high in animal fats, sugars and simple/refined carbohydrates to the masses. In explaining how Egypt emerged as an agroexporter with a domestic corporate food sector, the concept of New Agricultural Country (NAC) may be useful then only insofar as it captures how the nation-state has transformed through the relational processes of informalization and integration/corporatization. I will explore more this structural transformation at the end of the following chapter and in chapter 3.

This transformation will be explored within the conceptual framework of ‘frontier making’, though, which I will introduce and build in the following chapter. The processes of urbanization of the Delta may be understood more broadly as those forces and structures that have deteriorated lower Egypt/Delta as a source of rural livelihoods – and of which rising rates of obesity are emblematic. As the Delta has been degraded as a site of food production, reclaimed or cultivatable land has expanded horizontally and vertically. This relational process (of the steady decline of

existing agro-ecological spaces in the Delta and Nile Valley and the making of frontiers of newly cultivatable lands) has enabled heightened capital accumulation in agriculture in the present day as well as in the 'long 19th century', at a time of cash crop production for export to industrialising Europe. Frontier making is constitutive of the 'regime of global value relations' (Araghi 2003), the political process by which value relations of capitalism are constructed and reconstructed on a world scale, and thus demonstrates that today's corporate agri-food system is structured world-historically.

CHAPTER 2

FRONTIER MAKING AND LAND/LABOUR RELATIONS IN THE LONG 19TH CENTURY – AND IMPLICATIONS FOR PROCESSES OF INFORMALIZATION AND CORPORATIZATION IN THE 20TH CENTURY

Frontier making or the expansion of socio-ecological spaces for capital accumulation has been a central condition of heightened capital accumulation in agriculture and food in Egypt in the long 19th century and the neoliberal era. In this chapter I introduce and begin to develop the methodological framework of frontier making to address how the corporate agri-food system has been made. I argue that frontier making (along with other enabling conditions of heightened capital accumulation) is constitutive of the 'regime of global value relations' (Araghi 2003) (and what is commonly called the 'free trade regime'). Frontier making cuts across three historical periods from the turn of the 19th century through the present day, but it is the 'frontier of capital' in the historical periods of expanded and accelerated circuits of capital internationally that are the sites of heightened capital accumulation in agriculture and food. In the long 19th century a regime of unfree labour and a class of rural notables (and later merchants and other capitalist classes) emerged around the expanding frontier for the development and growth of an agroexport market for industrialising Europe. This reordering of land/labour relations shaped mutually reinforcing processes of informalization and integration/corporatization in the development era of the mid-20th century, which helps explain the historical development of the corporate-informal character of the agri-food system today.

Araghi's (2003) concept of 'regime of global value relations' was proposed as an intervention in food regime analysis, which places a lens on agriculture and food to understand the (changing) dynamic between capital accumulation and the hegemonic

state system. ‘Food regimes’ are ‘generalized’ processes and structures that shape food production and consumption globally. Araghi (2003) argues that the concept of ‘food regime’ is useful for inverting the focus on imperialism from capital to labour, but that imperialism is more broadly about the production of value – and not only the production of food. The concept captures the ‘unity of the diverse’, or the political process by which value relations become organized by states. Following the critique of historicism, this ‘unity of the diverse’ may be understood not as how Egypt is integrated into the regime, but rather as the complex of forces and relations that play out ‘in’ Egypt that make and remake the regime.

The methodological framework that I use to capture this complex of forces and relations is frontier making, or the carving out of socio-ecological spaces as new or renewed sites of capital accumulation. To develop this framework I build on Moore’s (2000, 2010a, 2011) concept of frontier. For Moore the cycles of capital accumulation in modern history/world system may be understood through frontiers, which are often characterized not by total exhaustion but ‘relative exhaustion’ (Moore 2011) of socio-ecological spaces that were carved out, for example, for cash crop monocultures or raw material extraction. This exhaustion then leads to the making of new frontiers. Moore’s concept is a frontier of ‘nature-society’ bundles, in order to demonstrate that capitalism does not just create ecosystem damage, but that capital reproduces through nature-society relations. However, there is a spatial and temporal linearity to Moore’s concept, as capital moves in time from one socio-ecological space to the next, and the co-constitutive role of the human and non-human (or extra human) is lost.

In order to develop the frontier concept in a way that provides a critique of historicist narratives, first, I theorize frontiers as ‘bioregions’ (Friedmann 2000) – as specialized zones of commodity production that disrupt natural cycles, in Friedmann’s terms, but that are also disrupted by these cycles. Thus, capital may be theorized as

accumulating ‘regionally’, rather than as expanding from one place of origin or as global in its origin. In this way, frontier making within the borders of what is presently modern day Egypt is connected to frontiers regionally. Second, frontiers as socio-ecological spaces may be understood not just as made and then exhausted, but as expanded, deepened and limited in relation to other socio-ecological spaces of capital accumulation. By showing frontier making from the turn of the 19th century to the present day in the making of the corporate agri-food system, I demonstrate how capital accumulates from a ‘peripheral’ bioregion to another ‘peripheral’ bioregion – and then back again across space and time.

In this chapter I introduce what frontier making in Egypt has entailed in three periods – in the long 19th century, the development era and the neoliberal era – and why it is important to understanding corporate food today. Then, I begin to build on Moore’s concept of frontier by demonstrating how the relative exhaustion of natures (human and nonhuman) of one bioregion – England’s agricultural district (Ireland) – led to frontier-making in a new bioregion – the provinces of the Ottoman Empire, including Egypt. Then, I elaborate on the first period of frontier making – on how the expansion of cultivated lands under Muhammad ‘Ali’s rule in the first half of the 19th century created the conditions necessary for intensified cash production for export with the establishment of the plantation (*‘izba*) system under direct British colonial rule. I explore how these processes became part of (were shaped by and came to constitute) the production of capitalist relations on a worldwide scale (‘global regime of value relations’), following Chakrabarty (2000), marrying the peripheral pasts with the dominant metropole. I focus in particular on expanded production of cash crops during the cotton boom periods of the 1860s and 1890s (under direct colonial rule). Following Davis (2001) I introduce the concept of ‘boom/famine’ region to show that

semi-/famine conditions invited a deepening of the frontier, which further immiserated populations[21].

Overview of Frontier Making in Egypt

What I am naming 'the frontier' is often referred to as reclaimed land (*alaradi almustaslaha*) because the land has generally been 'claimed' by the state from villagers or Bedouin and granted or sold to private individuals for cultivation. This claiming of land has been by fiat, force and co-optation, with long-standing implications for Bedouin claims over ancestral lands. Reclamation then has been (not exclusively) a form of private property whereby individuals or corporations granted, given leasehold rights or sold the land become owners following its 'development' (into agricultural land) and cultivation. The state's role in granting, leasing and selling this land has been a mix of forms of patronage and state development policy. For instance, under the Khedive (Muhammad 'Ali and his successors) the state granted state lands to political allies, and in the development and neoliberal eras reclamation has been an important rural development policy for the expansion of food production. Reclamation in any substantive sense has been enabled by the building and extension of major waterworks, which has often been an international state-capital project (i.e. involving state and foreign capital financing). Reclamation has involved additional state subsidies and supports; for instance, in the colonial era the state subsidized railroad development for the agroexport market and in the neoliberal era the state has subsidized highway development (much of the desert frontier today lies physically along the two main highways bordering the Delta to the west and the east; see Figure 2). Cultivation itself has involved the application of new agro-technologies, often a

[21] In chapter 6, I also demonstrate the making of these 'boom/famine' regions in Sudan and South Sudan in the 21st century.

combination of mechanization (especially related to irrigation), new seed varieties, synthetic and then chemical inputs and so on – for the intensification of agricultural production. As such, reclamation has been in many ways the domain of the experts or a site of 'managed development' – from the colonial era Khedivial Agricultural Society to Soviet and US assistance in state reclamation in the development era to the vast international development apparatus promoting agricultural productivity and the agroexport market today.

As a frontier, reclamation or the expansion of cultivatable land is a response to a 'metabolic rift' (and a deepening of this rift) in existing agricultural areas in the Delta and Nile Valley. The frontier as a private property regime (and even as a mixed private-state property regime in the development era) has relied on various forms of wage labour (from rightless labour to salaried/contracted), which have been mobilized for farming and irrigation works. The frontier may be understood then not only as depending on landlessness in the Delta and Nile Valley, but as responding to chronic landlessness. The 'metabolic rift' is also signified by other processes of deactivation or decline due to, for instance, intensive cultivation that shrunk and disappeared the northern lagoons (a vital ecosystem of the Delta on which fisherfolk and smallholders depended for their livelihoods) at the turn of the 20th century, and the continued decline in rural areas (semi-famine conditions, recurrence of epidemic diseases, etc.) due to nearly a century of the plantation system by the beginning of the post-World War II/post-colonial era. This decline provided momentum for the expansion of the frontier.

As described, this is the general character of reclamation or the three frontiers from the early 19th century to the present day (see Table 2 for a description of the three frontiers). These characteristics mark the similarities of how frontier making has

worked across the three periods. In other words, the characteristics point to certain logics of frontier making in Egypt. However, 'the frontier' as constitutive of the expansion of capitalist relations worldwide is a 'frontier of capital' (frontiers I and III of Table 2). This designation does not imply that capital is absent in the 'state frontier' of the development era (frontier II), but rather, 'the frontier' is the site of heightened capital accumulation in agriculture and food. As such, the frontier of capital is in large part a response to the liberalization of food markets and to international food commodity prices. In the long 19th century each time international cotton prices skyrocketed (in the 1860s and again in the 1890s) an expansion of reclaimed land followed. When the market expanded for high-value agricultural products (fresh fruits and vegetables) with the consolidation of food retail in Europe and North America in the 1980s, the desert frontier of Egypt expanded in the 1990s and 2000s for the growth of the agroexport market. Likewise, the frontier of capital has been an outcome of land liberalization and speculation. Following the granting, leasing, or selling of state lands to private individuals (and corporations), 'stage two' of frontier making has been the development of a market in reclaimed land. The commodification of land (existing and reclaimed) is of course the raison d'être of landlessness and the growth of the labouring classes at these historical moments. These characteristics of the frontier of capital differ from the state frontier in that the making of the state frontier did not involve the expansion of the land market, but rather, the granting of leasehold rights to settlers was highly moderated by the state. And although the state farms on reclaimed lands in this era were designed in part for the agroexport market, as Egypt began seeking foreign reserves, this market did not develop. Rather, much production on the state farms on reclaimed lands was directed for the domestic market in response in part to falling international commodity prices (of colonial crops, namely, cotton).

Table 2: 'Frontier making' in Egypt: long 19th century – neoliberal period

Frontier	Characteristics
Frontier I **i. Ottoman (semi-/autonomous) province** **Early 1800s – late 1800s (c. 1870s-1880s)**	Property regime: state 'claimed' land and granted to private individuals to cultivate Social organization: Unfree labour (corvée) and class of 'rural notables' (royal family members, Bedouin sheikhs, etc.) Spatial geography: 'deserted' fields, flooded and fallow land in existing villages, on the outskirts of villages Type of production: mechanized, perennial irrigation; agroexport crops (cotton, sugar, indigo, etc.) for Europe
ii. British colony and 'post-independence' **1880s –interwar period**	Property regime: *'izba* (plantations) – personal estates with groups of villages in the custody of individual officials ('rural notables', European merchants, etc.) Social organization: 'second slavery' – bifurcated system of labour with wage-labourers who may have had subsistence plots and in sharecropping arrangements and migrant labourers who were employed seasonally Spatial geography: farther from existing village parameters, especially around the Delta Type of production: intensified mechanisation (imported chemical inputs, state breeding of seeds); agroexport crops for Europe; and subsistence (village 'commons')
State frontier **c. 1940s – early 1970s**	Property regime: 'mixed' – state farms/property and private/small-scale units Social organization: smallholders/'settlers' and state farms Spatial geography: mostly horizontal, farther out from the Delta into 'sandy' soils Type of production: subsistence/household and mechanized state farms (horticulture and animal agriculture for domestic market)
Frontier II ('desert frontier') **c. early 1970s – present-day**	Property regime: 'mixed' – state ownership but land market develops; Bedouin stewardship (of non-state irrigated land) Social organization: smallholder plots/villages, commercial farms, corporate farms; trifurcated system of labour on corporate farms – permanent (managerial, supervisory) staff, regular wage labour (from nearby villages, migrants), seasonal labour (brought to farms through contractors, largely from Delta, mostly female) Spatial geography: farther 'into the desert' (where there is no irrigation from the Nile canals) and to the South of the Delta (along the western side of the Nile) Type of production: continuation from development era (focus on horticulture and animal agriculture); industrial farms; food processing (on farm and in industrial zones/'cities')

In addition to the central logics governing frontier making and the particular logics of the 'frontier of capital', frontier making has also been chronologically sequential. For example, because the 'claiming' of land has been largely from Bedouin, frontier making has had long-standing but varying consequences on Bedouins. In this dissertation I leave this outcome largely unexplored, but in short I make clear that the frontier in the long 19th century played an important role in the state policy of sedentarizing and co-opting Bedouin communities. In the development era Bedouin were largely excluded from the benefits of state reclamation, as they were not given the rights to irrigation or land. And in the neoliberal era, as the frontier has expanded farther 'into the desert' there have been tensions within Bedouin communities about giving or 'selling' rights to what is considered ancestral land. To give another example, as Table 2 indicates, a major shift in the character of frontier making began in the development era, whereby the reclaiming of land was for the granting of small plots to various subaltern classes – a process of 'repeasantization'. And reclamation maintained this particular character in the neoliberal era, as smallholder communities have expanded and criss-cross in various ways with capital-intensive farms. There are many other ways in which the character of the frontier has shaped what the frontier has become, and I will explain some of this chronological sequencing throughout the dissertation. And here I begin with a sequential account of how the subsumption of one bioregion led to frontier making in modern- day Egypt.

The making of an Ottoman bioregion

I will begin the account of frontier making in what is modern-day Egypt in the second half of the 18th century, not in an effort to make claims about the frontier's 'origins' nor to illustrate 'the beginnings' of the regime as it plays out in the Ottoman provinces, but rather to make the case of how the relative exhaustion (Moore 2011) of

one key producing region for industrializing Europe corresponded to the making of a new type of intensive agricultural production for Europe within the Ottoman Empire.

By the mid-18th century there was an increase in demand from Europe for cotton, grains, maize, cattle and tobacco from the Balkans (Wallerstein et al 1987). This increase in demand for commercial concessions led to the conversion of the capitulations into bilateral treaties. For example, the Treaty of Küçük Kaynarcca in 1774 ended the Ottoman monopoly in the Black Sea trade. From 1775 to 1789 cotton exports from Turkey to Great Britain alone more than doubled (Kurmuş 1987). Generally, trade continued to grow between Europe and the Middle East during the first half of the 19th century. In the Ottoman province of modern-day Egypt the regime of Muhammad ‘Ali shifted production toward Europe during the first decades of the 19th century, and by 1823 approximately 76 per cent of Egyptian exports were going to Europe (Richards 1987). By the 1840s the territories of the Ottoman Empire as a whole had become an export platform of cereals (Owen 1993).

The literature points to a weakening Ottoman Empire and strengthening European empires to explain this shift in agricultural trade. For example, Wallerstein et al (1987) highlight the bilateral treaties that offered greater concessions to European traders, and Owen (1993) partially attributes this rise in trade from the Ottoman provinces to Europe to the abolition of the Levant Company in 1825, which granted the British government more control over the trade of British merchants from the region. In fact, these policy changes were constitutive of a process long in the making, since at least the mid-18th century, of expansions in the capitulations, which were initially privileges granted to non-Muslim foreign nationals in the Ottoman Empire but were then extended to non-Muslim Ottoman subjects, and then, institutionalized in bilateral treaties, and so on (Wallerstein 1979). Following Moore (2011), there is also a way to understand these policy shifts within the Ottoman Empire, which heralded a

turn toward intensive agricultural production for export to Europe, within the context of the relative exhaustion of England's 'agricultural district' in Ireland (c. 1780-1840). The fall in production in the British Empire's own 'agricultural district' spurred the agricultural revolution of the American Midwest and the making of 'new granaries in Russia, India, and elsewhere' (Moore 2011: 35). The making of an Ottoman bioregion corresponded exactly with the decline of the agricultural district.

Muhammad 'Ali and the expansion of cultivated land

In this account of the first half of the 19th century I show that the intensification of capitalist relations within agriculture required large-scale irrigation projects because existing hydraulic systems had become worn (as a result of the province's position within the Ottoman Empire). These projects instituted a regime of 'unfree labour', one of several forces of dispossession of peasants, and enabled the reclamation of uncultivated (and indebted) land. This land was 'claimed' by the state from villagers and Bedouin tribes, and granted to private individuals as a form of political patronage. The granting of reclaimed land to private 'investors' (who were to invest in the land) not only created a new class of 'royal notables', but paved the way for the large-landed estate system that became the centre of intensified cash crop production for Europe during direct colonial rule.

My thesis that frontier making in Egypt was central to the intensification of production of cash crops for export to Europe in the 'long nineteenth century' is supported mainly by the historical research of Baer (1969), Owen (1969) and Alleaume (1999). This is not an argument about single causation but, rather, is about the important role of frontiers within larger processes of agrarian restructuring. Further, the process of frontier making blurs the distinctions between present-day 'desert' and 'historically fertile' areas.

The extent to which the 'relative exhaustion' of Britain's own agricultural district led to the development of industrial cash crop production in the Ottoman province of modern-day Egypt for export to Europe during the first half of the 19th century was not simply a matter of colonial machinations (the British and French were becoming increasingly involved in Egyptian domestic affairs), but may be understood within the workings of a monetary system 'that was increasingly globalised, homogeneous and hegemonic' (Alleaume 1999: 338). The head of the province, Muhammad 'Ali, sought to build a 'war economy' in the face of encroaching European colonizing military powers and in aspiring to build a personal empire (Fahmy 2004), and in order to fund this economy 'Ali increasingly turned toward Europe. The building of a war economy led to agrarian restructuring on a massive scale, characterized by waves of dispossession: *fellahin* were displaced in large numbers through conscription, forced labour for irrigation projects, high taxation, agricultural mandates, and transfers in landed wealth to the Pasha's (Muhammad 'Ali) political allies.

During the first two decades of the 19th century, roughly the first half of Muhammad 'Ali's reign (c. 1805-1848), the Ottoman province of Egypt was exporting wheat, tobacco and other cash crops to Europe. The Pasha began large-scale irrigation projects at this time, which prompted a shift in the use of corvée labour – a system of shared labour among peasants for local irrigation and other infrastructure projects became a system of forced labour for large-scale irrigation projects on a province-wide scale (Mikhail 2011)[22]. The routine use of forced labour for the building and

[22] One example Mikhail (2011) provides is of the reconstruction of the Mahmudiyya (originally known as Ashrafiyya) Canal in the second decade of the 19th century. The canal's reconstruction was to provide drinking water to the people of Alexandria and was reliant on forced peasant labour. Peasants 'were no longer villagers of a certain area fulfilling a repair function directly beneficial to themselves and to the irrigation network of Egypt as a whole. They were stripped of this local identity and made part of a massive faceless pool of labour brought to work on projects throughout the countryside. The fact of the mobility of this labour meant that peasants' connections to specific places and to the water,

maintenance of Muhammad ‘Ali’s large-scale irrigation projects meant that more *fellahin* were taken from their villages for the corvée (Brown 1990: 215). Also, conscription for ‘Ali’s army is estimated to have involved an average of 100,000 male peasants or 4 per cent of a population estimated at 2,500,000 (Rivlin 1961, cited in Brown 1990: 241)[23].

The horizontal and vertical expansion of cultivated land seems to have become important to cash crop production for export during the second half of Muhammad ‘Ali’s reign, after production shifted to long-staple cotton in the 1820s because of its higher market price (Richards 1987). The Pasha began transferring indebted and uncultivated land to political allies. Taxation was very high for peasants as agriculture was the main source of revenue for the war economy, and many could not pay the taxes (Cuno 1999). The government began to seize and reassign the land from indebted peasants to rural notables (*a’yan al-rif*)[24]. What may be considered land reclamation (the making cultivatable uncultivated land) at this time (1820 to the 1840s) was of land that had become flooded or fallow due to the deterioration of the existing system of irrigation[25] (Alleaume 1999). As ancient hydro-agricultural systems became worn, land in Upper Egypt became fallow with the accumulation of alluvium (which elevated the soil) and land in Lower Egypt (Delta) became flooded. Allan (1983) shows that from 1800 to 1850 much of the land that was reclaimed for cultivation was of heavy clay soils of the northern Delta – the strip Damanhur-Kafr el-Sheikh-Mansura (see Figure 3 on the expanding Delta). Most of the *ab’adiya* (far

---

plants, and soils of those places were rent asunder through the movement of populations’ (Mikhail 2011: 255).

[23] Brown admits that the percentage Rivlin gives is probably overstated as the population estimates are low. Clearly, though, conscription was considerable in villages. Reports of intentional mutilation of children in order to avoid conscription were not uncommon (Rivlin 1961, cited in Brown 1991: 215).

[24] The most prominent among the rural notables were the village headmen (Cuno 1999).

[25] Alleaume (1999) categorizes land that was reclaimed as 1) land that was left uncultivated due partially to faults in the hydraulic system (*matruk*), 2) land too elevated or distant from water to be irrigated (*ab ‘adiyah*), and 3) flooded land from the river alluvium (*ziyada*).

away) lands were reclaimed not by the government but by the individuals granted the land (Rivlin 1961), many of whom were Bedouin sheikhs, in an effort to sedentarize the Bedouin population (see Baer 1969). These private estates were built at the expense of neighbouring villages, as the estates were granted the first irrigation water, the best workers and so on with the help of the village headman (*shaykhs*) (Rivlin 1961).

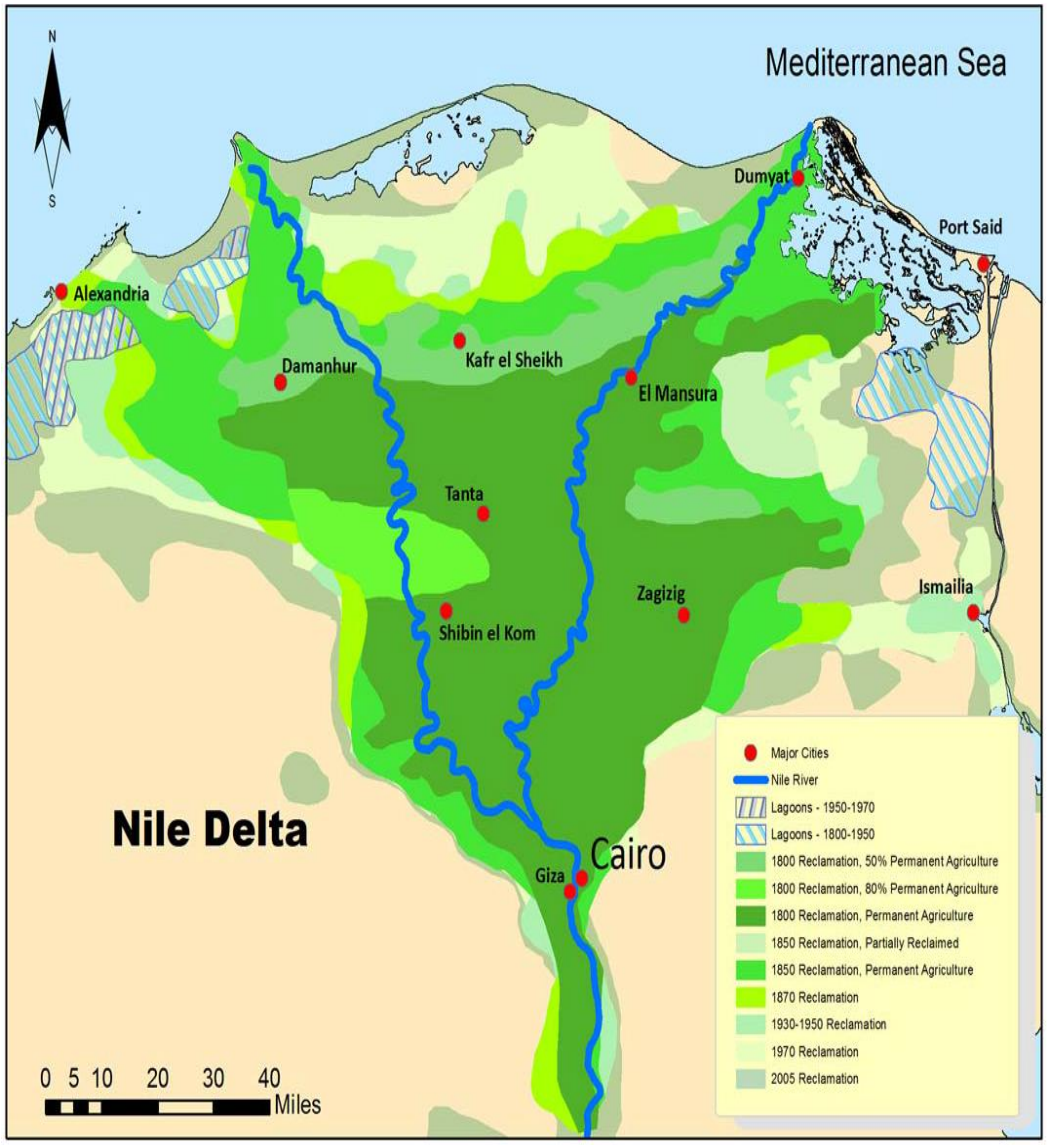

Figure 3: The expanding Delta, 1800-2005

(Courtesy of Johannes Plambeck, Maps & Geospatial Information, Olin & Uris Libraries)

Baer (1969) and Alleaume (1999) are in agreement that the expansion of cultivated land during this period led to the creation of large estates. It was the cost of building the new irrigation networks and expanding cultivation in saline areas of the northern Delta that prompted Muhammad ‘Ali to encourage private investment in industrial cash crop production by granting title to land (Baer 1969). Muhammad ‘Ali (and his successors) granted or sold these ‘reserves of uncultivated state land’ to officials, village notables, and urban merchants (Baer 1969: 77). The new hydraulic management schemes that replaced the ancient schemes were designed for large-scale production: they were geometrically suited for larger surface areas and new mechanized irrigation networks were designed for larger units of production (Alleaume 1999: 338). At the centre of industrial production on the estates was the pumping station. Early investors in reclamation were seeking a return on their investment (in building and maintaining the mechanized irrigation networks and so on) by cultivating industrial cash crops (cotton, sugar cane and, to a lesser extent, rice and tobacco) (ibid.). The mechanization of irrigation via pumping station converted the entire secondary network of the Delta to perennial irrigation (Alleaume 1999: 339), which made possible large-scale cash crop production for export to Europe. Moreover, the granting of title to land led to land transactions and mortgage credit (Baer 1969), which then paved the way for the consolidation of large landed estates (*‘izab)* at the time of British colonial rule during the last decades of the 19th century and at the turn of the 20th century.

A regime of global value relations

The expansion of cash crop production in the Ottoman province corresponded with the re-ordering of capitalist relations and the European colonial system. This re-ordering

was through the ‘regime of global value relations’ that was organized around a tension – liberalization (the opening of trade barriers, etc.) in the settler and colonial states and protectionism ‘at home’ (in Europe). This regime was the institutional and ideological framework through which the production and consumption of food became re-organized around the world. Production in new frontiers (including colonies) was of raw materials for European industry (e.g. cotton, timber, rubber, indigo, jute, copper, and tin) and tropical food stuffs for the industrial working classes in Europe (e.g. vegetable oils, tea, coffee, sugar and bananas) (Friedmann and McMichael 1989: 97-98). These trading circuits criss-crossed with established trading circuits between European colonial powers and settler states; settler states were importing European manufacturing goods, labour and capital while exporting wheat and meat to Europe.

In the food regime literature the ‘free trade regime’ is understood to have emerged when Britain went against politically powerful landowners and capitalist farmers in favour of a stable industrial workforce and urban industry by doing away with trade protections for the national agricultural sector (Friedmann 2005). This shift was institutionalized by the repeal of the Corn Laws in 1846 at the time of the ‘Great Hunger’ (c. 1845-1852) in Ireland. The decline of Britain’s agricultural district was reflected in intermittent, localized famines, which then culminated in a massive famine that struck Ireland as scores of grain were being shipped to England weekly (Salaman 1949). The famine gave support to English policy makers who supported the repeal of the Corn Laws (ibid.). In this way the emergence of the free trade regime may be understood in the context of the ‘internal’ colony of Great Britain. More than this, the freeing of trade restrictions in the Ottoman Empire anticipated the decline of Britain’s agricultural district years before the repeal of the Corn Laws. In the Ottoman province of Egypt the free trade regime began to take shape especially with the *tanzimat* reforms (1839-41) of the Ottoman Empire, which led to an end of military

preparations and campaigning, a reduction of armed forces, and the abolition of central control of production and distribution of many agricultural and industrial products (Cuno 1999).

The regime may also be understood to have been made in the financial centre of Alexandria. Friedmann and McMichael (1989: 99) write that the free trade regime worked through 'an infrastructure of circulation centred on the London discount market with sterling as international currency'. In mid-19th century important financial centres existed in the Ottoman Empire and India – namely, in Bombay, Calcutta, Constantinople and Alexandria – that attracted European and other bankers and merchants because of their higher interest rates (Landes 1958: 57). Following *tanzimat* reforms the Pasha Saïd (1854-63) of Ottoman Egypt permitted foreign merchants to trade directly with landowners and *fellahin*[26]. In the 1840s and 1850s foreign merchants tried to organize joint-stock commercial banks, usually with British interests, and the Bank of Egypt was established in Alexandria in 1855 (Landes 1958: 61-62). Saïd was under pressure to commit to the Suez Company, and borrowed (at exorbitant rates) to fund the Company to begin construction of the Suez Canal in 1859 – just one year after the imposition of direct colonial rule in India. As Davis (2001: 299) notes, the public finance strategy of the British Raj in its initial years was to export cash crops to Great Britain, and the Suez Canal with developments in steam shipping would greatly expedite their export. During the time of Suez Canal construction and then especially during the cotton boom, when US cotton exports to Great Britain dropped rapidly during the Civil War, Egypt was what Landes (1958) describes as a 'Klondike'. Financiers coming into Egypt rose precipitously, as did cotton production. The cotton boom greatly transformed food production, as

[26] *Fellahin* in Arabic roughly translates into 'cultivators of the soil'. I use the term interchangeably with peasants, villagers, smallholders and small-scale producers.

agricultural land was planted with cotton, and as a result, a ban was placed on the export of grain and flour (from mid-1864 to early-1866) in order to prevent famine (Landes 1958: 190).

Significantly, it was boom/famine regions like Egypt that by the end of 1865 prompted the influx of credit companies, discount banks and finance corporations into the London market, two-thirds of which aimed 'to exploit and develop colonial and foreign enterprise' (Landes 1958: 60). In other words, rather than explaining the development and growth of an agroexport market for industrialising Europe in the Ottoman province of what is now modern-day Egypt as a consequence of the Ottoman empire's uneven integration into the regime, by theorising the emerging 'regime of global value relations' as one mutually constituted by the dominant metropolitan histories and the (subaltern) peripheral pasts (Chakrabarty 2000), I have attempted to show that the creation of a 'boom/famine' region in Egypt was part of (and not merely a consequence of) the regime, as were other 'peripheries' (the boom/famine region of Ireland, the finance metropolises of Calcutta).

Age of empire

According to the food regime literature (Friedmann and McMichael 1989, Friedmann 2005, McMichael 2009), the re-organization of agriculture systems worldwide became extended and more systematic when colonies became administered from the metropole. This was roughly around Hobsbawm's (1987) 'age of empire' (roughly 1870-1914, or 1870-1930s) during which colonies rose exponentially. According to Araghi (2003), the Great Depression of 1873-96 that spawned this 'second colonialism', during which industrial states searched for both the import of cheap wage-foods and raw materials and export markets of capital in the face of a crisis of accumulation, and greatly expanded their empires to systematize trade. Davis (2001)

contributes to Araghi's concept by illustrating that the geographic expansion of colonies occurred not just at the time of the Great Depression, but also in the wake of the global El Niño drought of 1876-1878. Colonial expansion 'syncopated the rhythms of natural disaster and epidemic disease. Each global drought was the green light for an imperialist landrush' (Davis 2001: 12). In regions in which cotton replaced subsistence cultivation on a large scale during the cotton boom (say, in Egypt, western India, Algeria and many other cotton producing regions), smallholders found themselves indebted following the boom's collapse when the American cotton market recovered (Davis 2001: 63).

In Egypt peasants borrowed the working capital to produce cotton and then used the sales revenues from cotton to pay taxes (Richards 1980). Growing debt led to the establishment of the Mixed Courts in 1876, which introduced European property laws, and, thereafter, mortgaging land began (Owen 1969: 271). Peasants were selling their land in an effort to escape from moneylenders when the El Niño drought struck, leaving one-third of the crop area unirrigated (Davis 2001: 103-105). The 'Urabi Revolt of 1882, which was the pretext for the British invasion of Egypt, was a direct response to peasant famine (Davis 2001: 105), following decades of peasant incorporation into (and resistance to) the cotton economy and state fiscal assertion (Richards 1980; Waterbury 1991). The intensification of cotton production led to a systematic move away from food production for household use and the domestic market, which led to recurrent famine and semi-famine conditions.

The period beginning with the Great Depression – global El Niño drought of the 1870s marks the onset of British colonial rule of Egypt and what may be considered the institutionalization of the 'boom/famine' region in Egypt through the consolidation of the landed estates (*'izab*), which took on a feudal or semi-feudal character, producing export crops (largely cotton in Lower Egypt/Delta and sugar in

Upper Egypt). The *'izab* were organized as personal estates, with groups of villages in the custody of individual officials (i.e. members of the rural family, European merchants, etc.). When the British ended the forced labour system, a bifurcated system of labour developed in the *'izab*: *tamalliya* or wage-labourers were hired on an annual basis and sometimes were given subsistence plots and other times sharecropping arrangements, and *tarahil* or migrant labours were seasonally employed, usually through contractors. F*ellahin* were 'pulled' from their villages to work in the estates, but the type of farm management and labour employment was based on trust and kinship as well as varying levels of commercialization and subsistence-crop cultivation (for tenants and owners) (Stauth 1990: 125-129). In this way, the *'izab* resembled the *haciendas* of Latin America in that there was a 'continuation and creation of subsistence – and use-value oriented networks in and between households' (Stauth 1990: 138).

This is where Araghi's (2003) inverted focus on labour is illustrative: the landed estates may be understood, not as the outcome of colonial machinations to immiserate the Egyptian population, but rather part of a regime of rightless labour ('a second slavery') in the colonized word that was directly tied to the 'free' labour regime of the independent states (European and settler) (Araghi 2003). According to Friedmann and McMichael (1989), industrialism in Europe intensified the world market, fuelling international specialization (of production), which integrated internationally wage labour (in Europe) and non-wage labour (in the settler states and colonies). This integration altered the colonial division of labour and brought about its long-term decline. Colonial producers were compelled to reorganize some production along industrial lines, which brought about the 'second slavery', an intensification of colonial labour, which in turn laid the foundations for the decolonization movement (Friedmann and McMichael 1989: 100-101) (ibid.). Araghi (2003) marries the

metropole with the peripheries by arguing that the non-wage labour subsidized the wage labour. The 'second slavery' was being cemented through direct colonial rule as the 'working day' was being established in Europe, with the rising political power of the industrial working classes. The production of absolute surplus value (the prolongation or intensification of the working day) is tied directly to the production of relative surplus value (the decline of the value of labour power under conditions in which the working day is 'regulated'). A decline in the value of labour power occurs through a rise in technical efficiency or by expanding the production of absolute surplus value in wage goods producing industries. Free and unfree labour thus became tied together through the regime of global value relations. In the concept there is nothing teleological about the direct relationship between labour in the metropole and labour in the periphery; rather, the concept of 'regime of global value relations' two are combined but without a determined causal relationship between them (Araghi 2003).

The 'second slavery' in colonial Egypt was instituted through the consolidation of large landed estates (*'izab*), and took the form of dispossession from land and growing landlessness among peasants[27]. Additional forces enabled the rapid consolidation of the landed estates. The consolidation largely followed the increase in the price of cash crops after 1898, which led to a rise in land values that brought an influx of foreign capital seeking investment opportunities in mortgage and land

[27] In 1894 42.5 per cent of the land in private ownership was held in estates of fifty feddans and above; 37.7 per cent were medium-size properties (five to fifty feddans); and the remaining 19.8 per cent were those of five feddans and under (Owen 1969: 239). 'Of the 1,700,000 rural families in 1907, only just over one-twelfth owned sufficient land to secure an adequate living for themselves, another two-thirds possessed some property but not enough to satisfy their needs, while a quarter had no land at all' (Owen 1969: 240). And the number of landless continued to increase; by 1917 53 per cent of the population was landless in Upper Egypt, 40 per cent in Middle Egypt and 36 per cent in the Delta. The landed estate system was heavily reliant on the wage labour of the landless from Upper Egypt; even as early as 1888-89 seasonal labour migration from Upper Egypt involved between half a million and 800,000 men and boys for the annual cleaning of the Delta canals and for work in the cotton fields (Owen 2006: 93).

companies, as well as in railways (Owen 1969: 242)[28]. The rise in land values led to the ever expanding 'frontier' of cultivated lands[29] (see Figure 3). The expansion of the frontier was further dependent on the greater availability of irrigation water and seed (Owen 1969; 2006). The British sought to gain greater control over the Nile to increase industrial production, and re-invaded Sudan at the turn of the 20th century, which enabled the completion of the Aswan dam in 1902. Greater availability of irrigation water enabled the growth of the land area cultivated[30] and the intensification of production – for example, a switch of about half the cotton area from a three- to a two-year rotation. Also, the introduction of the Mit Afifi seed increased productivity of the cotton fields (Owen 2006). In short, this consolidation fuelled, and was fuelled by, the 'boom years' of 1893-1907, during which the production of cash crops for export skyrocketed[31].

Intensified cash crop production for export quickly became exhausted, which corresponded with the making of a frontier in what was then Anglo-Egyptian Sudan and the ending of direct British rule over Egypt (see chapter 6). The 'exhaustion' of (human and nonhuman) natures of the bioregion of the Ottoman province-turned-British colony is a structural feature of the production of value relations. The enabling conditions of intensified capital accumulation in agriculture in the long 19th century also reflect how value relations are produced locally, including frontier making, dispossession and landlessness, land speculation, state-sponsored mega irrigation works and new agro-technologies. In conclusion, the making and unmaking of the

[28] According to Owen (1969), there is evidence suggesting that when the price of cotton skyrocketed the estates partially converted from the sharecropping system into a kind of third-party tenancy mixed with migrant labour. Also, at this time there was large-scale rural out-migration (Mitchell 1991).
[29] Between 1893 and 1914 land companies reclaimed well over 100,000 *feddans* (Owen 1969).
[30] The annual average of land for cotton cultivation rose from 850,000 *feddans* in Lower Egypt in 1885/6-87/8 to nearly 1.3 million *feddans* in 1907 (Owen 2006).
[31] For example, the volume of the cotton harvest increased from just over 3 million cantars a year in 1885-90 to 6.7 million in 1905-9, and the annual value rose from LE8.9 to 24.4 million during the same period (Owen 2006: 84).

‘bioregion’ in Egypt, a socio-ecological region of specialised production that caused vulnerability, pauperization and destitution among the masses, is about the interaction of the ‘inside’ and ‘outside’ forces, institutions and actors that constructed value relations in Egypt. An important part of that story is how policy makers and the bourgeoisie actively constructed value relations through a broader colonial programme of privatization and liberalization at the time of the bioregion’s unmaking.

The colonial-era domestic political economy

The Cromer regime (1883-1907) built what Vitalis (1995) calls a highly oligopolistic ‘private market’ economy, by underwriting a massive transfer of ownership rights not just in land but in state-owned enterprises[32]. It was those who were grantees of rural state land and/or had made early investments in cultivating that land – a new class of landlord-capitalists – who ‘steered a virtually unregulated commercial, agroexport economy through the last decades of the nineteenth century’ (Vitalis 1995: 20). This private market economy built up large-scale, capitalist institutions in Egypt. By World War I a handful of local capitalists, who were organized in rival investor coalitions or family business groups, were running this economy, largely through public contracts. These family business groups often partnered with European investors, and began investing in early import-substitution industries (ISI) (food processing, textiles, construction) (Vitalis 1995: 15-16).

Management of the decline of the agroexport market became one such avenue for the reinforcing processes of capitalist class re-formation and ISI industries. The ‘relative exhaustion’ (Moore 2011) of Egyptian intensive agriculture did not mean the

[32] Vitalis (1995) gives an example of the state-owned Tura-Helwan railway, which was privatized. Private investors were also given permission to extend the railway line, and they built the last segments of the railway line in partnership with the German joint-stock bank, Berlin Handels Gesellschaft. After the line was built, one of the ruling family oligarchs leased the line back to the Egyptian State Railways.

collapse of the agroexport market, but rather, was signalled by 'biophysical overrides', or the continual application of chemical inputs to override biophysical barriers to industrial food production (Weis 2010). The consolidation of the landed estate system that exhausted old and new cultivated lands in fact led to the import of ever more chemical inputs, signalling its short-term decline. This was especially the case following the mass manufacturing of new synthetic nitrates in the interwar period for the international market. Landowners and policymakers responded to the fall in production with a greater push for more chemical inputs[33]. And this high-level dependency on imported chemical fertilizer led to a fertilizer cut-off during World War II. One of the wealthiest Egyptian capitalists, Ahmad 'Abbud, founded an Egyptian fertilizer industry, the first large-scale import-substitution project of the post-war era (Mitchell 2002; Vitalis 1995).

The type of capitalist class (re-)formation in the interwar period – organized as family business groups with diversified holdings, tightly tied to foreign capital and policy making, and so on – became constitutive of the production of value relations in Egypt. As I will demonstrate in this dissertation, the character of the capitalist classes as well as the other enabling features of intensified capital accumulation in agriculture that I detailed in the previous section reflect the ways in which the production of value relations is structured in Egypt. Frontier-making and capitalist class re-formation (in family business groups, etc.) (and so on) are all structural features of the corporate agri-food system today. The system's development and growth are not inevitable, but rather, there are world-historical conditions that enable the intensification of capital accumulation in agriculture and food.

[33] Between 1920 and 1937 there was a 400 per cent rise in total fertilizer imports (Vitalis 1995: 79), and by the end of the 1930s 600,000 tons of fertilizer (mostly artificial nitrates) were used in Egypt – the highest rate per cultivated area in the world (Mitchell 2002: 20).

In the following section I examine how the intensification (and subsequent 'relative exhaustion') of agriculture systems for export in the 'long 19th century' shaped the transformation of land/labour relations in the postcolonial/development period. In particular, I argue that the domination of cash crop production for export (the plantation system) in the context of a dismantled colonial trade (and grain dumping) led not only to depeasantization but also greatly shaped the character of the agrarian reform institutions and state land reclamation (i.e. processes of 'repeasantization') in the postcolonial period. Rather than conclude that these processes of repeasantization and depeasantization are in tension, I argue that they mutually constituted the informalization and integration/corporatization of agriculture and food in the re-emergent regime of global value relations.

Processes of informalization and integration in the development era

In the postcolonial period land/labour relations were transformed by 'inside' and 'outside' forces, interacting in a context of a predominant agroexport market that compromised food production for local consumption. I will focus on three 'outside' forces of the 'international food aid order' (Friedmann and McMichael 1989) that emerged from the industrialization of agriculture within the new hegemonic state, the US, in the first half of the 20th century: US food aid, colonial crop world market decline, and Green Revolution technologies. And I will demonstrate the ways in which these forces interacted with the 'internal' institutions of 'repeasantization' – namely, agrarian reform institutions that replaced to a certain extent the landed estate system with small redistributed parcels and secure tenancy contracts. These combined forces transformed land/labour relations such that peasant agriculture began provisioning food to a growing informal sector of non-wage and low-wage labour.

In an era of cheap oil state-led hybridization and the development of commercial seed varieties spawned initial productivity leaps in agriculture in the US (see Kloppenburg 2004). The US mercantilist policy of holding food surpluses controlled food prices, underpinning the development of an animal protein complex in the global North (through subsidized animal feed) and import-substitution industrialization (ISI) in the global South (through a new international 'food aid' order) (Friedmann and McMichael 1989). The US used these surpluses to regain European trading partners via the Marshall Plan and to dominate new markets in former European colonies via Public Law (PL) 480, which created 'food aid' to the formerly colonized, who sought subsidized grains to keep food costs down and thereby lower the costs of industrialization (Friedmann 2005). 'By 1963, Egypt had become the world's largest per capita consumer of American food aid' (Dethier and Funk 1987: 23). Also, the corporate manufacture of colonial crop substitutes (e.g. cotton with synthetic fibers) shrank the international market for key colonial crops (Friedmann and McMichael 1989). At the time of the agrarian reforms in the 1950s and 1960s the Egyptian agricultural sector was dominated by cotton production, the export market for which dropped precipitously. Both of these outside forces depressed agricultural wages and crop prices in comparison to industrial wages in Egypt (see Toth 1998), spawning rural outmigration in the 1960s and 1970s (Abdel-Fadil 1975; Bayat and Denis 2000; Radwan 1977). This 'dispossession through displacement' (Araghi 2000) in turn led to the loss of agricultural land as the metropolitan centres expanded into megacities (Bayat and Denis 2000; Sims 2010)[34].

A third outside force emerged from the 'biophysical contradictions' of industrial agriculture (Weis 2010). The industrialization of agriculture has led to both

[34] For example, a 1982 National Urban Policy Study that compared Landsat images taken in 1972 and 1978 suggested that 120 km² of agricultural land was lost annually (Kishk 1986).

‘genetic erosion’, or the loss of genetic diversity within species, and the loss of diversity of crop species planted, making species more vulnerable to pathogens[35] and, thus, necessitating the need for increasing levels of chemical inputs to maintain productivity levels (Weis 2007). The dependence on cotton production in the development era became a raison d’être of the institutionalization of Green Revolution technologies. With the decline in the international cotton market state research for cotton seed development declined and the cotton crop became vulnerable to plant diseases. Insecticide use was widespread in cotton fields by the early 1950s (Mansour 2008). The cotton leafworm (*S. littoralis*) developed a resistance to insecticides, culminating in the 1961 cotton worm plague. The government responded to the plague by creating the village cooperative system, as part of the agrarian reform institutions, which disseminated Green Revolution technologies. The institutionalized application of Green Revolution technologies (and later their deregulated distribution) contributed to the gross contamination of soil, water and crops in the Delta and Nile Valley (Anwar 2003; Abbassy et al 2003; Mansour 2008). It further exacerbated processes of rural differentiation, or in Araghi’s (2000) terms, ‘dispossession through differentiation’, as rich peasants largely benefited and controlled the cooperative system (Richards 1980; Bush 2007).

These forces behind ‘depeasantization’ led to both proletarianization and informalization. Migrants took jobs as labourers in big infrastructure projects that were being funded by the World Bank and other donors, as well as in ISI industries (Toth 1998). For example, the state built large industrial areas in Cairo at this time (Sims 2010). However, proletarianization (including absorption of workers into the government bureaucracy) was limited, thus, leading to informalization. Taking the

[35] Between 1926 and 1960 the number of recorded diseases of the principal crops in the US increased about threefold (Yarwood 1970).

same example, although there are no numbers on ‘informal’ Cairo at this time, it is clear that while ‘formal’ Cairo grew greatly with the building of industrial zones and massive public housing projects, there was at the same time the nascent expansion of unplanned/legislated neighbourhoods, often on agricultural land or in desert fringes (Sims 2010).

The international food aid order undermined peasant economies, but its effects are not limited to proletarianization and informalization (by default). The order also shaped processes of peasantization in such a way that they fed into informal markets. These processes were institutionalized through the agrarian reforms, and the cooperative system became a central agrarian reform institution in the 1960s. Significantly, the cooperative system was set up to control peasant production of key crops for the ISI strategy in, namely, the context of a falling cotton price on the world market (and, as described above, the deterioration of the ecological foundations of industrial cotton production)[36]. However, the cooperative system only directly and indirectly controlled what were considered key crops (including namely cotton, wheat, rice and sugar), which is one reason why the system led to peasant differentiation as better-off peasants could afford to produce crops outside the system while poorer peasants were indebted through the system of purchasing inputs to meet crop quotas (Radwan 1977; Abdel-Fadil 1975). Other food crops were not directly controlled, and during the years of rural outmigration (1950s-1970s) there was sizable (although not accurately measured) ‘private’ agricultural activity including food peddling and vending; that means ‘agriculture’ as well as ‘trade and services’ that fell outside of the cooperative system (see Waterbury 1983: 159-161). Likely richer peasants sold higher-value crops (for example, fruits and vegetables) in growing urban food

[36] See Owen (1999) for an analysis of how cotton production became directed for national consumption at this time.

markets, as they were the ones who could afford to diversify production. It is also likely that the informal food markets in the expanding cosmopolitan centres at this time criss-crossed with the cooperative system (for example, food venders who sold sugar cane juice and street peddlers who sold fruit).[37]

'Repeasantization' meant that a differentiated peasantry became proprietors of capitalist enterprises ('petty commodity producers' of food, and as such, became the producers, distributors [and so on] of informal markets – (and later of corporate ones, as detailed in chapter 3)). So while imported subsidized grains undermined peasant economies, as part of a larger schema of subsidies (especially of energy), 'food aid' (not just for bread but for a growing state food processing sector and animal protein complex) lowered the costs of re/production for the large and small enterprise alike. Consumer subsidies did not become a formal government programme until after the 1977 food/IMF riots, but during the 1950s and 1960s food consumption costs were subsidized through US food aid, and subsidies and price controls on key industry inputs benefited the business community that was forming[38] (Sadowski 1991) and enabled the expansion of informal/independent markets[39]. But again, these changes were founded not just on depeasantization but also repeasantization. In short, today's corporate and informal food economies may be understood as mutually constituted through the 'repeasantization-depeasantization' processes of this era.

The reinforcing processes of informalization and corporatization/integration of course intensified with the onset of liberalization and privatization measures in the 1970s, particularly with the end of US food aid in 1973. The sudden spike in grain

[37] See Koptiuch (1999) on informal Cairo in 1980 and for a discussion of the international development industry's flurry of interest in stimulating the 'private sector' in Egypt in the 1970s with the structural adjustment packages.
[38] During the first Five Year Plan (1960-65), 40 per cent of total public investment outlays went to private contractors.
[39] According to Koptiuch (1999), throughout the 1970s and into 1980s there was significant employment growth in informal sector.

(and fuel) prices had the immediate effect of wiping out many smaller-scale enterprises while the larger-scale enterprises began to consolidate their market shares, and were then later successful in pushing the Parliament to institute industry protections (I detail how this played out within the poultry industry in chapter 5). At the same time, the food subsidy programme began, providing an outlet for the government to freeze the growth of the bureaucracy and heralding a movement of the de-proletarianized into informal markets. Even though the food subsidy programme began to be dismantled nearly as soon as it was made official, the programme was dismantled slowly (Sadowski 1991) and at a time of falling world grain prices. The CAIRNS group had entered the international grain market in the 1980s, pushing prices down[40]. The OPEC oil boom further contributed to the expansion of informal markets, as masses of Egyptian workers migrated to oil producing countries (GCC, Iraq, Libya) and sent remittances home to build informal houses and/or start informal enterprises (Elyachar 2005; Koptiuch 1999).

The end of US 'food aid' and the rise of the NACs signalled the end of the international food aid order and the re-emergence of a regime of 'global value relations' that again has been premised on laissez fairism in the former colonies and protectionism 'at home' (in namely the western states; the US, Canada, European Union, Australia and New Zealand). In terms of food markets in particular, the political coalition of the new agroexporting countries and food corporations that successfully included food and agriculture in the General Agreement on Tariffs and Trade (GATT) negotiations has been a driving force behind the emergence and exponential growth of food corporations (national, regional and transnational)

[40] In fact, the world wheat and corn price has declined steadily in real terms since 1960: the price of wheat dropped from around USD 250 per tonne in 1960/61 to around USD 175 per tonne in 2009/10, and the price of maize fell from around USD 200 per tonne in the early 1960s to around USD 125 per tonne through the 1990s (FAO 2011).

worldwide following the establishment of the World Trade Organization (WTO) in 1994 (Friedmann 2005). The growth of food corporations has translated into the growth of food processing (soy, maize and wheat being the base ingredients of processed food) and the global Livestock Revolution – leading not just to the exponential growth of meat and dairy consumption but also to the proliferation of industrial animal agriculture in the global South[41].

In Egypt while corporations have consolidated a sector of the domestic food economy, cheap food and oil lowered the costs of household reproduction in a way that enabled the massive expansion of non-wage and low wage labour in 'informal' food markets. Today the country's agri-food system is often characterized as or implied to be a dual market structure: a small number of large companies with wide, diversified investments and a large number of small and medium enterprises (SMEs) (Business Monitor 2011; IMC 2005; USDA 2010). The independent or informal enterprises are seen as limiting the growth of corporate food processors and retailers. As the Industrial Modernisation Centre (2005: 219) puts it, 'since the informal food processing industries neither pay taxes nor have costs related to food safety, quality and packaging, their products are of lower quality and cost and compete with the formal sector unfairly and hamper the development of the food processing industry'. The IMC's proposal for Egypt to become a regional powerhouse of processed food is to 'corporatize' the informal sector by making it 'profitable and compliant to international food handling requirements to provide safe and processed food for the domestic and regional market'. This proposal includes the institutionalization of contract farming arrangements between the food industry and smallholders.

[41] Annual world poultry meat alone increased from 13 million tons in the late 1960s to about 62 million by the late 1990s (Wallace 2009).

Conclusion

In the following chapter I address these state and development projects that in effect reify corporate food, but here I of course challenge the conceptualization of the sectors as separate and competing. By flipping the corporate agri-food system on its head, I attempt to demonstrate that the system reproduces with double possibilities – that which necessarily reproduces it and that which does not (Chakrabarty 2000). The mutual constitution of the corporate-informal demonstrates that it is not a separate 'informal' that limits corporate food, but rather that which does not reproduce capital can be understood as historically part of capital itself – not as the 'informal' but as the corporate-informal mutually constituted historically (cf. Chakrabarty 2000). Corporatization in the form of industrial agriculture and corporate grain trading in the grain exporting countries (metropole and CAIRNS) has pushed processes of informalization in grain importing countries like Egypt. While informalization lowers the costs of wage labour for the corporate food sector, it does so in part by lowering the cost of food and thus has been provisioning low-cost food to the masses. This is why today there are many reinforcing and contradictory paths of the 'corporate' and 'informal'. For example, production on small/er scale farms may be for agroexporters and for the informal market and for the household. Corporate broiler chickens are largely raised in medium- to small-scale farmers and then sold in informal markets. I explore the non-linear and linear paths of capital accumulation in agriculture and food in the following chapter.

The implications of this theoretical intervention for understanding the significance of the emergence of New Agricultural Countries (NACs) during the last few decades is not in demonstrating the particular ways in which the global food system manifests itself locally, following Watts and Goodman (1997), but rather, is in arguing that heightened food commodification in Egypt also expresses the 'great

transformation' of the nation state in this regime of global value relations – that is, the development and growth of capitalist enterprise, household reproduction and production, government apparatuses, social and cultural institutions, political constituencies, and so on that embody and cut across differentiated informal/ized sectors and communities. The IMC proposal in fact exemplifies the tension in this transformation. And in the following chapter I will explore more this transformation through the lens of the reconstitution of peasantries.

CHAPTER 3

THE RECONSTITUTION OF PEASANTRIES: OBJECTS AND SUBJECTS OF POLITICAL MODERNITY

The question of how the nation-state has transformed in Egypt (as a New Agricultural Country) is also a question of how the relationship between peasantries and capital accumulation has changed as the corporate food sector and agroexport market have developed and grown. In short, this is a question of how and why at a time of a growing corporate food industry small-scale farming systems predominate domestically. In this chapter I argue that the historical processes that constituted mutually the corporate and informal food sectors remade peasantries not just as part-time/seasonal labourers and suppliers of crops, but also crucially as the key food supply domestically. This lens on the reconstitution of peasantries in fact redefines the agrarian question, or the question of the theoretical relationship between peasantries and capital accumulation, – not as the unidirectional (and (potentially) interrupted) transformation of production for use to production for exchange, but as a dynamic relationship that includes the reverse of this transformation.

The agrarian studies scholarship complicates the picture of how capital accumulates in agriculture in the early 21st century by acknowledging the vast array of relationships subaltern classes are taking 'to the land' and food production – as small-scale producers, the labouring poor, petty commodity producers, migrant labourers, and so on. In addition to the birth of the 'planet of slums' (Davis 2006) and the emergence of 'new' peasant movements or what Bernstein (2009) refers to as 'struggles over land', there has also been the growth of 'semiproletarianized' masses – smallholders with the means of subsistence, petty commodity producing peasants, rural migrant workers, and so on. However, most approaches to the agrarian question

of the 21st century are through the lens of the category of labour or a politicized category of 'tillers of the soil'.

As an intervention in these debates, I introduce institutions of political modernity, following Chakrabarty (2000), as a category for theorising the changing relationship between peasantries and capital accumulation. The question of the relationship reconstituted peasantries have to institutions of capitalist enterprise, citizenship, social justice and so on helps explain how the depeasantization and repeasantization processes of the food aid order led to informalization and integration/corporatization, as I summarize in the context of Egypt in the previous chapter. I develop this category here in three general ways: First, I examine how smallholders are members of the body politic in the context of violent struggles over land. Second, I examine how peasantries have been reconfigured by and have reconfigured rural policy (namely, agrarian reforms and the dismantling of agrarian reforms, and state land reclamation turned desert development). Third, I bridge the production and consumption divide by demonstrating the tension between reconstituted peasantries and new consumption patterns toward animal protein and processed foods, in order to explore the challenges and opportunities for political alliances involving peasantries.

The Agrarian Question of the 21st Century

Most agrarian studies scholars agree that the agrarian question, or the question concerning generally the theoretical relationship between peasantries and capital accumulation, is relevant today despite the decoupling of capital accumulation from industrialization by processes of financialization (see Akram-Lodhi and Kay 2010 for an overview). Historically there were clearer links between transformations in the

agricultural sector and capital accumulation, as colonial and national provisioning of agricultural surpluses for industry was central to capitalist industrialization. In an era of financialization capital does not necessarily accumulate through productive sectors of the economy. Plus, the very use of the term 'peasants' is open to debate given that there are many types of relationships people hold 'to the land' (Akram-Lodhi and Kay 2010). Still, the agrarian question may be considered relevant today because agrarian change is linked to circuits of capital; for example, there has been the rise of contract farming among small and medium-scale producers for corporate agri-food supply chains. The literature tends to address the agrarian question of the 21st century through processes of depeasantization or through the 'gaps' in corporate dominance (e.g. social movements that are resisting dispossession from land and livelihoods).

For those scholars who focus on processes of depeasantization in the neoliberal era, there are several approaches to theorizing the 'depeasantized' or 'semiproletarianized' masses. For Bernstein (2009) the 'classic' agrarian question is really the 'agrarian question of capital', or the general question of how capital is transforming agricultural production. As capital accumulation is no longer tied to agriculture, the 'agrarian question of capital' has been replaced by the 'agrarian question of labour'. Peasants today are just one expression of generalized commodity production, and what is important to the 'agrarian question of labour' for Bernstein is the fragmentation of generalized commodity production. As commodity producers the 'semiproletarianized' are engaged in a kind of 'microcapitalism', producing and selling goods in 'informal' markets (Bernstein 2009; Davis 2006).

Another approach to processes of depeasantization is to relate these processes to relative and absolute surplus value extraction (Araghi 2009; Weis 2007). Depeasantization is a recurrent process of 'accumulation by dispossession' (Harvey 2005), which has created a 'reserve army of migratory labour' (potential and actual)

(Araghi 2009), as epitomized by but not confined to the 'planet of slums'. Similarly, Weis (2007) argues that the answer to the agrarian question of the early twenty-first century is found in the 'planet of slums'. Weis issues a caution when referring to the redundancy of peasants as slum dwellers; they may seem redundant to the formal economy but they are not at all. For Weis (2007: 27) depeasantization is part of the global process of labour market inequalities: 'the scale of global un- and underemployment – coupled with the mobility of capital – acts as a strong global brake on the power of labour and the cost of wages'.

Agrarian studies scholars who do not focus on depeasantization generally tend to emphasize the 'frictions' (Tsing 2005) of and differences within the dominant agri-food order that is controlled by corporations. Watts and Goodman (1997) for instance focus on place-based particularities and regional differences. Watts (2009) suggests analysing places where corporate food value chains are not developed. Otero (2003), McMichael (2009, 2006), and many others (e.g., Borras 2010; Edelman 2003; Holt Giménez and Shattuck 2011) focus on the oppositions to corporate control of food and agriculture among peasantries, consumer/food movements and others, in order to highlight the contradictions within the 'corporate food regime' (McMichael 2000).

The theoretical categories within these debates tend to be either of 'peasants', who are struggling against the state and corporate takeover of land and resources, or of the 'dispossessed' or 'semiproletarianized', who are made redundant by global forces of capital (Akram-Lodhi and Kay 2010; McMichael 2009), are engaging in a kind of disempowering petty commodity production (Bernstein 2009) or are primarily a category of social labour (Araghi, 2009; Weis, 2007). In other words, scholars are debating this 'vast range of combinations of wage labour with petty commodity production in the pursuit of means of production by the labouring poor' (Bernstein 2009: 253), but they tend to end up in the categories of 'the rural' and 'the slums'

because the new categories or classes are seen as redundant, 'fragmented labour' or as migratory labour.

Van der Ploeg (2008) addresses some of these limitations in agrarian question debates, by explaining the widespread existence of peasantries at a time of heightened commodification of food through the category of the reconstitution of peasantries. Van der Ploeg positions peasantries in the context of Empire (Hardt and Negri 2000), or the new world order that has created multiple patterns of 'dependency relations, marginalization and deprivation' for peasantries (2008: 23). Rather than decline, the number of people engaged in peasant economies is on the rise. He argues that in Empire there are three worldwide development trajectories in agriculture: a strong tendency toward industrialization, a widespread process of repeasantization, and an emerging process of deactivation (or de-agrarianization). Peasants are struggling in Empire, and the process of 'repeasantization' involves struggles to create and develop a 'self-controlled and self-managed resource base', which in turn allows them to pursue a viable livelihood, to enlarge autonomy, and to reduce dependency. The peasant condition is not characterized by an organized or politicized struggle, but rather by a struggle shaped by cooperation, engagement in non-agrarian activities including migrant labour, and so on. In this chapter I am not as interested in van der Ploeg's categorization of worldwide agriculture as I am in the way in which he addresses the changing relationship between peasantries and capital accumulation – not through a peasant agency that is operational 'outside' of capital, but through a kind of structured agency as peasantries are constituted and reconstituted 'in Empire'.

Theorising the reconstitution of peasantries is a poignant departure for my intervention in agrarian question debates. Rather than theorise the social category solely in a context of Empire (or what I prefer to call 'global value relations' (Araghi 2003)), though, I also position the theoretical category within institutions of political

modernity. This means that to understand the tension over what and how food is produced, distributed and consumed, I look at struggles of peasantries to gain autonomy and reduce dependence in a context of heightened commodification of food, water and so on, following van der Ploeg (2008), but I focus on how peasants have become both objects and subjects of political modernity, or put another way, how peasants are being shaped by and actively shaping the nation-state, following Chakrabarty (2000). As I discovered during years of researching smallholder struggles in the context of structural adjustments in Egypt, peasantries are not just reacting to the pressures of commodification, but are also endowed with citizenship and struggle for social justice within modern institutions (of the courts, media, and so on), are constituted as economic actors, and are part of the nation and the body politic.

This category of reconstituted peasantries redefines the agrarian question itself. For instance, Akram-Lodhi and Kay (2010b: 257) define the agrarian question as the question concerned with the process by which the purpose of farm production changes from production for use and household production to production for exchange and accumulation – and the implications for 'accumulation and the social changes associated with the emergence of capital'. This definition is problematic by reproducing capital's temporal and spatial movement in historical time: there is a unidirectional movement of capital (from use to exchange) and a source of origin from which capital 'emerges'. Through the theoretical category of reconstituted peasantries as introduced here, the agrarian question of the 21st century may be redefined as the process by which the purpose of farm production changes from production for use and household production to production for exchange and accumulation – but including the reversibility of this process. This reformulated agrarian question is then concerned with the multidirectional process of the transformation of agricultural production – and the implications for capital accumulation. 'Reversibility' here does not refer only to

what van der Ploeg refers to as ‘repeasantization’, or the movement of production and/or people to a peasant mode of farming. For van der Ploeg the peasant mode of farming is distinct from but interlinked with capitalist farming (large-scale, based on an agro-export model) and entrepreneurial farming (or specialized, market oriented). What he terms ‘new peasantries’ are those who are, not synonymous with subsistence or household production, but rather following a logic that governs agricultural production in ways that distance production from markets (2008: 7). So peasant farming may produce food for markets, but the overall logic of production of ‘new peasantries’ is distant or distancing from the market logic. Van der Ploeg’s ‘new peasantries’ as a particular kind of reconstitution of peasantries is useful for discerning the reversibility of capital’s movement in agriculture. But the reversibility of the transformation from production for use to production for exchange that I am proposing also refers to ‘simultaneous’ (in and across space) production for exchange and production for use (for example, urban gardening by migrant labourers or the mix of household production and commercial production within farms). By including the reverse of the relationship between agricultural production and accumulation in the definition itself, I seek not to claim history as open to countertrends (say, by focusing on organized resistance), but to make the case that there is no inevitability to the histories of capitalism (Mitchell 2000, Chakrabarty 2000).

In conclusion, the reconstitution of peasantries as a social category demonstrates the tension in the neoliberal era over control over value at the point of production. On the one hand, smallholders are objectively transformed by the expansion of capital markets, the retraction of rights (through counter agrarian reforms, state desert development for agribusiness and foreign investment), and the list of grievances is long. On the other hand, smallholders are part of this reconfiguration, whether actively or not (by fighting for their land, ‘returning to the land’ in

reclamation communities, and so on). In this chapter I demonstrate this tension through three lenses: 1) struggles over land and water waged by peasants and fisherfolk against the violent land grab that the counter agrarian reforms precipitated in Egypt; 2) the responses of rural subaltern classes to what may be referred to broadly as 'rural policy' (which I frame within the mutual histories of agrarian reforms and state land reclamation in the development era); and 3) the making of the 'new national consumer' of foods high in animal proteins and fats and processed carbohydrates and sugars.

Counter Agrarian Reforms

The debt regime (McMichael 2012) fuelled counter agrarian reforms around the world. By the late 1960s Egypt was $2b in debt, and in the early 1970s the regime of Anwar Sadat under the influence of conservatives and facing pressure from the IMF and other international creditors began a policy of *infitah* ('open door'), which included a package of liberalization and privatization measures (Bush 2007, Richards 1980). The open door policy began the process of dismantling the agrarian reform institutions through, for example, the increase of rents and the removal of price controls. By 1987 government control of crop areas, quotas and prices supposedly ended – except for rice, cotton and sugarcane (Mitchell 1998). The policy prescriptions of liberalizing markets and promoting production for export (of high-value, low-nutrition foodstuffs and cut flowers) were eventually pushed into an IMF stabilization plan at the height of the 1990-91 Egyptian monetary crisis. As part of the 1991 Economic Reform and Structural Adjustment Programme (ERSAP), Law 96 (the 'new tenancy law') was enacted in 1992 and fully implemented in 1997. Law 96 applied 'market' values to land prices, lifting the prices set by the government, and revoked tenant farmers' usufruct rights in perpetuity, replacing them with revocable

rents (Bush 2007; Sakr and Tarcir 2007). The new tenancy law was intent on creating a 'land market' of buyers and sellers, with the technocratic promise of consolidating land holdings to make the Nile lands less 'fragmented' and ostensibly more productive. New policies like ERSAP were presented as constitutional mandates for liberalization, and a public campaign defamed Egyptian smallholders (Bush, 2007; Saad, 1999). Landowners claimed that they deserved market-determined, rather than the much lower state-controlled, rents.

The new tenancy law of 1992 may be understood within the global development agenda of the 1990s that 'reinvigorated' land reform (Borras Jr. et al 2007). International finance and development institutions, primarily the World Bank and USAID, pushed Market-led Agrarian Reform (MLAR) as a policy to create a less 'distorted' land market of 'willing buyers' and 'willing sellers'. MLAR was proposed as an alternative to state-led agrarian programs of the postcolonial era, in that it would lead to greater redistribution of land and, thus, promote growth in agricultural productivity.

In Egypt the counter reforms have dispossessed tenant-farmers as well as small-scale landowners from their land. It is estimated that within the first years of the implementation of Law 96 nearly a million tenants were evicted (LCHR 2000). The law raised the value of land and, hence, rents precipitously: rents went from being fixed at seven times the land tax, costing about 20 LE per *feddan*, to annual rents exceeding 22 times the land tax, in some cases increasing to 1,200-1,800 LE per *feddan* and in other cases jumping from 240 LE to 2,400 LE (Bush 2007: 267). The increase in the value of land further precipitated an extra-legal violent land grab evicting smallholders who bought their land from the Agrarian Reform Committee, but have been denied property titles to the land. According to the Egyptian Ministry of

Agriculture of Land Reclamation (MALR)'s own data, from 1990 to 2000 the category of 'fully owned' landholdings rose and the share of sharecropping fell, but the percentage of landlessness rose, as did land concentration and the number of female-headed households and indentured labourers (Bush 2007: 271)[44].

The legal and extra-legal measures to appropriate the newly-valuable land of smallholders have often been employed violently by a network of quasi-/state agents working on behalf of landlords, feudal heirs, local businessmen and other state agents[45]. Quasi-/state agents like the Agrarian Reform Committee, the *Awqaf* (Endowment) Committee, and local and provincial officials have been using the security forces and/or *baltagiyya* (thugs) to force smallholders off the land for 'local' elites, as well as state agencies like the tax authority, clubs for state employees and the army (see also EPSC 2010 for details of land grabbing in the Delta, 1966-2010). The violent land grab includes forcing tenants and landowners to sign reconciliation documents, as well as arresting, detaining and torturing smallholders. I repeatedly heard personal testimonies of humiliation and coercion when a few villagers on their land were confronted by large numbers of police. One farmer testified, 'The police come regularly and humiliate us. Why? What does the government want?'

The security forces have either directly enforced the wishes of feudal heirs, who have returned for control over land (either formerly theirs or not), large landowners and businessmen – through intimidation, arrests, confiscations and the like – or indirectly by permitting the predators' hired thugs to harass and terrorize

[44] According to Bush (2007), the category of 'fully owned' landholdings rose to 20 per cent of holders, an increase of 18.2 per cent of the total landholding area. The percentage of sharecropping dropped from 16 per cent of landholders to 5 per cent. On the other hand, less than .9 per cent of holders in 2000 held 24.85 per cent of the land while 74 per cent held 47 per cent of the land.

[45] The information on the land grab and smallholder responses to it, in the following section, are based on participant observation especially in the spring 2008 and throughout 2009, when I attended conferences and seminars with smallholders present and met regularly with activists. Unless referring to specific documents, sources are field notes.

villagers. Tenant-farmers who are thrown off their land are then often banished from renting the same land again, either because the new rent prices are too high or because the landlord refuses to allow them to return as tenants. Also, there has been a coercive campaign to get small-scale landowners to pay their taxes. The Agrarian Reform Committee and the *Awqaf* Committee are behind selling the land that is owned by farmers, by confiscating indebted land or by denying the landowners' title of the land (because of missing documents or forging documents), or for any number of pretexts. These state agencies then re-sell the land on the market, or they collaborate with government employee sports clubs and other affiliates to use the land for profitable purposes. State agents are often seen trying to profit in the land market. They may compensate those living on the land but for a price well below the selling price in the private market. In Kafr Loel, an entire village was standing beside a newly valuable industrial zone, home to a cement factory, and the government forced all villagers to leave. A campaign arose for the rights of the villagers as many felt the compensation afforded to them was inadequate, particularly in the face of reports that the government then sold their land for multiple times what they had received for it, and some villagers had not been compensated at all.

Most of the land grabbing that was precipitated by the counter agrarian reforms and the rising price of land does not seem to be for agricultural purposes, and more precisely, the production of high-value agriculture[46]. Rather, much of the newly-valuable agricultural land seems to be for what may be called state infrastructure projects, like the example above of the enclosing of a village for the creation of an industrial zone, or the making of a new highway or a new metro/subway line in greater Cairo. Also, quasi/state-agents and other local elites seem to be after the land primarily

[46] There are a few examples of 'agribusiness' taking part in land grabbing; see, for example, Glain (2012).

for non-agricultural projects like the building of a private sports club or tourist resort. Further, as I will illustrate in the following section, struggles over land grabbing illustrate that tenant farmers and smallholders are not just victims of land commodification, but are also members of the body politic as they file court cases, voice grievances through the media and other mediums, participate in national advocacy networks, and articulate a moral and just political-legal order.

Objects and subjects of political modernity

According to the Land Centre for Human Rights (LCHR) in Cairo [47], the Egyptian countryside experienced 'unprecedented political activity' during the decade that followed the enactment of the new tenancy law. Tenant-farmers, whole villages and villager advocates have reacted collectively to evictions. In some confrontations with landlords and the police, *fellahin* have taken deliberate steps to protect their land and livelihoods – from setting bulldozers on fire to destroying crops before leaving the land (El-Gawhary 1997. Although these *fellah* responses are not localized protest activities within a national 'peasant movement', as there is no 'movement' per se, some activities have been more strategic and systematic and, thus, are more than just defensive strategies against immediate 'isolated' threats (Ashmawi n.d., cited in Saad 2004).

All the gatherings that I participated in may be considered a form of collective organizing, by which largely Cairo-based advocates brought small-scale farmers and fisherfolk together to discuss and organize against the land grab. Emotions were always high, (self-) proclaimed victimhood at the hand of 'the regime' voiced

[47] LCHR is the main advocacy group/NGO documenting the abuses of *fellahin* and in providing legal aid for those prosecuted and abused, as well as in bringing together (through working groups) those affected by assaults in the countryside and those struggling on behalf of smallholders.

strongly. Although these gatherings were in a sense a form of peasant organizing and at them peasantries and advocates always voiced a sentiment of defiance, these gatherings confirmed what I thought that I already knew; that is, peasants are victims of their very low social and economic standing in Egyptian society and economy and, thus, have been hit the hardest by liberalization and privatization measures that removed protections that they had to a livelihood in the postcolonial era. And in many ways this assumption was supported by the dynamics within the gatherings, including my own position. I was in communication mostly with advocates (and not peasants), and advocates often were the decision makers and had the 'last word' so to speak at the gatherings. Over time, though, as I conversed with advocates and researched the various roles that a differentiated peasantry has in Egyptian society I began to question this singular view of their constitution in the neoliberal era.

Advocates (including long-time activists, progressive political parties, human rights groups, bureaucrats and others) were often involved in other struggles (e.g. workers', slum dwellers'). Some had been developing working relations with international solidarity groups and networks. For instance, the International Campaign against US and Zionist Imperialism, held yearly at the Press Syndicate in Cairo since the US occupation of Iraq began, that I attended in 2008 brought together hundreds of *fellahin* and fisherfolk from all over Egypt with international advocacy groups that are working on behalf of, for example, the rural poor in Brazil and South Africa and the working classes in London. Also, in 2006 an international delegation, including representatives of La Vía Campesina, came to Egypt to document and publicize the abuse of villagers by police and landlords. And some activists that I know have participated and participate regularly in international advocacy forums (e.g., the World Forum for Food Sovereignty in Mali in 2007, the World Social Forums).

This operational network of smallholders and advocates may be placed within a larger context of national oppositional politics, namely of the traditional left. Especially before the revolution, but also since, much oppositional politics is in the form of on-going legal disputes. Charges waged against small-scale farmers for 'obstructing justice' are often countered with *fellah* court claims of violence and death inflicted by landlords, their henchmen and/or the security forces and local administrators. The first course of action of smallholders and advocates is often to the police and courts. They continually seek help from the police and courts even if it is the police who have violated or been violating their rights and the courts who have denied them justice. Villagers commonly recounted going to the local police to seek protection from hired thugs or private gangs, or to file a complaint about violence or threats of violence or sabotage, only to then be threatened and beaten by the police at the police station. At the same time, there were stories of villagers making complaints to the local police and the police responding with investigations and charges.

Most of the time farmers seem to lose in court, but occasionally the court rules in their favour. One of the most heavily campaigned and publicized cases during my field research was the four-year legal battle of farmers from the village of Sarando (see Singer 2008, EPSC 2006). In 2005 a landowner hired henchmen to intimidate tenant-farmers (by burning crops, threatening them, and so on) to leave the land. In these raids one henchman was killed. The security services responded with attacks on the villagers, conducting mass arrests and damaging villagers' property. Farmers were arrested and one died the day after spending a night in prison. Farmers involved were charged with inciting violence and congregating in public places, and went through several trials as President Mubarak refused to validate 'not guilty' verdicts. Then, again, in 2008 before the provincial court (Damanhour State Security Court) all

eighteen farmers were ruled innocent of the charges, although there was expressed fear at the time that President Mubarak would again reverse the decision.

Even if the court rules in the farmers' favour, the government does not ensure protection of their rights. There are many reported cases of elites ignoring court rulings (see EPSC 2010). An example is a decree issued by the minister of Agriculture, which removed a group of farmers off the land that they had already bought from the Association of Police Officers. The farmers contested the minister's decision in court, by demonstrating that the evidence provided to the minister about the ownership of the land was fraudulent. The court ruled in favour of the farmers, but the decision was ignored. The farmers were not given back their land because, according to the authorities involved, there were no protections granted to them and doing so would endanger their lives. In short, the authorities were not going to enforce the court's decision.

Legal activism has become characteristic of much advocacy and activism in the country. Hamad (2008) and others have argued that the Sadat and Mubarak regimes maintained a fairly 'independent' judiciary through which decisions are made that counter the interests of the regime (the case of Sarando detailed above is one such example). Political analysts, academics and human rights activists considered the Supreme Constitutional Court to be a democratizing force in that judges have gained a sphere of political influence within which to exercise judicial activism (Hamad 2008)[48]. There is more at issue here than the exercise of judicial and legal activism, however. Advocates seem to use the courts as widely as the working and middle

[48] The terrain of oppositional struggle has widened considerably following the 2011 uprising, but the courts remain a main site of struggle, as exemplified by the trials in civil court of former President Mubarak, interior minister Adly and other members of the security apparatus. Also, significantly in 2012 the newly-elected President Mohamed Morsi gave himself sweeping authorities in a presidential decree to make his decisions (and the presidential election) out of the reach of the judiciary. Morsi rescinded this decree after a month of large-scale protests.

classes generally, who use the courts for criminal cases as well as to address personal grievances (see Brown 2006). The courts are used often; and court decisions are often delayed and not followed or appealed. As discussed above, landowners and local elites may not follow court rulings, but aggrieved villagers may not as well. In protest villagers often openly defied, and declared that they would defy, verdicts against them. Because villagers can sometimes get away with defying a court decision, even if momentarily, and do sometimes win cases against landowners, provincial officials and others – the courts show how the law can be 'an equalizing force' in the sense of permitting the non-elite to win some of the time, as Brown (2006: 218-219) argues. This 'equalizing force' makes sense of the way in which lawyers advocating for smallholders seem to be celebrated within advocacy networks. On a couple of occasions I was present when many farmers and activists embraced a lawyer who had defended villagers in the courts. The celebration of lawyers in a society characterized as 'litigious', in which there is approximately one lawyer for every 400 Egyptians (Brown 2006), reveals more importantly the creation of a neoliberal subjectivity – not one merely objectified by institutions of political modernity (the courts being one prominent institution), but actively transforming these institutions.

In the era of structural adjustments smallholders are objectively transformed by the expansion of capitalist enterprise, the retraction of rights (to land, markets, etc.) – reconfigurations of institutions of political modernity – but smallholders are also part of this reconfiguration, whether actively (through struggle, defiance, etc.) or not. In the context of struggle one way to understand this subjectivity is that whatever the outcome of legal action smallholders and advocates often refer to what has been happening to them as not just immoral but illegal. What is understood as illegal is not just the extra-legal violent land grabbing that Law 96 precipitated, but also Law 96

provisions as well as the dismantling of the state cooperatives and state agricultural extension through structural adjustments. 'The regime' is referred to as the criminal. Villagers repeatedly expressed dismay at the presence of the local authorities. Further, villagers consider the local authorities criminals for making money (i.e. the collection of taxes) without providing a service (LCHR 2003). One of the arguments waged against Law 96 is that it is illegal by making compensation for tenant-farmer losses determined by the landlord, *in contrast* to custom that compensates tenant-farmers for their losses with one-fourth of the land (and remunerates them for the value they have added to the land through cultivation). Among the advocacy networks Law 96 is generally made indistinguishable from the range of policies that have dismantled the cooperatives, agricultural extension and other state supports for smallholder agriculture. This dismantling is understood by smallholders as a disruption to the 'moral and political order' that was built by the agrarian reform institutions (Saad 1999), signalling for many a return to feudalism. Smallholders and advocates may be understood then as actively defining a realm of legality based on this 'moral and political order'. This order in turn shapes the practices of smallholders; for example, since the 25 January 2011 uprising, when the regime began to visibly fracture, some villagers have returned and re-acquired the land that was coerced from them (see, for example, Sakr 2011; Glain 2012).

In conclusion, reconstituted peasantries are not just victims of the expansion of capitalist relations and are not just reacting to the retraction of rights to a livelihood. Rather, they are both the objects and subjects of political modernity, as is made evident in part through the struggles that smallholders have been waging against the counter agrarian reforms. In the most general sense, they are endowed with citizenship, are part of the 'nation' in whatever imaginary, are constituted as

‘economic’ actors, and are struggling for social justice within institutions of political modernity. The particular relationship of peasantries to capitalist modernity today was of course shaped by how these institutions took shape in the decolonization movement and then the postcolonial context. A tension of this era in postcolonial history was that simultaneously a space was opened up and denied for the subaltern classes (Chakrabarty 2000). In the following section I demonstrate this tension through the relational socio-ecological histories of the agrarian reform institutions and state land reclamation of the development era.

Agrarian Reform – Land Reclamation

Institutions of political modernity and the relationship reconstituted peasantries have been taking to them have been shaped in part by agrarian reforms and state land reclamation in the development era. The historical relationship between new reclaimed lands and the Nile Valley/Delta, which I introduce in chapter 2 as frontier making, was reconfigured in the development era through agrarian reforms and state land reclamation. Agrarian reforms and state land reclamation may in turn be understood as mutually constituted, rather than as separate socio-ecological histories as they are often analysed[49]. In the development era state land reclamation programmes were carried out alongside agrarian reforms, which governed the cultivated areas of the Nile Valley and Delta, and were officially not part of the same state institution, as they were administered by a separate ministry and so on. In this section I attempt to demonstrate how the real and imagined degradation of the Delta and Nile Valley as a source of rural livelihoods provided momentum for land reclamation, and at the same time, land reclamation contributed to the degradation of agrarian reform areas. So

[49] The literature that deals with state land reclamation relates it minimally if at all to agrarian reforms (e.g. Allan1983; Meyer 1998; Sowers 2011; Springborg 1979; Voll 1980); likewise, the literature on agrarian reforms gives little attention to state land reclamation (e.g. Abdel-Fadil 1975; Bush 2007; Harik 1974; Radwan 1977).

while spaces for rural livelihoods closed in the agrarian reform areas, some new spaces opened in reclamation communities.

While the new Egyptian government was instituting agrarian reforms in the Nile Valley and Delta, it was also launching a large-scale reclamation program that was a continuation of an initiative of the colonial-era rural social improvement programme (Mitchell 2002) in the face of endemic disease and hunger after more than a century of intensified production of raw materials and food stuffs for export to Europe. As part of this programme, in 1948 the government announced a plan to distribute reclaimed desert land to small-scale farmers, who were to be given small plots of land and 'hygienic houses' (Mitchell 2002: 40). In the new national imaginary land reclamation was made inseparable from the Nile Valley and Delta. At least since independence in 1952 this state programme has been driven by a twin legitimating discourse of too many people in too little land in the Nile Valley and Delta and of remaking citizens in the *tabula rasa* of the desert (Sowers 2011). In that 'the desert' – vibrant ecosystems and the ancestral home of Bedouins – was proposed to be carved out as a *terra nullius*, an undeveloped space to be developed, it became a tool of nation-making. New citizens would build modern farms in the blank landscape of the desert.

Lacking a land tenure policy, state reclamation under Gamal Abdel Nasser followed both an agrarian reform family farm model as well as a large collective state farm model, as the United States and the Soviet Union in the context of the Cold War both got involved in state reclamation. The agrarian reform model was informed by the 1952 agrarian reform, followed by a second agrarian reform law in 1961, which involved both expropriation and sequestration: land was expropriated to then be redistributed, and other land was sequestrated as a political punishment for families

considered a threat by the new regime. The reforms mandated a ceiling on privately held land (from over 200 feddan to 100 feddan in 1961) (Bush 2007: 257). Those who were given land received on average 2.4 feddan, and had to pay for the land in instalments over a 40-year period. Those who did not receive land were given three-year contracts and rights of inheritance in perpetuity. Tenants were not allowed to be evicted unless they failed to pay rent (which was at about half the pre-1952 levels and set at seven times the agricultural land tax), and with the contracts they were registered in the agricultural co-operatives essentially as landowners (Bush 2007: 258-259). Following the cotton-leaf worm attack of 1961 government cooperatives were formed for the provision of inputs, marketing and organization (particularly in terms of crop mandates and rotations). Some production in the newly-formed reclamation communities was shaped by the distribution of small plots to settlers (*muntafi'in'*), who were given leasehold rights to the land and required to join the cooperatives (Voll 1980)[50].

A large-scale reclamation project that was designed to symbolize the revolution, Tahrir Province[51] (Voll 1980), as well as other smaller reclamation projects[52], began to follow the Soviet collective farm model in the 1960s decade of sequestrations and nationalizations. The Soviet Union promised to help build a model

[50] One of the projects, the Egyptian-American Rural Improvement Services Organization (EARIS), was proposed by the U.S. government, which had been promoting land reform on reclaimed land before and after the revolution (Vitalis 1995). EARIS was to create demonstration projects in Beheira and Fayoum. Some sites were chosen as they were already part of reclamation efforts in the pre-revolution period. The projects included land reclamation, the design of model villages including public services, and agricultural cooperatives. The first beneficiaries were war veterans, workers on the project and Lake Maryut fishermen.

[51] Tahrir Province included 1.2 million *feddans*, divided into 12 districts with 11 villages each. Settlers went through extensive tests and then training. Land would be farmed cooperatively in large units with highly mechanized techniques.

[52] In 1960 the Egyptian government began a Five Year Program for the reclamation of 240,000 feddans: 96,000 in Dakhla and Kharga Oases, 45,000 in Siwa, Bahriya and Farafra Oases, 121,000 for the New Valley, 20,000 in Wadi El Natrun, 20,000 on the northwest coast, 9,000 in Sinai, 25,000 between Libya and Alexandra at Ras El Hakma, and 50,000 at Mariut.

state farm in Tahrir Province, and provided machinery and loans to make cultivatable 300,000 *feddans* west of the Nubariya Canal – what became the only reclamation project following the 1967 Six-Day War, Nubariya (Springborg 1979). Within roughly a decade of being planned and built, the collective farms began to be dismantled and replaced, not with the agrarian reform model of distributed family farm plots, but with a hotchpotch of redistributed small plots, private property (all sizes) and privatized enterprise[53].

The character of the state programme of land reclamation, and continued support for state reclamation, was informed by the decline of agrarian reform areas. Agrarian reforms were limited in bringing about 'peasantization' because of the structural processes discussed in the previous chapter. Also, local forces led to 'dispossession through differentiation' (Araghi 2000) in agrarian reform areas[54]. Many avenues within the agrarian reform laws remained to keep large holdings within a family; restrictions were placed on land to be rented (only up to 50 feddan for each landlord), and the like; and the actual agrarian reform area comprised of only 13 per cent of land distributed to nine per cent of the rural population (Bush 2007). Further, historically-informed social relations within villages tended to exclude the migrants of the *'izab* from agrarian reform benefits (ibid.). These legal and social forces led to processes of social differentiation through which a new class of rich peasants emerged to replace the landed aristocracy. Smallholders with less than 5 feddan increased as a percentage of landholders by 13 per cent and the land they owned by 74 per cent,

[53] As Springborg (1979) explains, under Sadat's open door policy in the early 1970s the agency responsible for the new lands began to slowly release its responsibility of the 330,000 *feddans* under cultivation – to various groups for their political support, including the Syndicate of Agricultural Engineers, peasants, private investors, survivors of the heroes of the 1973 War, and oasis dwellers in the New Valley.

[54] In Araghi's (2000) terms, 'rural differentiation' is historically an outcome of home market protection from world capitalist forces through state and class alliances that attempt to prevent the liberalization of land.

while ‘middle peasants’, who represented 3 per cent of all landowners, came to own 24 per cent of the cultivated area by buying sold lands following the 1952 reforms (Bush 2007: 258-59). The distribution of new lands to smallholders, agricultural workers and other subaltern classes responded to growing social differentiation and continued landlessness in the agrarian reform areas.

At the same time, state desert reclamation may be understood as an institutional force behind the degradation in the agrarian reform areas. The state plan to expand horizontally cultivated land led to the construction of the Aswan High Dam (Alterman 2002), which not only made large-scale reclamation projects possible, but accelerated the degradation of the Delta ecosystem by salinating the soil, eroding the coast and damaging the wetlands (see Stanley and Warne 1998 on the Nile Delta; Syvitski 2008 and Syvitski et al 2009 on the Nile Delta in comparison with other delta systems). Land reclamation has further been draining the northern lagoons, which has had a deleterious effect on the livelihoods of fisherfolk (Bush and Sabri 2000; Stanley and Warne 1998). Both the Aswan High Dam and land reclamation in the development era were extremely costly. Construction of the Dam took 25 per cent of the increase in the public investment in agriculture by the mid-1960s (Richards 1980). By the end of the 1970s land reclamation was contributing less than one per cent to total agricultural production but was taking nearly half of the total public investment in agriculture (Voll 1980). Reclamation was very costly and cultivation less than productive, in part, because much reclamation at this time was of sandy soils, which required significant investments to make cultivatable (Allan 1983). Also, state plans were often made without considering the ecological landscapes of the desert – the types of soil, the elevations above sea level, the evenness of the terrain, and so on (Cole and Altorki 1998; Voll 1980).

The closing and opening of spaces for the political modernity of peasantries in the development era may be framed within the mutual constitution of agrarian reforms and desert reclamation. On the one hand, peasantries were made objects of these newly-formed institutions of political modernity through what Mitchell (2002) calls 'modern techno-politics'. Programmes of social improvement (e.g. the remaking of rural citizens in model villages, the organization of private property-holding farm production through cooperatives, etc.) and programmes of technical development (e.g. the institutionalization of green revolution technologies, the mechanization of collective farms, etc.) constituted this 'politics of calculation'. On the other hand, both programmes provided an opportunity for peasants to become significant to the body politic, by provisioning food domestically, creating capitalist enterprise (replacing sharecropping relations with contractual ones)[55], becoming a distinctive (if not derogative) part of the national identity (Abu-Lughod 1998; Shakry 2007), and so on. While processes of depeasantization in agrarian reform areas undermined this space, land reclamation projects and communities opened this space (if just a bit) through limited processes of repeasantization.

The reconstitution of peasantries in Egypt

Agrarian reforms and state land reclamation in the development era are significant to processes that have reconstructed peasantries in the neoliberal era. Agrarian reforms and state land reclamation are not just rural policies that have been reconfigured through structural adjustments, but as institutions are transformed by the subaltern in ways that illustrate their subjecthood. In this section I highlight three trends in the last three decades or so that represent the ways in which smallholders are strengthening

[55] Many studies from the 1970s on the impacts of agrarian reforms concluded that the reforms accelerated the transition from semi-feudalist to capitalist relations, by replacing the predominant tenancy relations of sharecropping with contractual ones (Saad 1988).

their resource base and regaining autonomy (van der Ploeg 2008) vis-à-vis the dismantled agrarian reforms and the newly formulated state desert development: 1) a trend of repeasantization through land reclamation; 2) the integration of smallholder production and smallholder labour in corporate farming; and 3) migrant labour from Upper Egypt to Cairo/Lower Egypt.

State desert reclamation programmes responded, and contributed, to the degradation of, and waves of depeasantization within, the Nile Valley and Delta. In the neoliberal era large-scale state reclamation of desert lands has continued, if not expanded. State reclamation transformed in two main ways: the program became part of a larger state program of desert development, and has consisted both of projects to redistribute small plots of land and to support the growth of agribusiness. The government built waves of new cities in the desert, offering incentive packages of low taxes and nearly free land for the establishment of industrial zones and then for the development of twin cities close to provincial capitals[56] (Dixon 2010). Within this program of desert development were large-scale reclamation projects. In 1978 President Anwar Sadat announced the launching of the 'Green Revolution', which would build new-new reclaimed lands for secondary-school and college graduates as well as private investors, and would privatize existing state farms. The Mubarak Project, launched in 1987, focused initially on reclaiming land for graduates. Much of the land that was reclaimed was to the west of the Delta and was granted to graduates; from 1987-2003 the project claims to have distributed 230,000 *feddans* to more than 45,000 graduates (Adriansen 2009).

[56] For example, the Inland Investment Law (no 8/1997 and no. 159/1981) set up the industrial zones and offered many supports to investors, such as no export minimums and a ten-year tax exemption for land cultivation and production activities related to livestock, poultry, and fish.

Desert development gained momentum in a context of privatization (including public sector retrenchment) and land liberalization, which led to the reinforcing processes of rural 'urbanization', the rapid growth of small towns and villages, in the Delta in the 1980s and 1990s (Bayat and Denis 2000), and counter agrarian reforms, which raised the price of land even more and created social struggles over the land[57] (see also Bush 2002; 2007). Capital responded to the 'push' and 'pull' into the desert by moving from the Delta to reclaimed areas to the west and east of the Delta[58]. Agribusinesses – largely agribusiness investments of wealthy family business groups, to a lesser extent regional and transnational corporations, and more recently investment arms of finance capitalists – have been building a corporate agri-food sector in part through the establishment of horticulture farms and factory farms (of poultry, dairy and fish) for the domestic corporate food sector and agroexport market.

Land reclamation and repeasantization

With the decline of agriculture extension and state cooperatives the Mubarak Graduates Project largely failed in helping smallholders in reclamation communities secure a livelihood from the land. In 1991 in one area that Meyer (1998: 345-346) studied only about 40 per cent of the graduates were still actively involved in the farms. Many of the graduates tried to lease or illegally sell their land. In Adriensen's (2009) ethnographic study of a state reclamation community in the 2000s settlers often felt that they were caught in a trap as they could not make the land profitable and could not go anywhere. Before the 2002 Investment law they were not allowed to sell

[57] The Mubarak regime even attempted to use state reclamation to legitimate the counter agrarian reforms of the 1990s (which elevated the price of land even more) by offering evicted tenant-farmers the opportunity to apply for compensation in the form of plots of reclaimed land. According to 2003 MALR figures, only 16,727 evicted tenants were given 43,000 feddans (Adriensen 2009).

[58] Interviews with agribusiness executives reveal that some family businesses moved from the Delta into the desert lands with rents or sales from newly-valuable land in the Delta, acquiring much larger pieces of reclaimed land.

their land so they rented it. Following the 2002 law that permitted graduates to sell their land graduates in the community sold their land to investors or other interested buyers.

This failure does not mean that all or even most agricultural land in state reclamation communities has been turned into corporate farms or other investment opportunities or commercial activities. Rather, it means that the Mubarak Project did not reach its goals and smallholders are on reclaimed lands are struggling. It also seems to mean that landownership or land use on reclaimed land likely changes hands frequently among subaltern classes (smallholders, graduates, etc.) and 'off the books'. For example, in Adriensen's (2009) study people came to the reclamation community for many reasons, often because they did not have land in their villages, and although they sometimes felt trapped, the community opened a space for new kinds of rural livelihoods (especially for single women and single mothers) with a new set of norms and possibilities.

In a state reclamation community that I visited in 2011, many of the graduates who had first been granted the land in 1984 were not there but new settlers had come. The West Nubariya Rural Development Project (WNRP) had been created to improve the rural livelihoods of the state reclamation community. WNRP is a joint development project between the Egyptian government, the Italian government and the International Fund for Agricultural Development (IFAD), and at that time it encompassed 19 villages and 36,185 families. The families are not only graduates but also the landless and smallholders (who were former government officials). The WNRP administration claims that in 2002 the villages were only at a 25 per cent capacity and by 2009 they were at 98 per cent – representing a huge draw to the community.

The WNRP cannot be considered representative of trends in land reclamation communities, but there are also smaller-scale state and informal reclamation communities that have afforded rural subaltern classes access to land. For example, during the Mubarak Project and the expansion of state reclamation communities in the western Delta (namely, Tahrir and Nubariya) workers and others created a reclamation community in Wadi Natrun, which is now in the middle of a concentrated area of commercial and corporate farming (see Figure 2). To give another example, within the last five years or so the Mubarak Project built Wadi Nukra in Aswan; a reclamation community made up of different social groups in the area – some who lost their land in the Aswan Dam flooding, some who are graduates, some widows, and so on. The Project does not provide much infrastructure besides for land, irrigation water and basic housing; but, again, the community represents an opportunity for many in the area who do not have land.

The tension of state and informal land reclamation in the neoliberal era is that, on the one hand, it represents an avenue for the intensification of capital accumulation in agriculture (with the vast subsidies and incentives for the agroexport market and food processing sector); and on the other hand, there is a movement, albeit tenuous, 'back to the land'. This movement may be called a kind of 'repeasantization'. Van der Ploeg (2008: 7) argues that one development trajectory today is repeasantization, which implies a double movement – a quantitative increase in numbers and a qualitative shift in which production shifts away from markets. This is not a dominant trend in Egypt, but it is present and it helps explain the widespread existence of small-scale farms.

Land reclamation and corporate farms

The spatial geography of the desert frontier reveals how corporate farms have been drawing resources (land, water, etc.) and labour from the state reclamation areas (as well as nearby Delta governorates) (see Figure 2 and chapter 5 for details). Desert development had the effect of connecting state reclamation communities (e.g. Tahrir, Nubariya) with agroexport and factory farms, which began to be built in and near to these communities and became conveniently located near to food processing centres in the new desert industrial zones – in 6th of October, 10th of Ramadan, Sadat City, and Borg Al Arab. Because of the failures of the Mubarak Project, many of those working on corporate farms come from nearby state reclamation communities. Further, the presence and expansion of corporate farms in and near to state reclamation communities has impacted what smallholders are producing in these communities. The agribusiness managers and executives that I interviewed all admitted to regularly overcoming supply shortages for the agroexport and domestic corporate food markets from crops supplied by smallholders nearby. Smallholders bring their crops to the pack house (processing centre), and agribusiness managers claim to follow up with them in order to ensure the 'quality' standards of their crops. However, any such arrangement is non-contractual.

Rather than conclude that there is a unidirectional relationship between smallholders in reclamation communities and corporate farms, whereby the corporate farms siphon critical resources away from rural livelihoods, there is in fact more of a dynamic relationship by which smallholders/villagers are integrated into corporate farming, in ways that strengthen, what van der Ploeg (2008) refers to as, their resource base. Working on nearby corporate farms enables settlers to stay in the communities. Because state reclamation did not integrate these communities into industry/business or state bureaucracy, there are few possibilities for additional income. Also, smallholders in state-reclamation communities who source their crops seasonally to

corporate farms hold on to their land partially through the agroexport market[59]. Beyond the particular dynamic between smallholder farming in state reclamation communities and corporate farming, there are many ways in which the rural subaltern attempt to maintain or regain access to a livelihood from the land. In the following section I highlight migrant labour as one such condition of the 'new peasantries'.

Migrant labour

Migrant labour of course can have contradictory impacts on peasantries. In the 1970s and 1980s, for instance, when there was a large-scale migration of rural workers and others to oil producing countries, this migration contributed to the urbanization of the Delta and to a movement of livelihoods away from farming. This was one contributing factor in what van der Ploeg (2008) refers to as 'deactivation' in parts of the 'old' lands of the Delta (particularly the areas surrounding Cairo and the provincial towns and cities) – 'deactivation' being a de-agrarianization, as levels of agricultural production are contained or fall. However, today there are trends of labour migratory flows that may be considered as strategies of subaltern households to maintain or attain access to at least the means of subsistence (production for use). Here I give examples of two such trends: one that is minor, the other that is major.

A minor trend is temporary labour migration to corporate farms. Because corporate farms on reclaimed land are far from Delta provinces, from where the farms pool the rest of the daily labourers, the daily wage on the farms is higher than farm labour in the Nile Valley and Delta[60]. Labourers may temporarily relocate to the corporate farm areas to work for higher wages, which they then use to buy a plot of

[59] Similarly, Rosset et al (1999) argue that peasants in a region in Thailand were benefiting economically from contract farming.

[60] Without the growth of desert development – communities with schools, health clinics, and so on – the wage rate will continue to be higher on corporate farms.

reclaimed land, which is significantly cheaper than agricultural land in the Delta, in particular [61].

A major trend of labour migration that has been documented is rural-urban internal migration of Upper Egyptians to the cities in the north of the country, to Cairo in particular (see Zohry 2002; Miller 2004, 2006). Labour migratory flows (including forced labour through the corvée) from Upper to Lower Egypt were in effect a key characteristic of the institutionalization of Egypt as a 'boom/famine' region in the long 19th century (as I detail in chapter 2). The temporary and permanent waves of rural-urban migration are reflected in the spatial geography of the corporate agri-food system (with concentrations of corporate farms, food processing zones, special economic zones, corporate food service and food retail sectors in Greater Cairo and Lower Egypt). Today there are generations of Upper Egyptians living in Cairo (effectively as 'Cairenes') as well as 'temporary' unskilled labourers from Upper Egypt working in Cairo. Much of this migration may be explained by continued landlessness and un/underemployment in Upper Egypt, but forms of 'temporary-permanent' and 'temporary' migration from Upper Egypt also constitute the active strategies of smallholding families in Upper Egypt to secure a livelihood.

In Zohry's (2002) study of temporary labour migration from Upper Egypt to Cairo, he found that more than half of the migrants were landless. Of the migrants who had land they worked to keep the land in the family (as selling land is culturally 'forbidden'), and during the labourer's absence co-operation in agricultural work within the family went up, as women and members of the extended family participated in farming and other farm activities. Also, among 'temporary-permanent' migrants (i.e. those who live in Cairo most of the year, bring their families with them, have

[61] This information is based on a phone interview that the author conducted with a farm owner-activist in reclaimed areas, on 4 January 2012.

place-based work as ‘doormen’ (*boababs*), etc.) there are those who keep urban gardens. I noticed many garden plots while living in Mokattam in 2008-2009, where there are perhaps more ‘unclaimed’ spaces than many neighbourhoods in Cairo. Migrants use spaces adjacent to residential streets and near to apartment buildings to maintain vegetable and herb gardens.

Development projects like the state reclamation community, Wadi Nukra, in Aswan are in fact intended to curb this internal migration by providing villagers with land. Other, related projects are designed to incorporate smallholders in Upper Egypt into high-value supply chains (i.e. the agroexport market, the food processing industry). These projects reflect in fact that corporate agri-food supply chains are realized through the marginalization and exclusion of smallholders from markets, and through the adverse incorporation of smallholders into these supply chains. In the following section I explore the reinforcing and contradictory ways in which corporate agri-food supply chains intersect with household production and production for informal markets by examining how the food industry has grown vis-à-vis agricultural production in the Nile Valley and Delta, which despite counter agrarian reforms, is made up largely of small-scale plots of land (FAO n.d.; Gideon and Vullings 2007). I argue that what is significant in Egypt about, what van der Ploeg (2008) calls, the ‘complex border zones’ of peasant farming (and entrepreneurial farming and corporate farming) is that the corporate agri-food system and its regional expansion has been made through – and its reproduction limited by – the reconstitution of peasantries.

Realization of corporate agri-food supply chains

Reports that address contract farming in Egypt as a pro-poor development strategy paint the picture of smallholders losing out on the benefits of supplying corporate processors and retailers (IFAD n.d.; IMC 2005). However, smallholders are already

integrated into corporate food value chains, largely on a non-contractual basis. This integration constitutes the flipside of the corporate agri-food system – that is, the food value chains that are constructed through household or 'informal' food production largely in the Delta/Valley. The system is in fact made only in part through frontier making 'in the desert'. Most corporate food value chains (outside the agroexport market) are not vertically integrated, but rather, are constructed partially vis-à-vis agricultural production in the Nile Valley and Delta.

There is a range of types of incorporation of small-scale producers into corporate food value chains – from indirect through (wholesale) markets to formal, written contracts. Most incorporation of smallholders leans toward informal, non-contractual types of incorporation. As addressed above, corporate farms rely regularly on smallholder crops to overcome shortages. More specifically, in the context of weak agricultural cooperatives resulting from structural adjustments, incorporation (if there is any at all) into food processing is often mediated by traders, who act as the middle men between smallholders and markets (see IFAD n.d. on the role of middle men in the Egyptian countryside).

In this section I address some of the development projects that are intended to draw formal contract arrangements between smallholders and corporate retailers and processors. I then demonstrate that these projects actually reflect not just the exclusion of smallholders from 'high-value' agri-food supply chains, but their adverse inclusion into these chains. I argue that such informal or formal contract arrangements represent a type of dispossession in the form of value (of what is produced, how it is produced, and so on) (Elyachar 2005).

Pro-poor contract farming

It was in the context of a growing corporate agri-food system – the interconnected agroexport market, animal protein complex and food processing sector – and 'persistent' rural poverty that the international development community began to promote smallholder integration into high-value horticulture value chains as part of the strategy to reach the Millennium Development Goals. This development trajectory has in fact solidified since the 2007-2008 food crisis, after which the World Bank (2008) began to promote rural development through market participation and then as large-scale appropriations of farm land rose by investors and others smallholders and investors forming 'mutually-advantageous' partnerships (Deininger et al 2011).

Even before the crisis, in Egypt pro-poor contract farming was promoted as part of the state plan to extend the agroexport market to the south of the country. As I described above, the agroexport market is concentrated to the west and east of the Delta, and the idea has been that extending the market to the south of the country would improve the competitiveness of Egypt's high-value agriculture in Europe by extending the growing season. Farmers can grow fruits and vegetables earlier and later during the growing season in Upper Egypt. Some larger-scale farms in Upper Egypt were already integrated into the agroexport market, as they supply the corporate farms in Lower Egypt, but these projects are designed to institute contract arrangements between smallholders and corporate retailers and processors that secure for smallholders a fairer price and more secure market. One such project, the United Nations' Pro-poor Horticulture Value Chains Project in Upper Egypt, aims to provide farmers' associations with post-harvest centres, so that smallholders handle the processing themselves. The UN project is one of a number of contract farming projects that have been implemented in Upper Egypt. According to IFAD's (n.d.) report on contract farming in Egypt, USAID, CARE Egypt and CEOSS (Coptic

Evangelical Organization for Social Services) have been involved in contract-farming arrangements between agroexporters and smallholders in Upper Egypt since 2004.

Also, as supermarkets and hypermarkets began to take a growing percentage of the food market in Egypt, these projects have addressed the exclusion of smallholders from this market through contract arrangements between smallholders and corporate retailers at home. For instance, the West Nubariya Rural Development Program has worked out a contract between smallholders and the wholesale market chain Makro.

'Pro-poor contract farming' further responds to the informal incorporation of smallholders into high-value chains on largely unequal terms of trade, namely in the food processing sector. I address this adverse incorporation in the following subsection to demonstrate that corporate agri-food supply chains are realized through forms of dispossession. By attempting to formalize such incorporation, development projects perpetuate the dispossession of smallholders in the form of value (of what is produced) and, thereby, reify corporate food.

Dispossession in the form of value

Food processing is the largest sector of the food industry in Egypt. This is partly the result of the privatization of state food processing companies and the liberalization of domestic markets and trade that propelled the corporate retail and service sectors to grow in Egypt. Also, regional MNCs and TNCs, often in partnership with Egyptian corporations, began to use Egypt as a regional trading hub for processed foods (see chapters 1 and 6 for details). The core ingredients of processed food include cheap imported grains (largely wheat and corn) and state subsidized sugar and/or high fructose corn syrup (which is processed in Egypt in the private sector with imported corn) – as well as crops that are dominated by smallholder production, such as tomato,

potato and raw milk. Corporate food processors rely on smallholders to varying degrees, depending on the food subsector. From interviews with big food processors it appears that, in addition to contract farming arrangements and own farm production, they buy directly from smallholders or indirectly through markets.

I offer two case studies of food processing TNCs to demonstrate the kinds of corporate supply chains that exist in the food processing sector and how smallholders are incorporated into them. These two food processing TNCs (referred to as TNC 1 and TNC 2) have a large presence in Egypt[62] – the supply chain for one incorporates smallholders through traders and for the other generally excludes smallholders through its contractual arrangements with medium- to large-scale producers.

These TNCs process two of the largest vegetable crops in the country – tomatoes and potatoes – crops that are integral to corporate food (e.g. tomato paste for pizza, ketchup, french fries, potato chips). They buy sizable shares of the processing varieties of these crops that are produced: TNC 1 claims to process 350 tons of fresh tomatoes a day (in a country in which about 1100 tons of processing tomatoes are harvested daily), and TNC 2 claims to consume 60 per cent of processing potatoes produced. The contracts issued by both corporations involve in the most general sense the TNC supplying the grower with the seeds and/or seedlings, along with a guaranteed price for the harvested crop. The specific contract arrangements differ between the corporations, though. The supply chain of TNC 1 looks like this: farmer—agent—trader—TNC. The TNC has a taxable contract with the trader, who buys the seed and seedlings from TNC 1 and is responsible for delivering the harvested crop to the TNC at harvest time. The agent works with the trader to deliver the seed/seedling to the farmer; the farmer pays for them and then gives the harvested

[62] These two brief case studies are based largely on interviews that the author conducted in Cairo with representatives of the corporations, on 13 and 20 September 2011.

crop to the agent; and the agent then brings the crop to the trader for processing. In contrast, TNC 2 works directly with the contracted farmer. The contract specifies what and how many seeds to plant, how to grow (e.g., how much land for cultivation, what type and how much fertilizers and pesticides), how to transport, and so on. The farmer must place a deposit of 25 per cent of the value of the contracted crop. The TNC's 'in house agronomists' visit the farms to check that production and harvesting complies with the terms of the contract.

Both TNCs claim to contract with different size growers, but TNC 2 confided that they only contract with farmers with at least 10 feddan (a medium-size farm). This makes it much less costly for them to manage their contracts. At the same time, when the market price is lower than the agreed-upon price with their contracted farmers, TNC 2 secures part of their supply from the market. It is likely that the agents for TNC 1 and other big processors also prefer to contract with medium and large-scale growers to lower administrative costs (in terms of provision of seeds, contracts issued, and so on) (c.f. IMC 2005). At the same time, indirect contracting arrangements like TNC 1's likely involve some smaller-scale farms, since they are main producers of vegetable crops in Egypt. The fact that corporate processors (and agroexporters) routinely supplement their supply from smallholders illustrates not just the incorporation of smallholders into high-value food chains, but also how they are adversely incorporated, as agribusinesses act as a trader with smallholders and, thus, usurp the 'value added' of what is produced (either as the processor processing and distributing its final form, or as the agroexporter who supplies directly to corporate retail through a contract). The case studies of TNC1 and TNC2 further demonstrate that corporate agri-food supply chains are realized in part through dispossession through

differentiation, as the supply is secured largely through commercial/entrepreneurial farms that can afford to buy the seeds and other inputs required by the processor.

More than this, corporate agri-food supply chains dispossess producers from value at the point of production. So while 'pro-poor' contracts address some of the effects of exclusion of smallholders from and adverse incorporation of smallholders into corporate food value chains, by smallholders receiving a higher price for their crops through direct access to a higher priced market, the contracts themselves are a way to institutionalize dispossession in the form of value (Elyachar 2005). Contracts often involve not just what is cultivated, but the exact seed variety that must be bought and cultivated, and according to the requirements of 'traceability', may also involve the exact chemical inputs that are bought and applied to the crops, the exact acreage to be cultivated and the expected tonnage of crops to be supplied, and so on.

The realization of contract arrangements with smallholders is through debt. And it is a precarious debt. The development projects offer micro-credits so that smallholders can purchase the necessary inputs to participate in the contracts. For instance, in one project between a food processing TNC and smallholders the TNC backed out of the arrangement because the smallholders could not pay for the seeds or specified inputs before the harvest. The development agency in charge of this project then tried to secure an outside creditor for smallholders. However, the acquisition of debt can be a destabilising force for the rural poor, not only because smallholders already live on the margin of being able to meet needs and obligations, but because the contracts are based on unequal terms of trade. In these private contracts the corporate processor or retailer is the arbiter of who is in and out of the contracted arrangement. For example, TNC 1 gives itself the right to annul any contract with any farmer 'without any notification and to buy the difference in quantities not supplied by the Second Party [the contracted farmer] from the local markets at the prevailing price in

the market at that time on the expense of the [farmer]'[63]. Every year TNC 1 re-evaluates their contracted growers and decides whether to continue their contracts with them.

A 2006 Land Centre for Human Rights (LCHR) report gives the example of a group of Sohag farmers who were filing a complaint against the NGO CARE Sohag. CARE Sohag had arranged a contract between farmers and agroexporters, through which farmers would grow green beans for the European market. When the Egyptian government raised the shipping costs to the EU, the agroexporters refused to take the farmers' crop. The farmers were indebted and had no market for their crop. Another example is an NGO that secured loans for farmers for high-value horticulture through a local businessmen's association. In the 25 January 2011 uprising the farmers lost their crop as they could not get access to input or even to their fields to water their crops. They then couldn't pay back the loans. Again, the NGO came in and tried to secure loan rescheduling for the farmers.

In these ways projects designed to formally integrate smallholders into high-value agriculture are ways of instituting and then managing continual (potential) crises. But there is much more to the relationship between the reconstitution of peasantries and corporate food than smallholders' exclusion from and/or integration into corporate agri-food supply chains – and how development projects respond to such dynamics. In order to understand the significance of this relationship, the lens should be extended to the trajectories in changes in production and consumption over time. These trajectories shed light on the mutual development and change of corporate food, smallholder production, and the 'new national consumer' (see Figure 4).

[63] This is a direct quotation from the translated version (into English) of the contract issued to the farmers by TNC 1.

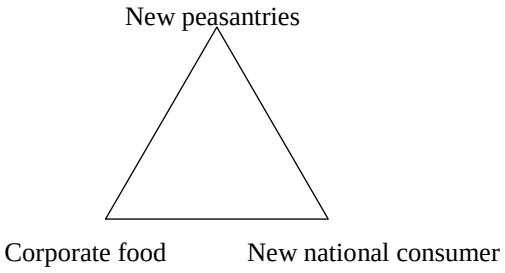

Figure 4: The triangle of corporate food, new peasantries, and the new national consumer

The concept of the 'new national consumer' does not deny the vast inequalities that exist in the quantity and quality of food consumed across classes, but captures a general shift over time toward a diet high in animal fats and proteins as well as processed foods. On the one hand, the corporate agri-food system is established and grows through the power of deciding 'what is value' (Elyachar 2005), whether or not smallholders are 'incorporated' into corporate food value chains. This means that there is a shift in the domestic food market with the growth of corporate food, and farming systems respond to this shift (toward animal protein, crops for processing, and so on). With such shifts smallholders become what van der Ploeg (2008) refers to as 'dependent', or vulnerable to market fluctuations or concentrations as their own farm production becomes concentrated in certain commercial foods (below I detail raw milk). On the other hand, these shifts are not just constitutive of corporate food but of domestic consumption generally. The remaking of smallholder production has in fact remade domestic consumption – and it is this relationship in particular that demonstrates a struggle over the power to decide how and what food is produced, distributed and consumed. I argue in the following section that this struggle is the terrain for new kinds of political alliances.

The political subjecthood of new peasantries

The shift in domestic diets toward industrial foods is not captured solely by corporate food, but rather cuts across informal, commercial and corporate markets. And the argument put forth here that corporate food, smallholder production and national consumption are in fact mutually constituted is an argument about the political subjecthood of reconstituted peasantries. There are two reinforcing and contradictory processes that constitute this triangle that I detail in this section: 1) domestic diets have shifted toward corporate food in part through class politics, food scares and so on that constitute the real and perceived of smallholder production and informal markets generally; and 2) reconstituted peasantries have provided the 'domestic supply' of a number of key foods (like raw milk) and, thus, are not only relevant but powerfully situated in the body politic. Both processes represent an opportunity for new kinds of political alliances: alliances 1) between consumers and producers and 2) producers within the same supply chain.

The new national consumer

'Quality' and processed food for supermarket and hypermarket shelves as well as transnational and regional franchises has found a significant consumer base among the middle and upper classes in the global South in the last twenty or so years (Banaji 1996; Reardon et al. 2005; USDA 2011), and I propose that in Egypt this shift is partly constitutive of health scares, class politics and so on vis-à-vis the category of reconstituted peasantries (that produce for informal markets and are interrelated to other subaltern classes in informal markets, like street vendors, small grocers, and so on).

The 2012 GRAIN report *The Great Food Robbery: How corporations control food, grab land and destroy the climate* shows food TNCs and governments are

behind organized campaigns in countries of the global South to defame smallholder production. In Egypt there was such an organized campaign, a public-private partnership between the Ministry of Health (MoH) and dairy companies, to 'raise awareness' of the dangers of non-packaged milk sold by small-scale vendors in markets, on streets, etc. (see EFG-Hermes 2010). The campaign targeted school-aged children and mothers. The claim by proponents is that a similar campaign in Turkey that was led by TetraPak, the packaging TNC, in partnership with the MoH and milk producers raised packaged milk consumption from 32% in 2002 to 60% in 2009 (EFG-Hermes 2010: 58). It is not yet clear what effect this organized campaign is having on packaged milk consumption in Egypt, but this 'class politics' is not just about smallholder production but is generally about the 'informal' distribution of food. For example, during the last five or so years the pandemic spread of the avian flu, swine flu and foot and mouth disease has put downward pressure on 'live' markets, where the majority of chicken, eggs, and meat are sold, and has opened up further the market for frozen and processed meats (see chapter 5 for more details). This shift represents growing public fears of 'live' markets, which were undoubtedly amplified by the government's reaction to the outbreaks. At least in the case of the bird flu, which I detail in chapter 5, the government wrongly blamed cottage poultry and live markets for the disease, and further, instigated 'control' measures that have undermined cottage/backyard production (e.g. shutting down live markets, mandating processing at state slaughterhouses, and so on).

However, the shift in consumption away from 'informal' markets cannot be reduced to the manufacturing of public consent through government measures or corporate propaganda. The intensification of animal agriculture globally has led to the spread of pandemic zoonotic diseases, and these diseases are/were found in

households and live bird markets. The point being that, yes, the source of the problem is elsewhere, but diseased birds, pesticide-ridden vegetables, and so on are present, if not prevalent, in informal markets. The 'public' reaction against live bird markets may be understood more broadly within intensifying public reactions against food contamination within the supply chain, from the farm gate to the plate[64]. The 'corporate' and 'informal' are mutually constituted historically such that corporatization finds an audience through the steady deterioration of the public and formerly public sector. High concentrations of pesticides and other pollutant residues have been found in the North Delta Lakes (Anwar 2003; Abbassy et al 2003), ground water aquifers in Upper Egypt (Shamruk et al 2001), and food commodities sold in local markets (including milk, meat and cereals) (Anwar 2003). Food contamination is of course the result of a confluence of forces, Green Revolution technologies being just one, but the point is that changes in food consumption have been made in part through the reconstitution of small-scale food production and distribution (in practice and in the imaginary).

These changes in food consumption are class-based – the upper-middle and upper classes disproportionately consume franchise food, shop at hypermarkets, etc. – but there is a move across classes (not all) toward consumption of corporate food. During my stay in Egypt I routinely ate 'corporate food', cheap and not so cheap, as did my friends and associates and those I witnessed on the streets of Cairo. For example, young Egyptians from popular neighbourhoods or 'slums' (*'ashwa'iyatt*)

[64] Private television programmes regularly report consumer illness, often involving fairly large groups of consumers, from contaminated fresh fruits and vegetables and processed foods. Also, television and newspaper reports are common of farmer illness from working with pesticides, relying on contaminated water (often with untreated sewage water), and so on (e.g. Taher 2011). It may be argued that such reports are part of the corporate defamation campaign because private news media in Egypt is largely 'corporate media', owned by family business groups. However, I think that this is unlikely given the widespread reporting of food illness and of farmer illness even within advocacy networks (see, for example, LCHR 2004, 2005). Also, there is evidence that smallholders around the world use sewage water for phosphate because fertilizers are expensive (Cordell et al 2009). If treated, sewage water is an effective 'natural' fertilizer, but if applied untreated, it can be a pathogen carrier to crops.

(where most young people live, who are from one of or in-between many non-elite classes, from working poor to solidly middle class (or professional class)) may choose to 'hang out' with friends for a meal at McDonalds in 'formal' Cairo – McDonalds and other franchises being among the few 'gender-free', smoke-free, air-conditioned hang-outs. Working class people, students and others, who routinely use public and informal transportation (e.g. the metro, buses, mini-vans), grab snacks at the street kiosks that are located at transportation hubs (bus stops, mini-van stops, metro stations, etc.). Upper/-middle classes and professionals who have cars and employ drivers to drive them around the city routinely stop their cars at the many street kiosks on main roads to grab chips, Coca-Cola and other junk foods on their way to the sports club or the mall or wherever they are heading.

This general shift in consumption does not represent the making of a 'postmodern consumer', in Roseberry's (1996) sense of the consumer with specialized tastes, having a palate for foods from different regions of the globe and so on that is part and parcel of the diversified production systems of the regime of flexible accumulation (Harvey 1990). Rather, consumption in this growing space of junk food represents a unique mix of Fordist production, of industrial cereals and sugars that constitute the base ingredients of nearly all junk food, and post-Fordist production, in which the same durable ingredients are packaged and re-packaged for market niches, poor and wealthy.

There is a further tension that is captured in the making of new consumers of corporate food. On the one hand, there is growing overweight and obesity (see chapter 1 for details), and on the other hand, there is growing 'body dis-ease' or distress over one's body[65] (Orbach 2009). 'Body dis-ease' expresses how the body has become a

[65] In their research on the global obesity pandemic, Haslam and James (2005: 1202) note the growing levels of discrimination overweight and obese people, especially women, face; in various societies of

site of production rather than a means of production. And one outcome of body distress is the process of singularizing notions of 'beauty' and the acceptable body. Body distress is a phenomenon in Cairo, across (some) social groups and classes, although I can not conclude how wide and deep it is socially. To give an example of cultural production expressing body distress (rather than the many anecdotal examples that I may give), in 2010 I went with an Egyptian friend to a festival of short Egyptian films in Cairo. One of the film clips was about a young, single Egyptian man who recently returned from abroad to Egypt. He had a neighbour who talked continuously about his lovely wife, and the young man was waiting to see this 'beauty' that he imagined his neighbour's wife to be. A climatic moment in the clip is when the neighbour opens the door to introduce his wife – and the wife is visibly large (with a double chin) and takes on a stupidly funny persona. At that moment the audience bursts out in hysterical laughter. I was dismayed and expressed my dismay to my friend, and she responded that, well, in Egypt 'we like women with a…figure'.

This may seem like an odd statement about a society in which many women do not even show their 'figure', whatever figure it may be. But my friend's statement reflects rather what Jane Dixon (2009: 323) refers to as the paradox of the 'corporate food regime': as food becomes 'increasingly distanced physically and metaphysically', there is heightened 'public anxiety and food-related ontological insecurity'. Food scares may be understood then as part of what J Dixon (2009) refers to as the 'private regulation' of the postmodern consumer. This is not to conflate the different relationships people take to corporate food in Egypt within a framework of 'private regulation', but rather, the point is to think about how the growth of the corporate agri-food system goes hand-in-hand with the remaking not just of consumers

---

the global North and South 'obese individuals are less acceptable marriage partners, are handicapped in job promotions, and earn less'.

but of ‘bodies’ (in Orbach’s (2009) sense of how we are in ourselves, the relationship we take to what we eat, and so on).

In so far as the reconstitution of peasantries has been part of the re-making of these ‘bodies’, peasantries are structurally active shapers within the nation-state. And it is in the spaces of existing subjecthood that new kinds of alliance building possibilities lie. For example, peasantries and advocates may create producer-consumer direct markets: partnerships between certain groups of consumers who are moving away from informal markets toward corporate markets (as a result of food scares, etc.) with producers who are looking for a more direct market and/or a way to move away from chemical applications in their production. There are likely many such producers given the long-standing campaign for debt forgiveness for smallholders, who have faced crippling debts with the dismantling of the cooperative system and accompanying skyrocking input costs[66]. This set of alliances would be between not just the consumer who wants justice and fair terms of trade for producers, but consumers across classes who are looking for safe food and may get it directly from smallholders who are transforming or who have transformed production toward more ecological practices. And these alliances do not have to be solely ‘market’ ones but, rather, can be strategic – creating relationships around community and domestic issues and so on.

In the next sub-section I address another set of potential strategic alliances among peasantries based on how their production constructs supply-chains. In essence, peasantries have a significant role in provisioning food that is key to not only corporate supply chains but generally to national consumption. Below I highlight raw

[66] Calls for debt forgiveness and generally grievances against the Principal Bank for Development and Agricultural Credit were regularly expressed during the research that I conducted with advocacy networks. Recently, during the year of the Muslim Brotherhood Muhammed Morsi’s presidency (2012-2013), the Morsi government promised to offer debt forgiveness but early on the supposed beneficiaries were expressing reservations about what was being promised (Viney, 2012).

milk because it is both a significant food for corporate processors in Egypt and is consumed widely across classes – and is dominated by small-scale farming systems.

Dairy

Dairy consumption in Egypt appears to have risen considerably during the last couple of decades – but largely in a processed form among the middle and upper classes. The yearly milk supply per capita rose from 34 kg in 1970 to 50 kg in 2000, but milk in its raw form rose only slightly as a percentage of dietary energy supply during the same time period (from 1.9 to 2.2 per cent) (FAO 2006a). This indicates that raw milk is increasingly being consumed in a non-raw or processed form (e.g. cheese, yogurt), and there appears to be a large demand for processed dairy. For example, Egypt is a net importer of cheese (imports reached $27.2 m in 2003) (IMC 2005), despite the existence of large-scale cheese processing factories, and was one of the world's largest importers of butter (from 2003-2007). Further, an indication of how significant processed dairy is in Egypt, either for domestic consumption or export, is the extent to which the industry is concentrated in the hands of a few regional MNCs (mostly Egyptian family business conglomerates that have a regional reach or became regional through mergers and acquisitions) and a few TNCs (Nestle and Danone) (see Table 1). The packaged milk market is controlled by a monopoly of four corporations: Juhayna and Faragello (two of the largest agribusinesses in the country), Beyti (one of the largest dairy companies, now owned jointly by Almarai-PepsiCo) and Enjoy (now owned by private equity firm, Citadel Capital). Packaged cheese is controlled by seven corporations, including Greenland (a company of Americana, the largest regional food

MNC), and nearly half of the spoonable yogurt market is controlled by three corporations (Juhayna, Danone and Nestle)[67] (EFG-Hermes 2010).

Small-scale dairy farms dominate raw milk production. According to the IMC (2005) report on food processing, small-scale 'mixed' farms made up 90 per cent of the total dairy herd and 72 per cent of total milk production; commercial or 'flying herds' about 7 per cent of the total herd and 21 per cent of total production; and large-scale, corporate farms about 3 per cent of the total herd and 7 per cent of total production. Only six farms owned more than 1,000 cows. Juhayna gets 93 per cent of its raw milk from dairy farms, on a non-contractual basis, and has relied heavily on larger-scale farms (with at least 200 cows) (ibid.). Recently, the corporation has adopted a three-year plan to extend the supply chain to 1,000 smaller herds (from 10 to 100 cows). It appears though that these dairy farms are in part indirectly incorporated into Juhayna processing through medium-size processors (as is represented in Figure 5). Milk producers go to medium-sized processors (say, the Egyptian Milk Producers Association), who then process the milk (in a basic form) and sell it to Juhayna (who processes it further).

[67] Danone claims that from roughly 2006-09 alone its share of the industrial yogurt market in Egypt jumped fourteen fold, to 40 per cent (Wesseling n.d.).

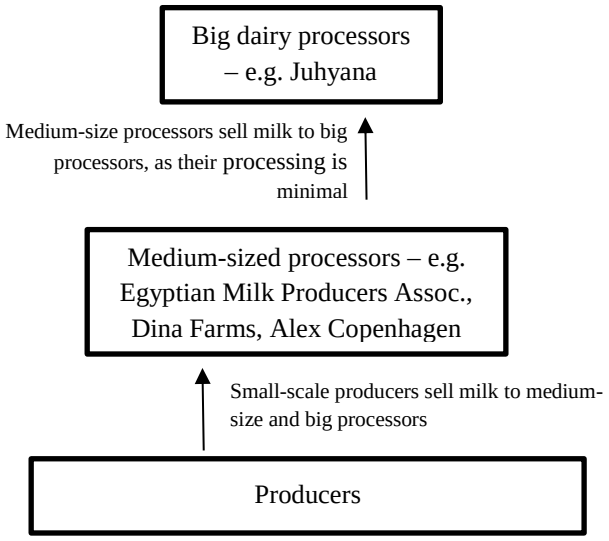

Figure 5: Supply chain of raw milk for processing [68]

Corporate dairy processors do not just consume raw milk, but also heavily consume imported 'milk substitutes' like milk protein concentrates (MPCs) that come largely from the EU and Australia/New Zealand and are used in milk-based drinks, cheeses and other dairy products. Through the dairy farm subsidy programmes of the EU and other exporting countries, the imported substitutes are cheap, which puts downward pressure on local milk prices (GRAIN 2012). According to the FAO (n.d.), powdered milk is one of Egypt's major import commodities, along with wheat, maize, edible oil, sugar and red meat. In 2003 dairy processers were importing more than $42 m worth of dried skimmed milk (IMC 2005). Milk substitutes further avoid the high tariffs placed on milk in many countries (GRAIN 2012). In Egypt, the tariffs placed on milk remained consistently high (at 40 per cent) from 1995 to 2005 (FAO n.d.), while the customs tariff for milk substitutes as well as butter, dairy spread, cheese and other

[68] This figure is based on information from an interview the author conducted with a representative from the Dutch Embassy in Cairo, 25 Sep 2011.

corporate food ingredients (like soybean oil) were reduced in a 2008 Presidential Decree (no. 103) (USDA 2009).

The consolidation of the dairy industry with the introduction of food TNCs, the import of cheap milk substitutes and the supply of raw milk from smallholders has led to a downward push on already low prices. In the months following the 25 January uprising the Egyptian Competition Authority publicly warned the three corporate dairy processors of raw milk that they will be penalized for violating competition laws (*Reuters* 14 March 2011). Juhayna, which reported a 23.3 per cent rise in its 2010 full-year net profit, was found to have fixed prices with Beyti and Enjoy within the raw milk supply chain. All three corporate processors were paying an average price of 2.7 LE per kilogram of raw milk – that is, .3 LE lower than the asking price of the Egyptian Milk Producers Association.

The heavy reliance on small-scale dairy within corporate dairy indicates how smallholder production has been remade with the development and growth of the dairy industry. The concentration of animal agriculture in small-scale farms is likely to have corresponded with the growth of the corporate food sector. For example, the domestic milk supply per capita rose by nearly 70 per cent in three decades (1970-2000) (FAO n.d.), and *berseem* (the main fodder for animals) has become one of most significant crops cultivated among smallholders (FAO n.d.), a trend that may have begun earlier than the 1960s (Issawi 1963). The concentration of animal agriculture within small-scale farms translates into a vulnerability to price drops as corporations consolidate the food economy.

At the same time, the reconstitution of peasant production has meant that small-scale dairy has become the ‘domestic milk supply’ through which corporate dairy has grown. The simultaneous reductions of customs tariffs on milk substitutes

and the maintenance of high tariffs on raw milk may be explained in part by the political influence of the dairy industry as big dairy processors seek protection from international competition for their processed milk products, but want to reduce the input costs of their other dairy products. These policies may seem contradictory in that the 2008 Presidential Decree also lowers protections on imported cheese and butter and other dairy products, ostensibly undermining domestic dairy protection. However, the biggest cheese processor and one of the most politically influential agribusinesses, Americana, also has many franchises (e.g. Costa Coffee, T.G.I. Fridays) that consume large quantities of cheese, and imaginably their own processing cannot meet the demand. These policies are undoubtedly making the corporate processors even stronger. However, while undermining smallholder production by reducing producers' prices, the high tariffs on raw milk protect the domestic milk supply. In other words, these policies may also be understood to reflect the political subjecthood of reconstituted peasantries.

The reconstitution of peasantries then may be understood here as the simultaneous inscription of smallholder production into national dietary changes (toward animal protein) and the 'appropriation of value' from smallholder production through corporate supply chains. The implication of this is that smallholders reproduce and define the limits of the reproduction of the corporate agri-food system. Alliance building that could, say, disrupt supply chains, and/or augment the terms of trade for smallholders within these chains, is among producers within the same chain. Take raw milk as the example, given that it is so important to food processing and corporate food and domestic consumption generally, producers of raw milk could create direct linkages to co-ordinate or block supply, control processing and the markets themselves and so on. In fact, there has been a project underway (as of 2011) between the

Ministry of Agriculture, the Industrial Modernisation Centre and Tetra Pak to develop collection centres for smaller-scale milk producers. This project is intended to improve the terms of trade for smallholders by directly connecting them to the centres and thus Juhayna, but such a project will in effect weaken the potential of such alliances among smallholders for greater control over the market. In these revolutionary times such struggles over control of supply chains are in fact likely to continue to escalate as peasantries have been forming rather rapidly independent cooperatives. This movement began before the 25 January uprising, with the intention of at least reversing the negative terms of trade for smallholders[69]. And the cooperatives may in fact be at the centre of a new set of political alliances that bolster the position of smallholders within supply chains.

Conclusion

Even before the uprising and the growth of independent cooperatives, the struggle over the food supply was evident. In fact, strategies of food corporations to exclude smallholders from corporate supply chains – by institutionalizing contract farming and increasingly through vertical integration – may be understood in part as attempts to dismantle the subjecthood of peasantries – i.e. their central role in the domestic food economy and in the remaking of the national consumer. Many if not all the corporate food processors in Egypt are beginning to buy their own farms on reclaimed land and at least partly source from them. Danone has built the first farm in its history (DanFarm) in the western Delta. Juhayna owns 40 per cent of Milkes Dairy Company,

[69] On April 30, 2010 I attended the 'Day of Peasant Struggles' (or 'The Commemoration of the Martyrdom of Salah Hussein' (*Ahtfaleya zakara sheed alfalaheen almanadl Sallah Hussein*)) in Kamshish, a village in the Delta, to commemorate the assassination of an advocate Salah Hussein and the struggles of peasants throughout Egypt. And during the commemoration one of the many individuals who got up on the stage 'to speak' was then Member of Parliament (and following the uprising, a Presidential Candidate) Hamdin Sabbahy. Sabbahy declared that *fellahin* in the northern Delta had already created an independent union.

which by the end of 2010 had an estimated 1,600 milking cow farm, also in the western Delta. Milkes covers seven per cent of Juhayna's raw milk needs, and in the medium term the corporation wants to source about half of its raw milk needs internally. To do so, they plan to expand their dairy farm/s to 4,000 feddans (EFG-Hermes 2010). TNC 2, which relies largely on contracts with traders, also has its own farm in reclaimed land, where they breed the corporate seed varieties. TNC 1, which relies solely on contract farming and (formerly) ad hoc market sourcing, plans to mechanize the entire production process (i.e. farms with greenhouses, sprinkler systems, etc.), which would nearly eliminate farms that are not mechanized to the corporate standard. Such vertical integration will lower costs for food processors by, for example, circumventing the government regulatory body that attempts to institutionalize a 'fairer price' for dairy producers, and thus, will increasingly squeeze out smallholders from corporate food value chains.

However, attempts by food corporations to overcome the perceived and real limits to capital accumulation do not guarantee control over value at the point of production. The category of reconstituted peasantries as innovated in this chapter was in fact intended to demonstrate that peasants (and other 'petty commodity producers' of the informal sector) are not merely 'redundant labour' or 'microcapitalists' or as 'tillers of the land' a politicized movement, as much of the agrarian question literature concludes. Rather, the reconstitution of peasantries has profoundly shaped how capital accumulates in agriculture. This is not an argument, following Watts (2009: 277), that the widespread subsumption of peasants into corporate supply chains represents a distinctive way in which peasants may persist, by 'being relevant' to capital so to speak, nor is this an argument, following van der Ploeg (2008), that there is a critical role for peasants in modern societies in terms of providing sustainable, resilient

farming systems at a time of industrial agriculture's anticipated collapse. Clearly, reconstituted peasantries are both relevant to capital and have a critical role to play in society – but my approach is that peasantries are already assuming a critical role in Egyptian society. They are significant within the body politic. As subjects of political modernity they yield an influence on the development and growth of corporate food and the making and sustaining of the 'national consumer' generally. It is within this position that the opportunities and challenges of alliance building lie, and in this chapter I propose two such alliances, between producers and consumers and among producers within the same supply chain, for justice and livelihoods.

CHAPTER 4

THE CORPORATE STANDARD AND REPRODUCTION OF THE DOMINANT CLASS IN THE MAKING OF THE CORPORATE AGRI-FOOD SYSTEM

In this chapter I explore the reproductive logics of the capitalist classes through which the corporate agri-food system has been made. From the perspective of capitalist class formation and re-formation the corporate agri-food system may be understood as one sub-system of the domestic political economy of Egypt that is dominated by overlapping family business groups (diversified family investment holdings with agribusiness arms), financial firms, and the military. The reproduction of the capitalist classes is not simply a matter of political patronage or corruption, but rather is an expression of an elaborate set of relations between domestic elites, transnational elites, transnational institutions, state bureaucracies/policy making in the global North and South, and so on. In contrast to the more obvious means of reproduction, in this chapter I focus on the particular sets of relations and institutions that have normalized the transmission of wealth and privilege that constitute what I call the 'corporate form' (Welker et al 2011), in order to demonstrate that the practices, protocols and norms that have governed growing numbers of capital exchange in Egypt are made and remade in the processes of negotiation with existing national and localized relations of exchange. Through the concept of the 'corporate form' I explore how the reproductive logics of the dominant class shaped the waves of consolidation of the agri-food industry during the last few decades, and how this consolidation has led to heightened class conflict.

Following Bourdieu (1986) I argue that the capitalist classes in Egypt – or what may simply be referred to as the dominant class – reproduces itself in part

through the exchange of mutually convertible ‘capitals’ (economic, social, cultural, symbolic) that make up the ‘corporate form’. The set of relations of the ‘corporate form’ are not to be reduced to a ‘set of rules’ dictated by corporations, but rather may be understood as the policies, ideologies, organizational structures and so on that are adopted and institutionalized by corporate/-ized bodies. The corporate agri-food system (the agroexport market, food processing, food service and food retail sectors, and so on) has been made in part through the competitive process of the corporate form (granting of contracts, initial public offering, etc.), which is mediated by the ‘corporate standard’, or the social and cultural forms of capital that are essential to the standardization of ‘best practices’ among not only business but also government agencies and other institutions.

In this exploration I take as a point of departure my ethnographic research based in a consulting firm in the commercial centre of Cairo to explore what Ong (1999: 36) refers to as the ‘cultural logics’ of the dominant class – in particular, how they have been shaped and given meaning by translocal relationships. In 2009-2010 I worked part-time at a firm to understand the architecture of capitalist class (re-)formation in Egypt – who the capitalist classes in Egypt are and what their relationships are to one another and to US government agencies, transnational corporations, international finance institutions and other hegemonic institutions. This ethnography is not of the workplace as such, as a description of the work that I did would be of ‘the obvious’ – networking, proposal writing and so on. Rather, like Riles (2000) I use my work at the firm as a window onto the broader set of relations, networks and so on at play within the reproductive logics of the dominant class. It is not what I did or experienced at the firm that is as relevant as what I learned about the ways in which capital is exchanged, among whom, and through the oppression and

exploitation of whom. This account has been inspired by Marx's (1964, 2001) nuanced analysis of the French bourgeoisie at the time of the French Revolution of 1848-1851, and follows the largely anthropological work on the elite. In the last decade or so scholarship has developed around the 'new economy'; in particular, Ong's (1999, 2005) writings and the collective work *Global Assemblages* that focus on the cultural processes of privilege within the 'enterprise economy' (Ong 2005), the 'cultural circuit of capital' (Olds and Thrift 2005), standardization (Dunn 2005) – and, what I prefer to call, the 'corporate form' (see Welker et al 2011 for a review of the literature).

I intervene in the anthropological literature on the elite in two ways: I argue that the cultural logics of the dominant class are significant to understanding the corporate form, not only because they represent processes of negotiation to new relations to capital (through liberalization and privatization and so on), but also because they express a tension of heightened class conflict. I use the concept of the corporate standard to illustrate that the negotiation to new relations to capital is through the widespread production of cultural and social forms of capital – but largely within hegemonic institutions – and this production institutionalizes the official transmission of wealth and privilege but fails to normalize this transmission across the class structure. Secondly, I argue that the cultural logics are in fact an expression of how the regime of global value relations is constituted locally, on a worldwide scale.

This chapter is organized as follows: First, I demonstrate the world-historical character of the reproductive logics of the dominant class through an examination of the similar characteristics of capitalist class formation and re-formation in the early-mid 20th century (roughly the interwar period, 1920s-1930s) and in the neoliberal period. Then, I detail what is unique about how value relations are constructed in the

neoliberal period. I develop the concept of the corporate standard through the observations and linkages made in the ethnographic research. In this concept I connect the agri-food system with other domestic economies. Then, I demonstrate the corporate form as a negotiation to new relations to capital through three phases in the making of the corporate agri-food system: the rise of the agribusiness political coalition, corporatization and financialization. And in the last section I demonstrate how these processes have led to crises of legitimacy within Egyptian society.

Ghosts of finance pasts

Processes of financialization have been the driving forces behind the production of value relations on a worldwide scale, in the long 19th century and in the neoliberal period. And value relations were and are constructed locally through the reproductive logics of the dominant class. In this section I explore these logics as they played out during the first half of the 20th century to analyse three general characteristics of the dominant social structure during the neoliberal period: that is, the reproduction of individual members or families within the dominant class, the organization of large-scale capitalist enterprise (as family business groups tied closely to foreign capital and the state), and the 'formal' domestic economy as an oligopoly.

One of the most ostentatious displays of wealth and privilege among the dominant class in Egypt before the 2011 political uprising was a type of 'pashawi-ism', or identification among members of the dominant and other classes who are descendants of the former Pashas (the ruling class of the Ottoman and colonial eras) with their 'rights' to regain what was 'stolen' in nationalization in the 1960s. Much attention had been given to the losses of the colonial-era national bourgeoisie, who during the first half of the 20th century built capitalist enterprises, which were later nationalized in the 1960s under Abdel-Nasser (see Vitalis 1995). This was the case

during my doctoral research in the years leading up to the 25 January 2011 uprising[70] (e.g. Mowafi 2009) and even during the uprising (e.g. Moukheiber 2011). There are figures like Ahmad ‘Abbud, the wealthiest and most politically influential business tycoon during the late colonial period, and the Bigio family, who owned the manufacturing facilities of Coca-Cola Egypt, who were put under house arrest following independence and whose companies were later sequestered by the Nasser regime – and who then went into life-long exile. However, the resurgence of Pashawi-ism indicates that capitalists of the colonial era were able to retain their assets during nationalization, as it is their descendants who are among members of the dominant class today. Among these members are those who come from politically influential families of the colonial and Ottoman eras; for example, the former prime minister Ahmad Nazif is the grandson of the former undersecretary of the Ministry of Health under King Farouk of the late colonial period, and the Al Alfi family (of Americana) come from the Pasha ruling class in the late Ottoman period. There are also descendants of prominent businessmen of the colonial/Ottoman eras; for example, Mohamed Mansour, who became Minister of Transport under the Nazif administration and whose family business group is one of the largest in Egypt, is the descendant of a cotton tycoon in the colonial era, and Yasser El Mallawany, CEO of EFG-Hermes, the largest investment bank in the Middle East, is the descendant of colonial-era industrialists. Also, widely disseminated are rags-to-riches stories of small-scale entrepreneurs like Othman Ahmad Othman and Onsi Sawiris, who began accumulating capital in the colonial era and grew increasingly wealthy through the postcolonial era.

[70] This term in fact comes from a meeting that I had in Cairo with the head of one of these social networks, who was a self-proclaimed ‘Pashawi’ (13 August 2010).

These ‘ghosts of finance pasts’ may first be understood within the context of the political economy of colonial Egypt, which, according to Vitalis (1995), may be described as a system of private oligopoly. By the first World War the domestic bourgeoisie had cross-sectoral holdings in banking, trade, urban real estate, cotton export, manufacturing and rural land-reclamation companies, as well as individually owned estates (ibid.). The character of the colonial-era political economy was consequential for how postcolonial developments and policies affected this small group of capitalists. For instance, studies of Nasser-era agrarian reforms confirm that, although they ended the landed estates, they ultimately failed to break the landlord class (see Saad 1988 for a summary). As Bush (2007) explains, many loopholes remained in the mandated ceiling on privately held land. Also, the government compensated the landlords for their sequestered land and property. Given that this landlord class was tightly-tied to industrialists, bankers, exporters and so on, it is then imaginable how a part of the colonial-era bourgeoisie was able to maintain its assets through the period of sequestration and appropriation. In short, those who stayed in Egypt, or left temporarily and returned, were well-connected and/or had enough wealth to send their children to elite educational institutions in order to be at the centre of the emerging relations of capital exchange – i.e. the ‘corporate form’ of the neoliberal era.

The structured ways in which wealth and privilege have been transmitted do not just reveal the reproduction of individual persons or families, however. The prominent organization of large-scale capitalist enterprise today – largely family business groups – resembles capitalist enterprise of the colonial era. According to Vitalis (1995: 54), the investment strategy of ‘Abbud and his competitors was the same: reliance on public resources; cooperation with foreign capital; and holdings in

multiple economic sectors. Most were organized as family-based investor coalitions. Today Egypt's family business groups may be characterized as highly diversified, tied deeply to foreign capital (namely, European/American and Gulf/Levant), and heavily reliant on public contracts, state subsidies and so on.

How wealth and privilege are transmitted may also be understood in the oligopolistic character of the domestic economy today. Of the largest agribusinesses in Egypt today[71] a handful of these corporations were established in the colonial era as private companies and were later nationalized under Nasser (e.g. Bisco Misr, Coca-Cola Egypt). When these state-owned companies were privatized in the 1990s, most were not sold as privately-held companies but were 'made public' (IPO'd). These large public corporations are now controlled by their largest shareholders, i.e. the most capitalized investors. This trend in the agrifood sector is of course part of a broader trend of privatizing state-owned enterprises (whether originally colonial-era or not), which generated considerable public opposition. Opposition was generated against the sale of public assets at non-competitive and below-value rates (see El-Sayed El-Naggar 2009, Sfakianakis 2004 for examples). The loss to the public in these sales is significant, whether the sales were made at windfall rates or not. Further, the sale of large-scale public assets to private owners or shareholders greatly expanded the market share of those who were already very large, and thus, contributed significantly to the waves of corporate consolidation of the Egyptian economy in the 1990s and 2000s (see Table 1 for consolidation of the agrifood sector).

These reproductive logics, as logics through which value relations are constructed on a worldwide scale, have a translocal character. For example, the organization of capitalist enterprise around kinship – what Zeitlin and Ratcliff (1988)

[71] This information is based on GAFI's agribusiness list, ranked according to issued capital from 1970-2010.

call the 'kinecon group'[72] – signals one of the most direct means of transmitting wealth and privilege, and has come to predominate among the capitalist classes in the rest of the region – and in parts of South and East Asia (see Credit Suisse 2011), if not throughout the global South (see Zeitlin and Ratcliff 1988 on Chile; Janelli 1993 on South Korea). And of course the privatization of large-scale state industries since the 1980s has greatly informed the oligopolistic character of the economies not just of Egypt but of many countries in the global North and South (see Klein 2007 for various country examples; for financialisation in the UK in the 1980s, in particular, see the World Economic Forum 2008 and Burch and Lawrence 2009, as it relates to food retail).

These general characteristics of the dominant social structure in Egypt and elsewhere in the present-day reveal how wealth and privilege are transmitted (and to what effect) in the context of 'open door' policies. However, as I will explore in the following section, the reproductive logics of the dominant class have also of course transformed from the early-mid 20th century. I do not analyse all the ways in which the dominant class in Egypt reproduces itself (and how the class has been reconstructed in the process) in the current period, but rather, I focus on the unique set of institutions, relations and structures that are integral to the transnational framework of 'doing business' legally and legitimately. There are other ways in which the dominant class transmits wealth and privilege, 'outside' of this cultural-political-juridical framework (what I call the 'corporate form' (Welker et al 2011)) (say, through corruption or existing landownership). However, I argue that this infrastructure of exchange of 'forms of capital' that constitutes the corporate form has become increasingly

[72] This refers to the social unit that inextricably ties common economic interests to close kinship relationships (Zeitlin and Ratcliff 1988: 7).

important to the reproduction of the dominant class in Egypt, as they have built a private corporatized economy – and through social, cultural and legal institutions.

The corporate standard

My work at the firm in Cairo provided a window on to this infrastructure of social relations, networks, cultural institutions, norms, protocols, types of economic transactions, and so on that constitute the 'corporate form' as it has been playing out in Egypt. As I argue in this section, these 'forms of capital' have not been made and governed by corporations and then internalized by Egyptian businesses, but that rather, have been instituted by and within corporate/-ized bodies (state agencies, family business groups, transnational corporations, global governance institutions, and many others). Being at a consulting firm that was run by a member of a wealthy family business group, and that was consequently operating widely within this infrastructure, provided me with a particular vantage point into this world as it was unfolding in 2009-2010.

The director of the firm, 'the doctor', met on a weekly basis, sometimes several times a week, with people occupying high-level positions within universities, multinational companies, embassies, the Egyptian government, Egyptian NGOs, INGOs and foundations. These meetings were in fact arranged either out of the doctor's existing social network or from the many social gatherings (talks, conferences, etc.) that the doctor regularly attended. Events on the general theme of 'business and development', and often with a key note speaker from one of the ministries or multinational corporations, were continually organized by the US embassy, the British embassy, the American Chamber of Commerce, the Egyptian American Businessmen's Association, the British Council and other organizations and institutions. The doctor spent most of his 'working' time building this social network –

the core of his social capital – the reproduction of which 'presupposes an unceasing effort of sociability' (Bourdieu 1986: 250). At all the meetings during which I was present there was an exchange which, in Bourdieu's terms, 'presupposes and produces mutual knowledge and recognition' (ibid.). Here is a typical exchange:

> I stood in a large office with marble floors, a finely polished wooden desk and glass doors in the back leading to a balcony facing the lush side streets of Mohandiseen's commercial district. It was February 2010 and I was in the office of the doctor. A British professor of business, who was heading a new private university in Egypt, walked into the office and sat before the doctor and myself. We sat on an upholstered leather couch and chairs, to our side was a large ornate Quran resting on a tall wooden stand and a large bookshelf with a row or two of the latest management guru books. The doctor, dressed in a signature polo shirt, introduced himself to the professor in clear, articulate English as the son of a medical doctor, raised in the United Kingdom, educated as a medical doctor at Cairo University and trained in New York. The professor told us his story of promoting social entrepreneurship in Egypt and quickly spoke in earnest of the problems that he has faced. The professor complained that everywhere he goes he meets PhDs who don't have skills to build social enterprises. He went on further about the education system of rote memorization, the culture of privileging (e.g., the university's 'VIP class of students'), and the bureaucracy that makes social entrepreneurship so difficult.

As in this exchange with the professor, produced was mutual recognition that those in the exchange were not part of 'the problem'; even though the doctor has a doctorate from an Egyptian university, the professor recognized the doctor as a competent businessman and potential partner.

This 'unceasing effort' to produce 'mutual knowledge and recognition' was built around the synonymous meanings of 'business' and 'development'. Social networks were made up not just of businessmen and women but of government officials, ambassadors and other embassy officials, NGO leaders and so on. For example, one of the most well-known elite gatherings in Egypt is the American Chamber of Commerce's monthly luncheon, which usually features a keynote address

by a prominent member of the government with business members, embassy officials and others present. These kinds of meet-n-greets, which have been the cornerstone of American aid in the region (Dixon 2011), are usually on the theme of business development, social entrepreneurship, education and youth leadership. From roughly November 2009 to July 2010 while I was at the firm such events were constant. During that time period, for example, the Qatar Foundation hosted the 2010 World Innovation Summit for Education (WISE) in Doha, bringing together business leaders, educators, state officials, civil society members and others to discuss 'innovations' within the education sector. Also, in 2010 the British Council launched its International Young Creative Entrepreneur programme in Egypt and a host of other former colonies that seeks to 'showcase international business innovation in the field of interactive entertainment and media using the UK as the nexus for cultural, creative and commercial exchange'.

The social networks of Egyptian private business organizations and foreign state agencies crisscross with the Egyptian state associations related to industry and commerce, which were established in the colonial era (Bianchi 1989). They are less exclusive than the private clubs, but the prominent members of the Chambers of Commerce and the Chambers of Industry are often directors of corporations and members of multiple other boards. Mutual knowledge and recognition within the dominant class is produced through these 'interlocking directorates', which commonly characterize the corporate networks in the global North (Carroll 2010).

Mutual knowledge and recognition is produced not only through social networks but also the embodied cultural capital of the dominant class. The 'embodied' cultural capital (Bourdieu 1986) or acquired dispositions through upbringing ('habitus') is not uniform among the dominant class in Egypt, but there is a noticeable

generational shift among not just the sons and daughters of wealthy businessmen, but of the political elite and the military elite. This embodied cultural capital, such as English language fluency, is also institutionalized through degrees from elite institutions. The young generations of family business groups (the sons who are now directors of a firm or firms in the group) and finance capitalists (who may be the first generation in finance) have degrees from the American University in Cairo or universities abroad (e.g., American University of Beirut, Harvard University, etc.). Whether those families who are sending their children to the many new private business and technical universities that have sprung up in Greater Cairo during the last five to ten years (e.g. the German University of Egypt) may be considered part of the 'dominant class' is negotiable, as the class is a fluid analytical category, but it is likely that many of these families may be considered to make up the new cadres of managers and professionals. For Bourdieu embodied capital is not just habitus but can also be of a scientific or technical type and can be in person or by proxy. In other words, members of the dominant class may have educational qualifications *and* may have access to managers, experts and others who have needed skills to operate businesses, fulfil contracts, etc. For example, although most agribusinesses in the agroexport market are corporatized family businesses with family members running parts of the group, they hire managers with experience in the agroexport market to run their farms. Also, to return to the doctor, he was building his social network in part to reproduce the firm's base of expertise – i.e. business professionals who fulfil a prospective contract as a consultant or trainer. More than this, the doctor was networking for potential contracts, business partnerships, and other opportunities for economic exchange.

For every meeting, talk and event that the doctor was invited to there were announcements of competitive bids for private companies to perform a service for the state or for another private company, or there were foreign universities, embassies and companies looking for local partners to do business or to organize an event in the country. These potential business (and other) opportunities were institutionalized via 'best practice' contracts. For example, there were regular public announcements of public private partnerships (PPPs); within a three-month period I read more than six PPP bid announcements from the Egyptian government. The announcements are international bids to assess, plan, construct or upgrade and possibly run infrastructure or other large-scale projects (e.g. a wastewater facility). The contracts are issued by, say, the Ministry of Health, the Ministry of Housing, the Ministry of Aviation, or the Ministry of Public Works and often in partnership with institutional investors (e.g. the European Development Bank). The investor loans the private contractor money to fulfil the contract and the investor often has some role in overseeing the competitive bid process. The contractor then issues a lease to the government for use of the infrastructure or the provision of a service, or the government buys full rights from the contractor.

These types of exchange of economic capital are constitutive not only of the privatisation of the state, but also of the corporatization of private capitalist enterprise – as well as other organisational forms that are nodes within these networks (including, prominently, state agencies and NGOs). Corporatization means sets of practices and protocols that govern economic exchange by institutionalizing the internal organization of corporate bodies (e.g. some kind of separation of management from ownership) – and by facilitating the initial public offering (IPO) of capitalist enterprise, the trading of shares on the stock market, and the buying, selling and merging of companies, and so on. These sets of practices involve private and

government auditing, internal and external evaluations and a host of other legal and other stipulated procedures (say, by a funding body) that normalize the official, direct exchange of capital.

A point is that the dominant class in Egypt may be understood to reproduce itself in part through the exchange of mutually convertible 'capitals' (economic, social, cultural) (Bourdieu 1989) that make up the 'corporate form' (Welker et al 2011). Economic exchange of the corporate form – which is produced and reproduced through corporate/corporatized bodies (privatized public assets, public-private partnerships, corporatized private companies and state agencies, multinational corporations, and so on) – has shaped and been shaped by the cultural forms consumed, the types of social networks created and even the dispositions of the members of the dominant class. It is these social and cultural forms – that are integral to the convergence of organizational structures (e.g., types of separation between management and ownership, accounting, etc.) and types of economic exchange (i.e. services rendered, etc. via contract protocols (e.g. memorandums of understanding)) toward what are understood as 'best practices' among business, government agencies, NGOs, schools and other institutions – that I refer to as the 'corporate standard' of the corporate form. As an intervention in Bourdieu's theory of the mutual convertibility of capitals, Ong (1999: 90-91) contends that 'under the current conditions of "time-space compression" associated with flexible accumulation, it is primarily economic capital that is being converted into all other forms of capital, not the other way around'. I argue, though, that what is significant about the corporate form, which is of course only one type of exchange of capital (and analytically separated from others), is that it is structured around the institutionalization of the 'corporate standard', which represents a type of convertibility of non-economic forms into economic capital. In

other words, much economic exchange of the corporate form is mediated via corporate standards.

This does not deny that economic capital is at the root of corporate standards, following Bourdieu (1986: 252) who suggests that 'economic capital is at the root of all the other types of capital' given that non-economic forms of capital require more time in the exchange than economic capital, which can be exchanged instantly. Those who 'produce' the standard are often the biggest corporations in terms of economic capital. For example, in one bid to consult on the 'conception of the implementation' of a Medical City in 6th of October city (a project of the Ministry of Health and a consortium of British investors) to even be considered for the competition there had to be a three-member consultancy team – an Egyptian firm, a firm that focuses in the medical field, and most importantly, one of the 'Big Five' (auditing and financial consultancy TNCs). The doctor's firm was not able to win this or any other PPP contract, because public-private contracts are really a reserve of the few contractors who are able to demonstrate 'best practices' – through large profiles, a sizable team of 'international experts' with the requisite institutional affiliations, seasoned use of the precise language and signifiers, etc. – really, the 'Big Five' TNC contractors, the largest TNC construction contractors, and their local partners who are among the most capitalized firms.

The set of standards around which the competitive process of the 'corporate form' exists in virtuality (ref. Deleuze, cited in Braun (2007), not in the sense that the standards do not exist but that they are known and not realized – and thus their effects are real. An Egyptian agribusiness that wants to supply a European food retailer, for example, produces 'according to' the retailer standards. Not only are these standards not actually met as such (e.g. there are practices that violate the retailers' codes) but

they then reproduce the group's limits (e.g., the few elite agribusinesses that actually supply to European retailers). This 'economy of appearances' (Tsing 2005) appears as the continual production of a false image of the standard. A manager of an Egyptian agribusiness that has acquired all of the retailer certifications (e.g., Global Gap) confides that in the weeks and days leading up to the visit by the certifiers they frantically put together an image of compliance. In that year, in which he finally felt that they could claim that they were complying with the certifier, continually there were issues that arose – such as contractors bringing child labour to the farm – a direct violation of the certification. Another Egyptian firm that I visited is located in a dilapidated building, the offices are dishevelled with desks crammed together and papers and boxes piled on top, and the firm produces glossy brochures with pictures of the firm's director sitting in an office with a Persian rug and a large work of art hanging on a wallpapered wall. The director appears to be in his own office but is actually sitting in a lobby of the Four Seasons Hotel.

Rather than think of this merely as a 'false' image, I suggest that the production of the image of a corporate standard is part of the standard itself – a character of its 'virtuality'. Corporate standards have been 'universalized' through their institutionalization by definite corporate/corporatized bodies. In this way, they appear to be have been made in, and to have spread from, the West. The corporate bodies that have been named in this section, which act as the so-called mediators of the relations of capital exchange of the 'corporate form', are American and/or European – corporate retailers (e.g. Tesco), embassies of Western governments, the American Chamber of Commerce, and so on. However, the virtual character of the standards illustrates that they are rather constituted historically in the translocal interstices of exchange. The standards may be understood as being made and remade

through, in Ong's (1999: 36) terms, national and localization processes that 'negotiate new relations to capital' – a negotiation 'within local frameworks of the East-West divide'.

It is these negotiated 'new relations to capital' that legitimize or attempt to normalize institutionally the current 'regime of global value relations'. In other words, the production of value relations on a worldwide scale today has been happening through this infrastructure, which is not just economic and political but is also cultural and social. These sets of networks, forms of knowledge production and so on do not just attempt to legitimize 'global governance' (a disguised Western imperialism) but rather have been the means through which the reproductive logics of the dominant class have been reconstituted during the previous decades. In the following section I demonstrate how the transformation of these logics has shaped the reconstruction of a private agri-food industry since roughly the 1970s. In fact, I argue that the corporate agri-food system (like other sub-systems of the economy) must be understood in part through the new sets of institutions, transactions, norms and so on of the corporate form.

The historical transmission of wealth and privilege and the re-construction of the agri-food industry

In this section, following Ong (1999) I offer three interrelated local frameworks of the 'East-West divide' within which new relations to capital have been negotiated, in order to demonstrate the role that the transmission of wealth and privilege has played in constructing and re-constructing the agri-food industry from the interwar period. The first framework is of structural adjustment policies since the 1970s, and I focus on two types – those that promoted land liberalization (and the character of land reclamation as a site of the agri-food industry, in particular) and industrial agriculture.

Both types of policies demonstrate a negotiation between standard prescriptions offered by global governance institutions and the local character of the actual policies that are enacted. The second framework is the work of development agencies and the state in promoting the establishment of an agri-food industry. I look at USAID and its policies of promoting industrial agriculture (primarily animal agriculture and high-value horticulture), which benefited the new class of 'agricultural capitalists'. The third framework is of what may be called the cultural, political and social institutions of the corporate standard. Here I focus on the business associations turned lobbying organizations that were established as collaborations between the Egyptian business community and US government and quasi-state agencies. I interrelate these frameworks within three time periods of the regime of global value relations, and demonstrate that the negotiation of new relations to capital shaped capitalist class formation in ways that reflected class relations at the time and bolstered agribusiness as a political coalition.

1970-1980s: rise of the agribusiness political coalition

The first set of liberalization and privatization measures under Sadat's 'infitah' policy were designed to ease foreign investment as well as private sector activity domestically. This meant generally the relaxation of trade barriers, tax regulations, and bank credit. Also, there were a number of land liberalization measures: one that increased private holdings on reclaimed land, another that relaxed rent ceilings on land. In these initial years there was a concentration of private investment. In one study between 1974 and 1982 about 252 individuals held one quarter of the entire private Egyptian investment in the joint ventures companies under Public Law 43 (Henry 1997). According to Zaalouk (1989: 133), those who made up the new capitalist classes were partly of the Pasha landlord class, bureaucratic capitalists who

grew under the Nasser regime (i.e. those who built businesses via import substitution), and businessmen who were largely commercial agents, involved in the sale of imports to the state.

Of this new bourgeoisie agricultural capitalists became increasingly wealthy and politically powerful. This 'agribusiness political coalition' benefited from and pushed through land liberalization measures. They benefited from the cheap sale of state-owned agricultural land through connections with government officials, who gained rents from the land sales (El-Sayed El-Naggar 2009). This was particularly the case when the state-held reclaimed lands and state farms on reclaimed lands were being sold. For instance, in 1981 Sadat decreed Public Law 143, which contained a number of investor incentive, including the right of joint-venture companies to own thousands of feddans on reclaimed land (Springborg 1990).

Also, the new class of agricultural capitalists benefited from a host of policies and development projects to industrialize agriculture, which were concentrated in the new reclaimed lands. In particular, these initiatives followed the Camp David Accords in 1978 and the peace treaty in 1979, which stipulated agricultural cooperation with Israel and the involvement of foreign private capital in land reclamation (Voll 1980: 139; Adriansen 2009: 672). For example, the Inland Investment Law (no. 159/1981 and no. 8/1997) set up the industrial zones in reclaimed areas and offered many supports to investors, such as no export minimums and a ten-year tax exemption for land cultivation and production activities related to livestock, poultry, and fish. Also, at the time USAID instituted a number of projects with the Egyptian government, namely, to support the growth of industrial agriculture (horticulture and animal husbandry) and the agroexport market. For example, the California Project (1979-1983) developed seed varieties and production technologies for various horticulture

crops. Immediately following the California Project was USAID's Egypt Major Cereals Improvement Project (EMCIP), which focused on the seed development of crops that are used largely for animal feed (maize, sorghum, soybean) (Finkner 1983; Harwig 1983). Also, at this time the Overseas Private Investment Corporation (OPIC) of the US government, the International Finance Corporation (IFC) of the World Bank, and the Egyptian Agricultural Credit Bank all heavily financed the development of the poultry industry (Freivalds 1982; I provide more details of the poultry industry in chapter 5).

By the early-mid 1980s, horticulture crop production was dominated by large-scale capitalist farmers in the old lands and a new class of agricultural capitalists in the new lands (Springborg 1990; he refers to these classes as 'capitalist farmers' and 'agrarian bourgeoisie' respectively). The agricultural capitalists in the new, reclaimed lands were also heavily involved in animal agriculture, and they numbered approximately 15,000. In 1982 there were 35 companies, public and private, with holdings in excess of 50 feddans, totalling about 347,000 feddans of agricultural land. By the end of 1982 the total number of joint venture agri-industrial projects peaked at 29 – 40 per cent of the total investment capital (of EP 100 m) was provided by the Egyptian government, 40 per cent by private Egyptian investors, and 20 per cent by foreign individuals and companies. There were only a few dozen joint ventures between Egyptian firms and foreign firms; one example was Vitrac, a manufacturer of fruit preserves owned by French and Egyptian private investors (Springborg 1990: 454-55).

In these initial years of the re-formation of an agri-food industry, the new 'agribusiness political coalition' was formed by the class of rich peasants and the old landlord Pasha class of the agrarian reform years, as well as at least three interlinked

trends of large-scale investment in agribusiness. There was a new class of agricultural capitalists who were mostly former government officials or military officers who bought into privatized state enterprises and/or privatized state (largely reclaimed desert) land. One well-known example of such a capitalist is considered the father of the agroexport market in Egypt, who later formed one of the largest family business conglomerates in the country: the Diab family's PICO group. The father Diab was a former state official and got a hold of reclaimed land in the state reclamation community, Tahrir, and became one of the early agro-exporters. Another example is Ismailia Misr Poultry, which today is one of the largest poultry companies in the country and was founded by a former officer of the state Poultry Company in 1977. This officer with a group of other officers expanded the farm by purchasing 1,380 feddans of desert land near to the Suez Canal with a capital advance from the International Finance Corporation (IFC) in 1979 (Sjerven 1986). A second investment trend was of joint ventures – Egyptian investors joining public firms and (to a lesser extent) foreign firms – to invest in the agri-food industry. One well known example is of Americana, a regional agribusiness chaired by the billionaire Kuwaiti Al-Kharafi family and founded by Egyptian businessman Moataz Al-Alfi, and today's fourth largest agribusiness in Egypt[73]. Americana began operations in Egypt in the 1970s, and among other investments opened up a beef factory in the early 1980s. Another example is Wadi Group: the Wadis are Lebanese capitalists who came to Egypt in the early 1980s during the Lebanese civil war, and began with investments in poultry. A third trend was of public contractors who were perhaps among the first to diversify their portfolios. One well known example is Uthman Ahmed Uthman, founder of the Arab Contractors Company, who had multiple investments in the agri-food industry –

[73] This ranking is based on a General Authority for Investment and Free Zones (GAFI) internally-distributed document listing the top agribusinesses in Egypt, based on the total issued capital between January 1970 and May 2010.

livestock, fish farming, poultry, food retail and so on (Sadowski 1991). And as Sadowski (1991) details, Uthman and his company benefited from state land reclamation as the company was granted free land as part of Sadat's 'Green Revolution'.

Instituting the corporate standard

Agribusiness as a political coalition grew during the decades of structural adjustments not only through the institutional mechanisms of economic exchange (and forms of 'political patronage', and so on), but through a set of social and cultural institutions that normalized the transmission of wealth and privilege translocally. In the initial stage of structural adjustments, in the early-mid 1970s, the first joint banks (Egyptian-foreign) were created and foreign investors were permitted to invest in Egypt with Egyptian partners, and so on. And at this time the US government created the Egyptian-American Business Council for Americans and American companies doing business in the country and the Egyptian agents of foreign capital. Then, in 1981 local businessmen, with support from the US Embassy, formed the American Chamber, which was independent from government control. The next year the Egyptian Businessmen's Association was formed from meetings between the Egyptian government and the Egyptian-American Businessmen's Association (Sadowski 1991: 194-95). It was through the establishment of this new generation of autonomous business organizations, for which the American Chamber of Commerce in Cairo was the model, that the political influence of the class of agricultural capitalists, and more generally capitalist classes, grew (Sadowski 1991).

When Yousef Wali became Minister of Agriculture and Land Reclamation in the early 1980s, the ruling National Democratic Party (NDP) became closely associated with groups of poultry breeders, agroexporters, rich peasants and others

who became particularly influential as lobbyists in the NDP's Agricultural Committee and Economic Committee (Sadowski 1991). Many of these groups developed into institutionalized, independent lobbies and their political influence grew substantially. So while the presence of foreign agribusiness did not grow in the 1980s (Springborg 1990), nor does it appear that the agroexport market did, agribusiness as a political coalition grew as the animal protein complex grew, in particular, and likely as food processing grew, as the industrial zones that were established in the early 1980s became more fully operational.

A point is that the new generation of autonomous business organizations and the collaborations at this time between the Egyptian state, Israeli organizations, USAID, US universities and so on for the development of industrial agriculture in Egypt cemented the new class of agricultural capitalists and their political coalition. More than this, this was the beginning of the process of creating an infrastructure for agricultural capitalists to negotiate, say, the growing sets of industry standards and certifications of the corporate retailers and Western states. This 'regime of private standards' increasingly came to govern agroexport platforms around the world and became important to the growth of the corporate agri-food system in Egypt particularly by the turn of the 20th century (as I detail in chapter 5). In conclusion, the negotiation along the 'East-West divide' happened in part through these new organizations and partnerships that emerged to subsidize the development of agribusiness, particularly in reclaimed areas in the 1970s and 1980s.

1990s: corporatization of the agri-food industry

The political influence of the 'business lobby' generally became important to the second wave of structural adjustments in the early 1990s. The NDP pushed through the IMF's Economic Reform and Structural Adjustment programme (ERSAP) in

1991, and immediately afterward members of the business elite formed the Egyptian Centre for Economic Research, a think tank, which became the 'conceptual and ideological mastermind behind the second phase of economic reforms', beginning in 2003 (Roll 2010: 363).

The privatization and liberalization measures of ERSAP reconfigured the dominant class, with implications for the agrifood industry. ERSAP heralded waves of consolidation within the private sector. There were three general pushes toward the concentration of capital, especially following what Roll (2010) calls the 'second phase' of ERSAP (see Table 1 for consolidation of the agri-food industry). First, public assets that were sold or IPO'd were 'acquired' by already large companies. Second, there was a rapid increase in liquidity with finance reforms, which enabled firms to expand. Third, there was growing competition from the entry of greater numbers of MNCs and TNCs, as well as anticipation of heightened competition following Egypt's ascension into the WTO in 2000 and the bilateral and multilateral trade agreements that were to follow.

These waves of consolidation not only changed who owned what, but reorganized large-scale capitalist enterprise – through processes of corporatization and diversification. According to Sfakianakis (2004: 79), the business community of the 1990s was made up of a 32-man business elite engaged mostly in 'import-substitution' (including contracting), who, along with high-level state officials including military generals and officials, were in a promising position to take advantage of the second round of privatization starting in 1993. Sfakianakis's conception of an 'inner group' of the dominant class (Zeitlin and Ratclif 1988) as a closed, identifiable group is problematic, but what is significant to this discussion is that Sfakianakis mischaracterizes the new dominant class, which is made up not of 'men' but, rather, of

family business groups, which began to corporatize (e.g. distribute shares, create a board of directors and so on). It was these family business groups that expanded and diversified during this second phase of the 1991 structural adjustment package.

A dominant investment trend in the agri-food industry became family business groups diversifying into and within agribusiness. This kind of diversification took a number of forms: Family business groups bought into state food companies. For example, under Public Enterprise Law 203 of 1991 about 13 state agribusinesses were privatized. Also, family business groups began to buy into fast food franchises, which became a way for them to diversify into the agri-food industry. Examples include the Mansour Group and Americana. A third trend identified is of family business groups diversifying into other agri-food sectors within the industry. The largest agroexporters are often the largest food processors (see chapter 1). Investments are also directed in other ways within agribusiness; for example, a handful of agribusiness executives and representatives that I interviewed had become major players within the poultry industry and then diversified into the agroexport market and/or food processing. This meant that increasingly the system of producing and distributing food on an 'industrial scale' was organized by corporate/-ized entities. Agri-food companies were bought and sold through a legal framework of mergers and acquisitions; were made 'public' on the stock exchange through a set of reviews and value assessments and so on; and were privatized (as state companies) through legal/regulatory procedures. In these ways, the corporate agri-food system was corporatized.

This process of corporatization reflects in part how the agroexport market grew exponentially into the first decade of the 21st century. In the 1990s USAID began the Agricultural Technology Utilization and Transfer (ATUT) and the Agriculture-led Export Business (ALEB) projects to promote the agroexport market by, among other

things, founding the Horticultural Export Improvement Association (HEIA), which subsidizes the participation of agroexporters in conferences, tradeshows and so on. Also, at the time that Egypt joined the WTO there were a number of policy initiatives to promote agroexporting, including especially the export 'subsidy', a government subsidy that essentially matches the export earnings of a firm by a percentage.

These policy initiatives reflect the political influence that 'agribusiness' continued to yield in the NDP and Parliament. Generally, direct political participation among members of the wealthy business groups rose considerably in the 1990s. Businessmen raised their share of parliamentary seats from 12 per cent in 1995 to 17 per cent in 2000 and 22 per cent in 2005 (Adly 2009). And groups with investments in the agri-food industry in particular yielded considerable political influence. For example, beginning in the mid-1990s Americana was the largest contributor to the NDP. The chairman of Americana Group Egypt, Moataz Al-Alfi, is also a member of the Board of Directors of the Centre for Economic Research, the director of the Cairo Poultry Company (one of the largest poultry companies in Egypt), the CEO of Egypt Kuwait Holding (a private equity firm) and the vice chairman of the Board of Trustees at American University in Cairo, among other titles. The brother of Moataz, Sayed Al-Alfi, is the former treasurer of the NDP. Once Sayed became treasurer of the NDP, Americana Group contributions to the party shot up[74]. This 'revolving door' between government and business culminated in the business-clad 2004 Ahmed Nazif Administration. Heads of some of the country's largest family business groups became ministers in the Nazif administration.

2000s – 2011: financialization of the agri-food industry

[74] Based on the author's interview with an advisor from the Ministry of Trade and Industry, 25 July 2010.

The extent to which businessmen became high-level policy makers is significant not just in terms of the dominant class securing more direct means of capital exchange, but because this formal concretization of the social structure coincided with a significant shift in economic exchange – toward finance. In essence, the growth of the corporate form coincided with the financialization of a greater number of exchanges of capital; for example, many family business groups either invested in finance capital or formed their own investment arm at around the time of the 'global' shift toward finance at the turn of the 21st century – a shift that became locally institutionalized through a 2003 banking law (see chapter 6 for details). Given that family businesses began to financialize their own conglomerates, there is not exactly competition between finance and other capitalist classes, nor is there is an antithetical relationship between finance and family business. However, a new 'class' of finance capitalists may be considered to have emerged in the last two decades, members of which are tied closely together – and to prominent political figures and hegemonic institutional centres of finance, business education and so on (see Figure 6).

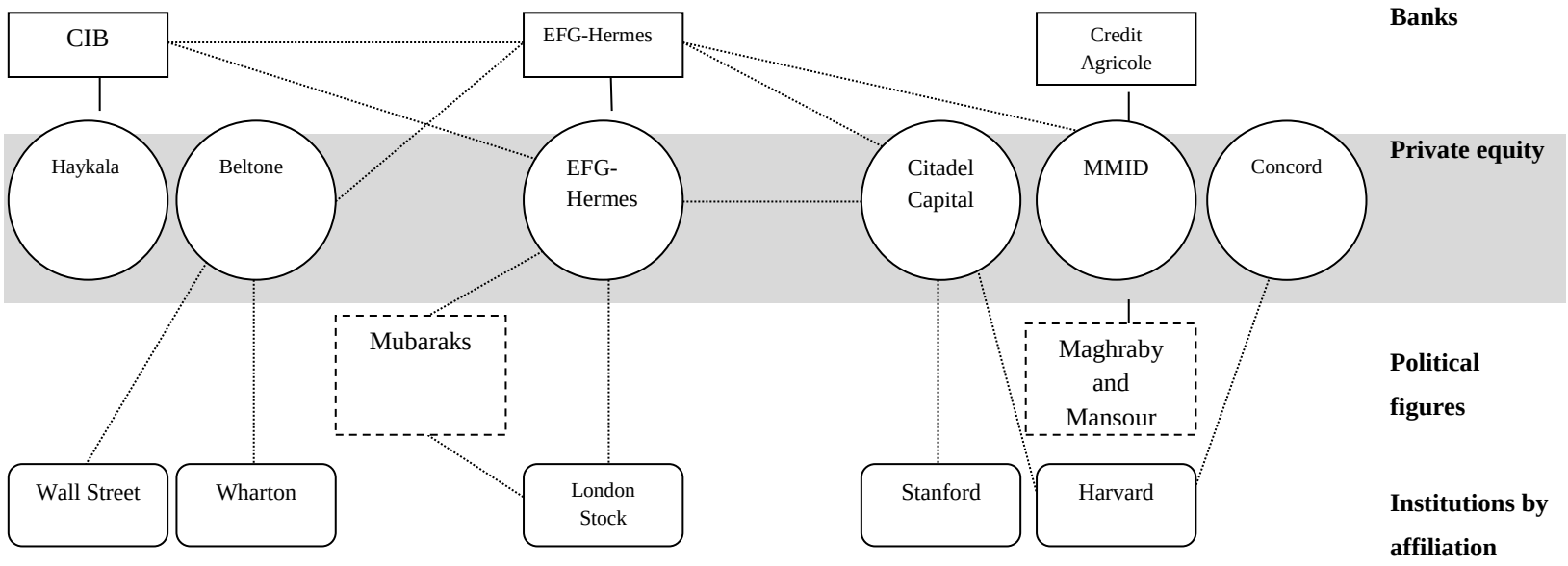

Figure 6: Sample of Egyptian private equity firms – and their affiliate banks and other ties

(dotted lines indicate 'informal' affiliate ties through individual work, family or education background)

This shift heralded a process of financialisation of the agri-food industry, as finance capital began to dominate the next wave of consolidation (see Table 1 and chapter 6 for more details). The financialisation of the agri-food industry reflects that the roots of the corporate form are in finance, which is the most direct type of economic exchange (M-M+). The corporate form was constituted in part by the processes of financialization that corresponded with Western banks and corporations extending financing, operations and so forth in the indebted world (see Henry 1997 on the banking sector in Egypt).

Processes of financialization of the agri-food industry (as well as other industries, given that financial firms have wide portfolios) are particularly important to the dominant class securing formal, direct means of capital exchange. Following Bourdieu (1989) I argue that these ways of directly reproducing the dominant social structure have multiplied in the absence of widespread popular resistance to the social structure (say, before the growth of the decolonization movement in the interwar period, and before the food crisis of 2007-2008). Kinship-based organization, 'Pashawi-ism', the 'revolving door' between policy making and money making, and so on are all ways in which capital has been exchanged conspicuously vis-à-vis the corporate form in Egypt. At the same time, these direct means of exchange have led to waves of consolidation of the private sector economy, which has had immiserating effects on the masses. In the following section I focus on three of these effects as they relate to the corporate agri-food system: private sector 'stagnation' (in terms of employment and types of employment) and rising food prices and food insecurity. The combined effect of the ostentatious display of wealth and privilege and economic restructuring has led to heightened class conflicts.

Financialization and class struggles

Bourdieu concludes that there is a historical tension between direct ways of reproducing the social structure (economic capital) and less direct, more easily concealed forms (cultural capital). He writes (1986: 254-255):

> "When the subversive critique which aims to weaken the dominant class through the principle of its perpetuation by bringing to light the arbitrariness of the entitlement transmitted and of their transmission (such as the critique which the Enlightenment philosophes directed, in the name of nature, against the arbitrariness of birth) is incorporated in institutionalized mechanisms (for example, law of inheritance) aimed at controlling the official, direct transmission of power and privileges, the holders of capital have an ever greater interest in resorting to reproduction strategies capable of ensuring better-disguised transmission, but at the cost of greater loss of capital, by exploiting the convertibility of the types of capital. Thus the more the official transmission of capital is prevented or hindered, the more the effects of the clandestine circulation of capital in the form of cultural capital become determinant in the reproduction of the social structure."

In this era of financialization, at least up to the 2007-08 food-fuel-financial crises, however, there has been both official, direct forms of capital exchange, in the absence of widespread popular opposition, alongside the widespread production of cultural forms of capital – e.g. business education, English-medium private education. What Bourdieu is missing is the translocal character of the reconstitution of dominant classes at times of heightened circuits of capital globally. He was writing about France and the state educational system as a means of transmitting cultural capital, after all. The significance of the 'corporate standard' is in fact to show how the new cultural forms that have institutionalized and normalized the transmission of wealth and privilege today are but the work of negotiation in these new translocal spaces.

Negotiation between emergent and existing relations of capital exchange becomes necessary for the production of legitimate competence or authority – what Bourdieu (1986) calls 'symbolic capital'. In the context of conflated meanings of

business and development, there is the production of legitimate competence *within the exchanges of the corporate form*. This means that there are demonstrable limits to the convertibility of exchanges of the corporate form into symbolic capital. Authority is bestowed within the social networks, in the exchanges of mutual recognition and so on. Symbolic capital generated vis-à-vis the corporate form does not exist generally. I demonstrate this obvious point by juxtaposing the authority given to the class of finance capitalists within the social networks of the dominant class, including the global governance institutions, to the social effects of corporate consolidation that has been precipitated by financialization.

In the years leading up to the 25 January 2011 uprising this class of finance showed signs as a rising hegemon of sorts, which reflects processes of de-territorialisation of the state (Mcmichael 2013). As a result, largely since the 2007-2008 food-fuel-financial crises, the corporate agri-food system has been expanding regionally, as fast food franchises began operations in neighbouring countries and finance capitalists began acquiring (and attempting to acquire) agricultural land and food processing companies in southern neighbouring countries (see chapter 6). These processes have been reinforced by global governance institutions. For example, finance was represented as the antithesis of family business (World Economic Forum 2008), as financial firms are not generally based on kinship relations (although Figure 6 complicates this representation), and following the 2007-2008 crises international finance institutions were setting up funds with financial firms to make large-scale investments in agriculture and food (Daniel 2012; see chapter 6 also).

These processes were further reflected in and institutionalized by the social networks of the dominant class. The class of finance capitalists began to assume a prominent position within these networks. For example, returning to the example of the neoliberal think tank Global Trade Matters (GTM), finance capitalists took a

larger role in knowledge production about business and development; they served on panels at GTM events on all matters related to 'the economy'.

Institutional support for finance, and private equity activity in particular, is based in part on assertions that growth in finance in the global South has not led to the type of organizational restructuring and job loss that financialization had in the global North in the 1980s and 1990s (World Economic Forum 2008; Ismail 2009). Rather, private equity activity in 'emerging markets' is usually of acquiring or merging already large and successful companies. This is certainly the case in Egypt (as I detail in chapter 6), but there is no evidence to suggest that such activity, which has consolidated sectors of the economy, has contributed to the growth of the private sector and/or employment in the private sector. In fact, indications are that the private sector has been stagnating, if not declining, in terms of employment, types of employment and wages (Beinin and El-Hamalawy 2007; Dahi 2012).

Statistics of employment and wages in Egypt are difficult to substantiate because the private sector is not well regulated. There are likely more and lower-paid workers employed within the private sector than statistics reveal. For example, according to the Industrial Modernization Centre (IMC) (2005), in the food processing sector the number of private sector companies increased by 16 per cent and employment therein by 28 per cent between 1997 and 2004, while the number of public sector companies fell by 27 per cent and employment by 38 per cent between 1997 and 2001. At the same time, in this same period (1997-2004) average labour costs per employee were substantially higher in the public sector than the private sector: in 1997 they were 4.66 LE thousand in the private sector compared to 6.9 LE in the public sector, and in 2004 rose to 6.08 LE thousand in the private sector and 8.9 LE thousand in the private sector (ibid.). Although it is not clear how much these IMC figures can be trusted, they illustrate generally a

‘race to the bottom’ for Egyptian workers in food processing. The figures confirm the general movement of work away from the public sector (and that may or may not be picked up by the private sector), and the resulting downward push on wages.

Also, in terms of the types of employment, the firms of Egypt’s wealthy family business groups in Cairo are generally organized around a racial and class hierarchy of a small group or a handful of professionals or managers (who may not be from Egypt), a larger class of young workers who generally come from the ‘popular’ neighbourhoods of Greater Cairo, and a few cleaners, servants and other manual labourers who come from the south of the country. The hierarchies that exist in the firms do not necessarily come from the relations of capital exchange of the ‘corporate form’, and may be understood as reformulations of older relations. In other words, the corporate form may or may not create these hierarchies (and more likely than not, does not), but certainly the relations of capital exchange vis-à-vis the corporate form have perpetuated them in ‘new’ forms[75] [76]. After all, it was within this hierarchical structure that I was brought into the doctor’s firm, just as large cadres of ‘white, Western’ professionals and managers are mobilized for the corporate sector in Egypt. For example, many of the largest agroexporting firms are managed by white South Africans. It is not a matter of ‘being white’, but rather, it is about the racial character of the corporate standard. Who has the accent of a native or near native English speaker? Who is conversant in the language of the industry? Who has direct affiliations with authoritative centres of knowledge production (e.g. a degree from a US or European university)? Who is familiar with hegemonic institutional centres (of business, research, philanthropy, etc.)? Generally, who has experience working within/for a corporate body? As an

[75] This is Tsing’s (2009: 151) point about supply chains: ‘No firm has to personally invent patriarchy, colonialism, war, racism, or imprisonment, yet each of these is privileged in supply chain labour mobilization’.

[76] The privileging of hierarchy and oppression represents a stark contradiction to the pervasive rhetoric of empowerment, meritocracy and so on that is ensconced within the ‘trinity’ (Thrift 2002) – business schools, management gurus and management consultants – the so-called gatekeepers of the corporate standard.

American who grew up in the 1980s and 1990s and lived within a corporatized state, was exposed to the corporate media, was educated in corporatized institutions, has been a worker within various institutions from an early age, etc. – it was rather easy for me to act as a mediator, say, between the doctor and the British professor, even though I had never been trained in business. However, it was not for my Egyptian colleagues.

Social and racial hierarchies are undoubtedly privileged in the exchanges of the corporate form, and young Egyptian workers are delegated to the bottom rung of these hierarchies. Their perpetuation reflects further the limits of the negotiation of older and newer relations of capital exchange across the class structure. While there was a type of exchange of symbolic capital between the doctor and the British professor, for example, any authority that the doctor had before his employees did not come directly from the corporate standard. In fact, the doctor's continual and relentless effort to coerce his employees into the submissive position of accepting his competence and rejecting their own reveals his authority within the firm to be extremely weak. Workers would respond by leaving the firm. Turnover rates among workers seem to be high in the corporatized private sector generally[77] (see Mohamed 2009 for the Egyptian fast food industry; my 8 Dec 2010 blog entry on the work of subcontracted employees at Vodafone Egypt at http://eyeonempire.blogspot.com/2010_12_01_archive.html). Also, while much labour protest long before the uprising and since has been among public sector (and formerly public sector) workers, there has also been growing agitation among labourers in the private sector, including the sizable food processing sector. In conclusion, if young college graduates have been able to find work, it has been low-paying, hierarchical and temporary work in the private sector. And the

[77] Worker dissatisfaction and grievances with private sector employers in Cairo seemed to be widespread before the 25 January 2011 uprising. I would often joke with friends about the '*magnun* syndrome' – bosses acting as 'mad men'.

reproduction of hierarchies within the corporate form made evident the arbitrariness of the social structure[78].

Food crises

Not only has the decade of financialization in Egypt contributed to labour immiseration, but it has deepened food insecurity. At the time of the 2007-2008 crisis international finance institutions were touting financial firms as the most promising investors in food and agriculture, but it was processes of financialization, particularly the decade prior, that contributed to the crisis in the first place. Egypt has been structurally food insecure for many years, as a net food importer, but the waves of consolidation of the agri-food industry further drove food production and consumption away from staple foods for the urban poor, in particular, and toward grains, sugars and animal protein largely for wealthier consumers in Egypt and abroad. There has been a big push toward growing animal feed, and the government controls only 50 per cent of wheat, most of which is imported from the world market. Also contributing to the large import bill are the wheat, corn, milk substitutes and other inputs for food processing (see chapter 5 on corn for the poultry industry). All of these trends contributed to growing vulnerability to world food prices.

World food prices began to rise steadily in 2007 and then spiked in the first months of 2008. They then fell steadily until about the beginning of 2009 when they rose sharply again, reaching a (preliminary) peak at the end of 2010 and in the first months of 2011. In 2008 there were protests and food riots in Egypt (and in 30 other countries), and higher prices at the end of 2010 and the beginning of 2011 coincided with more food riots (in Mauritania and Uganda) and uprisings/revolutions Egypt and the rest of the region (Lagi et al 2011; FAO 2012).

[78] There were of course other means by which the arbitrariness of the social structure became evident; for example, through the loud displays of privileged 'cultural' consumption – e.g. exclusive resorts, gated residential communities, and so on.

The food crises mark the end of a global era of cheap food. Food prices may fluctuate, rising precipitously and then falling, but global food prices have increased gradually from 2004 onward. Since the start of the Arab Spring in January 2011 prices have remained high: in 2011 the Food Price Index (FPI) averaged 228, 23 per cent (42 points) more than in 2010. Despite the sharp decline in prices in December 2011, 2011 prices exceeded 'the previous high of 200 points in 2008 and the highest level (in both nominal and real terms) since FAO started measuring international food prices beginning in 1990' (FAO 2012).

Although financialisation of the corporate agri-food system did not singularly create the crisis, the system is a structural force behind the widening gap in food consumption between classes and growing food insecurity among the poor in particular. During the consolidation of the corporate agri-food system (as well as other sectors of the economy), and the subsequent food crises, in the years leading up to the 25 January uprising, it was clear that whatever authority was conferred to the dominant class in existing exchanges of capital was eroding – and in response, authority was violently enforced[80]. In other words, the corporate form as forms of capital exchange has not just been negotiated locally, in Ong's (1999) terms, but has been contested within the local class structure as the symbolic capital generated failed to have much meaning across the class structure. This contestation (along with contestation over other, overlapping means of reproducing the dominant class) culminated in the uprising and the subsequent threats of arrest, travel bans, imprisonment and so on of members of the dominant class.

The on-going revolution represents a tension of the corporate form: the simultaneous ostentatious showing and concealment of capital exchange, or transmission of wealth and privilege. On the one hand, the corporate form is

[80] Most attention has been given to the growing anger toward the police state, the former ruling political party (National Democratic Party) and Mubarak and his cronies that culminated in the initial uprising.

characterized by the formal, direct transmission of wealth and privilege, which makes it vulnerable to popular resistance. On the other hand, finance may be considered the most direct form of economic exchange and perhaps the most hidden of all forms of capital exchange – and the base of the corporate form. And the role of finance in the reproduction of the dominant class presents challenges in terms of the waging of class struggles. Processes of de-territorialization in fact have made it difficult to know who is behind what, where their money and investments are, and so on. For example, most financial firms, even if they become public, a part of their operations remain off the stock exchange and their investment funds are placed in offshore tax havens (see Ismail 2009 for the case of Egyptian private equity). So although some members of the class of finance capitalists who are connected to Hosni Mubarak's son have been targeted by the popular unrest, it is impossible for domestic actors alone to control completely the transmission of their wealth and privilege.

In conclusion, this tension of the corporate form demonstrates that the transmission of wealth and privilege has been normalized within the hegemonic institutions of the corporate form through the conversion of cultural capital into symbolic capital, or legitimate competence or authority because the cultural capital involved is not recognized as capital (Bourdieu 1986), but its normalization has been limited across the domestic class structure. And this has meant of course that popular resistance to the social structure has grown, as it did against indirect colonial rule and the monarchy in the interwar and World War II periods (Vitalis 1995).

Conclusion

In this chapter I have argued that processes of financialization have been concealed in the corporate form, which has become increasingly predominant as a form of capital exchange; in Egypt, this was the case particularly after the structural

adjustment package of 1991. There has been a tension of the corporate form: on the one hand, in the absence of widespread popular resistance, the corporate form has included official, direct ways of transmitting power and privilege among the dominant class, and on the other hand, the corporate standard has concealed this transmission and its roots in economic capital, and finance capital in particular.

Corporate consolidation of the agri-food system may be understood as institutionalized via the corporate standard. The corporate standard is the social and cultural relations and institutions that have institutionalized and attempted to normalize the reproduction of the dominant class. Following Ong (1999) the corporate standard is understood as a negotiation between existing and newer relations to capital within the 'East-West divide'. I demonstrate how the corporate standard has shaped the reconstruction of the agri-food system during structural adjustments, and I argue that the cultural, economic and political all make up the reproductive logics that have informed the waves of consolidation of agri-food, which has made the corporate agri-food system what it is today. I connect the reproductive logics to colonial interwar period, and demonstrate that they are in fact ways in which the production of value relations is structured locally. Lastly, I argue that the character of these logics and the effect on society and the economy through consolidation has led to heightened class conflict, culminating in the food crises and the uprising.

CHAPTER 5

THE (UN)MAKING OF THE DESERT FRONTIER

Frontier-making within what is modern-day Egypt has played a significant role in enabling capital accumulation in agriculture at historical moments of expanded international circuits of capital. In the long 19th century and in the neoliberal era the degradation of the cultivated areas of the Nile Valley and Delta has corresponded with the expansion of reclaimed lands. This chapter focuses on capital's frontier in desert lands, to the west and east of the Nile Delta, since the 1970s for the establishment of large-scale industrial farms for horticulture, poultry, fish and (to a lesser extent) beef/dairy production and processing. The capital- and energy-intensive and coercive 'biosecure' agro-technologies and practices of industrial agriculture in the desert frontier demonstrate that capital accumulates 'in nature' – 'nature-society bundles' (the nonhuman and human all at once) (Moore 2011) that reproduce and do not necessarily reproduce capital.

The literature on land reclamation misses the significance of reclamation as a frontier of capital. Land reclamation in what is modern-day Egypt is often analysed singularly as a state-making project (Adriansen 2009; Allan 1983; Springborg 1979, Voll 1980), and possibly one that has been interrupted by the dictates of capital in the neoliberal era (Meyer 1998; Sowers 2011). Land reclamation historically, at least since the making of a quasi-independent state in the 19th century, has not just been a state project but may be considered a socio-ecological site of capital accumulation.

Following Moore (2011) I theorize frontier making as a relational process by which capital accumulation has led to a 'metabolic rift' in the Nile Valley and especially in the Delta/Lower Egypt, which has expanded, and in turn has been deepened by the expansion of, reclaimed-cultivatable land for capital-intensive

agriculture. The theory of the ‘metabolic rift’, as initially developed by Foster (1999), is based on Marx’s notion that capitalist development disrupts the metabolism between human and nonhuman natures. Capitalist development has created a ‘metabolic rift’ with the growing division between town and country, in which the provisioning of ever-expanding industrial towns prevents nutrient recycling in the country. The resulting soil exhaustion leads to, say, immediate ‘fixes’ from long-distance sources – e.g. fertilizer from Peruvian guano (Foster 1999). Foster (1999) contends that Marx and Engels did not limit the rift to soil exhaustion but rather understood the rift as part of the depletion of coal reserves, the destruction of forests, and so on. By defining the rift by the impact of capitalism on the environment, however, Moore (2011) argues that the theory of the metabolic rift as developed by Foster and others falsely separates biophysical crises (ruptures in nature-society relations) and accumulation crises. For Moore (2011: 6) the rift is a generative relation – a distinct but interconnected relation – of the accumulation of capital and the accumulation of nature. In short, capitalist development does not just deplete natural resources (a rather obvious point), but capital accumulates through nature. The metabolic rift is useful methodologically for Moore (2011) for demonstrating the significance of ‘biophysical rents’ in the history of capitalism; that is, ‘absolute exhaustion’ or ‘relative exhaustion’ of sites of capital accumulation leads to the creation of new frontiers of capital that are taken as Nature’s ‘free gifts’. ‘Exhaustion’ here does not refer singularly to soil depletion, but rather may be understood as the degradation of the conditions of capitalist production for its own survival (Moore 2011) – and in this chapter is signalled by the decline of livelihoods for food producers – from commodification of agricultural land (forests, lakes, etc.), ecological degradation, the emergence of zoonotic and other diseases of pandemic proportions, consolidation of markets and so on.

In this chapter I use Moore's concept of frontier to demonstrate the reordering of localized 'nature-society relations', or the expansion of cultivated or developed lands that corresponds with the deepening metabolic rift within Egypt, in the current 'regime of global value relations'. Then, I use the desert frontier of today to explore the current conjuncture of industrial agriculture – and its 'disciplinary projects' (Moore 2010b). With a lens on the 'crisis' of industrial agriculture I attempt to intervene in Moore's theory of the co-constitutive (human-nonhuman) nature of capitalism by developing the concept of frontier, at the heart of which is not 'socio-ecological contradictions' that are 'internal to the development of capitalism', in Moore's (2011: 7) terms, but following Latour (1993), the direct relationship between the work of purification (the creation of separate ontological zones, of humans and Nature) and the work of translation (the proliferation of new beings or 'hybrids', mixtures of culture and Nature). By emphasizing the mutually-reinforcing relationship between the attempt to create ever more distinct zones between those of human creation and those of Nature and the multiplication of 'monsters' that make these zones indistinguishable, the concept of frontier here demonstrates how capital reproduces and does not reproduce through the (partial) subsumption of human and nonhuman natures in and across time and space.

The deepening metabolic rift and the desert frontier

As I detail in chapter 2, the large landed estates became the centres of capital-intensive agricultural production for export to Britain at the height of direct colonial rule. This consolidation followed the expansion of the frontier – a process which responded to and deepened the 'metabolic rift' in the Nile Valley and Delta – as land became a commodity (and site of speculation), unfree labour gave way to a 'second slavery', major hydraulic works (dam making) salinated the soil, and so on. Rather than restore the old and new cultivatable lands, there was an accelerated

attempt to ‘override’ the degradation with imported chemical inputs during the interwar period – what Owen (2006) refers to as an ‘early example’ of the Green Revolution of the development era.

In the post-colonial period of the 1950s and 1960s there was an attempt institutionally to restore the then ‘expanded’ agricultural areas through agrarian reforms in the immediate post-colonial period, by breaking up the landed estate system and redistributing small plots to tenant-farmers and others, instituting crop rotations and so on. However, as I detail in chapters 2 and 3, there were structural and institutional forces that undermined the agrarian reform areas. The mutual constituting social histories of agrarian reforms and state desert reclamation frame this account of the ‘deepening metabolic rift’ in the Nile Valley and Delta in the development era. The food aid order undermined domestic agriculture by lowering agricultural wages below industrial ones and crop prices, while the institutionalization of the Green Revolution contaminated agro-ecological spaces and contributed to growing social differentiation among producers. This in turn provided momentum for state reclamation programmes. At the same time, the building of the Aswan High Dam, which enabled desert reclamation on a large scale, and state reclamation itself contributed to forces of depeasantization and ecosystem degradation in the Nile Valley and Delta (see chapter 3).

When capital again began to push outward for the expansion of capital-intensive agricultural production in the 1970s (this time, in more sandy soils, farther ‘into the desert’), the character of frontier-making at this time reveals the ways in which the construction of value relations became structured locally. A deepening metabolic rift corresponded with the state ‘granting’ (often that meant selling at low prices), and subsidizing the development, of ‘reclaimed’ lands (state and Bedouin) to private investors, who have built large-scale capital-intensive farms that are drawing land, water and state resources from neighbouring villages.

This time Bedouin are being displaced through land sales from their ancestral lands. Just as investors had responded to the rising price of cotton for industrializing Europe during the last decades of the 19th century, investors were largely responding to the growing corporate retailer demand in Europe and at home for 'quality' (traceable and certified) fruits and vegetables in the initial years of frontier-making (and increasingly to virulent pathogens within animal agriculture in the Delta in more recent years). Intensified production has again led to relative exhaustion (for example, the depletion of irrigation water sources) and to the expansion of 'second green revolution' agro-technologies that are increasingly coercive as 'biophysical overrides' (Weis 2010).

The path of the 'desert frontier' had in fact been paved by (the planned and unplanned of) state reclamation in the development era. By designating state farms on reclaimed land for mechanized production of high-value crops like citrus and animal protein in the Second Five Year Plan (1966/70) (Voll 1980), the government was responding to 'the desert' – the wind, sandy soils and so on that made reclamation expensive – and parasite populations within industrial animal agriculture (the containment of which is better assured with distance between farms) (Freivalds, 1982). The only state reclamation community that was built after the 1967 Six-Day War, Nubariya, became a centre for certifying vegetable and fruit seeds. When state farms began to be sold to private investors in the 1970s and 1980s, while some were broken into smaller plots for the labourers and employees, many maintained their large scale[83]. The investments required for the various agro-technologies and management of value-added and animal agriculture necessitates

[83] Meyer (1998) argues that by the early 1990s there was significant privatization of state farms along the western Delta. One of these state farms, Dallah farm, was bought by a Saudi Arabian investment company and rented out to a Swedish company in 1984. The intent was to establish the 6,200 estate into 'the most advanced and largest dairy project in Africa with twelve thousand cows' (Meyer 1998: 343). In 1998 Dallah was acquired by another company, to become Beyti, one of the largest dairy and juice companies in Egypt. Then, in 2009 Beyti was acquired by a consortium of Almarai, a Saudi food MNC, and PepsiCo (see Table 1).

for capital not only the export of crops (for higher earnings) but larger scales of production as well.

The desert frontier was further shaped and pushed by state desert development in the neoliberal era. As I detail in chapter 3, the concentration of corporate farms in and near to state reclamation communities and food processing zones demonstrates that corporate farms draw heavily from resources and labour in these communities (see Figure 2), many of which began to be built in the development era but expanded greatly under the Mubarak Project in the 1980s. The drawing of resources (primarily water and budgetary revenues) from the Nile Valley and Delta accelerated through the turn of the 21st century as the Mubarak Project launched two large-scale reclamation projects, which are intended to be settlement communities as well as agro-industrial zones. These two projects – the New Valley Canal Project (or Toshka) in the southwestern desert and the El-Salam Canal Project in the northwestern Sinai were intended to convert roughly 3.2 million acres into farmland by 2020, a projected increase of the country habitable area from roughly 4 to 25 per cent (Sowers and Toensing 2010). These large-scale projects are expected to increase exports to 38 million tons of produce annually with a projected total value of $1.5bn in 2020 (GAFI 2010b). However, their promise rests on the 'reserve army of cheap labour' in an era of dismantled agrarian reforms and public sector retrenchment[84] – and on the diversion of billions of cubic meters of water per year from the Nile, severely depleting water resources for the Nile Valley and Delta (Sowers and Toensing 2010).

These large-scale reclamation projects to build communities for subaltern classes and to attract private agriculture investment have thus far largely failed[85]

[84] In its *Agribusiness Proposition*, the General Authority for Investment (GAFI) proudly claims that Egypt's wages are 'among the most competitive in the region'.

[85] There is some evidence that these agro-industrial zones have received renewed investment in the aftermath of the food-fuel-financial crisis of 2007-08, as Gulf investors have begun to lease large Toshka plots in the face of restrictions on water usage for agriculture production for, for example, the cultivation of wheat (Khan 2009) and the building of poultry farms (GAFI 2012).

(see Mitchell 2002; Sowers 2011), but the point is that they may be considered part of the 'desert frontier' (in terms of siphoning resources away from the Nile Valley and Delta, in the imaginary of 'greening the desert', etc.). The parts of the frontier that I focus on are the reclaimed areas largely to the west and east of the Delta and increasingly in the south of the country, in order to demonstrate the 'frontier' as a structural feature of intensified capital accumulation in agriculture – and as a point of departure in this chapter to examine the particular character of the 'regime of private standards' in Egypt that is governing corporate agri-food systems worldwide.

Regime of private standards

By 'regime of private standards' I refer to the private, international governance and state policies and institutions that have standardized the production and distribution of food for the corporate retail and service sectors. This regime was built through the 'second green revolution' (McMichael 2012), a package of privately-owned (but state funded and developed) agro-technologies (e.g. high-yielding hybrid seeds, genetically-modified organisms, drip/spray irrigation, plastics, etc.) and transportation and telecommunication technologies that have enabled waves of agroexport platforms to develop in the global South during the last three or more decades. As I discuss in chapter 1, these agroexport platforms have often developed alongside the domestic corporate food sector. In this regime food production and distribution is regulated by 'industry standards' for food safety (e.g. specifications of how crops/animals are handled, processed, packaged, etc.) and 'environmental management' (e.g. specifications of the types and quantities of pesticides, the management of irrigation water, etc.). The commodity is often one that is certified and traceable for corporate retailers.

As the literature notes, the growth of corporate agri-food supply chains of 'quality' fruits and vegetables has depended on and perpetuated the 'feminization

of labour' (see Barndt 2002; McMichael 2012). This 'new division of world agricultural labour' (McMichael 2012) is one in which young women work as 'temporary, unskilled' labourers in the fields and pack houses, while men take semi-skilled and skilled positions as supervisors, managers, transporters, etc. In the agroexport farms in Egypt there is a trifurcated system of labour: well-paid male managers and supervisors who live weekly or monthly on farms, with alternate return trips home to the Valley; daily labourers who come from nearby reclamation communities; and young female migrant/seasonal labourers (*tarahil*) who are pooled from nearby Delta governorates (namely, Mounifiya and Beheira) by contractors. Most of the seasonal labourers are unmarried girls, who are brought to the farms for half a day (so the girls return home before dark). Once they marry, they leave work.

The growth of corporate agri-food supply chains has further been enabled by state and international development assistance for the development of agro-export platforms. In order to be competitive in the global market, especially against big producing states of fresh fruits and vegetables in the global North that receive massive state subsidies (e.g. Spain, California, Florida), governments and development agencies have been heavily supporting agribusiness as the drivers of agroexport platforms (see, for example, Marsden et al 1996) on the San Francisco Valley in Brazil). The Egyptian government, with support from international development agencies, has supported agribusinesses and private investors by streamlining the industrial zones for processing, subsidizing agricultural exports, providing institutional support for participation at trade shows and attendance at conferences, and so on[86] [87]. For example, USAID's Agriculture Exports and Rural

[86] With funding from USAID, the Horticultural Export Improvement Association (HEIA) was created to support agribusinesses and its members include growers, exporters, shipping companies, traders and food processors. In partnership with the Ministry of Aviation HEIA established a perishable terminal at Cairo airport, and regularly helps members with international certifications, attendance at trade shows, and so on.

[87] The agribusiness executives interviewed affirmed that state supports made the agroexport market profitable.

Incomes (AERI) program was designed to train students of local high schools to work on the agroexport farms. Through the AERI program the farms receive interns from nearby high schools. The program offers technical training in horticulture in the agriculture schools (technical education at the high school level), so that the high school graduates, who live 'near' to the farms, will replace seasonal labourers. This program will have the effect of instituting what Barndt (2002) calls 'temporary-permanent' labour on the farms, which will further marginalize poorer migrant labourers who contractors bring to the farms seasonally.

The 'regime of private standards' clearly reproduces hierarchical and patriarchal relations through the institutionalization of 'cheap' (low-wage, 'flexible', temporary) labour within corporate agri-food supply chains, and reflects in part growing retailer control over these chains as suppliers (like the farms in Egypt) compete in a 'race to the bottom' (in terms of the selling price for their crops) (see Burch and Lawrence 2007) for discussions of supermarket control over agri-food supply chains). The regime may be understood then not simply as a corporate strategy to make possible, and gain greater control over, the 'just-in-time' production and transport of off-season fruits and vegetables for the supermarket and hypermarket shelves of largely Europe and North America. The regime has certainly had that effect, but I argue in this chapter that instituting the regime was a way of attempting to manage the growing 'crises' of industrial agriculture – and it has been the most capitalized firms and those with the most sizable state supports that have been able to employ increasingly energy-intensive and coercive measures, even at the molecular level, to control food production.

This account of the desert frontier – of the building of an agroexport market, animal protein complex and food processing sector since the 1970s – is one of capital accumulation and concentrations of capital at a historical conjuncture of what Weis (2010) calls 'accelerating biophysical contradictions' of

biological simplification and standardization. In the following two sections I explore this conjuncture through Moore's (2010) concept of the 'superweed effect', which is similar to Weis' (2010) and in the most simple sense captures how industrial agriculture has created superweeds that are now beyond its control. I focus on the 'biosecure' or 'environment controlled' systems of industrial horticulture and poultry that characterize the desert frontier in Egypt, and suggest that these systems express the 'superweed effect'. Rather than think of the core of the 'superweed effect' as 'the tension between capital's efforts to control and commensurate extra-human nature, and the latter's co-evolutionary capacity to elude and resist that control', as Moore (2010: 240) puts it, I suggest that the concept may be useful in capturing the direct relationship between 'superweeds' – or the proliferation of new beings that are out of human control, of human creation and not, local and global – and attempts to create ever greater distinctions between the 'inside' of production zones (that which is of human creation) and the outside (of Nature) (Latour 1993). In other words, the superweed effect 'overlays, and amplifies' not just the 'resource and soil depletions of capital-intensive agriculture' (Moore 2010: 241), but the knowns and unknowns across time and space (e.g. H5N1 HPAI (avian flu virus), climate change) that unravel capital accumulation. In short, a dialectical understanding of the 'superweed effect' will not capture what Moore (2011) calls the 'co-constitutive' (human-nonhuman) nature of the metabolic rift. In contrast, following Latour (1993) the reinterpretation of the concept that I offer here is not limited to demonstrating the partial subsumption of socio-ecological spaces by letting the nonhuman 'speak'. Rather, the interaction of capital, state, labour, Bedouins, the desert soils, the wind, parasites and so on illustrates that the effort to enclose leads to both capital accumulation and concentration – and the unwanted, unexpected and unintended (Mitchell 2002).

High-value agriculture and new micro-climates

I propose that agroexport platforms in the global South have experienced degrees of corporate consolidation (see Marsden 1997; GRAIN 2012) because their establishment has required the 'reconstruction of micro-climates' (Marsden et al 1996). This reconstruction refers to both the expansion of agroexport platforms into new regions that were not previously cultivated and the 'environment controlled' or 'biosecure' systems through which corporate agri-food supply chains operate.

Retail certifications are based on standardized practices of what is grown (i.e. what varieties of fruits and vegetables), how it is grown (i.e. what kinds of inputs and how much of each input) and how it is processed (i.e. specifications of when and how it is moved from the field to the processing plant to (and out of) transport). These standardized practices fall within what are called 'biosecure' or 'environment controlled' systems – a set of practices that are applied across agro-ecological landscapes. Environment controlled systems attempt to strictly delineate an 'inside' – that is of human creation and within human control – and an 'outside' – that is 'wild' and of Nature. Perhaps exemplifying environment controlled production in horticulture, and what the reconstruction of the micro-climate involves, is plasticulture – fertigation or a (drip/spray) irrigation system of treated irrigation water (filtered and applied with fertilizers and other inputs) coupled with plastic mulches, greenhouses and other plastic applications – a system that uses plastics to regulate what comes into and goes out of fields. An Egyptian agribusiness executive confided that agroexport farms in reclaimed lands multiplied when polyethylene (plastic) became cheap enough about a decade ago. Plasticulture has become centrally important to industrial horticulture in semi-arid and arid regions, and generally has become the industry standard in horticulture.

Plastic agriculture

The development of ‘environment controlled’ agro-technologies anticipated the expanding frontier for industrial agriculture. In just two decades environment controlled or biosecure systems grew from a marginal industry to the industry standard. In the 1970s corporations were developing these technologies in response to the loss of top soil due to soil erosion, urbanization and so on (McGrath 1981). The use of plastics in agriculture emerged long before, in the early phases of the development of the petrochemical industry and the production of Green Revolution technologies. Polyethylene, the type of plastics that is found in agriculture, comes from ethylene, a gas that is manufactured from the petroleum refining process. In the early 20th century the petrochemical industry found a way to create the gas from petroleum, and in the 1930s Imperial Chemical Industries, one of the largest manufacturers of the British Empire, discovered polyethylene, the product of an energy-intensive manufacturing process that breaks down petroleum into smaller molecules. It has only been with the global enclosure of socio-ecological spaces for high-value agriculture in an era of cheap oil that polyethylene become an industry standard, however. Today low-density polyethylene (LDP) is used extensively in industrial horticulture production: Estimated world consumption of LDP has more than doubled from 1985 to 1999 (Levin et al 2007).

The combined application of plastic mulch, drip irrigation, fertigation and so on has increased yields by as much as two to three times and has quickened growth by as much as 21 days (Lament, 1993). In semi-arid and arid areas, in particular, industrial horticulture production is attributed to plastic technologies. According to Israel’s Agriculture Minister, it was Israel’s plastics industry that has been able to ‘make the desert bloom’ (Udasin, 2012). The different colours of LDP and its application regulate the soil and air temperature (see Figure 7). Opaque LDP sheets increase the soil temperature, while silver lowers slightly and white lowers the temperature. Often greenhouses are in white and beds are covered in silver. Plastic mulch also reduces soil water evaporation, which is critical to

intensive cultivation in semi-arid and arid areas, and other plastics are used as wind and sun breakers.

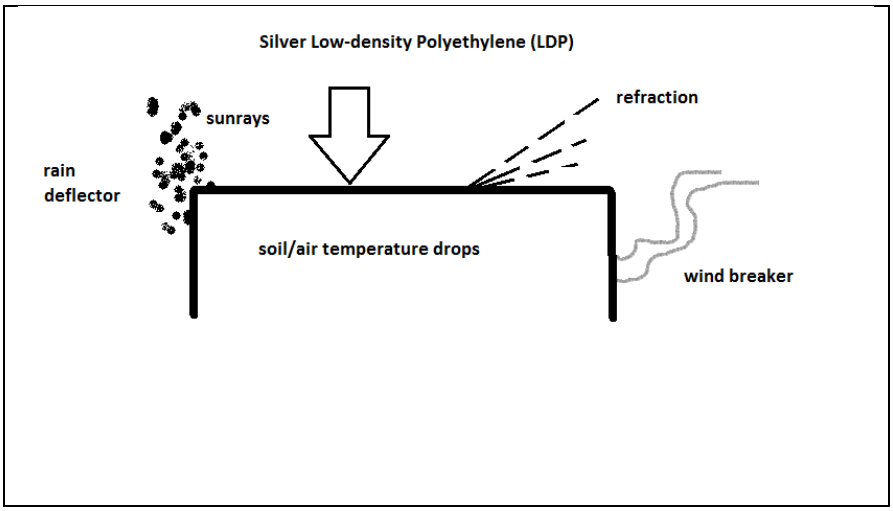

Figure 7: Silver low-density polyethylene (LDP)

Producing at 'industry standard' means creating a near perfect fruit – with a certain level of sugar, a certain shine, a certain size and shape – and this necessitates strict regulation of production. Plastic mulches and sheets acts as a cover to block out and eliminate not just pests but the wind and the sun. Most of the crops are covered. On one banana farm the banana bunches that were being harvested were wrapped in plastic so as to slow ripening. On another farm a field was left fallow and the beds were covered with opaque LDP. The plastic mulch sterilizes the beds by raising the temperature of the soil above a certain threshold above which all organisms die, at which point the soil is sterilized and the beds replanted. The greenhouses in which they are breeding the plants ('the breeding rooms') are supposed to be controlled. Before entering the breeding rooms I stepped into a sanitizer pool in front of the entrance and then again in the 'holding room' (between the entrance and the plant area of the greenhouse). There I covered my shoes with plastic and sprayed my hands with Dettol (an antibiotic sanitizer). The plants were in 'artificial soil' and its temperature, moisture and so on are measured regularly. The air temperature is supposed to be kept cool and constant.

The reconstruction of the micro-climate involves attempts to strictly regulate what goes into farm production and processing, not just because of the dictates of standardization and creating a near perfect fruit, but because of the high volatility of agro-industrial production (Marsden et al 1996). Present-day horticulture crops represent a small genetic pool and are extremely susceptible to pathogens. Thus, the continual development of seed varieties is essential in order to avoid genetic erosion. Agroexporters in Egypt import corporate-approved high-variety seeds, and test and retest them on the farms. Farm managers even travel regularly through HEIA (the horticulture growers association) to learn about new varieties, often at US and European universities. Yet, varieties remain vulnerable. On one 30 acre greenhouse of sweet peppers, not one pepper survived. On another short visit to a farm there was an emergency as a virus had struck one tomato variety. In fact, that year there had been a tomato virus (tomato leaf minor) that came from southern Africa and had been destroying the tomato crop in Egypt.

Production is vulnerable to even the most basic 'natural elements', illustrating that the work of separating controlled and uncontrolled zones leads to their blurring. The citrus becomes easily parched from the sun. On one farm nearly 250 acres of grape vines collapsed in an unusual rain storm one year. When it rained, the plastic sheet over the orchard filled with water and broke, collapsing the vines underneath. The older farms, built from the 1940s through roughly the 1980s, are often lined with tall pine trees to serve as windbreakers. But in many of the newer farms, cultivated by private investors, there is no cover from common winds and agribusiness managers often described the wind as one of the farms' biggest enemies.

Rather than conclude that the capitalist classes have been able to create an agroexport platform in Egypt despite such volatility from Nature, a conclusion here is that capital accumulates and concentrates through the interaction of human and

nonhuman. In fact, the capitalist classes consolidate the industry by managing the unknown, unintended and so on. The common certifications among Egyptian agroexporters (e.g., Tesco Natural Choice, Global Gap, Field 2 Fork, Leaf and Tesco Natural Soil) take years to attain. For one agribusiness it took fifteen years to become certified, for another seven years. It is the most capitalized firms that have the resources to invest in the years of trial and error in reconstructing the micro-climate for corporate retail.

Factory farming and parasite ecology

The revolutionary transformation in the production and consumption of poultry took place in Egypt in just two decades: from the early 1980s to the turn of the 21st century the country transformed from a net importer of poultry into an exporter with a full-scale corporate poultry industry. In the development era the main ingredient of poultry feed, maize, was financed through the US Commodity Import Program (CIP), which included concessionary loans and grants for governments to import US commodities and of which PL 480 was a part. When US food aid (the selling of food grains and equipment in local currencies) was replaced with concessional sales in 1973, the price of maize skyrocketed and many small poultry operators were wiped out and politically powerful businessmen and high-ranking state officials began to invest in poultry in reclaimed desert land (Sadowski, 1991). The Egyptian state and the international development apparatus heralded this first wave of poultry industry consolidation by subsidizing the maize/feed, offering credit for medicines and other inputs through the Agricultural Credit Bank, and so on. Production of poultry was rising; by the mid-1980s maize became the second largest food import (Sadowski 1991). However, Egypt remained a net importer of poultry as per capita consumption of poultry meat rose precipitously, from 3.2 kg in 1975 to 9.2 kg in 1985 (FAO, 2006b).

Following the removal of the maize subsidy in 1988, there was a second wave of consolidation after which domestic production met consumption. When the price of imported yellow maize rose from LE 180 ($53) to LE 500 ($147), 50 per cent of all broiler operations shut down, the poultry feed milling industry collapsed, and the government began to sell publicly held poultry operations (USDA, 1997). Retail prices for poultry meat rose and consumption fell to 4.4 kg in 1991 and then began to climb to 5.8 kg in 1996 (FAO 2006b). By 1995 only 10 poultry feed mills out of 50 mills had survived the removal of the subsidy (USDA 1997). When the government dropped the subsidy, though, it imposed a poultry import ban to protect the remaining industry. In 2000 Egypt lifted this ban as part of its acceptance into the WTO, but by then the industry was already heavily concentrated. Nearly 70 per cent of all broiler chickens were produced by medium- to large-scale farms (USDA 1997).

By the time of the avian flu outbreak in 2006 the poultry industry could be characterized by three types of production: integrated (large-scale with 'strict' biosecurity, in-house processing and mills), commercial (medium- to large-scale, with low to high biosecurity) and cottage or household (see FAO 2006). In 2006 approximately one out of four birds was kept by households (Abdelwhab and Hafez 2011: 647) – most of these household birds being layers (for eggs), as households have come to rely heavily on eggs for their livelihoods. At the same time, five corporations dominated broiler production (for poultry meat), and there was some level of concentration within layer production. Only a handful of broiler farms were integrated, while a vast majority were medium- to large-scale non-integrated farms. Corporations dominate broiler production by controlling the grandparent and parent breeding. From their non-integrated industrial farms they then sell broiler chicks to smaller operators, who then sell the adult birds in live bird markets. At that time more than 70 per cent of broilers were sold in live birds markets (FAO 2006b), the rest being processed for the corporate food sector from

the few integrated farms or being exported or being consumed within households. While the few integrated farms were in reclaimed desert lands, most poultry production (broiler and layer, small-scale to large-scale) was concentrated in the Delta: more than 60 per cent of production was in the five governorates of Lower Egypt/Delta in 2005 (ibid.). So when the global avian flu pandemic struck in Egypt poultry farms and live bird markets were concentrated in the Delta.

The Nile Delta is an avian flu epicentre – a breeding ground for influenza, with dense human and animal populations, regular contact between different animal species, and chronic respiratory or immune disorders (Davis 2005: 59). Not only have processes of urbanization in the 'rural' Delta shrunk the distance between animal and human population centres, but there has been the emergence and resurgence of epidemic diseases – including but not limited to lung diseases (Anwar, 2003), trachoma (Watts and El Katsha, 1995), hepatitis C (Lehman & Wilson, 2009), early onset of cancer (Soliman et al 1999, Soliman et al 2006), and obesity (Nahmias, 2010). In 2010 Egypt was the only other country besides for Indonesia with endemic H5N1 HPAI (Kim et al 2010). The country had the highest number of confirmed human avian influenza cases worldwide: As of 4 March 2010, there were a total of 104 human cases, including 30 fatalities (Tseng et al 2010: 453).

The H5N1 pathogen moved from industrial farms to industrial farms to 'backyards'/households (I-I-H) on a global scale. The Livestock Revolution has bred a monster, in Davis's (2005) words. In the span of a few years the Pearl River Delta avian flu epicentre connected to the Nile Delta, where commercial poultry (medium- to large-scale factories) acted as vectors of the H5N1 virus (Kayali et al 2011; Abdelwhab and Hafez 2011). However, human infection largely occurred in live bird markets and backyard farms. The particular character of the avian flu outbreak (the I-I-H pathway) may be understood as an outcome of the interaction of parasite ecology with standardized industrial agriculture. In industrial factory

farms parasite populations follow life cycles of rapid growth followed by drastic decline (either from slaughtering of hosts or drug treatment), thus favouring faster life-histories (or virulence) of parasites (Mennerat et al 2010). The Livestock Revolution has standardized poultry production so that the birds (hosts) and parasites grow quickly: industrial factory farms keep thousands of birds in confined spaces, and rely on a single bird breed, which for broilers (the Cornish Cross) has been bred to reach market weight in seven weeks. Standardized production also leads to drastic declines in parasite populations: frequent culling of birds shortens host lifespan and anti-parasite applications, which are widespread, cause high direct mortality (ibid.). In short, industrial factory farms favour virulence. However, because the life cycles are short, adult survival of parasites is lower on industrial farms as parasites focus on 'current reproductive effort' (Mannerat et al 2010: 62). The focus on 'current reproductive effort' means that the pathogen is more likely to develop drug-resistance and virulence, but is less likely to reach adult lethality in the factory farms. Rather, lethal adult parasites are carried out of the farms through transport of birds or waste disposal.

In Egypt the pathogen-host relationship was established in the medium- to large-scale farms, and when the birds were transported to smaller farms and, finally, live bird markets, the pathogen was transmitted to host populations outside of these farms. In live bird markets and 'backyards' the adult pathogen survived and human contact with the host was regular.

The social science literature is conclusive that the avian flu has had the effect of further consolidating the poultry industry in countries where it has hit and become recurrent (e.g. Chuengsatiansup 2008; Davis 2005; Hinchliffe and Bingham 2008; Wallace 2009). Most of this literature argues that the primary force behind the growth of corporate poultry and the decline of cottage poultry is state-class alliances. States have responded to the crisis in ways that bolster the capitalist

classes and undermine the poor. Although state-class alliances are clearly playing a role in this outcome of the crisis in Egypt, these alliances offer only a partial explanation for the epidemic spread of the disease and the consolidation of the industry. Rather, this case points to a complex of interactions and reactions – between the state, agribusiness, households, pathogens and birds – to understand the epidemic flu and poultry industry growth.

The Egyptian government responded immediately to the outbreak of H5N1 in 2006 by attempting to protect industrial production and the public from illness and/or death. Under pressure from agribusinesses, the government immediately began a vaccination program for all commercial factory farms and not including backyard farms (Abdelwhab & Hafez, 2011). Further, because human infection largely occurred in backyard farms and live bird markets (although significantly the source of the infection in 15 per cent of reported cases is unknown (Tseng et al 2010), the government immediately initiated a mass culling campaign: In 2006 more than 40 million backyard/cottage birds were culled (FAO 2006: 29). Also, the government mandated the temporary closing of live bird markets and the slaughtering of birds in slaughterhouses. The combined measures of mass culling (of household birds) and mass vaccinations (of industrial ones) failed to control the pathogen. The mass culling and (to a certain extent) the vaccinations led to drastic declines in the pathogen's life cycle; however, rates of the pathogen's transmission remained high. Because many householders and small-scale farmers were not compensated for the loss of their birds, they did not notify authorities about a sick bird for fear of losing their flock (Meleigy, 2007). Further, the vaccines proved to be ineffective (Kayali et al 2011) because biosecurity measures on commercial farms, which produce more than 75 per cent of broilers in the country, tend to be lax, which means that pathogens could easily enter and exit farms, and the vaccines were not properly tested or stored prior to their widespread application (Abdelwhab and Hafez 2011). Vaccine failure, or drug resistance, meant that the

rate of transmission out of commercial farms remained. Drug resistance has further impeded any subsequent efforts to contain the flu. In fact, along with several other countries Egypt is now home to an oseltamivir-resistant strain of H5N1 ('tamiflu oseltamivir' being the main commercial vaccine for the flu) (Tseng et al 2010: 458). This confluence of forces has created the current deadly combination of virulence and drug resistance within the virus population.

What makes the H5N1 HPAI epidemic in Egypt is the widespread establishment of the pathogen-host relationship. The virus reappears cyclically and damages its host. Every flu season in Egypt large numbers of birds become ill and die. Cottage poultry has been damaged, compromising the rural livelihoods of millions who rely heavily on poultry and endangering local breeds (e.g. Fayoumi) (Eltanany and Distl 2010; FAO 2006b). At the same time, corporate poultry has grown. For instance, the long-term assets of one of the dominant poultry producers, Cairo Poultry Company, jumped 77 per cent in 2006.

The character of corporate consolidation has been shaped by two mutually-reinforcing paths: one paved by the state program of desert development and the other by the pathogen. At the time of the outbreak farms with lax biosecurity measures were much more vulnerable to the virus than integrated corporate farms with strict biosecurity measures (Abdelwhab and Hafez 2011: 654)[88]. Also, the government instituted a regulation that poultry farms be at least two kilometres apart and outside of agricultural areas. Thus, seeking protection from H5N1 HPAI corporate producers have been moving production from the Delta into the desert, especially in reclaimed land in Middle and Upper Egypt[89], and have been capitalizing production by building biosecure poultry farms. As one agribusiness manager said it, 'Poultry is gold in Egypt'.

[88] One agribusiness lost nearly all of their broilers (500,000) from the Avian flu, which was nearly all of their working capital at the time (interview on 2 October 2011).
[89] Based on the author's interviews with agribusiness executives and managers with poultry factories, August - October 2011.

Biosecure poultry. Within the poultry industry 'biosecurity' means that poultry do not have any access outside of the 'controlled' environment and movement within poultry factory farms is restricted and sanitized. This is how an agribusiness executive excitedly explained their new biosecure poultry farm (paraphrase):

> There is a 'red area' and a 'yellow area' within the house and vicinity. In the red area movement is restricted and regulated, and in the yellow area movement is not as restricted. No one can enter the house without a twenty-four hour quarantine. All outside effects are kept and left in this quarantined space. Any effects that are brought into the room where the birds are must be first placed in a fumigation room. The feeding is mechanized and stays within the farm. All the crates and other equipment used inside and outside of the house are also disinfected. The idea is to create a seal.

In the executive's words, 'This is how harsh biosafety needs to be for the breeders'. Biosecure poultry farms look like sealed warehouses. Due to the quarantine procedures (and the long distances of the houses from the Delta), workers generally come and stay on the farm for five months during the flu season and then take the rest of the year off.

Biosecure poultry farms are designed to prevent the introduction of pests and diseases into the birds' environment. However, there are 'environmental pathways by which pathogens can spread across and out of large confined animal feedlot operations' (Wallace 2009: 938). In order to keep the birds alive, ventilation and circulation of air are essential. This also allows for the movement of rodents, wild birds and insects in and out of the factories (M. F. Davis et al 2011). Biosecure procedures often do not include the management of animal waste, and broiler farms like the one described above transport chicks to other farms, which raise the chicks and sell the adult birds to retailers. The seal is in fact impossible to create.

Biosecurity measures effectively 'secure' the inside of factory farms via the continual application of antibiotics and vaccinations and the short life cycle of

birds. At the same time, parasite populations develop virulence and drug resistance within the farms (M. F. Davis et al 2011). Poultry production is maintained while the 'environmental pathways' of the farms spread outside pathogen virulence and antimicrobial resistance. In other words, as with industrial horticulture biosecure poultry production simultaneously protects industrial birds in Egypt from H5N1 and expresses an intense vulnerability to this and other pathogens – a vulnerability that is managed by the capitalist classes through continual rounds of 'disciplined' cheap labour and state supports that ensure profitability of industrial poultry production.

The Unmaking of the Frontier

In the most simple sense the 'superweed effect' is about capital getting what it wants in the here and now, and the unwanted, unintended and so on in and across time and space. In this sense the character of the desert frontier is one of being unravelled, not just in the future but in the now; the subsumption of human and nonhuman natures is never complete. The consolidation and growth of corporate farms in Egypt has expanded the desert areas enclosed, particularly in the last ten to twenty years, which has led predictably to the depletion of irrigation water resources and has had unpredicted local effects.

Agroexport farms have expanded from in and near to the state reclamation communities to desert areas farther outside these communities. The land in and near to the communities, which is irrigated by the river Nile, is leased by the government for a period of seven years and then sold to those who prove they cultivated a required percentage of the land, but the non-irrigated land that lies a bit farther into the desert is held by Bedouins under *wad' yad* (squatter's rights) (see Cole and Altorki 1998 on *wad' yad*). Investors pay local Bedouins 'to lift the hand', which provides their farms with Bedouin protection. They irrigate this land by building wells to the groundwater aquifer. After more than two decades of

intensive industrial production in the western Delta the groundwater aquifer has been depleted. Beginning in the early 2000s the water table was dropping at a rate of about 1 meter per year (Barnes 2012: 530). Much touted water-saving agro-technologies like drip irrigation, which are widely used in corporate farms, have not saved the aquifers from rapid depletion in part because water-intensive crops are grown on reclaimed land (e.g. bananas). Also, even crops that require little water (e.g. olives) need much more water to produce in large sizes and quantities[90].

The encroachment into Bedouin ancestral lands has further led to growing conflicts among Bedouins and between Bedouins and investors, and to greater interaction with illegal trade routes (see, for example, Wahid 2012). Today agroexport farms are armed with AK-47s and farm employee's movement is restricted outside the farm after dark. Furthermore, the intensification of production in the unregulated private sector has resulted in on-going labour agitation, leading up to the 25 January 2011 uprising and propelling the on-going revolution. In the food processing sector at least there have been on-going protests and strikes by labour demanding worker rights and even the renationalization of some companies[91].

The unplanned and unwanted is not just localized, but rather, industrial agriculture in Egypt lies within a global nexus of capitalist production – acting as both a vector and recipient of the multiplying knowns and unknowns that can not be controlled. For instance, at the time of writing a new strain of foot-and-mouth disease has been ravaging cattle and other hooved animals in the Nile Delta

[90] In order to save the farms that rely on the underground aquifer, the World Bank loaned Egypt over $200 million for the West Delta Water Conservation and Irrigation Rehabilitation Project, which would essentially build a western extension of the Nile Delta branches to irrigate 190,000 acres, despite protests among farmer groups in the Delta. This massive infrastructure project was cancelled after the World Bank determined in 2011 that the Egyptian government had not spent the loan money for the project (Barnes 2012).

[91] For example, there has been on-going labour unrest since at least 2008 within the Ismailia-Misr Poultry company, one of the country's formerly state-owned poultry companies and presently one of the largest with fully integrated production (*Almasry Alyoum* 11 Sep 2008; *Mubasher* 29 Nov 2012).

(*Reuters* 22 March 2012; Garrett and Cook 2012), and scientists warn that it would be 'a disaster' if the avian flu were to meet and combine with the swine flu (H1N1) to create a new virus that is both contagious and lethal (Tseng et al 2010: 452).

Other towering known unknowns are the 'accumulating consequences' of the 'biospheric rift' (McMichael 2012: 145). The Nile Delta has been 'sinking', as deltas around the world have due to dam construction in the development era, which has drastically reduced the river sediment load that is delivered to delta coasts (Syvitski et al 2009). This sinking effect has made delta systems extremely vulnerable to sea level rises from climate change; a sea level rise of one meter is predicted to submerge 15% of the Nile Delta underwater, likely by 2050 (Mayton 2009). The sinking Delta has already deepened the metabolic rift in the Nile Valley and Delta by salinating the soil, and a submerged Delta will have even greater consequences for the desert frontier. Even more, industrial agriculture in Egypt deepens the 'biospheric rift'. It has been built on cheap oil and has contributed significantly to greenhouse gas emissions (ibid.). As the price of oil rises, new energy sources (i.e. biomass material) are being sought to replace, say, fuel-based plastics with biodegradable plastics. The response to this real and anticipated limit to capital accumulation has been the enclosure of new socio-ecological spaces worldwide – the new 'global land grab'.

The enclosure of desert areas to the south of the country (Upper Egypt) and agricultural areas in southern neighbouring countries by Egyptian capital and state in recent years may be understood then as an outcome of the intersecting localized and globalized metabolic rift, and of the 'biospheric rift' in particular. Non-irrigated reclaimed land (with access to a main road built by the government) has been bought by investors all along the west of the Nile Valley to Aswan[92] (see Figure 2). Some agroexport farms are also sourcing from large farms on reclaimed

[92] This information is from the author's meeting with a USAID representative in Cairo, 7 August 2011.

land in the south. Currently there are plans to build massive poultry complexes in the south of the country[93] (see GAFI 2012). Since the 2007-2008 food crisis agribusinesses via state-state deals and finance capitalists have begun to run farms in southern neighbouring countries. Capital and state are responding to the depletion of thousands of years old aquifers, the rising price of food, the spectre of climate change and so on, but these new frontiers will not 'resolve' the monsters (Latour 1993) of climate change, peak oil or the next killer virus.

[93] This information also comes from the manager of a family business group that is supposedly building a large poultry complex.

CHAPTER 6

THE LAND GRAB, FINANCE CAPITAL, AND FOOD REGIME RESTRUCTURING: THE CASE OF EGYPT[94]

There has long been a heated debate within the Egyptian state about how to address the country's food insecurity, between those who support the agroexport market and those who support home cereal production. This debate came to a head at the time of the 2007-2008 food-fuel-financial crisis. State support for agribusiness and the agroexport market has continued, while a three-year mandate to increase wheat production that began before the onset of the revolution has increased yields in 2010/11 and 2011/12 (FAO 2012b). This tension is expressed in new ways with the resounding end of 'cheap' food and oil as both the Egyptian state (via state-state deals)[95] and finance capitalists appropriate, and seek to appropriate, agricultural land in southern neighbouring countries as offshore platforms for food production.

In this chapter I focus on the role of Egyptian finance capital, and one firm, Citadel Capital, in particular, in appropriating land and other resources in Sudan, South Sudan and other southern neighbours as an intervention in the emerging literature on what is being called the 'global land grab' – the leasing and buying of large tracts of land worldwide by states, finance capitalists, agribusinesses and others – since the 2007-2008 crisis. Much of this literature focuses on the conjunctural processes of land grabbing: for example, the anticipation of food insecurity by states (De Schutter 2011; GRAIN 2008); the anticipation of fuel insecurity by states, or the new biofuels economy (Zoomers 2010); policy discourses and governance mechanisms (White et al 2012); institutional

[94] A version of this chapter will be published in the *Review of African Political Economy* (forthcoming).
[95] For example, the Egyptian government signed a deal with the Sudanese government to allow Egyptian agribusinesses to lease agricultural land in Sudan (*Reuters* 6 Sept 2010).

mechanisms (e.g. free trade zones, international finance institutions) (Cotula 2012; Daniel 2012; Hall 2011). While I address the historical conjuncture of land grabbing (for example, the emergence of a new class of finance capitalists in Egypt and the support they receive from international finance institutions), this paper is intended to be an intervention in analysing the 'global land grab' as (open to contestation, but) structural in a world-historical sense.

In the first section I demonstrate how land grabbing was achieved through the (re)ordering of relations between Egypt and Sudan (and later, other neighbours) at historical moments of food regime restructuring, which I analyse according to Moore's (2011) concept of frontier. In the second and third sections I anchor this study within processes of financialisation, particularly during the last two decades, which have both anticipated and precipitated the deepening of corporate control over domestic food economies and, thus, of food insecurity.

Food regime restructuring: Egypt and Sudan in a reordered hegemonic state system

By using Moore's (2011) concept of frontier the present-day encroachment of South/Sudanese resources by the Egyptian state and capital may be understood as structured both globally and historically. In this chapter I focus on how the relations between the then colonial states of Egypt and Anglo-Egyptian Sudan took shape at a time of generalized capitalist relations that governed the global production and consumption of agricultural commodities and that heralded the rise of the system of independent states (see Friedmann and McMichael 1989). This was at the height of the 'first food regime', during direct British rule over Egypt and joint (British-Egyptian) colonial rule over Anglo-Egyptian Sudan at the turn of the 20th century.[96] As I detail in chapter 2, throughout the 'long 19th century' in

[96] This does not imply that that the historical relations between these two states began with European colonial rule. Of course how the relations between what are today the states of Egypt and Sudan played out during this 'first food regime' was greatly informed, in particular, by Muhammad

what is modern-day Egypt there was cash crop monoculture (namely, cotton) production for export to Europe, but it was following the onset of direct colonial rule by the British in 1882 that industrial agricultural production greatly expanded. The cotton 'boom years' of 1893-1907 corresponded with the rapid consolidation of large landed estates (*'izab*), which were established during the course of the century with the granting of 'new' state lands in reclaimed areas to private investors, political allies and others for the expansion of industrial production (Alleaume 1999) and waves of dispossession of peasants. The 'boom years' in Egypt were in fact enabled in part by the re-invasion of Sudan at the turn of the 20th century, which led to the completion of the Aswan dam in 1902.

As quickly as the cotton boom rose, it burst. In 1909 the cotton crop failed, but even by the turn of the 20th century, at the height of the boom, there were signs of exhaustion from intensive production. For example, the wetlands of the northern Delta, an integral part of delta systems and fisherfolk livelihoods, had been seriously compromised: the wetlands were widespread in the early 19th century, but by the end of the century Lake Maryut was flooded and drained and reduced in size and Abu Qir lagoon disappeared due to draining (Stanley and Warne 1998: 817). Since at least the first cotton burst following the end of the American civil war and the recovery of the American cotton market, famines and disease were widespread and recurrent (Davis 2001). Famine and disease were likely exacerbated following the second cotton boom with the full-scale replacement of the old hydraulic system with the new system of perennial irrigation (with the building of the Aswan dam), which spread bilharzia, malaria and other diseases (Farley 1991).

'Ali's expansions into Sudan in the 19th century and, more generally, by the long histories between them. See Fahmy (2004) for an excellent analysis of how relations play out at the time of Muhammad 'Ali from the perspective of the interplay between state making and popular resistance (to enslavement, conscription, etc.).

The ‘relative exhaustion’ of socio-ecological spaces of the expanded Delta and Nile Valley in Egypt corresponded with the making of a frontier in what was then Anglo-Egyptian Sudan. The Gezira Scheme, a large-scale irrigation project for the creation of a mega cotton plantation at the confluence of the Blue and White Niles, was discussed within the British government by the turn of the 20th century (Tvedt 2004). However, it was not until 1914 that the government officially supported the Scheme. This was following the 1909 cotton crop failure in Egypt, and at the time of what Tvedt (2004: 93) refers to as ‘the semi-famine conditions that prevailed on the Blue and White Niles’, which assured promoters of the Scheme that the supply of labour would not be difficult to secure. The Scheme was fully underway after the completion of the Sennar Dam in 1925, and by then the ‘relative exhaustion’ of the Nile Valley and Delta was readily apparent: ‘by 1920-4 the yield of every major Egyptian crop, with the exception of maize, was well below its 1913 level’, in spite of large expenditures on irrigation and drainage works, the introduction of more prolific varieties of cotton and the increase in chemical fertilizer imports (Owen 1969: 254-255). Britain officially terminated its protectorate of Egypt in 1922; as tensions with the Egyptian government and nationalists heightened, in part, over control over Sudan, Britain lightened its hand on Egypt while tightening its grip on Sudan (see Tvedt 2004). Britain attempted to maintain control of the Nile and thus cash crop production at a time of declining British hegemony and the making of an international system of independent but hierarchical states.

The dependent relationship between Egypt and Sudan was reconfigured when the ‘free trade regime’ re-emerged, with the ending of US food aid and the OPEC oil embargo in 1973, signalling the decline of US hegemony and the rise of regional state powers in the medium term. In response to skyrocketing food and fuel prices, international and state development agencies began to promote Sudan as ‘the breadbasket’ not just of Egypt but of the Arab world (Kaikati 1980). The

international ‘food aid’ order of the postcolonial or development era had contributed to continued structural food insecurity among the formerly colonized, despite the agrarian reforms of this era (Friedmann and McMichael 1989). The combination of US ‘food aid’ and the decline of international markets for colonial crops, with the corporate manufacture of colonial crop substitutes (e.g. synthetic fibers for cotton) in industrialized countries, depressed agricultural wages and crop prices in comparison to industrial wages, spawning depeasantization. When food and oil prices skyrocketed in the 1970s states with little or no oil, like Egypt, became heavily indebted, while the newly rich oil states (e.g. Gulf states) began to rapidly industrialize and urbanize. This ‘political crisis’ conjuncture was wrongly interpreted as a ‘world food shortage’, and the United Nations identified Sudan as one of three countries to solve the crisis by cultivating its ‘underdeveloped’ agricultural land (Kaikati 1980).

When food and fuel prices skyrocketed again in 2007-2008, the policy discourse of securing Sudan as ‘the breadbasket’ of the region resurfaced. This time, though, the new system of regional powers had become more concrete, and the food insecure regional powers were offered not just Sudan but other southern neighbouring countries as offshore platforms for domestic food production. This time support for the policy within international development agencies was cautious, citing previous failed attempts to increase agroexport production in Sudan in the 1970s[97] (see UNDP 2009; World Bank 2009).

In the three decades between these two crises there had been structural deepening of food insecurity for all states. The re-emergence of the free trade regime led to food regime restructuring – a shift from the international ‘food aid’

[97] It should be noted that not all of the frontier-making projects of the 1970s failed. For example, the Kenana project was created as a joint venture between the Sudanese government, the Kuwaiti government and other state and corporate partners to become the world’s largest sugar scheme (Kaikati 1980). Today the Kenana Sugar Company is a large agribusiness with a regional reach and may become a significant player in land grabbing; in 2009 the company announced plans to establish a $1 billion agriculture investment fund with the Egyptian private equity firm Beltone (*Beltone Financial* n.d.).

order of the development era to what may be called a ‘corporate food regime’ (McMichael 2013). Indebted countries like Egypt were being encouraged by the IMF to build agroexport platforms for the export of fresh fruits and vegetables to Europe, ostensibly to solve their food security needs. At the same time, the declining price of grains with the growth of the NACs continued to shift food production away from essential grains toward animal protein – heralding a global Livestock Revolution, the exponential growth of meat and dairy consumption and the proliferation of industrial animal agriculture in the global South. In Egypt as the agroexport market grew, food exports rose; however, processed food imports for the multiplying corporate retail and food service sectors had already been growing steadily: from 1994 to 1999 the value of processed food imports increased 51 per cent to $ 689 m (IMC 2005). Also, there is evidence suggesting that the bilateral trade agreements that followed Egypt joining the WTO in 2000 have led to a growing trade imbalance. For instance, two years after signing the bilateral trade agreement with the European Union exports to the EU ($ 7.4 b) were roughly half of the value of EU imports to Egypt ($13 b) (Ministry of Trade and Industry 2008). Overall, the trade deficit grew in the first decade of the 21st century, from $ 7.9 b deficit in 2003/04 to $25.1 b deficit in 2008/09 (Ministry of Trade and Industry 2010).

This has been an era of financialization, which in Moore’s (2011) terms means the degradation of the conditions of capitalist production for its own survival – whether those conditions are ‘natural’ (nonhuman) or financial. Intense speculation on commodities markets and asset stripping has precipitated the emergence of the new economies – biofuels, carbon trading, etc. – that have been drivers behind the present-day ‘global land grab’. McMichael (2013) argues that land grabbing in the context of the food, energy, financial and climate crises expresses food regime restructuring, at the core of which is a tension between processes of re-territorialisation and de-territorialisation. On the one hand, certain

states are overriding the multilateral trading system (governed by WTO rules) by sponsoring the direct acquisition of lands offshore ('security mercantilism'); and on the other hand, non-state actors (especially finance) in the land grab are deepening the WTO-driven corporate food regime (ibid.). In the rest of this chapter I focus on the latter processes of de-territorialisation by detailing the case of one Egyptian private equity firm, Citadel Capital, and its role in the land grab in Sudan and South Sudan. This case confirms what McMichael (2013), Cotula (2012) and others have argued has been an acceleration (rather than a retraction) of corporate consolidation of food economies with the resounding end of cheap food and oil. Further, I suggest that the (real and anticipated) land grab by Egyptian finance capital may be understood in part as the latest wave of corporate consolidation of the country's corporate agri-food system.

Ecological Frontier I: the desert in Egypt

In Egypt processes of financialisation have enabled the consolidation and regional expansion of the country's corporate agri-food system, which was made in part through the making and expansion of the desert frontier – an outcome and driver of socio-ecological ruptures (or 'metabolic rift') in the Nile Valley and Delta. As I detail in chapters 2, 3, and 4, there were 'internal' and 'external' forces that deepened the metabolic rift in the Nile Valley and Delta in the development era. The state plan to expand horizontally cultivated land led to the construction of the Aswan High Dam (Alterman 2002), which accelerated the degradation of the Delta ecosystem by salinating the soil, eroding the coast and damaging the wetlands (Stanley and Warne 1998). Land reclamation has further been draining the northern lagoons, which has had a deleterious effect on the livelihoods of fisherfolk (Bush and Sabri 2000; Stanley and Warne 1998). Over all, land reclamation in the development era was extremely costly and consumed the state agricultural budget.

In this era of liberalization and privatization the metabolic rift in the Nile Valley and Delta has deepened. The application of Green Revolution technologies became widespread through the cooperative system of the agrarian reform institutions, and then a deregulated market for these agro-technologies opened when the agrarian reform institutions were dismantled. These forces combined have contributed to the widespread contamination of soil, water and crops. Land liberalization of the 1980s and 1990s has further led to rural 'urbanization' in the Delta and to a series of counter-agrarian reforms, which have raised the price of land even more and precipitated intense social struggles over the land, as agrarian reform beneficiaries defend their land and livelihoods against a violent land grab.

The state program of desert development gained momentum in this context of social struggle, ecosystem degradation and land market inflation in the Delta in particular. And as I have detailed throughout this dissertation this program pushed and pulled the capitalist classes into the desert, and frontier making became a central enabling condition of the development and growth of the corporate agri-food system. There have been waves of consolidation of this system through processes of corporatization and financialization.

Waves of consolidation of the agri-food system

The corporate agri-food system in Egypt today is small (as a percentage of total food distributed) but concentrated in the hands of a few firms and growing exponentially.[98] The level of concentration within the system may be understood as an outcome of three waves of consolidation (see Table 1). The first wave was from roughly the early 1990s to about 2000, when a handful of multinational corporations re-entered the market and existing agri-food companies began to expand their market share. Multinationals that long had a presence in Egypt, like

[98] For example, in 2010 the top 6.5% exporting companies (in terms of the value of exports) making up 41% of the total value of agricultural exports (EDF 2011).

Coca-Cola and Nestle, returned quickly, generally by buying public enterprises or private enterprises with a large market share. Americana, a regional agribusiness chaired by the billionaire Kuwaiti Al-Kharafi family and founded by Egyptian businessman Moataz Al-Alfi, and today's fourth largest agribusiness in Egypt,[99] began operations in Egypt in the 1970s following the first package of liberalization and privatization laws of Sadat's open door policy. Americana opened a beef factory in the early 1980s and expanded into other agri-food sectors as it acquired transnational franchises – Farm Frites, KFC, Costa and others – and began its own brands (e.g. Koki, frozen chicken).

The second wave was of rapid consolidation between 2000 and 2003, in anticipation of bilateral trade agreements following Egypt's entry into the Common Market for Eastern and Southern Africa (COMESA) in 1998 and its accession to the World Trade Organization in 2000. The 2004 EU-Egypt Association Agreement stipulates that Egyptian industrial products enter the European Union (EU) with no tariffs or quotas and Egypt must liberalize trade and tariff barriers over twelve years to allow the entry of European products. Imports from the EU are feeding the growing corporate retail and service sector (hotels, restaurants, franchises, supermarkets) within the country, and cheaper access to COMESA, EU and other markets has attracted multinationals to set up bases in Egypt and has encouraged the growth of the agroexport market. At the same time, remaining protections[100] have played a role in insulating the large Egyptian players in food processing from competition.

The third wave of consolidation was orchestrated by finance capital from roughly 2004 to the time of writing. A 2003 banking law greatly expanded finance

[99] This ranking is based on a General Authority for Investment and Free Zones (GAFI) internally-distributed document listing the top agribusinesses in Egypt, based on the total issued capital between January 1970 and May 2010.
[100] Tariffs on most processed food products range from 20-30% in addition to 10% sales tax (USDA 2010).

capital in Egypt at precisely the moment of a global shift toward finance with the dot.com bubble crash and new US regulations on publicly traded corporations – signalling highly coordinated capital networks and close capital-state relations globally. The new banking law privatized the remaining public-owned joint venture banks and public sector banks (Roll 2010). Globally private equity activity, or leveraged buyouts, has grown exponentially since 2004. Private equity funds jumped threefold between 2004 and 2008, from $141.7 billion to $445 billion in 2008, and in Egypt private equity funds skyrocketed from $13.7 million in 2004 to nearly $8 billion in 2008 (Ismail 2009). Most private equity funds in Egypt are created with private co-investors (generally sovereign wealth funds, institutional funds (e.g. pension funds), and wealthy Gulf individuals with the firms' managers, who generally commit 10-20% of the funds), and institutional investors like the World Bank's International Finance Corporation (IFC). In fact, the IFC and other international institutional lenders have been major guarantors of leveraged buyouts in 'emerging markets' like Egypt (Daniel 2012: 722).

Egyptian agribusiness leaders and other businessmen-cum-policy makers invested in finance capital early on, at the centre of which has been EFG-Hermes, the largest investment bank in the Middle East today (see Figure 6). The Egyptian Financial Group (EFG) was established in 1984 and was 'the key player in creating, analysing and managing the privatization program for the Government of Egypt' (Ismail 2009: 74). In 1996 EFG merged with Hermes Financial. Before heading the policy committee of the National Democratic Party, the son of the former President, Gamal Mubarak, formed an investment banking firm in 1996, part of Bullion Company, after leaving an investment banking career in London at Bank of America. Bullion formed EFG-Hermes private equity with partners shortly after and now owns 35% of the firm (MacFarquhar et al 2011). The El-Mansour family (the two heads, Mohamed and Yasseen, made the Forbes billionaire list largely from distributing General Motors cars globally, but they are

also the owners of Egypt's largest supermarket chain and other agri-food companies) joined their cousins the El-Maghraby family in 1996 to form their family conglomerate's investment arm, El-Mansour and El-Maghraby Investment and Development (MMID). In 2001 MMID became important shareholders in EFG-Hermes. In 2004 Rashid Mohamed Rashid, the head of Unilever Mashreq (a Middle East Foods and HPC (Home and Personal Care) Division of the Unilever Group International), also bought into the investment bank. That same year Ahmed Nazif became prime minister, and Rashid Mohamed Rashid, Mohamed Mansour and Ahmed Maghraby all became ministers in the Nazif administration.

The character of this emergent class of finance capitalists in Egypt illustrates not just increasingly intimate state-class relations during the last decade or more, but the workings of finance hegemony as elites are connected globally through institutional centres of knowledge production, prestige and so on. Many of the heads of private equity firms in Egypt worked for EFG-Hermes. For example, Hassan Heikal, the CEO of EFG-Hermes, is the brother of Ahmed Heikal, the co-founder of Citadel Capital, now Africa's largest private equity firm. Ahmed Heikal was former Managing Director of EFG-Hermes private equity, and the other co-founder of Citadel Capital, Hisham El-Khazindar, was an Executive Director of Investment Banking at EFG-Hermes. Many of them have backgrounds in the largest financial institutions: for example, the co-founders of Beltone Financial, 'one of the fastest growing financial services firms in the region' (Ismail 2009: 78), Aladdin Saba and Aly El-Tahry, both worked on Wall Street before returning to Egypt to form Hermes Financial. When Hermes Financial merged with EFG, Saba and El-Tahry became managers of EFG-Hermes. Many were educated at elite business schools: Beltone's Saba has an MBA from Wharton. The founder of Concord Investments International Group, Mohamed Younis, and of Citadel Capital, El-Khazindar, both have MBAs from Harvard Business School. In short, financialisation may be understood as undermining the hegemonic state order (for

instance, by creating new regional centres of finance) and, simultaneously, bolstering this order (e.g. at a time of declining US hegemony Western institutions remain at the nexus of capital (social, cultural and economic) flows.

Finance and food

Finance capital is playing a critical role in consolidating not just the agri-food sector but other sectors of the economy in Egypt and potentially in southern neighbouring countries. The primary activity of private equity firms in Egypt is to buy existing large companies (often formerly public ones), to make them more competitive by increasing their size and/or their geographical reach, and then to re-sell them to corporations or other private equity firms. Private equity entered the Egyptian agri-food sector in 2003 when Actis, a London-based private equity firm that focuses on former British colonies[101], acquired Rashidi El-Mizan, Egypt's largest producer of sesame-based products, from Unilever (see Table 1). In 2005 the Egyptian Industrial Modernisation Centre (IMC) joined EFG-Hermes private equity to create the Horus Fund for Agrofood Industries, a $50 million fund to support agri-food processors (IMC 2005). Nothing came of this joint venture, but EFG-Hermes went on to buy some of the largest agri-food companies with its Horus AgriFund: the private equity firm bought into and later sold Edita, a subsidiary of the Greek food multinational corporation (MNC) Chapita and one of the largest Egyptian snack food companies, as well as El Misrieen, a leading dairy company of cheeses and fruit juice. EFG-Hermes Horus AgriFund currently has stakes in Sokhna Beef, an importer of cattle that slaughters and processes the beef in the 'free zone' at El Sokhna port, and Wadi Holding, a leading family agribusiness.

[101] Actis was part of what was formerly the Commonwealth Development Corporation of the UK, formed in the aftermath of World War II to maintain British economic interests in its colonies. The British government had a minority stake in Actis until 2012.

Citadel Capital[102] created the largest holding company within the agri-food industry, Gozour (roots), 'with the purpose of creating a vertically integrated regional agriculture and multi-category consumer foods conglomerate with primary lines of business' (Ismail 2009). Gozour is made up of three integrated parts: agri-foods and dairy (Gozour Agri), fast-moving consumer goods (Gozour Foods), and intermediate industries such as sugar and corn processing (Gozour Intermediate). Gozour acquired Rashidi El-Mizan and El-Misrieen, two agri-foods companies that had already been through private equity hands. Gozour first acquired Dina Farms, the largest private farm with nearly 10,000 *feddans*. Dina Farms is the largest producer of fresh milk in Egypt with more than 13,000 head of cattle. Gozour also acquired the National Company for Maize Products, a producer of sweeteners from corn and the second largest agribusiness in Egypt[103]. Gozour also acquired Enjoy, the second largest producer of packaged milk and juices and the fourth largest producer of packaged yogurt.

Citadel Capital had plans early on to expand and integrate Gozour. Not only has Gozour doubled the milk and yogurt production of Dina Farms, but Gozour also has plans to expand Dina Farms geographically by buying land in Upper Egypt (Minya and Aswan) as well as the North Coast (HC Brockerage 2009). Gozour has been expanding Rashidi El Mizan, the lead sesame product producer in the country, since buying the company from private equity firm Actis in 2008. Rashidi El Mizan has since gained a near monopoly of the sesame product market, with 60% of the halawa market and 80% of the tahina market. Then, Rashidi El Mizan acquired a majority stake in al Musharraf, one of the largest producers of biscuits and sweets in Sudan. In early 2010 there were also talks of Gozour in negotiations to buy an Ethiopian food firm, the purchase of which would lead the way to contract farming in Ethiopia (Pamuk 2010).

[102] Any information about Citadel Capital that is not cited can be found on their website. Any cited sources contain information that is not found on their website.
[103] This ranking is based on the General Authority for Investment and Free Zones (GAFI) listing of Egypt-based agribusinesses according to issued capital between 1970 and 2010.

A main stated goal of Citadel Capital is not just expansion but vertical integration. Citadel Capital created Gozour's three divisions (agri-foods and dairy, fast food and intermediate foods) for the purposes of integration. For example, Dina Farms is supplying Enjoy's milk. Gozour is combining the packaging facilities of Mom's Food and Enjoy, and Enjoy will supply Al Misrieen with fruit juices. Potentially Dina Farms will supply milk for cheese processing at Al Misrieen. The firm's leasing of agricultural land in Sudan and South Sudan, along with its other transport investments in East Africa that followed, may also be understood as part of its strategy to expand and integrate its companies.

Ecological frontier II: Sudan and other southern neighbouring countries

In 2007 Citadel Capital created the Wafra Portfolio company for investment in agriculture in Sudan, part of an early turn among global finance capital toward investing in hard assets, particularly food production as food prices began to skyrocket. Wafra includes three agricultural companies (see Figure 8): the Sabina company, which holds a 30-year lease on 254,000 *feddans* of irrigated land near to Kosti, Sudan, a river port owned by Keer Marine (Citadel Capital's Portfolio Company), on the White Nile and not far from Khartoum. The Concord company, formerly the Sudanese Egyptian Agricultural Crops Company (SEAC), holds a 25-year lease on about 250,000 *feddans* of rain-fed land in the Unity state of South Sudan. The third company, El-Nahda for Integrated Solutions, signed a 30-year lease on 60,000 *feddans* of land in Ed Dueim, on the White Nile and 150 kilometres south of Khartoum. All three agricultural projects are for cash crop production. In 2011 Sabina had harvested over 2,000 acres of wheat. Concord will grow cash crops like rice, maize, mung beans, chickpeas, soybeans, oil seeds and grain legumes, and Citadel Capital announced that Concord would seed 4,000 acres for maize by mid-2011. El-Nahda is planning to build a large-scale commercial rice farm.

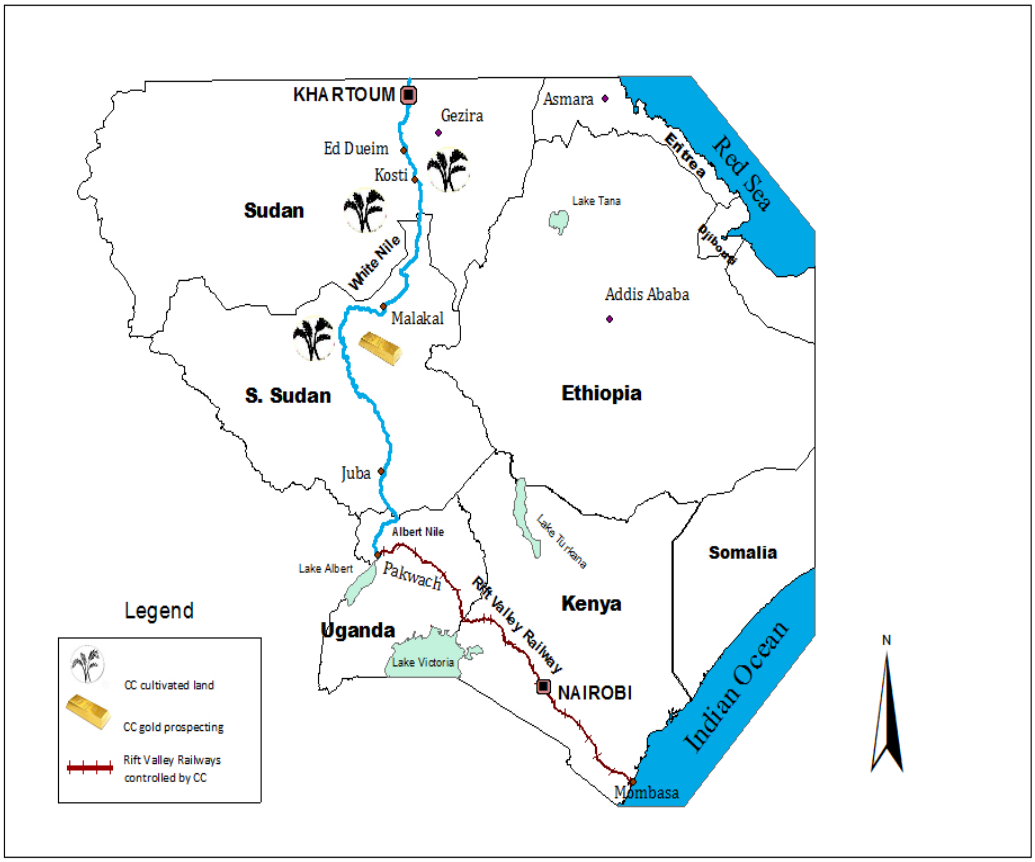

Figure 8: Gold Corridor

(Courtesy of Johannes Plambeck, Maps & Geospatial Information, Olin & Uris Libraries)

At the same time, the firm has been making major investments in 'green' transport in the region largely through its MENA Joint Investment Funds (JIFs), which have been supported by the World Bank's International Finance Corporation and other international finance institutions like the European Investment Bank.[104] Although the firm primarily invests with private co-investors, in 2010 institutional investors made 'substantial new investments via the JIFs' (Citadel Capital 2010: 65). That year Citadel Capital acquired a 51% stake in Rift Valley Railways, which holds a twenty-five year concession to operate more than 2,300 kilometres of railway built by the British colonizers from the port of Mombasa into Kenya and Uganda. In 2011 institutional investors committed $164 million for the restructuring of Rift Valley Railways. Also, the firm's Green Transport platform, of which its Nile Logistics platform is a shareholder, received institutional investor support ($21 million) from the German Development Finance Institution (DEG) and the European Investment Bank (EIB). Nile Logistics invests in river transport via barrages along the Nile in Egypt (via its Nile Cargo company) and the White Nile in Sudan and South Sudan (via its Keer Marine company).

The acquisition of Rift Valley Railways coupled with the Nile Logistics companies enable the firm to control the movement of commodities from the Mediterranean Sea to the port of Mombasa on the Indian Ocean (see Figure 8). Facing criticism (see Sadek 2012) Citadel Capital asserts that they will cultivate and control only a portion of the Sabina land, as Sabina is a joint development project with the area's residents, who will be allotted part of the land over the next decade (potentially over 20,000 *feddans* by the end of 2019) (HC Brokerage 2009). Also, Citadel Capital insists that production of cash crops at both Sabina and Concord will be for local markets in apparent accordance with Sudanese law (in the case of Sabina). However, the law states that only 30% of agricultural output

[104] In 2009 the IFC made a commitment of up to $25 million in the firm's MENA Joint Investment Funds. These funds will invest US $2 for every US$1 Citadel Capital invests.

needs to be sold locally (HC Brokerage 2009). If any of the cereals will be for local markets, as it appears some will be, they will be sold 'locally' at above local prices. The firm states that it expects returns of 15-20% and already sold its first Sabina wheat harvest at rates 25-30% higher than international prices. This can be explained in part by Keer Marine's contract renewal with the UN World Food Programme to transport food aid throughout Sudan. Concord announced that it will sell its crops to the UN as well as the South Sudanese army, in a country in which millions face hunger and starvation this year (Laessing 2012). Citadel Capital's cereal production is not only for local markets, however. It is also likely for export markets (in the Gulf primarily) and for its own food processing companies (in Sudan and Egypt and potentially other neighbouring countries). The firm has already been expanding its agri-food companies regionally, and after acquiring a majority stake in Rift Valley Railways, the firm was trying to buy Kenyan agri-food companies and arable land for wheat and rice farming (Irungu 2010).

Semi-/famine conditions again invite the making of frontiers in Sudan, as they did at the time of Britain's construction of the Gezira Scheme in the interwar period. In other words, frontiers are not just outcomes of the 'exhaustion' of socio-ecological circuits of capital, in Moore's (2011) terms, but their making both responds to, and amplifies, the immiseration of populations (Davis 2001). Here, Citadel Capital follows years of civil war and unrest in the former Sudan, and will likely exacerbate the crisis in livelihoods as the firm's 'gold corridor' moves staples and raw materials through and out of the region. The gold corridor will transport out of the region not only the firm's own commodities, but the commodities of the many other foreign investors who have been appropriating land and resources in Sudan and South Sudan. The former Sudan was in fact a primary destination of land grabbers following the 2007-2008 crisis, and many of these land deals have been of land along the fertile banks of the Blue Nile (as are Citadel Capital's three farms) (Rulli et al 2013). These investment farms are taking prime

agricultural land and irrigation water at a time when local food prices of essential grains continue to rise (FAO 2013) and Sudanese farmers protest against the lack of irrigation water and other state agricultural supports (Martelli 2011). Further, the prospecting and mining of gold and other raw materials in the Blue Nile state by Citadel Capital and other investors fuels decades-long strife between local people and the Khartoum government, which culminated in the 2011 formation of the rebel Sudan People's Liberation Movement – North (SPLM-N) in the Blue Nile and South Kordofan states – an armed movement for regime change to end land dispossession, discrimination and other abuses by the Sudanese state (International Crisis Group 14 Feb 2013).

Given the firm's investment corridor through and out of East and North Africa, it is likely that Citadel Capital will continue to acquire agricultural land and other agri-food companies in the region. Their investments toward integration in part respond to and anticipate peak oil, with the expansion of markets for alternative forms of transport (river, rail) and alternative forms of energy.[105] More than this, their current and anticipated investments anticipate and precipitate the growth of corporate agri-food industries (as wheat, maize and sugar are all likely for animal protein and food processing) for the middle and upper classes *and* chronic food insecurity among the rural poor and urban-displaced. As the manager of Concord said, regarding the South Kordofan refugees who are camped next to the farm, 'They will need to be fed' (Laessing 2012).

If land grabbing is understood as a process of corporate consolidation of food economies of regional powers, as the case of Egyptian finance capital has been highlighted to demonstrate, then it is imaginable that a growing percentage of world agricultural trade will be within the 'close circuit' of corporate systems (or

[105] In addition to the institutional financing for the firm's 'green' railway and river transport investments, the firm has received institutional financing for the building of a petroleum refining facility (Egyptian Refining Company), a second-stage oil refinery that will produce 'clean' diesel fuel (see Heikal 2012).

country systems in the case of state-state deals; Cotula 2012). This 'close circuit' does not and will not exclude populations from corporate food, but rather, deepens the institutionalized immiseration of populations in an increasingly food insecure world. For example, one of the policy discourses that has accompanied the institutional mechanisms governing the global land grab is of smallholders and investors forming 'mutually advantageous relationships' (Deininger et al 2011: 34). In Egypt a proposal had been circulating within the Mubarak regime, which began to re-surface following the 25 January 2011 uprising, of a new type of partnership between farmers and big business, in which farmers will own stocks to farm production and big business will manage the farms.[106]

If and how this circuit of world agricultural trade closes will continue to depend on social struggles over land grabbing. Citadel Capital is clearly on the defensive: for example, there has been vocal opposition to the firm's investment activities in Kenya (Sadek 2012) and growing labour unrest since they took over Rift Valley Railways in Uganda (*Dispatch Kampala* 13 Jan 2012; Favo 2012). Generally, the firm is facing public discontent to 'business as usual' in Egypt since the start of the revolution, and in 2011 they did not sell any of their companies (Citadel Capital 2011). Public opposition to state-state deals has been even fiercer (see, for example, Abdalla Ali 2010) on public outrage in Sudan over the deal between the Egyptian and Sudanese governments for Egypt to take over part of the Gezira Scheme), which is why many state-state deals are made secretly. And public opposition will only grow as food prices continue to rise.

Conclusion

Both patterns of frontier making were established in the long 19th century, and the making of both frontiers are responses to a deepening metabolic rift with capitalist

[106] This information is from the author's meeting with an American University in Cairo (AUC) economics professor, on 5 October 2011.

development, internal and external to Egypt. The ecological frontier within Egypt, in the expanding desert, reflects on how the corporate agri-food system has developed and grown, as I have detailed throughout this dissertation; and the ecological frontier in southern neighbouring countries reflects on global questions (of the establishment of offshore platforms, and so on) that intersect with the agri-food system. The institutionalization of a 'boom/famine' region in Sudan and South Sudan, in particular, demonstrates that frontiers not only lead to 'exhaustion' of human and nonhuman natures (and in the present-day this process is unfolding as I write) but are invited by already weakened societies. And the process of institutionalization itself is an outcome of crises from a deepening metabolic rift – in the present day these include the potential and real limits to capital accumulation within Egypt as well as the spectre of peak oil in particular, climate change, intense speculation on commodities markets, and on and on.

Conclusion

This study of social change and food system (re-)making in Egypt problematizes the interpretation or assumption that heightened capital accumulation in agriculture and food via corporate control has occurred as a march in time, uneven and incomplete, yet spreading from the US and Europe and making its way to rest of the world via structural adjustments. In fact, it was this very assumption that spawned this study, as I questioned how corporate food had grown in Egypt if agribusinesses had not been violently dispossessing smallholders from land. This study rather offers a new understanding of social change in the modern world. The adoption of industrial agriculture, the production of industrial food (processed, packaged), and 'food getting' in super- and hypermarkets, franchises, restaurants and so on – all manifestations of 'modernity' – embody both a linearity to their movement through space and time and the non-linear and unbundled. In this dissertation I have detailed the conditions that enable heightened commodification of agri-food: frontier making in the desert, parasites and 'environment controlled agri-technologies' that attempt to control them, differentiation among producers, the official, direct transmission of wealth and privilege, and so on. I have also offered lenses through which to understand the uncertainty, non-inevitability of this transformation: negotiations of newer and older relations to capital, movements away from commodification (re-peasantization, mixing commercial and household farming, labour migration, etc.), H5N1 population, resistance to land grabbing, and so on.

The corporate agri-food system in Egypt in fact embodies this tension over the power to decide what and how to grow, distribute and consume food. This tension is of Society and of Nature, and is reflected in the fact that corporations do not control value at the point of production but they are actively trying to – including through vertical integration, increasingly coercive agro-technologies,

political lobbying, and direct political office. The implication of this interpretation of the corporate agri-food system for understanding the emergence of New Agricultural Countries (NACs) in the global South during the last few decades is that the NACs reflect not only the reordering of the hegemonic state system and capitalist relations but also transformations in institutions of modernity.

New peasantries, political modernity and political alliances

One of the ways in which I theorise this tension within the corporate agri-food system, over capital accumulation in agriculture and food, is by engaging with agrarian question debates in the 21st century, about the relationship between capital accumulation and peasantries. Van der Ploeg's (2008) theoretical category of 'new peasantries' in Empire is an important intervention in agrarian question debates by inverting the focus from capital to peasants (and the ways in which they struggle for livelihoods and are transformed in the process). In the simplest sense the transformation of production for use to production for exchange through capitalist relations is theorised as a dynamic rather than linear one. I use this theoretical category to demonstrate that in Egypt historically corporate food was made through the reconstitution of peasantries (not only processes of dispossession through differentiation and displacement) and, in turn, peasantries have been re-made with the development and growth of corporate food. I argue, though, that to understand these historical processes in Egypt the lens should not only be of peasantries struggling within Empire, or the institutions and relations and structures that intensify circuits of capital accumulation, as van der Ploeg (2008) lays out, but also of peasantries in relationship to changing institutions of political modernity, following Chakrabarty (2000). In short, I explain the complex relations involved in intensified capital accumulation in agriculture by looking at 'new peasantries' as both objects and subjects of political modernity.

I begin the discussion of how to think of smallholders within the body politic, as transformed and as transforming the nation and state, through an analysis of the struggles of smallholders over the violent land grab during the last two decades, and the relationship they take to the courts, media, legal and social rights and so on in these struggles. I develop this argument further through the lens of 'rural policy' and how it is transformed with structural adjustments and by the subaltern. In particular, I look at the historical change of agrarian reform institutions and state desert development in the development era, which re-configured the relationship of the existing agricultural areas and new expanding areas ('the frontier') in the Ottoman and colonial eras. These two socio-ecological histories provide the framework for analysing the trends in the reconstitution of peasantries in the neoliberal era. I look at three of these trends: 1) repeasantization through land reclamation; 2) integration of smallholder production and smallholder labour in corporate farming; and 3) migrant labour from Upper Egypt to Cairo/Lower Egypt. All of these trends demonstrate how smallholders are struggling to strengthen their resource base and to regain autonomy vis-à-vis the dismantling of agrarian reforms and the reformulation of state desert development.

Further, I examine 'new peasantries' through their adverse incorporation into and exclusion from corporate agri-food supply chains. I address the international and state development apparatus that has responded to and precipitated these trends by attempting to incorporate or improve the terms of incorporation of smallholders into high-value chains. These trends represent both a tendency toward differentiation (as corporate food processors prefer larger scale suppliers) and dispossession in the form of value (Elyachar 2005) as the corporate processor or trader/retailer dictates how and what to grow.

The significance of adding the lens of political modernity to van der Ploeg's (2008) category lies particularly in the relationship of reconstituted peasant

production and distribution/markets to consumers. I argue that there are two general ways to understand this relationship: On the one hand, over time food consumption in Egypt across classes (not all) has moved toward animal protein and processed food, hence the overweight and obesity epidemic across classes. And this movement is partially a response to the food scares from and class politics surrounding food contamination across the 'informal' supply chain, which has propelled some consumers to shop less in informal markets and more in supermarkets and hypermarkets and to buy more processed rather than fresh produce. On the other hand, over time production has moved toward foods high in animal protein and for processing – and small/er scale producers have become the main suppliers of key corporate crops – e.g. tomato, potato, raw milk and potentially others. Food processors in Egypt have grown very large and are utilizing their oligopolistic control over the private economy to control the market. Corporate processors then exploit smallholders within these chains, but they also are dependent on them (and are attempting to undermine the position of smallholders within these chains by building their own farms). As the 'domestic supply' of raw milk, they hold not a marginalized but an important position within the body politic. These particular reinforcing and contradictory processes that build and limit corporate food demonstrate the potentially effective ways in which political alliances among smallholders (and among smallholders and consumers) may be built to bolster rural livelihoods.

By looking at 'new peasantries' through the lens of political modernity, I offer a new interpretation of the widespread existence of peasant production at a time of growing corporate control. Rather than interpreting their existence through a 'persistence' lens (in terms of their function within capitalism) or a 'resilience' lens (in terms of their struggles for livelihoods, I offer a structured perspective on peasant agency – peasantries are members of the body politic, and provision both the corporate and informal food economies. And importantly this is a point of

departure for thinking about alliance building (and the challenges and opportunities thereof). As Araghi (2000) notes, the original intent of the agrarian question debates was in fact to deal with 'alliance building' possibilities. Araghi (2000: 152-153) concludes that the agrarian question (or what he terms the 'peasant question') needs to be posed 'in its political and substantive sense to address the problem of alliance building informed by an analysis of global class formation in the post-GATT era'. In this dissertation I offer two types of political alliances that could be formed given the ways in which smallholders are reconstituted, which may not be satisfactory but are a starting point. The first is an alliance between producers and consumers for food grown 'sustainably' (without chemical applications and so on), and the other is among producers in the same chain to exert more control over that chain.

For this analysis of political alliance formation to be developed it would be helpful to extend this study of the reconstitution of peasantries to what van der Ploeg (2008) calls the 'peasant mode of farming'. Van der Ploeg distinguishes modes of farming that are different but interlinked: capitalist farming, entrepreneurial farming and peasant farming. He defines 'peasant mode of farming' as an 'institutionalized distantiation of farming from markets' (2008: 52). Understanding how peasantries manage production for the household and local consumption and corporate supply chains or commercial 'informal' markets and so on – would be helpful for any kind of alliances being built with consumers of different classes. In other words, how can such alliances be built on principles of food sovereignty, for example, by which production is culturally appropriate and determined by local communities/villages and at the same time may be consumed by distant urban consumers?

For an even broader set of political alliances the analysis could extend to the 'semi-proletarianized', or the many subaltern classes who are connected to

‘informal’ food production, distribution and markets. In Egypt the extent to which subaltern classes go in and out of food production and markets is not clear, but this trend is present. As Araghi (2000) argues, the agrarian question of the 21st century has become the interrelated questions of informal workers, the homeless, the migrants, and so on. And it would be compelling to study in particular the relations between the various households along the informal food chains, linking ‘new peasantries’ to the many subaltern classes who distribute and sell peasant food stuffs.

Corporatization and financialization of the agri-food system and food/legitimacy crises

The literature on corporate food offers little perspective on corporate food as part of class formation. The literature may offer a perspective of transnational, local and regional corporations – but as economic and political entities – not as part of a domestic framework of transmitting wealth and privilege (e.g. Bonanno et al 1994 volume). In contrast, in chapter 4 I offer a lens on the reproductive logics of the dominant class – that is, the cultural, political, and economic – to explain how the corporate agri-food system has developed and grown the way that it has. In fact, it was the character of the capitalist classes today that brought this study to the long 19th century, as I discovered that the character resembled capitalist class formation in the first half of the 20th century. I offer that the similar character of the bourgeoisie is not merely about the colonial legacy of direct British rule over Egypt, but is more broadly about how value relations are constructed translocally. In other words, the institutions and relations of capitalist class reproduction are a structural feature of the ‘regime of global value relations’ (Araghi 2003) in Egypt, in the long 19th century and again in the neoliberal period.

I draw largely from the anthropological literature on the elite (e.g. Ho 2009; Ong 1999; Ong 2005) in this analysis, and following Ong (1999) I argue that the reproductive logics of the dominant class in Egypt constitute a negotiation between existing relations of capital exchange and newer relations that fall within some kind of 'East-West divide'. I offer three local frameworks of the 'East-West divide' to demonstrate how the agri-food industry was reconstructed from the interwar period during the last few decades: that is, structural adjustment policies (particularly land liberalization and industrial agriculture in reclaimed lands); USAID policies to promote industrial agriculture; and the cultural, political and social institutions that make up what I call the 'corporate standard' (namely, the business association turned lobbying organizations). All three frameworks illustrate that the capitalist classes have been reorganized through a negotiation of 'internal' and 'external' forces since roughly the 1970s, through which the corporate agri-food system was made. First, a new class of agribusiness capitalists created a political coalition, and then the capitalist classes consolidated into corporate family business groups that came to dominate the food industry, and more recently a class of finance capitalists has financialized the industry through mergers and acquisitions. The end result has been the consolidation of the industry in the hands of fewer family business groups (local corporations) (as well as regional and transnational corporations).

I argue that the reorganization of the capitalist classes and the agri-food industry itself is part of the negotiated process of corporatization, or the organizational structures, protocols and so on that have become institutionalized by definite corporate bodies (corporations, global governance institutions, states, etc.). There is an 'invisibilized' architecture through which not just the private food economy but also other private economic sectors, government agencies, NGOs and other organizations operate. This is what I refer to as the 'corporate form' (Welker et al 2011). And it is the cultural norms, social networks, consumer goods,

‘habitus’ (personal embodiment, dispositions, etc.) and so on of the corporate form that constitute the ‘corporate standard’, through which the reproduction of the social structure is institutionalized locally and transnationally. I use the example of the social networks of the business elite in Cairo – namely, the private business associations – through which mutual recognition among members of the dominant class is produced.

I use Bourdieu’s (1986) theory of the mutual convertibility of capitals to demonstrate the reproductive logics of the dominant class in Egypt and how they produce the corporate standard. By using Bourdieu’s theory I intervene in the literature on the elite by arguing that the reproductive logics of the dominant class help us understand not only how the dominant social structure is maintained domestically, but also how it is undermined through heightened class conflict. On the one hand, processes of corporatization and financialization of the domestic political economy have contributed to labour immiseration during the last two decades. And on the other hand, these processes affecting the food economy in particular have contributed to growing food insecurity, particularly among the urban poor, as domestic production has been transformed for the consumption of animal protein and processed food – and away from staple foods.

In short, and stated most simply, I argue that the dominant class has transmitted wealth and privilege through official (‘legal’, institutional) means that govern much capital exchange transnationally. Much attention has been given to the corruption and political patronage of the Mubarak regime, and following the uprising more information has come to the surface regarding the intimate relationship between business and policy making. A case that I make is that the dominant class has reproduced itself also significantly through these legal means that have become institutionalized by corporate-/ized entities within Egypt and transnationally.

Parasite ecology and the (un)making of the desert frontier

The expansion of the frontier of capital farther into the desert during the last couple of decades in particular is an outcome of the complex of reinforcing and contradictory interactions between corporate players, desert winds, parasite populations, the government, Bedouin, and so on. The corporate agri-food system – and industrial agriculture that in part constitutes it – functions within a nexus of global capitalist production, acting as both a vector and recipient of the multiplying 'monsters', knowns and unknowns, anticipated and ignored, that have been created through these interactions across time and space.

I argue that the character of the frontier reflects both how it is structured world-historically (through the logics that produce capitalist relations on a worldwide scale) and how it is shaped in particular by the current conjuncture of crisis-ridden industrial agriculture. Similar to the frontier of intensified agricultural production for export in the Ottoman era, the desert frontier of the present-day was built in part through the state re-claiming Bedouin ancestral lands and then granting these lands for political patronage or more generally the solidification of the dominant social structure; and through the siphoning of water, labour and other critical resources from nearby villages to the corporate farms. Importantly, in the Ottoman era the private investments in reclamation and cultivation became the basis for the consolidation of the estate system, and as I argue, today private reclamation has been a vehicle for the expansion of the corporate agri-food system and the consolidation of the agri-food industry by corporations. Intensive agriculture at the time of direct colonial rule quickly led to 'relative exhaustion', just as there are signs of exhaustion already in the private reclaimed areas (for example, from the rapid depletion of the underground aquifer in the west Delta).

In contrast, what I think is most compelling about how the frontiers of the two historical moments differ is the intensely coercive industrial agriculture

systems that attempt to control the production environment. While the response to the crisis of intensive cash crop production in the colonial era was the import and application of ever increasing applications of chemical inputs, the response today to maintain production levels is the import and application of increasingly energy- and capital-intensive agro-technologies, which are aggressively coercive in establishing 'controlled zones' of production. In this dissertation I highlight 'biosecure' production systems in poultry and horticulture to demonstrate that such systems have been institutionalized within the 'regime of private standards' to manage continual (potential) crises, particularly from the spread of pathogens with growing virulence. The interactions of human and nonhuman in the establishment of modern industrial agriculture during the 20th century have accumulated the creation of 'new beings' (Latour 1993) that are ever more difficult to control. These 'new beings' demonstrate clearly how frontier making is in fact a struggle over the power to decide value at the point of production.

The food crisis, finance and land grabbing

I conclude this study with the 'global land grab' since the 2007-2008 crises because land grabbing reflects the latest restructuring of food production and consumption on a worldwide scale – and of the corporate agri-food system in Egypt, in particular. What is compelling about this study of land grabbing across the Egypt-Sudan border in particular is how it reflects on the ways in which the production of value within modern-day Egypt has been structured, in the long 19th century and in the neoliberal period. At a time of crisis of intensive cash crop production for export in the first decade of the 20th century, the British went forward with the plan to build a new Delta in Sudan at the intersections of the White and Blue Niles. And at times of repeated crises (in the 1970s and then again most recently since 2007-2008) there has been an institutionalized attempt to carve out a frontier in Sudan (and South Sudan) for an offshore platform for food

production, for not only Egypt but other food insecure states in the region. As the case study of Citadel Capital, the Egyptian private equity firm, illustrates, not all of the investments in Sudan and South Sudan have been thus far for the establishment of an agroexport market. However, perhaps what is most important about the investments of Citadel Capital – in land and other resources, in Sudan and South Sudan as well as other southern neighbours – is that they represent an organized portfolio for the establishment of an infrastructure for moving food and other commodities through and out of the region of East-North Africa. This particular character of the frontier reflects on the proliferating 'monsters' and commensurate processes of financialisation that are continually driving up the price of food (and gold, oil and other commodities).

I will not end this study with the enabling conditions of heightened commodification of food, as I have attempted throughout this dissertation to demonstrate not only processes of commodification but also the limits to commodification. In the immediate term there has been growing opposition and resistance to land grabbing, especially by foreign investors, and of course there is a popular revolution in Egypt that is disrupting to some extent the reproduction of the class of finance capitalists and corporate family business groups. And in the medium term the heightened commodification of food is far from certain or inevitable. In fact, the 'global land grab' reflects the anticipated, real and perceived, limits to capital accumulation in the future.

BIBLIOGRAPHY

"Middle East poultry industry advanced rapidly in early 1980's, growth at a slower rate is forecast for rest of decade." *Agribusiness Worldwide,* March: 19-20, 1987.

"1600 Workers in Ismailia Poultry Go on Strike." *Almasry Alyoum,* September 11, 2008. Retrieved December 13, 2012 (http://today.almasryalyoum.com/article2.aspx?ArticleID=178213).

"Egypt signs deal to allow farmland access in Sudan." *Reuters,* September 6 2010. Retrieved September 30, 2010 (http://af.reuters.com/article/topNews/idAFJOE68507K20100906).

"Egypt says Juhayna, others violate competition law." *Reuters,* March 24 2011. Retrieved March 18, 2011 (http://www.reuters.com/article/2011/03/14/ozabs-juhayna-competition-idAFJOE72D08V20110314).

"New foot and mouth disease strain hits Egypt: FAO." *Reuters,* March 22 2012. Retrieved October 1, 2012 (http://www.reuters.com/article/2012/03/22/us-egypt-fmd-fao-idUSBRE82L0IE20120322).

"What is happening with Rift Valley Railways." *Dispatch Kampala,* January 13, 2012. Retrieved September 2, 2012 (http://www.dispatch.ug/what-is-happening-with-rift-valley-railways/3542/).

"Workers request return of Ismailia Poultry's assets to state." *Mubasher,* November 29, 2012. Retrieved December 13, 2012 (http://english.mubasher.info/portal/case/getDetailsStory.html?goToHomePageParam=true&storyId=2203920).

"Press Release: Beltone and Kenana establish a new agriculture company to invest in Egypt and Sudan." *Beltone Financial,* n.d. Retrieved September 2, 2012 (http://www.beltonefinancial.com/untitled6).

Abbassy, M. S., Ibrahim, H. Z., & Abdel-Kader, H. M. (2003). Persistent organochlorine pollutants in the aquatic ecosystem of Lake Manzala, Egypt. *Bulletin of environmental contamination and toxicology*, *70*(6), 1158–64.

Abdalla, A. (2010, December 19). Egypt's takeover of Sudan's Gezira scheme. *Sudan Tribune*. Retrieved from http://www.sudantribune.com/Egypt-s-takeover-of-Sudan-s-Gezira,37336

Abdel-Fadil, M. (1975). *Development, Income Distribution and Social Change in Rural Egypt (1952-1970)*. Cambridge: Cambridge University Press.

Abdel-latif, A., & Schmitz, H. (2011). The Politics of Investment and Growth in Egypt: Experimenting with a New Approach. *Development Policy Review*, *29*(4), 433–458.

Abdelwhab, E. M., & Hafez, H. M. (2011). An overview of the epidemic of highly pathogenic H5N1 avian influenza virus in Egypt: epidemiology and control challenges. *Epidemiology and infection*, *139*(5), 647–57.

Abu-Lughod, L. (1998). Television and the Virtues of Education: Upper Egyptian Encounters with State Culture. In N. Hopkins & K. Westergaard (Eds.), *Directions of Change in Rural Egypt*. Cairo: American University at Cairo Press.

Adly, A. I. (2009). Politically-Embedded Cronyism: The Case of Post-Liberalization Egypt. *Business and Politics*, *11*(4, 3), 1–26.

Adriansen, H. K. (2009). Land reclamation in Egypt: A study of life in the new lands. *Geoforum*, *40*(4), 664–674.

Akram-Lodhi, A. H., & Kay, C. (2010a). Surveying the agrarian question (part 1): unearthing foundations, exploring diversity. *Journal of Peasant Studies*, *37*(1), 177–302.

Akram-Lodhi, A. H., & Kay, C. (2010b). Surveying the agrarian question (part 2): current debates and beyond. *Journal of Peasant Studies*, *37*(2), 255–284.

Allan, J. A. (1983). Some Phases in Extending the Cultivated Area in the Nineteenth and Twentieth Centuries in Egypt. *Middle Eastern Studies*, *19*(4), 470–481.

Alleaume, G. (1999). An Industrial Revolution in Agriculture? Some Observations on the Evolution of Rural Egypt in the Nineteenth Century. In A. K. Bowman & E. L. Rogan (Eds.), *Agriculture in Egypt: From Pharaonic to Modern Times*. Oxford: Oxford University Press.

Alterman, J. B. (2002). *Egypt and American Foreign Assistance, 1952-1956: Hopes Dashed*. New York: Palgrave Macmillan.

Alvarado, I., & Charmel, K. (2002). The Rapid Rise of Supermarkets in Costa Rica: Impact on Horticultural Markets Supermarket development in Costa Rica. *Development Policy Review*, *20*(4), 473–485.

Anwar, W. a. (2003). Environmental health in Egypt. *International journal of hygiene and environmental health*, *206*(4-5), 339–50.

Araghi, F. (2000). The Great Global Enclosure of Our Times: Peasants and the Agrarian Question at the End of the 20th Century. In F. Magdoff, J. B. Foster, & F. H. Buttel (Eds.), *Hungry for Profit: the agribusiness threat to farmers, food, and the environment*. New York: Monthly Review Press.

Araghi, F. (2003). Food regimes and the production of value: Some methodological issues. *Journal of Peasant Studies*, (November 2011), 37–41.

Araghi, F. (2009). The invisible hand and the visible foot: peasants, dispossession and globalization. In A. H. Akram-Lodhi & C. Kay (Eds.), *Peasants and Globalization: Political economy, rural transformation and the agrarian question*. London and New York: Routledge.

Asfaw, A. (2007). Do government food price policies affect the prevalence of obesity? Empirical evidence from Egypt. *World Development*, *35*, 687–701.

Ashmawi, S. (n.d.). *Peasants and authority in the light of Egyptian peasant movements 1919-1999 (Al-falahun wal-Sulta "ala Daw" al-Harakat al-Falahiyya al-Misriyya 1919-1999)*. Cairo: Merit.

Baer, G. (1969). *Studies in the social history of modern Egypt*. Chicago: University of Chicago Press.

Banaji, J. (1996). Globalisation and Restructuring in the Indian Food Industry. *Journal of Peasant Studies*, *24*(1-2), 191–210.

Barndt, D. (2002). *Tangled Routes: Women, Work, and Globalization on the Tomato Trail*. Garamond Press.

Barnes, J. (2012). Pumping possibility: Agricultural expansion through desert reclamation in Egypt. *Social Studies of Science*, *42*(4), 517–538.

Bayat, A., & Denis, E. (2000). Who is afraid of ashwaiyyat? Urban change and politics in Egypt. *Environment and Urbanization*, *12*(2), 185–199.

Beinin, J., & El-Hamalawy, H. (2007, May). Strikes in Egypt Spread from Center of Gravity. *Middle East Report*.

Bernstein, H. (2009). Agrarian questions from transition to globalization. In A. H. Akram-Lodhi & C. Kay (Eds.), *Peasants and Globalization: Political economy, rural transformation and the agrarian question*. London and New York: Routledge.

Beverely, J. (2004). Subaltern Resistance in Latin America: A Reply to Tom Brass. *Journal of Peasant Studies*, *31*(2), 261–275.

Bianchi, R. (1989). *Unruly Corporatism: Associational Life in Twentieth-Century Egypt*. New York: Oxford University Press.

Bonanno, A., Busch, L., Friedland, W. H., Gouveia, L., & Mingione, E. (1994). *From Columbus to ConAgra: The Globalization of Agriculture and Food*. Lawrence, Kansas: University of Kansas Press.

Borras Jr., S. M., Kay, C., & Akram-Lodhi, A. H. (2007). Agrarian reform and rural development: Historical overview and current issues. In S. M. Borras Jr., C. Kay, & A. H. Akram-Lodhi (Eds.), *Land, Poverty and Livelihoods in an Era of Globalization: Perspectives from developing and transition countries*. London and New York: Routledge.

Borras, S. M. (2010). The Politics of Transnational Agrarian Movements. *Development and Change*, *41*(5), 771–803.

Bourdieu, P. (1986). The Forms of Capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood Press.

Brass, T. (2002). On Which Side of What Barricade? Subaltern Resistance in Latin America and Elsewhere. *Journal of Peasant Studies*, *29*(3-4), 336–399.

Braun, B. (2007). Biopolitics and the molecularization of life. *Cultural Geographies*, *14*(1), 6–28.

Brown, N. (1990). *Peasant Politics in Modern Egypt: The Struggle Against the State*. New Haven, CT: Yale University Press.

Brown, N. J. (2006). *The Rule of Law in the Arab World: Courts in Egypt and the Gulf*. Cambridge: Cambridge University Press.

Burch, D., & Lawrence, G. (Eds.). (2007). *Supermarkets and Agri-food Supply Chains: Transformations in the Production and Consumption of Food*. Cheltenham, UK: Edward Elgar Publishing Limited.

Burch, David, & Lawrence, G. (2009). Towards a third food regime: behind the transformation. *Agriculture and Human Values*, *26*(4), 267–279.

Bush, R. (2007). Mubarak's legacy for Egypt's rural poor: Returning land to the landlords. In S. M. B. Jr, C. Kay, & A. H. Akram-Lodhi (Eds.), *Land, Poverty and Livelihoods in an Era of Globalization: Perspectives from developing and transition countries*. London: Routledge.

Bush, R., & Sabri, A. (2000). Mining for Fish: Privatization of the "Commons" along Egypt's Northern Coastline. *Middle East Report*, *216*(216), 20–23+45.

Business Monitor. (2011). Egypt Food and Drink. *Egypt Food and Drink Report Q3*.

Carroll, W. K. (2010). *The Making of a Transnational Capitalist Class: Corporate Power in the 21st Century*. London and New York: Zed Books.

Chakrabarty, D. (2000). *Provincializing Europe: postcolonial thought and historical difference*. Princeton, N.J.: Princeton University Press.

Chuengsatiansup, K. (2008). Ethnography of epidemiologic transition: Avian flu, global health politics and agro-industrial capitalism in Thailand. *Anthropology & Medicine*, *15*(1), 53–59.

Citadel Capital. (2010). Annual Report 2010. Retrieved July 02, 2012, from http://www.citadelcapital.com/downloads/Citadel-Capital-Annual-Report-2010.pdf

Citadel Capital. (2011). Annual Report 2011. Retrieved September 02, 2012, from http://www.citadelcapital.com/downloads/Citadel-Capital-Annual-Report-2011.pdf

Cole, D. P., & Altorki, S. (1998). *Bedouin, Settlers, and Holiday-Makers: Egypt's Changing Northwest Coast*. Cairo: American University at Cairo Press.

Cordell, D., Drangert, J.-O., & White, S. (2009). The story of phosphorus: Global food security and food for thought. *Global Environmental Change*, *19*(2), 292–305.

Cotula, L. (2012). The international political economy of the global land rush: A critical appraisal of trends, scale, geography and drivers. *Journal of Peasant Studies*, *39*(3-4), 649–680.

Cuno, K. M. (1999). A Tale of Two Villages: Family, Property, and Economic Activity in Rural Egypt in the 1840s. In A. K. Bowman & E. Rogan (Eds.), *Agriculture in Egypt: From Pharaonic to Modern Times*. Oxford: Oxford University Press.

Dahi, O. S. (2012). The Political Economy of the Egyptian and Arab Revolt. *IDS Bulletin*, *43*(1), 47–53.

Daniel, S. (2012). Situating private equity capital in the land grab debate. *Journal of Peasant Studies*, *39*(3-4), 703–729.

Davis, M. (2001). *Late Victorian Holocausts: El Niño Famines and the Making of the Third World*. London and New York: Verso.

Davis, M. (2005). *The Monster at Our Door: The Global Threat of Avian Flu*. New York: Henry Holt and Company.

Davis, M. (2006). *Planet of slums*. London: Verso.

Davis, M. F., Price, L. B., Liu, C. M.-H., & Silbergeld, E. K. (2011). An ecological perspective on U.S. industrial poultry production: the role of anthropogenic ecosystems on the emergence of drug-resistant bacteria from agricultural environments. *Current opinion in microbiology*, *14*(3), 244–50.

De Schutter, O. (2011). How not to think of land-grabbing: three critiques of large-scale investments in farmland. *Journal of Peasant Studies*, *38*(2), 249–279.

Deininger, K., Byerlee, D., Lindsay, J., Norton, A., Selod, H., & Stickler, M. (2011). *Rising Global Interest in Farmland: Can it yield sustainable and equitable benefits? World Bank*. Washington, D.C. Retrieved from http://siteresources.worldbank.org/INTARD/Resources/ESW_Sept7_final_final.pdf

Dethier, J.-J., & Funk, K. (1987). The Language of Food : PL 480 in Egypt. *Middle East Report*, (145), 22–28.

Dixon, J. (2009). From the imperial to the empty calorie: how nutrition relations underpin food regime transitions. *Agriculture and Human Values*, *26*(4), 321–333.

Dixon, M. (2011). An Arab spring. *Review of African Political Economy*, *38*(128), 309–316.

Dixon, M. W. (2010). Investing in Inequality: Education Reform in Egypt. *Middle East Report*, *255*, 40–47.

Dunn, E. C. (2005). Standards and Person-Making in East Central Europe. In S. Collier & A. Ong (Eds.), *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Malden, MA: Blackwell Publishers.

Edelman, M. (2003). Transnational Peasant and Farmer Movements and Networks. In M. Kaldor, H. Anheier, & M. Glasius (Eds.), *Global Civil Society 2003*. Oxford: Oxford University Press.

EDF. (2011). Agricultural Crops Program of the Export Development Fund (Sunduq Tanmia Alsawdarat Bernamag Alhasallat Alzara3ya). Cairo.

EFG-Hermes. (2010, July 29). Juhayna Food Industries. *EFG-Hermes Buy Rating*. Retrieved July 16, 2012, from http://mec.biz/term/uploads/JUFO_29-07-2010.pdf

Egypt says Juhayna, others violate competition law. (2011). *Reuters*. Retrieved March 18, 2011, from http://www.reuters.com/article/2011/03/14/ozabs-juhayna-competition-idAFJOE72D08V20110314

Egypt signs deal to allow farmland access in Sudan. (2010, September 6). *Reuters*. Retrieved from http://af.reuters.com/article/topNews/idAFJOE68507K20100906

El Shakry, O. (2007). *The Great Social Laboratory: Subjects of Knowledge in Colonial and Postcolonial Egypt*. Stanford: Stanford University Press.

El-Gawhary, K. (1997). “Nothing More to Lose”: Landowners, Tenants, and Economic Liberalization in Egypt. *Middle East Report*, 41–2, 48.

El-Sayed El-Naggar, A. (2009). Economic policy: from state control to decay and corruption. In R. El-Mahdi & P. Marfleet (Eds.), *Egypt: Moment of Change*. Cairo: American University at Cairo Press.

Eltanany, M., & Distl, O. (2010). Genetic diversity and genealogical origins of domestic chicken. *World's Poultry Science Journal*, *66*(04), 715–726.

Elyachar, J. (2005). *Markets of Dispossession: NGOs, Economic Development and the State in Cairo*. Durham and London: Duke University Press.

EPSC. (2006). Egypt: Lawsuit of 26 peasants including 6 women of the village of Sarando and their lawyer. Egyptian Peasant Solidarity Committee (EPSC) Communiqué.

EPSC. (2010). *A Summary of Types of Peasant Resistance in a Select Number of Delta Villages (1966-2010) (moajaz 3n ashkal almaqawamat alfallah fi 3dad qura delta masr).*

Fahmy, K. (2004). *All the Pasha's Men: Mehmed Ali, his army and the making of modern Egypt*. Cairo: The American University in Cairo Press.

Faiguenbaum, S., Berdegué, J. a., & Reardon, T. (2002). The Rapid Rise of Supermarkets in Chile: Effects on Dairy, Vegetable, and Beef Chains. *Development Policy Review*, *20*(4), 459–471.

FAO. (n.d.). WTO agreement on agriculture: the implementation experience -- Egypt. *FAO Corporate Document Repository*. Retrieved March 23, 2012, from http://www.fao.org/docrep/005/Y4632E/y4632e0c.htm

FAO. (2006a). The double burden of malnutrition: Case studies from six developing countries. *FAO Food and Nutrition Paper 84*. Rome. Retrieved September 07, 2011, from ftp://ftp.fao.org/docrep/fao/009/a0442e/a0442e00.pdf

FAO. (2006b). Poultry sector country review: Egypt. *Food and Agriculture Organization of the United Nations*. Retrieved March 12, 2012, from ftp://ftp.fao.org/docrep/fao/011/ai355e/ai355e00.pdf

FAO. (2010). *The State of World Fisheries and Aquaculture*. Rome. Retrieved from www.fao.org/docrep/013/i1820e/i1820e.pdf

FAO. (2011). *Safeguarding Food Security in Volatile Global Markets*. Retrieved from http://www.fao.org/docrep/013/i2107e/i2107e11.pdf

FAO. (2012a). FAO Food Price Index. *World Food Situation*. Retrieved January 30, 2012, from http://www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/

FAO. (2012b). GIEWS Country Briefs: Egypt. *Food and Agriculture Organization of the United Nations*. Retrieved September 05, 2012, from http://www.fao.org/giews/countrybrief/country.jsp?code=EGY

FAO. (2013). GIEWS Country Briefs: Sudan. *Food and Agriculture Organization of the United Nations*. Retrieved March 02, 2013, from http://www.fao.org/giews/countrybrief/country.jsp?code=SDN

Farley, J. (1991). *Bilharzia: A history of imperial tropical medicine*. Cambridge: Cambridge University Press.

Favo, G. (2012, December 13). Union moves to court to block planned Rift Valley Railways layoffs. *Business Daily Africa*. Retrieved January 11, 2013, from http://www.businessdailyafrica.com/Corporate-News/Union-moves-to-court-to-block-planned-rvr-layoffs/-/539550/1654838/-/guj9e5/-/index.html

Finkner, R. E. (1983). TDY Report: Maize, Sorghum & Center Development Programs.

Foster, J. B. (1999). Marx ' s Theory of Metabolic Rift : Classical Foundations for Environmental Sociology 1. *American Journal of Sociology*, *105*(2), 366–405.

Freivalds, J. (1982). Developing Egypt's poultry industry: opportunity vs. bureaucracy. *Agribusiness Worldwide*, *Feb/Mar*, 48–55.

Friedmann, H. (2000). What on Earth is the Modern World-System? Foodgetting and Territory in the Modern Era and Beyond. *Journal of World-Systems Research*, *1*(2), 480–515.

Friedmann, Harriet. (1993). The Political Economy of Food : a Global Crisis. *New Left Review*, *197*(Jan-Feb), 29–57.

Friedmann, Harriet. (2005). From Colonialism to Green Capitalism: Social Movements and Emergence of Food Regimes. *New Directions in the Sociology of Global Development: Research in Rural Sociology and Development*, *11*, 227–264.

Friedmann, Harriet, & McMichael, P. (1989). Agriculture and the State System: The rise and decline of national agricultures , 1870 to the present. *Sociologia Ruralis*, *29*(2), 93–117.

Friel, S., Dangour, A. D., Garnett, T., Lock, K., Chalabi, Z., Roberts, I., … Haines, A. (2009). Public health benefits of strategies to reduce greenhouse-gas emissions: food and agriculture. *Lancet*, *374*(9706), 2016–25.

GAFI. (2010a). Invest in Egypt: Retail. *General Authority for Investment*. Retrieved September 11, 2011, from www.gafinet.org/English/.../Retail value proposition-2010.pdf

GAFI. (2010b). Invest in Egypt: Agribusiness Value Proposition. *General Authority for Investment*. Retrieved June 29, 2010, from http://www.gafinet.org/English/Documents/Potential Investment Sectors/GAFI-Sectors-AGRI.pdf

GAFI. (2012). Ministry of Agriculture: Agreement on the establishment of 3 mega-projects in Egypt with UAE investments. *General Authority for Investment*. Retrieved June 11, 2012, from http://www.gafinet.org/English/lists/GAFI_EnNews/EngDispForm.aspx?ID=774

Galal, O. M. (2002). The nutrition transition in Egypt: obesity, undernutrition and the food consumption context. *Public Health Nutrition*, *5*(1A), 141–148.

Garrett, L., & Cook, S. A. (2012, May). Egypt's Real Crisis: The Dual Epidemics Quietly Ravaging Public Health. *The Atlantic*. Retrieved from http://www.theatlantic.com/international/archive/2012/05/egypts-real-crisis-the-dual-epidemics-quietly-ravaging-public-health/257072/

Gideon, K., & Vullings, W. (2007). *Rural Development Policy in Egypt towards 2025: Targeted conditional income support a suitable option?* Wageningen.

Glain, S. (2012). Egyptian Farmers Make Themselves Heard. *New York Times*. Retrieved August 15, 2012, from http://www.nytimes.com/2012/06/28/world/middleeast/egyptian-farmers-make-themselves-heard.html?pagewanted=all&_r=0

GRAIN. (2008). Seized! The 2008 land grab for food and financial security. *GRAIN Briefing*. doi:30 June 2009

GRAIN. (2012). *The Great Food Robbery: How corporations control food, grab land and destroy the climate*. Cape Town: Pambazuka Press.

Greenwood, D. J., & Levin, M. (1998). *Introduction to Action Research: Social Research for Social Change*. Thousand Oaks, CA: Sage Publications.

Guthman, J. (2011). *Weighing In: Obesity, Food Justice, and the Limits of Capitalism*. Berkeley: University of California Press.

Hall, R. (2011). Land grabbing in Southern Africa: the many faces of the investor rush. *Review of African Political Economy*, *38*(128), 193–214.

Hamad, M. (2008). *When the Gavel Speaks: Judicial Politics in Modern Egypt*. University of Utah.

Hardt, M., & Negri, A. (2000). *Empire*. Cambridge, MA: Harvard University Press.

Harik, I. (1974). *The Political Mobilization of Peasants: A Study of an Egyptian Community*. Bloomington and London: Indiana University Press.

Harvey, D. (1990). *The condition of postmodernity: an enquiry into the origins of cultural change*. Oxford: Blackwell Publishers.

Harvey, D. (2005). *The new imperialism*. Oxford: Oxford University Press.

Harwig, E. E. (1983). TDY Report: Comments on the Egyptian Soybean Research Program. *Egyptian Major Cereals Improvement Project (EMCIP) Publication 51*. Retrieved November 15, 2011, from http://pdf.usaid.gov/pdf_docs/PNAAT949.pdf

Haslam, D. W., & James, W. P. T. (2005). Obesity. *Lancet, 366*(9492), 1197–209.

HC Brockerage. (2009). Citadel Capital Pre-listing Company Report. *HC Brockerage Research*. Retrieved July 15, 2012, from http://ae.zawya.com/researchreports/hc brokerage/20091118_HC Brokerage_095953.pdf

Heikal, A. (2012, January 22). Business can rekindle Egypt's revolution. *Financial times.com*.

Henry, C. M. (1997). *The Mediterranean Debt Crescent: Money and Power in Algeria, Egypt, Morocco, Tunisia, and Turkey*. Cairo: American University at Cairo Press.

Hernández, L. A. G., Borrego, E. M., & Quintanal, H. S. (1999). The Role of National and Transnational Corporations in the Globalization of Dairying in La Laguna, Mexico. *International Journal of Sociology of Agriculture and Food, 8*, 52–70.

Herr, K., & Anderson, G. L. (2005). *The Action Research Dissertation: A Guide for Students and Faculty*. London: Sage Publications.

Hinchliffe, S., & Bingham, N. (2008). Securing life: the emerging practices of biosecurity. *Environment and Planning A, 40*(7), 1534–1551.

Ho, K. (2009). *Liquidated: An Ethnography of Wall Street*. Durham and London: Duke University Press.

Hobsbawm, E. J. (1987). *The Age of Empire, 1875-1914*. New York: Pantheon Books.

Holt Giménez, E., & Shattuck, A. (2011). Food crises, food regimes and food movements: rumblings of reform or tides of transformation? *Journal of Peasant Studies, 38*(1), 109–144.

IFAD. (n.d.). *Egypt: Smallholder contract farming for high-value and organic agricultural exports*. Rome.

IMC. (2005). *Egyptian Processed Food Sector Review: Final Report*. Cairo: Industrial Modernisation Centre.

International Crisis Group. (2013). Sudan's Spreading Conflict (I): War in South Kordofan. *ICG Africa Report N. 198*. Retrieved February 30, 2013, from http://www.crisisgroup.org/en/regions/africa/horn-of-africa/sudan/198-sudans-spreading-conflict-i-war-in-south-kordofan.aspx

Irungu, G. (2010, April 16). Citadel turns to agriculture in search of investment. *Business Daily online*. Retrieved from http://www.businessdailyafrica.com/Company Industry/Citadel turns to agriculture in search of investment/-/539550/896612/-/51eqljz/-/

Ismail, A. (2009). *Private Equity and Venture Capital in Emerging Markets: A Case Study of Egypt and the MENA Region*. Ph.D., MIT.

Issawi, C. (1963). *Egypt in Revolution: An Economic Analysis*. London: Oxford University Press.

Janelli, R. L. (1993). *Making Capitalism: The Social and Cultural Construction of a South Korean Conglomerate*. Stanford, CA: Stanford University Press.

Kaikati, J. G. (1980). The Economy of Sudan: A Potential Breadbasket of the Arab World? *International Journal of Middle East Studies*, *11*(1), 99–123.

Kayali, G., El-shesheny, R., Kutkat, M. A., Kandeil, A. M., Ducatez, M. F., Mckenzie, P. P., … Ali, M. A. (2011). Continuing Threat of Infl uenza (H5N1) Virus Circulation in Egypt, *17*(12), 2306–2308.

Key, N., & Runsten, D. (1999). Contract Farming, Smallholders, and Rural Development in Latin America: The Organization of Agroprocessing Firms and the Scale of Outgrower Production. *World Development*, *27*(2), 381–401.

Khan, S. (2009, September 12). Farmland investment fund is seeking more than Dh1bn. *The National*. Retrieved from http://www.thenational.ae/news/uae-news/environment/farmland-investment-fund-is-seeking-more-than-dh1bn.

Kim, J.-K., Kayali, G., Walker, D., Forrest, H. L., Ellebedy, A. H., Griffin, Y. S., … Webster, R. G. (2010). Puzzling inefficiency of H5N1 influenza vaccines in Egyptian poultry. *Proceedings of the National Academy of Sciences of the United States of America*, *107*(24), 11044–9. Retrieved from http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2890765&tool=pmcentrez&rendertype=abstract.

Kim, S., & Popkin, B. M. (2006). Commentary: understanding the epidemiology of overweight and obesity--a real global public health concern. *International*

journal of epidemiology, *35*(1), 60–7; discussion 81–2. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16339598.

Kishk, M. A. (1986). In Land Degradation the Nile Valley. *Ambio*, *15*(4), 226–230.

Klein, N. (2007). *The Shock Doctrine: The Rise of Disaster Capitalism*. New York: Picador.

Kloppenburg, J. R. (2004). *First the seed: The political economy of plant biotechnology, 1492-2000*. Madison, WI: The University of Wisconsin Press.

Koptiuch, K. (1999). *A Poetics of Political Economy in Egypt*. Minneapolis and London: University of Minnesota Press.

Kurmuş, O. (1987). The cotton famine and its effects on the Ottoman Empire. In H. İslamoglu-İnan (Ed.), *The Ottoman Empire and the World-Economy*. Cambridge: Cambridge University Press.

Laessing, U. (2012, March 20). Egypt's Citadel to grow staple crops in South Sudan. *Reuters*. Retrieved from http://af.reuters.com/article/investingNews/idAFJOE82J08J20120320?pageNumber=1&virtualBrandChannel=0.

Lagi, M., Bertrand, K. Z., & Bar-Yam, Y. (2011). The Food Crises and Political Instability in North Africa and the Middle East. *Social Science Research Network Working Paper Series 16*. Retrieved January 30, 2012, from http://necsi.edu/research/social/food_crises.pdf.

Lament, W. J. (1993). Plastic Mulches for the Production of Vegetable Crops. *HortTechnology*, *3*(1), 35–39.

Landes, D. S. (1958). *Bankers and Pashas: International Finance and Economic Imperialism in Egypt*. Cambridge, MA: Harvard University Press.

Latour, B. (1993). *We have never been modern*. Cambridge, MA: Harvard University Press.

LCHR. (2000). The Impact of Implementing the Land Law in Egypt. *LCHR Series of Land and Farmer*, (10).

LCHR. (2003). Orange trees are routed out of the arable land. *LCHR Series of Land and Farmer*, (15).

LCHR. (2004). Women, Land and Violence in Rural Egypt: "Saft El Arfa: A Village Searching for Light." *LCHR Series of Land and Farmer*, (29).

LCHR. (2005). Water Problems in the Egyptian Countryside: Between corruption and lack of planning. *LCHR Series of Land and Farmer*, (32).

LCHR. (2006). Crop Exports -- Trade Agreements -- Free Market Policies. *LCHR Series of Land and Farmer*, (34).

Lehman, E. M., & Wilson, M. L. (2009). Epidemic hepatitis C virus infection in Egypt: estimates of past incidence and future morbidity and mortality. *Journal of viral hepatitis*, *16*(9), 650–8.

Levin, N., Lugassi, R., Ramon, U., Braun, O., & Ben-Dor, E. (2007). Remote sensing as a tool for monitoring plasticulture in agricultural landscapes. *International Journal of Remote Sensing*, *28*(1), 183–202.

Little, P., & Watts, M. (1994). Introduction. In P. and M. W. Little (Ed.), *Living Under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*. Madison, WI: University of Wisconsin Press.

Löfgren, H., & El-said, M. (2001). Food subsidies in Egypt: reform options, distribution and welfare. *Food Policy*, *26*, 65–83.

MacFarquhar, N., Rohde, D., & Roston, A. (2011, February 12). Mubarak Family Riches Attract New Focus. *New York Times*. Retrieved from http://www.nytimes.com/2011/02/13/world/middleeast/13wealth.html?_r=1&pagewanted=all.

Mansour, S. A. (2008). Environmental Impact of Pesticides in Egypt. *Reviews of Environmental Contamination and Toxicology*, *196*, 1–51.

Marsden, T. (1997). Creating Space for Food: The distinctiveness of recent agrarian development. In D. Goodman & M. Watts (Eds.), *Globalising Food: Agrarian Questions and Global Restructuring*. London: Routledge.

Marsden, T., Barbosa Cavalcanti, J. S., & Irmão, J. F. (1996). Globalisation, regionalization and quality: the socio-economic reconstitution of food in the San Francisco Valley, Brazil. *International Journal of Sociology of Agriculture and Food*, *5*, 85–111.

Martelli, S. (2011, July 4). In Sudan's breadbasket, a revolution is waiting to happen. *AFP*. Retrieved from http://www.google.com/hostednews/afp/article/ALeqM5hfKeczocXj2T2gQqXR6SrtDjw1xg?docId=CNG.aea53b2fd59e766316aa9f18bb9e7127.2e1

Marx, K. (1964). *The class struggles in France, 1848-1850*. New York: International Publishers.

Marx, K. (2001). *The 18th Brumaire of Louis Bonaparte*. London: Electric Book Co.

Mayton, J. (2009). Egyptian Officials, Farmers Debate Effect of Climate Change on Fertile Nile Delta. *Washington Report on Middle East Affairs*, 32–33. Retrieved from http://www.wrmea.org/wrmea-archives/270-washington-

report-archives-2006-2010/january-february-2009/5176-egyptian-officials-farmers-debate-effect-of-climate-change-on-fertile-nile-delta.html.

McCullough, E. B., Pingali, P., & Stamoulis, K. G. (2008). Small Farms and the Transformation of Food Systems: An Overview. In E. B. McCullough, P. Pingali, & K. G. Stamoulis (Eds.), *The Transformation of Agri-Food Systems: Globalization, Supply Chains and Smallholder Farmers*. London: Earthscan.

McGrath, D. J. (1981). Controlled environment agriculture: a growing industry. *Agribusiness Worldwide, Oct/Nov*, 46–50.

McMichael, P. (2000). The power of food. *Agriculture and Human Values, 17*, 21–33.

McMichael, P. (2005). Global development and the corporate food regime. *New Directions in the Sociology of Global Development: Research in Rural Sociology and Development, 11*(265-299).

McMichael, P. (2006). Peasant Prospects in the Neoliberal Age. *New Political Economy, 11*(3), 407–418.

McMichael, P. (2009a). A food regime genealogy. *Journal of Peasant Studies, 36*(1), 139–169.

McMichael, P. (2009b). Food sovereignty, social reproduction and the agrarian question. In A. H. Akram-Lodhi & C. Kay (Eds.), *Peasants and Globalization: Political economy, rural transformation and the agrarian question*. London and New York: Routledge.

McMichael, P. (2012a). *Development and Social Change: a global perspective*. London: SAGE.

McMichael, P. (2012b). In the Short Run Are We All Dead? A Political Ecology of the Development Climate. In R. E. Lee (Ed.), *The Longue Duree and World-Systems Analysis* (pp. 137–160). Albany: State University of New York.

Mcmichael, P. (2013). Land grabbing as security mercantilism in international relations. *Globalizations, 10*(1), 47–64.

Meleigy, M. (2007). Egypt battles with avian influenza. *Lancet, 370*(9587), 553–4.

Mennerat, A., Nilsen, F., Ebert, D., & Skorping, A. (2010). Intensive Farming: Evolutionary Implications for Parasites and Pathogens. *Evolutionary biology, 37*(2-3), 59–67.

Meyer, G. (1998). Economic Changes in the Newly Reclaimed Lands: From State Farms to Small Holdings and Private Agricultural Enterprises. In N. S.

Hopkins & K. Westergaard (Eds.), *Directions of Change in Rural Egypt* (pp. 334–353). Cairo: American University at Cairo Press.

Mikhail, A. (2011). *Nature and Empire in Ottoman Egypt: An Environmental History*. Cambridge: Cambridge University Press.

Miller, C. (2004). Between Myth and Reality: The Construction of a Sa'idi Identity in Cairo. In N. Hopkins & R. Saad (Eds.), *Upper Egypt: Identity and Change*. Cairo: American University at Cairo Press.

Miller, C. (2006). Upper Egyptian Regionally Based Communities in Cairo: Traditional or Modern Forms of Urbanization? In D. Singerman & P. Amar (Eds.), *Cairo Cosmopolitan: Politics, Culture, and Urban Space in the New Globalized Middle East*. Cairo: American University at Cairo Press.

Ministry of Trade and Industry. (2008). *Egypt on the Move*. Cairo.

Ministry of Trade and Industry. (2010). Quarterly Performance Indicators. Cairo.

Mintz, S. W. (1985). *Sweetness and power: the place of sugar in modern history*. New York: Viking.

Mitchell, T. (1991). *Colonising Egypt*. Berkeley: University of California Press.

Mitchell, T. (1998). The Market's Place. In N. S. Hopkins & K. Westergaard (Eds.), *Directions of Change in Rural Egypt*. Cairo: American University at Cairo Press.

Mitchell, T. (2000). Stage of Modernity. In *Questions of Modernity*. Minneapolis: University of Minnesota Press.

Mitchell, T. (2002). *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley, CA: University of California Press.

Mohamed, A. G. (2009). *Reasons for Employee Turnover in the Fast Foods Sector in Egypt*. MS, University of Louisville.

Moore, J. W. (2010). Cheap Food & Bad Money: Food, Frontiers, and Financialization in the Rise and Demise of Neoliberalism. *Review: A Journal of the Fernand Braudel Center*, *33*(2-3), 225–261.

Moore, J. W. (2000). Environmental Crises and the Metabolic Rift in World-Historical Perspective. *Organization & Environment*, *13*(2), 123–157.

Moore, J. W. (2011). Transcending the metabolic rift: a theory of crises in the capitalist world-ecology. *Journal of Peasant Studies*, *38*(1), 1–46.

Moore, J. W. (2010). The End of the Road ? Agricultural World-Ecology , 1450 – 2010, *Journal of Agrarian Change*, *10*(3), 389–413.

Moukheiber, Z. (2011). Egyptian Billionaire Family Caught In The Crosshairs Of Egypt's History. *Forbes*. Retrieved November 11, 2012, from http://www.forbes.com/sites/zinamoukheiber/2011/02/01/egyptian-billionaire-family-caught-in-the-crosshairs-of-egypts-history/.

Mowafi, A. (2009). The strongest link. *Enigma*. Retrieved January 20, 2012, from http://www.enigma-mag.com/interview_archives/?p=274.

Nahmias, P. (2010). *The Social Epidemiology of Maternal Obesity in Egypt*. Princeton University.

NNI. (2000). *Food Consumption Pattern and Nutrients Intake Among Different Population Groups. To update Food Consumption Pattern Survey conducted in 1981*. Cairo: National Nutrition Institute.

Olds, K., & Thrift, N. (2005). Cultures on the Brink: Reengineering the Soul of Capitalism -- On a Global Scale. In S. Collier & A. Ong (Eds.), *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Malden, MA: Blackwell Publishers.

Ong, A. (1999). *Flexible Citizenship: The Cultural Logics of Transnationality*. Durham and London: Duke University Press.

Ong, A. (2005). Ecologies of Expertise: Assembling Flows, Managing Citizenship. In S. Collier & A. Ong (Eds.), *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Maiden, MA: Blackwell Publishers.

Orbach, S. (2009). *Bodies*. London: Profile Books.

Orbach, S. (2006). Commentary: there is a public health crisis--its not fat on the body but fat in the mind and the fat of profits. *International journal of epidemiology*, *35*(1), 67–9; discussion 81–2.

Otero, G. (2003). The "Indian Question" in Latin America: Class, State and Ethnic Identity Construction. *Latin American Research Review*, *38*(1), 248–266.

Owen, E. R. J. (1969). *Cotton and the Egyptian Economy 1820-1914: A Study in Trade and Development*. Oxford: Clarendon Press.

Owen, R. (1993). *The Middle East in the World Economy, 1800-1914*. London: I.B. Tauris & Co Ltd.

Owen, R. (2006). The rapid growth of Egypt's agricultural output, 1890–1914, as an early example of the green revolutions of modern South Asia: some implications for the writing of global history. *Journal of Global History*, *1*(01), 81.

Pamuk, H. (2010, February 22). Egypt's Citadel food unit eyes Ethiopian firm. *Reuters Africa*. Retrieved from

http://af.reuters.com/article/investingNews/idAFJOE61L08D20100222?pageNumber=1&virtualBrandChannel=0.

Patel, R. (2008). *Stuffed and Starved: the hidden battle for the world food system*. Brooklyn, NY: Melville House Publishers.

Pechlaner, G., & Otero, G. (2010). The Neoliberal Food Regime: Neoregulation and the New Division of Labor in North America. *Rural Sociology*, *75*(2), 179–208.

Prentice, A. M. (2006). The emerging epidemic of obesity in developing countries. *International journal of epidemiology*, *35*(1), 93–9.

Radwan, S. (1977). *Agrarian Reform and Rural Poverty, Egypt, 1952-1975*. Geneva.

Richards, A. (1980). Egypt's Agriculture in Trouble. *Middle East Report*, *84*, 3–13.

Richards, A. (1987). Primitive accumulation in Egypt, 1798-1882. In *The Ottoman Empire and the World-Economy*. Cambridge: Cambridge University Press.

Riles, A. (2000). *The network inside out*. Ann Arbor: University of Michigan Press.

Rivlin, H. A. B. (1961). *The Agricultural Policy of Muhammad 'Ali in Egypt*. Cambridge, MA: Harvard University Press.

Roll, S. (2010). "Finance Matters!" The Influence of Financial Sector Reforms on the Development of the Entrepreneurial Elite in Egypt. *Mediterranean Politics*, *15*(3), 349–370.

Roseberry, W. (1996). The Rise of Yuppie Coffees and the Reimagination of Class in the United States. *American Anthropologist*, *98*(4), 762–775.

Rosset, P., Rice, R., & Watts, M. (1999). Thailand and the World Tomato: Globalization, New Agricultural Countries (NACs) and the Agrarian Question. *International Journal of Sociology of Agriculture and Food*, *8*(71-94).

Rulli, M. C., Saviori, A., & D'Odorico, P. (2013). Global land and water grabbing. *PNAS*, *110*(3), 892–897.

Saad, R. (1988). Social History of an Agrarian Reform Community in Egypt. *Cairo Papers in Social Science*, *11*(4).

Saad, R. (1999). State, Landlord, Parliament and Peasant: The Story of the 1992 Tenancy Law in Egypt. In A. K. Bowman & E. Rogan (Eds.), *Agriculture in Egypt: From Pharaonic to Modern Times*. Oxford: Oxford University Press.

Saad, R. (2004). Social and Political Costs of Coping with Poverty in Rural Egypt. *Fifth Mediterranean Social and Political Reserach Meeting*. Florence: European University Institute.

Sadek, K. (2012, March 21). Concord doing good for Sudan. *The Star*.

Sadowski, Y. M. (1991). *Political Vegetables? Businessman and Bureaucrat in the Development of Egyptian Agriculture*. Washington, D.C.: The Brookings Institution.

Sakr, B. (2011). How did the Egyptian farmers start the second phase of the Egyptian Revolution? Mounifiya, Egypt: Peasant Solidarity Committee.

Sakr, B., & Tarcir, P. (2007, October). The struggle for land that never ends: Rural Egypt returns to the ancien regime. *Le Monde diplomatique*.

Salaman, R. N. (1949). *The History and Social Influence of the Potato*. London and New York: Cambridge University Press.

Schurgott, A. (2008). Private Accord. *Businesstoday.com*. Retrieved April 10, 2010, from http://www.businesstodayegypt.com/article.aspx?ArticleID=8164.

Sfakianakis, J. (2004). The Whales of the Nile: Networks, Businessmen, and Bureaucrats During the Era of Privatization in Egypt. In S. Heydemann (Ed.), *Networks of Privilege: Rethinking the Politics of Economic Reform in the Middle East*. New York: Palgrave Macmillan.

Shamrukh, M., Corapcioglu, M. Y., & Hassona, F. A. A. (2001). Modeling the Effect of Chemical Fertilizers on Ground Water Quality in the Nile Valley Aquifer, Egypt. *Ground Water*, *31*(1), 59–67.

Sims, D. (2010). *Understanding Cairo: the logic of a city out of control*. Cairo: American University at Cairo Press.

Singer, M. (2008). Sarando Farmers Celebrate Victory in a 4-Year-Old Legal Battle. *Egypt Daily News*. Retrieved December 07, 2008, from http://www.dailystaregypt.com/article.aspx?ArticleID=14633.

Sjerven, J. (1986). Ismailia Misr Poultry sets example for private sector initative in Egypt. *Agribusiness Worldwide*, *Nov/Dec*, 6–10.

Soliman, a S., Bondy, M. L., Raouf, a a, Makram, M. a, Johnston, D. a, & Levin, B. (1999). Cancer mortality in Menofeia, Egypt: comparison with US mortality rates. *Cancer causes & control : CCC*, *10*(5), 349–54.

Soliman, a S., Wang, X., Stanley, J.-D., El-Ghawalby, N., Bondy, M. L., Ezzat, F., … Abbruzzese, J. L. (2006). Geographical clustering of pancreatic cancers in the Northeast Nile Delta region of Egypt. *Archives of environmental contamination and toxicology*, *51*(1), 142–8.

Sowers, J. (2011). Remapping the Nation, Critiquing the State: Environmental Narratives and Desert Land Reclamation in Egypt. In *Environmental Imaginaries of the Middle East and North Africa*. Athens, Ohio: Ohio University Press.

Sowers, J., & Toensing, C. (2010). Editorial: The Middle East is running out of water. *Middle East Report*, *254*. Retrieved from http://www.merip.org/mer/mer254/editorial.html.

Springborg, R. (1979). Patrimonialism and Policy Making in Egypt : Nasser and Sadat and the Tenure Policy for Reclaimed Lands. *Middle Eastern Studies*, *15*(1), 49–69.

Springborg, R. (1990). Agrarian Bourgeoisie, Semiproletarians, and the Egyptian State: Lessons for Liberalization. *International Journal of Middle East Studies*, *22*(4), 447–472.

Stanley, D. J., & Warne, A. G. (1998). Nile Delta in its Destruction Phase. *Journal of Coastal Research*, *14*(3), 794–825.

Stauth, G. (1990). Capitalist Farming and Small Peasant Households in Egypt. In K. Glavanis & P. Glavanis (Eds.), *The Rural Middle East: Peasant Lives and Modes of Production*. London: Zed Books.

Credit Suisse. (2011). *Asian Family Business Report 2011*. Emerging Research Institute. Retrieved July 5, 2012, from https://mobile.credit-suisse.com/index.cfm?fuseaction=mOpenArticle&coid=293542&aoid=322410&lang=EN

Syvitski, J. P. M. (2008). Deltas at risk. *Sustainability Science*, *3*(1), 23–32.

Syvitski, J. P. M., Kettner, A. J., Overeem, I., Hutton, E. W. H., Hannon, M. T., Brakenridge, G. R., … Nicholls, R. J. (2009). Sinking deltas due to human activities. *Nature Geoscience*, *2*(10), 681–686.

Taher, S. (2011, August 21). Taqreer sarie yakshaf makhalfat alaskandariya fi 3had "lbeeb" (Secret report uncovers the violations of Alexandria during the era of "Labeeb"). *Alwafd.org*. Retrieved from http://www.alwafd.org/أخبار-عهد-في-الإسكندرية-مخالفات-يكشف-سري-تقرير-85514/محلية-10/وتقارير «لبيب».

Thrift, N. (2002). “Think and act like revolutionaries”: episodes from the global triumph of management discourse. *Critical Quarterly*, *44*(3), 19–26.

Toth, J. (1998). Beating Plowshares into Swords. In N. S. Hopkins & K. Westergaard (Eds.), *Directions of Change in Rural Egypt*. Cairo: American University at Cairo Press.

Tseng, W.-C., Li, H., Huang, W.-C., & Liang, L.-H. (2010). Potential number of human cases of H5N1 avian influenza in Egypt. *Public health*, *124*(8), 452–9.

Tsing, A. (2009). Supply Chains and the Human Condition. *Rethinking Marxism*, *21*(2), 148–176.

Tsing, A. L. (2005). *Friction: An Ethnography of Global Connection*. Princeton and Oxford: Princeton University Press.

Tvedt, T. (2004). *The River Nile in the age of the British: political ecology and the quest for economic power*. London: I.B. Tauris & Co Ltd.

Udasin, S. (2012). Feed the world: The CIPA Plasticulture for a Green Planet Conference looks at agricultural practices for farming. *Jerusalem Post*. Retrieved June 30, 2012, from http://www.jpost.com/Sci-Tech/Article.aspx?id=270141.

UNDP. (2009). *Arab Human Development Report*. United Nations Development Programme. Retrieved October 11, 2011 (http://hdr.undp.org/en/reports/global/hdr2011/download/).

USDA. (1997). Egypt's Poultry Industry at a Turning Point. *Agricultural Outlook*. Retrieved March 05, 2012, from http://usda01.library.cornell.edu/usda/ers/AO/1997/ao238.pdf.

USDA. (2009). Egypt Grain and Feed Annual. *GAIN Report*, July.

USDA. (2010). Egypt: Retail Foods. *GAIN Report*.

Viney, S. (2012). Farmers in limbo after stalled promises of loan forgiveness. *Egypt Independent*. Retrieved March 19, 2013, from http://www.egyptindependent.com/news/farmers-limbo-after-stalled-promises-loan-forgiveness.

Vitalis, R. (1995). *When Capitalists Collide: Business Conflict and the End of Empire in Egypt*. Berkeley, CA: University of California Press.

Voll, S. P. (1980). Egyptian Land Reclamation since the Revolution. *Middle East Journal*, *34*(2), 127–148.

Wahid, W. (2012, January 18). Badou yaqtaaoun tariq Al Ismailia-Zagazig (Bedouin block Ismailia-Zagazig road). *Alwafd.org*. Retrieved from http://www.alwafd.org/طريق-يقطعون-بدو-150136/محلية-10/وتقارير-أخبار-الزقازيق-الاسماعيلية

Wallace, R. G. (2009). Breeding Influenza: The Political Virology of Offshore Farming. *Antipode*, *41*(5), 916–951.

Wallerstein, I. (1979). *The capitalist world-economy*. Cambridge: Cambridge University Press.

Wallerstein, I., Decdeli, H., & Kasaba, R. (1987). The incorporation of the Ottoman Empire into the world-economy. In H. İslamoglu-İnan (Ed.), *The Ottoman Empire and the World-Economy*. Cambridge: Cambridge University Press.

Waterbury, J. (1983). *The Egypt of Nasser and Sadat: The Political Economy of Two Regimes*. Princeton, N.J.: Princeton University Press.

Waterbury, J. (1991). Peasants Defy Categorization (As Well as Landlords and the State). In F. Kazemi & J. Waterbury (Eds.), *Peasants and Politics in the Modern Middle East*. Miami: Florida International University Press.

Watts, M. J. (2009). The Southern question: agrarian questions of labour and capital. In *Peasants and Globalization: Political economy, rural transformation and the agrarian question*. London and New York: Routledge.

Watts, M. J., & Goodman, D. (1997). Agrarian Questions: Global appetite, local metabolism: nature, culture and industry in fin-de-siècle agro-food systems. In A.H. Akram-Lodhi and C. Kay (Eds.), *Globalising Food: Agrarian Questions and Global Restructuring*. London and New York: Routledge.

Watts, S., & El Katsha, S. (1995). Changing environmental conditions in the Nile delta : Health and policy implications with special reference to schistosomiasis. *Journal of Environmental Health Research*, *5*(3), 197–212.

Weatherspoon, D. D., & Reardon, T. (2003). The Rise of Supermarkets in Africa: Implications for Agrifood Systems and the Rural Poor. *Development Policy Review*, *21*(3), 333–355.

Weis, T. (2007). *The Global Food Economy: The Battle for the Future of Farming*. London: Zed Books.

Weis, T. (2010). The Accelerating Biophysical Contradictions of Industrial Capitalist Agriculture. *Journal of Agrarian Change*, *10*(3), 315–341.

Welker, M., Patridge, D. J., & Hardin, R. (2011). Corporate Lives: New Perspectives on the Social Life of the Corporate Form. *Current Anthropology*, *52*(S3), S3–S16.

Wesseling, F. (n.d.). The Story of Danone Egypt. *Danone Corporate*. Retrieved September 08, 2011, from phx.corporate-ir.net/External.File?item...t=1.

White, B., Borras, S. M., Hall, R., Scoones, I., & Wolford, W. (2012). The new enclosures: critical perspectives on corporate land deals. *Journal of Peasant Studies*, *39*(3-4), 619–647.

WHO. (2005). *Preventing Chronic Diseases: a vital investment*. Retrieved from http://www.who.int/chp/chronic_disease_report/en/.

World Bank. (2008). *World Bank Development Report*. World Bank Development Reports. Retrieved August 8, 2008 (http://web.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/0,,contentMDK:23062295~pagePK:478093~piPK:477627~theSitePK:477624,00.html).

World Bank. (2009). Improving Food Security in Arab Countries. *World Bank/FAO/IFAD Working Paper*. Retrieved August 9, 2011 (http://siteresources.worldbank.org/INTMENA/Resources/FoodSecfinal.pdf%20).

World Economic Forum. (2008). The Global Economic Impact of Private Equity Report 2008. *Globalization of Alternative Investments Working Papers* 1.

Yanagisako, S. J. (2002). *Producing Culture and Capital: Family Firms in Italy*. Princeton and Oxford: Princeton University Press.

Yarwood, C. E. (1970). Man-Made Plant Diseases. *Science*, *168*(3928), 218–20.

Zaalouk, M. (1989). *Power, class, and foreign capital in Egypt: the rise of the new bourgeoisie*. London: Zed Books.

Zeitlin, M., & Ratcliff, R. E. (1988). *Landlords and Capitalists: The Dominant Class of Chile*. Princeton, N.J.: Princeton University Press.

Zohry, A. (2002). Unskilled Temporary Labor Migration from Upper Egypt to Cairo. Retrieved from http://www.zohry.com/pubs/Zohry-CEDEJ02.pdf.

Zoomers, A. (2010). Globalisation and the foreignisation of space: seven processes driving the current land grab. *Journal of Peasant Studies*, *37*(2), 429–447.

Zwirn, M. (2002). Aquaculture in Egypt: Improving Food Security and Resolving Resource Allocation Conflicts. *The Journal of Environment & Development*, *11*(2), 129–148.