

The International Food Crisis:
A geographical investigation of the Egyptian context

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Abstract

This dissertation is a study of the link between international and national economic crises and food insecurity. This dissertation approaches food insecurity from the vantage point of a historical-geographical materialist approach to capitalist crisis and food insecurity. In doing so, this dissertation is divided into two parts; the first part is a conceptual review and development of food provisioning under capital accumulation and the second part is an empirical discussion of the general development of international food crisis of 2008 and the case study of Egypt and food insecurity. In the first part, this dissertation seeks to theoretically examine and conceptually develop a normative approach to the social theory of food needs that runs counter to the general assumptions of capitalist development. In addition, this dissertation reviews the major approaches to food insecurity in order to bring to forefront their approach to economic crises and food insecurity. In doing so, this dissertation develops a value-form analysis to the contradictions of global capital accumulation in the provisioning of general human needs and food needs. This conceptual task is to focus on fundamental contradictions involved in capital accumulation that cannot fully abolish food insecurity in its many forms. In the second part, this dissertation examines the contradictions of capital accumulation in the case study of the international food crisis of 2006-08 and in the Egyptian context. In both cases, this dissertation seeks to articulate the structural limitations faced by a number of food-importing dependent states in capital accumulation in general and the neoliberal period in particular.

Dedication

To My Loving Parents Nour and Rola,
And to My Loving Partner Leah

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Table of Contents

ABSTRACT	II
DEDICATION	III
ACKNOWLEDGEMENTS	IV
TABLE OF CONTENTS	VII
LIST OF FIGURES	XI
LIST OF TABLES.....	XIV
1 INTRODUCTION.....	1
1.1 GROWING FOOD, REAPING HUNGER	1
1.2 DISSERTATION OBJECTIVES AND CONTRIBUTIONS	8
1.3 THE EXISTING LITERATURE AND THE CONSTRUCTION OF A VALUE-FORM ANALYSIS	17
1.4 OUTLINE.....	23
2 FOOD INSECURITY AND CRISES: A REVIEW OF THE EXISTING LITERATURE	26
2.1 INTRODUCTION	26
2.2 FOOD INSECURITY AND CRISES: EXPLANATIONS AND LIMITATIONS	28
2.2.1 <i>Universal Explanations for Food Insecurity</i>	29
2.2.1.1 Scarcity and the Inevitable Hunger: The Malthusian Approach.....	30
2.2.1.2 'Productivism' and Market Fundamentals.....	35
2.2.2 <i>Entitlements and the Critique of Universalism</i>	40
2.2.3 <i>Wealth Transfer Approach</i>	44
2.2.3.1 Unequal Exchange and Food Insecurity.....	46
2.2.4 <i>Food Regimes of Accumulation</i>	53
2.2.4.1 The Development of Capitalism, Crisis and Food Regimes	55
2.3 CONCLUSION	61

3	GROWING HUMAN NEEDS: A HISTORICAL-MATERIALIST APPROACH TO FOOD AND SOCIAL DEVELOPMENT	63
3.1	INTRODUCTION	63
3.2	HUMAN NEEDS AND SOCIETY: FOOD AS A 'LOWER NEED' AND HUNGER	65
3.2.1	<i>Food, Meaning, and Hunger through Social History</i>	<i>65</i>
3.2.2	<i>Food as a Lower Need</i>	<i>69</i>
3.3	HISTORICAL MATERIALISM, FOOD, AND LABOUR	76
3.4	CONCLUSION: CAPITALIST NEEDS AS A CRISIS OF HUMAN NEEDS.....	88
4	FINDING HUNGER IN THE BELLY OF CAPITAL: A VALUE-FORM ANALYSIS OF FOOD INSECURITY	92
4.1	INTRODUCTION	92
4.2	VALUE-FORM AND CAPITALIST CRISES	94
4.2.1	<i>Marx's Method and Capitalist Crises.....</i>	<i>94</i>
4.2.2	<i>The Contradiction of Use- and Exchange-Value</i>	<i>99</i>
4.3	OVERPRODUCTION, CRISES AND THE GENERAL LAW OF ACCUMULATION	103
4.3.1	<i>Introduction</i>	<i>103</i>
4.3.2	<i>The Working Class and the Contradictions of Productivity</i>	<i>104</i>
4.3.3	<i>Capital, Agro-Ecological Crises, and the General Adulteration of Food</i>	<i>109</i>
4.3.4	<i>The General Law of Accumulation as Structural Food Insecurity</i>	<i>118</i>
4.4	THE WORLD MARKET AND THE COUNTERTENDENCIES OF CAPITALIST FOOD INSECURITY.....	121
4.4.1	<i>Introduction</i>	<i>121</i>
4.4.2	<i>The Production of Space and the Limits to National Food Provisioning</i>	<i>123</i>
4.4.3	<i>The World Market and the Limits of the State</i>	<i>129</i>
4.5	CONCLUSION	132
5	THE INTERNATIONAL FOOD CRISIS OF 2008 I: CAPITALIST CRISES AND IMPORT DEPENDENCY	135
5.1	INTRODUCTION	135

5.2	GENERATIVE MECHANISMS OF THE INTERNATIONAL FOOD CRISIS OF 2008	136
5.3	INTERNATIONAL FOOD PRICES AND CRISIS AS EVENT	145
5.3.1	<i>Food Price Increases</i>	147
5.3.2	<i>International Markets, Unequal Access to Food, and Import Dependency</i>	152
5.3.3	<i>Food Import Dependency and Social Instability</i>	157
5.4	LAND USE DIVERSION, THE RISE OF 'ENERGY FARMING,' AND SPECULATION	160
5.4.1	<i>Introduction</i>	160
5.4.2	<i>Land Use Diversion and Bioenergy</i>	160
5.4.3	<i>Food Price and the Role of Financial Speculation</i>	166
5.5	CONCLUSION: REAL ABSTRACTION AND THE CRISIS OF INTERNATIONAL FOOD PROVISIONING	172
6	THE INTERNATIONAL FOOD CRISIS OF 2008 II: POLITICAL ECONOMY OF A FOOD CRISIS	
	174	
6.1	INTRODUCTION	174
6.2	HISTORICAL GAINS OF FOOD PRODUCTION AND SOCIO-ECOLOGICAL CONTRADICTIONS OF CAPITAL ACCUMULATION	175
6.2.1	<i>Historic Highs in Food Production</i>	175
6.2.2	<i>Embeddedness in the World Market and Export-Oriented Production</i>	186
6.3	WEALTH CONCENTRATION, SOCIAL INEQUALITY, AND FOOD INSECURITY	191
6.3.1	<i>Transnational Capital and the Control of Agrarian Wealth</i>	193
6.3.2	<i>Food Immiseration in 'Developed' Capitalism</i>	197
6.4	CONCLUSION	209
7	COLONIAL AND POST-COLONIAL FOOD (IN)SECURITY: CONTRADICTIONS OF CAPITALIST DEVELOPMENT AND EGYPTIAN FOOD REGIMES	211
7.1	INTRODUCTION	211
7.2	PRIMITIVE ACCUMULATION AND THE DEVELOPMENT OF CAPITALIST FOOD INSECURITY	213
7.2.1	<i>Introduction</i>	213
7.2.2	<i>Capitalist Development, Food, and Class</i>	215

7.2.3	<i>Food Insecurity and the Limits to Comparative Advantage</i>	218
7.2.4	<i>The Concentration of Land</i>	221
7.2.5	<i>The Appendages of the Global Reserve Army of Labour: Landless, Semi-, and Proletarianized Labour</i>	224
7.2.6	<i>Food Crisis, Wealth Transfer and Colonial Debt Relations</i>	227
7.3	SOCIAL DEVELOPMENT, FOOD, AND THE REGULATION OF CAPITALIST AGRICULTURE	234
7.3.1	<i>Riots of the Hungry and Dispossessed</i>	234
7.3.2	<i>The Free-Officers Revolution and the Dirigiste Regime: The Contradictory State of Food Insecurity in Dirigiste Capitalism</i>	237
7.4	CONCLUSION	242
8	CAPITALIST FOOD INSECURITY IN NEOLIBERAL EGYPT I: THE CRISIS OF PROVISIONING AND SOCIAL INEQUALITY	244
8.1	INTRODUCTION	244
8.2	THE CRISIS OF DEVELOPMENT, INTERNATIONAL CRISES, AND THE LIMITS TO NATIONAL FOOD PROVISIONING	245
8.2.1	<i>The Emergence of Infitah and Economic Openness</i>	246
8.2.2	<i>Infitah, Structural Wealth Transfer, and Instability</i>	253
8.3	THE 'AUGMENTED WASHINGTON CONSENSUS' AND THE DECLINE OF FOOD SUBSIDIES	258
8.4	FOOD INFLATION, WAGE STAGNATION, AND UNEMPLOYMENT	266
8.5	CONCLUSION	280
9	CAPITALIST FOOD INSECURITY IN NEOLIBERAL EGYPT II: THE TRANSFORMATION OF THE AGRARIAN SECTOR	282
9.1	INTRODUCTION	282
9.2	THE MECHANISMS OF FOOD INSECURITY: THE AGRARIAN SECTOR	284
9.3	THE DUAL NATURE OF CAPITALIST FOOD PROVISIONING: EXPANSION AND STAGNATION.....	288
9.3.1	<i>The Deregulation of Land Tenure</i>	289

9.3.2	<i>The Agrarian sector, Maldevelopment, and the Dialectic of Import and Export Dependence</i>	296
9.4	THE DEVELOPMENT OF THE AGRI-FOOD SECTOR IN EGYPT	321
9.5	CONCLUSION	326
10	CONCLUSION	328
10.1	INTRODUCTION	328
10.2	SUMMARY OF DISSERTATION	330
10.3	THE FRUITION OF CAPITALIST CRISIS AND THE CRISIS OF HUMAN FLOURISHING	336
10.4	FUTURE RESEARCH	344
11	APPENDICES	349
11.1	METHODOLOGY AND DATA COLLECTION	349
13	REFERENCES	353

List of Figures

FIGURE 1-1	A CRITICAL REALIST AND VALUE-FORM CONCEPTUALIZATION OF FOOD INSECURITY	10
FIGURE 2-1	MALTHUSIAN APPROACH TO CRISIS AND FOOD INSECURITY	31
FIGURE 2-2	'PRODUCTIVIST' APPROACH TO FOOD INSECURITY	37
FIGURE 2-3	ENTITLEMENTS APPROACH TO FOOD INSECURITY	41
FIGURE 2-4	WEALTH TRANSFER APPROACH TO FOOD INSECURITY	45
FIGURE 2-5	FOOD REGIMES APPROACH TO FOOD INSECURITY	55
FIGURE 4-1	THE CONTRADICTION EMERGING OUT OF THE COMMODITY FORM	100
FIGURE 4-2	THE DIALECTICAL CIRCUIT OF CAPITAL AND LABOUR REPRODUCTION	105
FIGURE 5-1	ANNUAL INTERNATIONAL FOOD PRICE INDEX FROM 1990-2016	148
FIGURE 5-2	MONTHLY INTERNATIONAL FOOD PRICE INDEX FROM JANUARY 2005 TO DECEMBER 2009	148
FIGURE 5-3	FOOD PRICE INDEX, NOMINAL AND REAL PRICES FROM 1961 TO 2017	149

FIGURE 5-4 REAL PRICE OF OIL AND POTASSIUM CHLORIDE, 2000-2017	150
FIGURE 5-5 GDP PER CAPITA AND HOUSEHOLD PERCENTAGE SPENT ON FOOD (AS A %), 2008.....	152
FIGURE 5-6 IMPORTS AS A PROPORTION OF TOTAL DOMESTIC SUPPLY FOR NET FOOD IMPORTING DEVELOPING STATES, 1961-2010.....	155
FIGURE 5-7 EXPORTS OF CEREALS BY THE TOP EXPORTERS AND THE TOTAL IMPORTS OF THE LEAST DEVELOPED COUNTRIES.....	156
FIGURE 5-8 WORLD MAP OF COUNTRIES WITH SIGNIFICANT UNREST RELATED TO THE INCREASE OF FOOD PRICES ALONG WITH HOUSEHOLD AVERAGE % SPENT ON FOOD	158
FIGURE 5-9 AREA HARVEST CHANGES FOR WHEAT AND MAIZE IN THE UNITED STATES, 1996-2008	161
FIGURE 5-10 FUEL ETHANOL PRODUCTION IN THE US, 2000-2010	162
FIGURE 5-11 TOTAL PRODUCTION AND EXPORT OF WHEAT, TOP 5 EXPORTERS AND THE ANNUAL AVERAGE PRICE OF WHEAT, 2001-2008	163
FIGURE 5-12 WORLD GRAIN PRODUCTION PER CAPITA AND GRAIN USE AS FOOD OR FEED	164
FIGURE 5-13 THE WORLD PRODUCTION OF BOVINE AND POULTRY MEAT PER CAPITA.....	166
FIGURE 5-14 OCCURRENCES OF DEBT CRISES AND THE FOOD PRICE INCREASES, 1961-2017	167
FIGURE 5-15 CHICAGO BOARD OF TRADE FUTURES MARKETS FOR SELECT AGRICULTURAL COMMODITIES AND THE WORLD BANK AGRICULTURAL PRICE INDEX, 2000-2012 AT MONTHLY INTERVALS.....	169
FIGURE 6-1 NET PRODUCTION VALUE OF FOOD, 2004-2006 PRICES, 1961-2016.....	177
FIGURE 6-2 GLOBAL FOOD SUPPLY (KCAL/CAPITA/DAY) AVERAGE GROWTH RATE PER DECADE FROM 1970 TO 2009, SELECT FOOD CATEGORIES	177
FIGURE 6-3 NET PER CAPITA PRODUCTION OF FOOD, 2004-2006 PRICES, DECADE AVERAGES FROM 1961 TO 2010	178
FIGURE 6-4 WORLD EMPLOYMENT IN AGRICULTURE (%) BY REGION, 1991-2017.....	178
FIGURE 6-5 GROSS FIXED CAPITAL FORMATION (US\$ MILLIONS) AND AGRICULTURAL EMPLOYMENT (%) OF CHINA, INDIA, AND THE UNITED STATES	179
FIGURE 6-6 AGRICULTURAL EMPLOYMENT AND CEREAL YIELDS IN THE UNITED STATES, DECADE AVERAGES, 1960-2009	180
FIGURE 6-7 SMALL-FARMS' POSSESSION OF TOTAL AGRICULTURAL LANDS.....	183

FIGURE 6-8 GRAIN IMPORTS AND CONSUMPTION IN CHINA, 1990-2013	185
FIGURE 6-9 PRODUCTIVITY AND WORKERS COMPENSATION IN THE UNITED STATES, 1949-2015	199
FIGURE 6-10 WEALTH-TO-INCOME RATIO IN SELECT COUNTRIES, DECADE AVERAGES, 1970-2009	200
FIGURE 6-11 FOOD INSECURITY FOR ALL HOUSEHOLDS (1000s) IN THE UNITED STATES, 2001-2010	201
FIGURE 6-12 NUMBER OF PARTICIPANTS ON THE UNITED STATES SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP)	203
FIGURE 6-13 CONSUMER PRICE INDEX FOR SELECT FOOD GROUPS IN CANADA	204
FIGURE 6-14 DISTRIBUTION OF INCOME IN THE UNITED STATES, 1970-2010	208
FIGURE 8-1 EGYPT'S CURRENT TRADE BALANCE, EXTERNAL DEBT (SHORT TERM), AND CURRENCY RATE	255
FIGURE 8-2 FOOD SUBSIDIES AS A % OF GDP	262
FIGURE 8-3 TOTAL FOOD SUBSIDIES IN REAL PRICES (CURRENCY STANDARDIZED AT 2015 RATES)	262
FIGURE 8-4 CONSUMER PRICE INDEX INCREASE FOR FOOD, RURAL AND URBAN EGYPT (% CHANGE)	267
FIGURE 8-5 CEREAL AND PULSES FOOD PRICES IN URBAN EGYPT, 2010 LOCAL CURRENCY PRICES, 1997-2017	269
FIGURE 8-6 VEGETABLE FOOD PRICES IN URBAN EGYPT, 2010 LOCAL CURRENCY PRICES, 1997-2017	270
FIGURE 8-7 FRUIT PRICES IN URBAN EGYPT, 2010 LOCAL CURRENCY PRICES, 1997-2017	271
FIGURE 8-8 MEAT PRICES IN URBAN EGYPT, 2010 LOCAL CURRENCY PRICES, 1997-2017	272
FIGURE 8-9 PERCENTAGE OF INCOME SPENT ON FOOD PRODUCTS BASED ON QUINTILE INCOME GROUPS (DIFFERENTIATED BY PPP\$), EGYPT 2010	274
FIGURE 8-10 PERCENTAGE OF TOTAL INCOME SPENT ON FOOD PRODUCT GROUPS, SEGMENTED BY QUINTILE INCOME GROUPS (PPP\$), AND GEOGRAPHICAL LOCATIONS, EGYPT 2010	276
FIGURE 8-11 INCOME SHARE BY QUINTILE INCOME GROUPS, AS A PERCENTAGE, 1990-2015	279
FIGURE 8-12 POVERTY HEADCOUNT RATIO AT NATIONAL POVERTY LINE, PERCENTAGE OF POPULATION, 1999- 2017	279
FIGURE 8-13 PERCENTAGE OF STUNTING, HEIGHT FOR AGE, AS A PERCENTAGE OF CHILDREN UNDER FIVE, 1988- 2014	280
FIGURE 9-1 TERMS OF TRADE - BALANCE OF ALL TRADE IN THE PRODUCTIVE SECTOR	286
FIGURE 9-2 TERMS OF TRADE - TOTAL OF ALL AGRICULTURAL PRODUCTS	287

FIGURE 9-3 AGRICULTURE VALUE ADDED AS A PERCENTAGE OF GDP AND FOOD PRODUCTION INDEX IN EGYPT, 1965-2013	288
FIGURE 9-4 LAND DISTRIBUTION CHANGES BASED ON FARM SIZE (IN FEDDAN) IN EGYPT, 1980-2010	292
FIGURE 9-5 IMPORT DEPENDENCY RATIO FOR SELECT FOOD GROUPS IN EGYPT, 1961-2010 (DECADE AVERAGES).....	300
FIGURE 9-6 DOMESTIC SUPPLY OF WHEAT PER CAPITA IN EGYPT, 1961-2013	302
FIGURE 9-7 PRODUCTION AND IMPORTS OF WHEAT IN EGYPT, 1961-2013.....	303
FIGURE 9-8 WHEAT YIELDS IN EGYPT, CANADA, AND THE UNITED STATES, 1961 TO 2016.....	304
FIGURE 9-9 PRICE RATIO OF WHEAT FOR PRODUCER AND CONSUMERS COSTS TO THE INTERNATIONAL PRICE, 1997-2015 EGYPT	305
FIGURE 9-10 MAIZE PRODUCTION AND IMPORTS IN EGYPT, 1961-2013.....	308
FIGURE 9-11 THE UTILIZATION OF MAIZE IN EGYPT, 1961-2013.....	308
FIGURE 9-12 EGYPT'S TERMS OF TRADE - SURPLUSES FROM SELECT AGRICULTURAL PRODUCTS	309
FIGURE 9-13 VALUE OF AGRICULTURAL EXPORTS FOR SELECT MENA COUNTRIES, 1963-2013.....	310
FIGURE 9-14 EXPORT PERCENTAGE OF OVERALL PRODUCTION OF FROZEN VEGETABLES AND FROZEN FRUIT, 2006-2012	313
FIGURE 9-15 FERTILIZER USE OF POTASH, PHOSPHATE AND NITROGEN IN EGYPT, 2002-2016.....	317
FIGURE 9-16 TERMS OF TRADE FOR AGRICULTURAL MACHINERY	318
FIGURE 9-17 SHARE OF LABOUR IN AGRICULTURE AND THE USE OF TRACTORS, EGYPT 1970 TO 2012	319
FIGURE 9-18 VALUE ADDED PER WORKER, CONSTANT 2005 US DOLLARS, EGYPT, 1970-2012.....	319

List of Tables

TABLE 2-1 SUMMARY OF FOUR APPROACHES TO FOOD INSECURITY	28
TABLE 3-1 MARX'S DIFFERENT LEVEL OF GENERALITIES WITH FOOD BASED ON OLLMAN'S ANALYSIS OF MARX'S METHOD OF ABSTRACTION.....	79
TABLE 4-1 THE COUNTER-VAILING TENDENCIES TO CRISIS AND ITS IMPACTS ON FOOD SECURITY	125

TABLE 5-1 INTERNATIONAL FOOD PRICE INCREASES FOR SELECT COMMODITY GROUPS.....	147
TABLE 5-2 TOP 10 CEREAL IMPORTERS (USD PER CAPITA), 2007	153
TABLE 5-3 GROWTH OF CEREAL PRODUCTION AND IMPORTS, 1961-2010.....	154
TABLE 5-4 AMOUNT OF WHEAT AND WHEAT PRODUCTS AS FOOD AND IMPORT DEPENDENCY FOR 1987 AND 2007	154
TABLE 6-1 NUMBER OF SMALL-FARMS AND THEIR PROPORTION OF TOTAL FARMS	183
TABLE 6-2 GROWTH OF SELECT EXPORTS AND CHANGES TO PER CAPITA FOOD GRAINS FOR SELECT COUNTRIES, 1970-2013	189
TABLE 6-3 DIFFERENCE BETWEEN PRODUCER PRICES AND EXPORT VALUES FOR SELECT COUNTRIES, 2006 .	190
TABLE 6-4 TOP CEREAL AND AGRICULTURAL EXPORTERS, 2005	190
TABLE 6-5 TOP 5 SEED AND PESTICIDE COMPANIES - MARKET SHARE, 2007	194
TABLE 6-6 NET REVENUE OF SELECT AGRIBUSINESS COMPANIES, 2000 AND 2008.....	195
TABLE 6-7 SHARE OF AGGREGATE INCOME RECEIVED BY EACH QUINTILE AND THE TOP 5%	204
TABLE 6-8 MEDIAN INCOME AND NET WORTH IN CANADA, QUINTILES, 1999, 2012.....	205
TABLE 8-1 THE INCREASE IN COSTS OF VARIOUS FOOD ITEMS BASED ON AVERAGE WAGES PER MONTH IN REAL TERMS (1997-2017).....	273
TABLE 8-2 POPULATION OF EGYPT DISTRIBUTED BY INCOME GROUP (2010).....	278
TABLE 9-1 BILATERAL AND MULTILATERAL TRADE AGREEMENTS	285
TABLE 9-2 PERCENTAGE OF LANDHOLDING AND AREA OF LAND BY FARM SIZE (IN FEDDAN), 2000, AND 2009- 2010	293
TABLE 9-3 WHEAT UTILIZATION IN EGYPT, DECADE AVERAGES, 1970-2009	307
TABLE 9-4 TOP 10 AGRICULTURAL COMMODITY EXPORTS OF EGYPT, 2003.....	311
TABLE 9-5 TOP 10 AGRICULTURAL COMMODITY EXPORTS OF EGYPT, 2013.....	312
TABLE 9-6 TRADE BALANCE OF SPECIFIC FOOD GROUPS, 1998 AND 2008 IN US DOLLARS	314
TABLE 9-7 EXPANSION OF CITRUS AND OTHER FRUITS, 2000 TO 2016	316
TABLE 9-8 FARM GATE AND EXPORT PRICES OF SELECT AGRICULTURAL PRODUCTS IN EGYPT, 2013	320
TABLE 9-9 SUMMARY OF VARIOUS COMPANIES OPERATING IN THE FOOD AND DRINK SECTOR IN EGYPT	322

1 Introduction

1.1 Growing Food, Reaping Hunger

Marx in his preparatory manuscript *Grundrisse* writes that the production and consumption of human needs are dialectically formed and change with social reproduction. In reproduction, consumption is the immediate goal of social production, or else “a house [that] no one lives in is in fact not a real house; thus, the product...proves itself to be, becomes, a product only through consumption” (1993, p. 91), and that “...production also gives consumption its specificity, its character, its finish” (p. 92). Marx writes on food needs and hunger in a similar way. The consumption of food is not just about biological reproduction but on historic change. Marx writes that “...hunger is hunger, but the hunger gratified by cooked meat eaten with a knife and fork is a different hunger that which bolts down raw meat with the aid of hand, nail and tooth” (p. 92). Moreover, for Marx the historical materialist critique of capitalism reveals the class nature and the organization of social (re-) production that determines both the qualitative and quantitative character of food provisioning; the growing ability to produce food and the social relations that underline it increasingly leads to the uneven character of food production and consumption. Therefore, hunger in capitalist society is not simply a universal and natural condition but a social one which changes as the development of its kernel matures.

This dissertation is a study on capitalist food insecurity and its expression through the international crisis tendencies and uneven character of capitalist development. Utilizing a case study of the international financial crisis of 2008 and food provisioning in Egypt, this dissertation analyzes how capital accumulation lays the basis for the social ability to provide food outside of the dictates of so-called natural scarcity while at the same

time undermining this ability due to the dominant social relations organizing production. The development of capitalism and the transformation of the international agrarian sector simultaneously develops the means to produce food but still generates inaccessibility and crises at the international scale (Clarke, 2012; Robinson, 2014).

Reflecting this character and trajectory, the Food and Agricultural Organization of the United Nations (FAO henceforth) state that there has been a reversal of the general decline of food insecurity worldwide:

According to available data, the number of people who suffer from hunger has been growing over the past three years, returning to levels from a decade ago. The absolute number of people in the world affected by undernourishment, or chronic food deprivation, is now estimated to have increased from around 804 million in 2016 to nearly 821 million in 2017 (FAO et al., 2018, p. xiii).

The increase in hunger has multiple social and biological consequences: from an increase of absolute food insecurity (such as insufficient caloric intake) to hidden food insecurity (such as lack of adequate nutrition), the FAO warns there is an increase of child stunting, wasting, child and adult obesity, stress, anxiety, depression, and related problems, all which negatively impact the livelihoods of people.

The increase of relative and absolute numbers in world hunger comes at a time when the socialization of production in the agrarian sector at the level of the world market has expanded. According to data from the World Bank, in just under a quarter of a century the world-wide percentage of workers employed in the agricultural sector has declined by 67%, from about 43% in 1991 to 26% in 2015, and there has been an expansion of food production and capital investment beyond the growth of population demands. Net food production has increased by 260% from 1961 to 2016. This inverse movement of the growth of *net* food production and the decline of farming employment across the world

coincides with the net production of new use-values, such as from food processing and livestock production, and with the increasing value added per worker due to capital investments. However, the character of food production and its social impacts paint a different story. The fact that there remain people who are food insecure with the growth of productivity highlights the limits of capitalist productivity in the provisioning of food. While capitalism has developed the ability to produce cheap food throughout the long expansion arising from a variety of agricultural revolutions (Mazoyer & Roudart, 2006), it has done so in environmentally problematic ways since the first world food regime, and under its recent form of neoliberal capitalist development (Albritton, 2009; McMichael, 2009, 2010). Therefore, there is a ‘decoupling’ of food productivity from human needs satisfaction, showing that the general expansion of world capitalist agricultural production taking place over the various agricultural revolutions has depended on a series of ‘cheap natures’ for its development and the extraction of surplus value (Moore, 2010a; Patel & Moore, 2017), creating its own forms of barriers that limit social emancipation, material security, and human flourishing.¹

With the decline of Keynesian policies, the rise of neoliberalism has simultaneously articulated economic development and political and institutional policy making towards the politics of austerity (Harvey, 2005a; Palley, 2005). With respect to economic development, the agrarian sector of all nation-states has been encouraged through the Ricardian notion of comparative advantage (Patnaik & Shivji, 2011), tying development to dependence on international markets for cheap food imports. ‘Keynesianist’ demand-side food policies

¹ See Mazoyer & Roudart (2006) on the history of agricultural production. On limits and barriers, see Lebowitz (2003) on the Hegelian notion that social conditions are limited due to the functioning of their own social relations, thereby creating barriers that can routinely be solved, but only by displacement. Capital in this sense is limited in its ability to guarantee food security.

and land reforms declined, seeing with it a re-articulation of its agrarian sector towards export-oriented growth. Moreover, this decline increased the reliance on world markets for food imports, making local markets more sensitive to world prices. The result of this is what Otero, Pechlander, and Gürcan (2013) call 'unequal and combined consumption,' an asymmetrical and unequal form of agrarian development. Characteristic of this form of development is the concentration and centralization of wealth occurring throughout capitalist development and the control of productive resources, the normalization and spread of 'global wage labour' (McMichael, 1999), and the rise of financial capital (Ghosh, 2010; Moore, 2010b). As a result, there has been a general stagnation of equitable wealth distribution, inequalities in income levels, and an increasing concentration of wealth in financial assets (Credit Suisse, 2018; Piketty, 2014).

With respect to the political development of neoliberal capitalism, austerity has been promoted as the solution to the crises of capitalism. As a general feature of neoliberal policies, state support in general has seen a reversal through Washington Consensus and its successor the augmented Washington Consensus (Peet & Hartwick, 2009, p. 93). The financialization of the international economy and the 'overheating of credit has further made it difficult for 'developing nation states' to maintain public expenditure (Mandel, 1989), further compounding the crises of international capitalist development. As a result of this, there are fiscal limits to the state, and this has resulted in the dismantling of public food-related subsidy programmes and ownership stakes. The promotion of Public-Private Partnerships (PPPs), the selling off state-owned enterprises (SOEs) in agrarian and food processing industries, the promotion of value-added taxes (VAT), and the dismantling of food and energy subsidy programmes has increased burdens in food accessibility. Therefore, the consequences of this specific form of capitalist development is a

dependence on international markets to provision food, a declining terms of trade that forces its agrarian sector to articulate towards higher-end food markets, and a stagnation of rural wealth distribution, for both urban and rural workers, and small-scale producers.

The Egyptian experience reflects the general contradictions of capitalist development and its attachment to the capitalist world market. Colonial wealth extraction has imprinted the legacy of the 'structural vulnerability of hunger' (Davis, 2007), and many of the characteristics that occurred during the colonial period continue today, namely the expansion of export-oriented cash-crop production, the dismantling of the public sector in food provisioning and processing, and the deteriorating terms of trade, putting Egypt at a disadvantage in the world market. The development of capitalism in Egypt has been a site of social instability due to the precarious access to food. While Egypt has been able to increase food production relative to its population growth (Mitchell, 2002, p. 215), its development is beset by social instability due to food insecurity and rising food prices over the neoliberal period. Food riots and instability have been a reoccurring feature of the agrarian and urban landscape of Egypt, linked to wealth extraction and the integration of local markets to international trade during the 19th and early 20th century colonial experience (Burke, 1986; 1991; Luxemburg, 2004, p. 409; Richards, 1982), and the structural adjustment policies in the neoliberal period (Bush, 2010, 2014; Bush & Martiniello, 2017; Joya, 2011b; Joya et. al 2011; Walton & Sedon, 1994). The general transfer of wealth through the development of comparative advantage and the declining agrarian sector is now compounded with the growing threat of a warming world due to climate change (Malm, 2016).

As a post-colonial state, Egypt has experienced oscillating policies with respect to its form of capitalist development and national food provisioning. Stretching back to the

enlightenment period of the 18th and 19th century, there was growing concern of famines occurring in English colonies (Vernon, 2007), recognizing the role of imperialism as a mechanism in which food insecurity occurred. Independence movements were therefore tightly bound with the politics of food. Schewe (2017) writes that access to cheap bread in Egypt's nation-state building experience became for elites a pillar, due to the crisis of hunger during war time, from which to consolidate a popular basis against foreign domination. Largely socialist in rhetoric, this 'regulated' form of capitalist development attempted to guarantee access to cheap food. 'Cheap food' and a variety of agrarian projects had managed to offset some of the excesses of social inequality, therefore expanding 'state capitalism' (see Hanieh, 2011, 2013). The establishment of a horizontal and vertical public-sector in the agrarian sector was coupled with land reforms for small-scale farmers and the food subsidy program was a legacy of the Free Officers Revolution and the rule of President Nasser. Yet, the state was inherently limited by the world market in food production and its dependence on food imports. While Egypt had sought to implement national food provisioning policies to maintain a form of 'national food sovereignty,' it could not objectively escape the dynamics of capitalist crisis in the international market.

The general crisis of Nasserism and of Keynesian forms of capitalist development were limited in their development of capitalism, an experience shared by many 'Third-Worldist' states that had sought to develop their own quasi form of capitalist development (Berger, 2004). The rise and fall of dirigisme precipitated neoliberal forms of wealth transfer through structural adjustment policies (SAPs) articulated by the international financial institutions and the general dominance of agrarian capital at the international level (IFIs henceforth). Egypt's trajectory took a *neoliberal* form of capitalist development

that has not been able to ensure equitable access to food within the market due to greater levels of social inequality (Bush, 2002, 2014; Joya, 2011). The general move towards neoliberal governance from the 1970s was paved by the emergence of Sadat's *Infitah* (Open-door policies) where the goal was to implement monetary and fiscal policies to stabilize state spending and restructure its agrarian sector towards exports. There continues a general reversal of its food provisioning programs and agrarian land reforms to create a market in land.²

When the 2008 international food crisis emerged, Egypt's continued dependence on food imports hit their economy hard with social consequences, revealing its position in the world market: by being an outlet for food imports from the world market, and by restructuring its agrarian production to exports to attain currency for the importation of food, it weakened its ability to provision food from the international market (Bush, 2014). The vast majority of the Egyptian population did not benefit from any of the structural reforms of the Egyptian economy or the growth in the export sector, and the dependence of Egypt's food supply on imports makes the Egyptian food market sensitive to international market fluctuations. Instead of gearing production of food to local needs, Egypt, through the privatization of the agrarian sector, linked itself to regional markets, becoming vulnerable to food price inflation due to the growing demand for export commodities; these dynamics, facilitated by the growth of free trade agreements and principles, such as the lowering of tariffs and other exporting restrictions, and the growth of the agrarian sector primarily in the production of goods for regional and transnational

² This dual move is contradictory in that a) the food subsidy program is there to maintain social stability due to the general stagnation of wage levels and job opportunities, but is nevertheless being pushed at on the other hand by the push towards moving domestic production for the sake of export in order to attain foreign currency to maintain the import of basic food needs such as cereals.

financial capital (Hanieh, 2013, 2018, pp. 132-3). In all of this, there remains a sizable number of small-scale farmers in Egypt's agricultural landscape linked to regional and international supply chains (Dixon, 2020). As a result of these factors, growth in the agrarian sector was limited to the export sector, and local food price increases have been compounded with the social immiseration in the form of unemployment and declining wages. Egypt did not achieve a comparative advantage that was supposedly to be attained by attaching itself to the world market, and, as noted by Amin (2013, p. 57), it experienced a general decline of agricultural productivity geared towards food needs.

1.2 Dissertation Objectives and Contributions

The general thesis of this dissertation is that the expression of agrarian and food production and crises outlined above in the case of Egypt is an emerging feature of uneven capitalist development at the international scale, with the development of the productive forces, such as in agrarian production, being geared towards profit rather than human needs. The analysis offered by Otero, Pechlander & Gürcan (2013) of 'combined and uneven development' applies to the Egyptian case study. According to their argument, agrarian development is marked by a 'regime of accumulation' in the world market that reflects the 'uneven and combined dependency'. The character of this is a loss of agrarian capital by small-scale farmers and the dismantling of a state-support network for food (Bush, 1999, 2002, 2008; Beinín, 2001; Mitchell, 2002). In the development of world agrarian production and in Egypt more specifically, food accessibility is socially determined by the abstract laws of capital accumulation at the international scale and in the market in an uneven manner that simultaneously create but

limit the possibility of resolving food insecurity.³ The development of food productivity has the potentials of being pro-ecological manner, and in which can guarantee access to food irrespective of geographical locations and legacy of productive development. Yet any productivity increase rests on the social relations of capitalism, in which private property relations expand alongside the loss of individual and group autonomy, wealth inequality and general immiseration.⁴

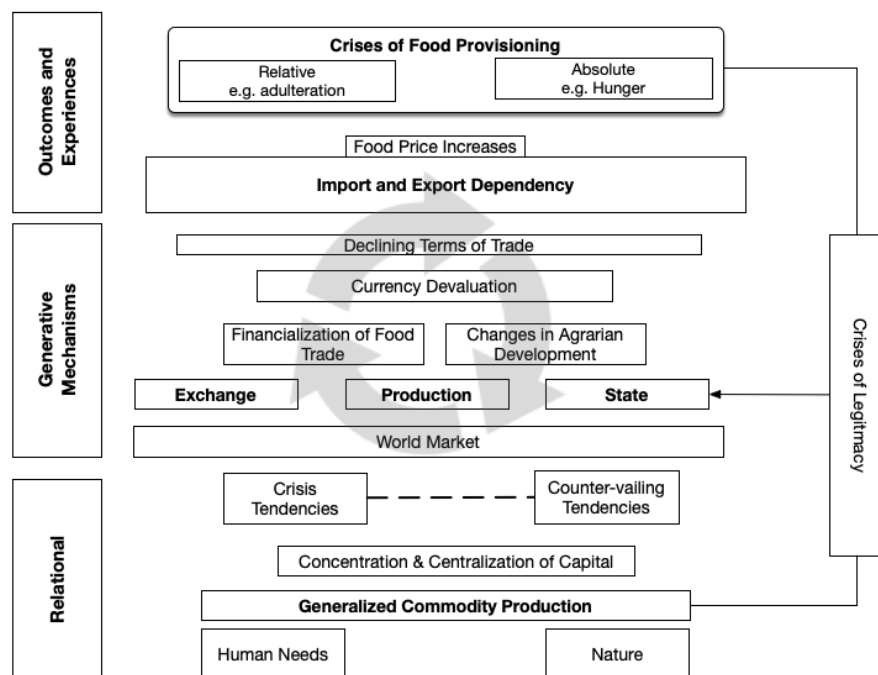
In articulating this general thesis, I rely on the critical realist distinction between deeper structures, generative mechanisms, and observed experiences (Sayer, 1992, 2000; Callinicos, 2006, ch. 5 & 6). A summary of my general understanding of international and national food crises is displayed in Figure 1-1. The social relations of production between capital and labour is the kernel in which crisis tendencies develop and give rise to a number of various generative mechanisms. These generative mechanisms are historically and socially specific, bound to the deeper structures and social relations. Moreover, these generative mechanisms can be divided into three major streams: generative mechanisms that shape productivity (such as changes in agrarian development), mechanisms at a political and state level, such as limits of the state to sustain food provisioning programs, and mechanisms from exchange relations at the international and regional scale, giving rise to imbalances in trade. The critical realist nesting of relations, mechanisms and observed experiences are essential to unite what Marx emphasized as “The concrete [being the] concrete because it is the concentration of many determinations, hence unity of the diverse” (Marx, 1993, p. 101). These

³ Laibman (2008) argues that the abstract law of social determination develops within specific social, historical, and political contexts, and at multiple scales.

⁴ The relation between capital and labour is represented structurally as capitalism, with capitalism being defined here as a class society based on the private ownership of the means of production (Das, 2017).

generative mechanisms overlap, with changes in exchange and state mechanisms overlapping with productivity changes and vice versa. Lastly, the observed experiences such as food insecurity, in both absolute and relative ways, are felt in a variety of ways that become barriers and shows the limits of food provisioning due to generality of capital accumulation.

Figure 1-1 A Critical Realist and Value-Form Conceptualization of Food Insecurity



From this construction, I point to two general observations. First, and as a more general assessment of capitalist development, I stress how the social relations of capitalism that expand the social division of labour through capitalization simultaneously creates conditions of relative *and* absolute immiseration at the world scale. The multifaceted face of capitalist contradiction expresses itself unevenly in geographical and material landscape (Harvey, 2014, p. 146). Just as capital accumulation creates concentrated

wealth and concentrated poverty side by side, a pairing that is social in essence, the production of space of global capital accumulation reflects this general development. Capitalism simultaneously creates the conditions and a hindered ability of social emancipation; the *social* ability to negate certain forms of food scarcity expand with it socially-induced forms of food insecurity (Patel, 2013); the ability to advance technological development and the division of labour through the ‘skilling of labour’ also creates with it a *global ‘reserve army of labour’* that is under- and un-employed (Davis, 2005; Robinson 2018); global capitalist development in the agrarian sector increases the social bonds of production, exchange, and consumption, but does so in ways that facilitate uneven agrarian development at the international scale; and lastly, capitalism produces a ‘spatial fix’ that escape natural necessity but does so in a way that is crisis prone and socially unequal (Harvey, 2014; Smith, 2008).

Second, and more specific to the development of global agrarian development, I argue that these social relations of capitalism are primarily driven by imperialist dynamics of uneven forms of agrarian and geographical development during the neoliberal period, reflecting a form of wealth transfer that sustains the contradictions of capitalist development.⁵ The expansion of this form of capitalist development, especially since the neoliberal period, has been one in which foreign corporate control has largely determined ‘Third World’ states’ ability to industrialize (Girvan, 1976). The expanding corporate and capitalist organization of agrarian development sets countries in the ‘Global South’ at a disadvantage; they simultaneously become entrenched in a global food system wherein they must import basic food items, while limiting more agrarian land to produce export-

⁵ See Patnaik & Patnaik (2017), Amin (2010), and Harvey (2005a, 2006, pp. 415-16), for recent analyses of the geographic expression of imperialism under the neoliberal period.

oriented high-value crops. Food-import dependent countries are more susceptible to domestic food insecurity due to rises in the 'world price' (Otero, Pechlaner, & Gürcan, 2013, p. 264), putting them at a disadvantage while having to manage both capital accumulation and social programs that are undermined by the former. So-called 'lesser advanced' capitalist states are embedded in the global market to grow 'luxury' high value crops and tropical goods, such as coffee, fruits and palm, and 'more advanced capitalist' states specialize in highly-capitalized exports of basic food grains such as edible oils and cereals, and livestock production.⁶ Underlying this articulation of global agrarian production is the extraction of surplus-value production and wealth by undermining the domestic market and attaching countries to the world market. Therefore, food insecurity in the Global South in the neoliberal period develops due to political and economic policies that expand the transfer of surplus value and wealth through mechanisms such as the devaluation of local currencies, the extraction of debt payments, and the greater loss of national food provisioning autonomy. The financial crisis of 2008 and its negative impact on the agrarian development of Egypt illustrates these contradictions; Bush (2014) argues that the attachment of Egypt's export-oriented production to the world market and the subsequent social crises arise precisely because of this articulation, negating any of the potentials which the IFIs had argued should have emerged with the integration to the world market.

This dissertation has a number of goals which will be pursued by way of three parallel lines of inquiry that locate food insecurity in the contradictions of capitalist development. The first goal is to construct a normative conception of food in relation to

⁶ Moreover, many of these states themselves are producers of horticultural goods as well.

human needs, social development, and capitalist development. In doing so, I will argue, along with Sayer (2007) and Geras (1983), that a normative component in understanding needs development within the overall development of capitalism is needed to counter the purported claims of capitalist valuation as the best allocator of human needs. Zurayk (2011) documents how place-based visions of agrarian systems in socially and ecological just ways across Lebanon and the Middle East is antithetical to the capitalism form of food provisioning and agrarian systems, and I argue that the 'need for food' is greater than how mainstream approaches of development or 'productivist' accounts treat food. In light of this, I will argue that capitalism does not necessarily expand the scope of human needs evenly, or in a qualitatively sustaining manner. As it pertains to the expansion of food needs, capitalism creates a *generalized* form of alienation with respect to food production and consumption, where, for example, both diseases of obesity and the violence of hunger occur simultaneously (Albritton, 2009; Patel, 2012). The critical realist distinction between structures, generative mechanisms, and events provides a framework from which to trace the materialization of these different forms of crisis, whether the crises of colonialization, the international food crisis of 2008, or the crisis tendencies that define the limits to national economies.⁷ Linked to these phenomena are the contradictions involved in the nature-society relation, where 18th to 20th century 'cheap food' was a mechanism to lower the wage rate and release labour out of agriculture with devastating ecological consequences for the future of food provisioning (Moore, 2010b, 2015). Pro-ecological forms of farming, such as principles of agro-ecology, permaculture, no-till farming, among

⁷ This is similar to Daoud (2007, pp. 215-8) critical realist conceptual model to understand food insecurity (as an event resulting from socially-created scarcity) in relation to the generative mechanisms of distribution, and the deeper structures (such as the physical environment [conditions of production], biological construction [e.g. human needs], and social and cultural structures [e.g. social structures and organizations]).

others that are situated within local socio-ecological histories, cannot function or independently persist when capitalist valuation dominates.

The era of cheap food was also unevenly expressed through the brutal history of colonialism and the processes of primitive accumulation that embedded regions to the world capitalist market. When food is provided cheaply, it is done unevenly, and under capitalist social relations. Food becomes more inaccessible due to nation-state limitations in food provisioning and the production of human needs for profit. This dissertation will stand as an anti-thesis to free-market approaches to food security that argue a) food provisioning by the state is inefficient and b) the market should be the primary organizer of food provisioning. Arguing for a normative conception of human needs counters some of the prescriptive discussions of mainstream literature, such as attaining comparative advantage, allocating labour and capital efficiently, and allowing the market to be the best allocator of human needs, and showing the limits of 'delinking' strategies that arose from the 'Third-Way,' which has a new expression through 'food sovereignty' movement. While the latter approach correctly criticizes the former approach, the ability to achieve 'food sovereignty' in the midst of imperialist dynamics shows the true limits of food provisioning under global capitalist development.⁸

The second goal is to review and synthesize a number of recent approaches that have dominated the discourses of food insecurity through a value-form analysis arising out of Marx's method. This summary will be in line with both the critical realist explanatory and immanent critique of capital accumulation arising from Marx's *Capital*.⁹

⁸ See Bernstein (2014) skeptical but sympathetic criticisms of the food sovereignty approach,

⁹ I will focus primarily on the discussion and analysis arising from *Capital Volume I*. I will also make reference to *Capital Volume III* on the discussion of the crisis tendencies and counter tendencies of capital.

Each of these approaches take a particular conceptual understanding of crisis and food insecurity. Situating these four approaches will be accomplished through a reconstruction of Marx's value-form analysis in the reconstruction of capitalist crises at the international scale. A value-form analysis links the creation and extraction of surplus value from the realm of production and to the commodity prices and realization crises (the circuit of exchange) (Saad-Filho, 2002, p. 26; 2019).¹⁰ A value-form analysis shows how the 'dialectic of import and export dependence' of agrarian commodities puts pressure for highly capitalized agrarian countries to find outlets for their exports while lesser advanced agrarian states have to simultaneously dismantle their national agrarian sector in order to simultaneously import these products while also exporting high-value horticulture goods. More concretely in the case of Egypt, the world price of food and the development of capitalist production of basic food items heightens the crisis of food affordability for net-food importing countries. In utilizing the four schools of thought as a framing of the problem of food insecurity, the reconstruction of Marx's *Capital* in light of the discussion of food insecurity will link normative conceptions of human needs, value relations, and capitalist dynamics and crisis. This reconstruction will be essential to *re-frame* the question around the quality of use-values produced *and*, even in abstracting this quality, about capitalism's ability to organize the production for human needs in line with the development of wage labour and market provisioning.

The third goal of this dissertation is to explore and review a number of research questions linked to the international food crisis and the development of capitalism in Egypt. *First*, what have been the dynamics of wealth and income distribution in relation to food

¹⁰ See also Rubin (1973), Knafo (2002).

availability at the international scale, and how have food production, imports, and exports been characterized and changed? Exploring these questions will involve a qualitative discussion of the political and economic structural dynamics of neoliberal and capitalist development. With respect to a *second set of questions*, this dissertation will identify the *capitalist* nature of the global food crisis and how it has transformed food accessibility in Egypt. Accordingly, questions to be pursued are as follows: how have the dynamics of capitalist agriculture changed and what are the international trade patterns that form food import dependency? How have these dynamics led to the dispossession of small-scale farming and subsistence farming, and how has this led to a failure of the domestic agricultural growth for food needs? In answering these questions, I will show how state policies at the international and domestic scale both influence but are nevertheless limited in managing capitalist generated food crises that stem primarily from the international scale and ‘concretize’ itself at the regional and nation-state scale.

Overall, the argument, goals, and research questions of this dissertation will trace the structural tendencies of capital accumulation that led to the ‘events’ of food insecurity in its impact on Egypt’s national food security since the neoliberal period and the international food crisis of 2008. The reconstitution of a value-form analysis to the dialectic of human need production and satisfaction is both created and limited by capital accumulation. Ultimately, the contradictions of capitalism, despite its ability to expand human needs, lead simultaneously to generalized food insecurity within population sectors across the world, with particular severity in the ‘Global South.’ A theoretical and conceptual understanding of how capital accumulation works in line with a concrete understanding of how it unfolds explains why the expansion of needs, wealth, and productive ability occurs side by side the expansion of absolute and relative immiseration,

and ecological degradation in the general human-nature relationship at the global scale (De Angelis, 2007).¹¹ This has resulted in a generalized precariousness of labour that is thrown out of capitalist development. It is a development that simultaneously creates its opposite: the generation of wealth in capitalism comes with the general immiseration of the working class as a whole. The general tendency for capitalist crisis and the concentration of wealth leads to food insecurity both qualitatively (nutritional intake) and quantitatively (the number of commodities found in a market) (see Albritton, 2009; Carolan, 2013; Patel, 2012).

1.3 The Existing Literature and the Construction of a Value-Form Analysis

The academic literature on food insecurity can be divided by how they construct conceptual apparatuses that link food insecurity to economic crises. One task of this dissertation is to offer a heuristic and dialectical and historical materialist explanation of food insecurity by way of an immanent and explanatory critique. This conceptual apparatus helps explain the international food crisis as embedded within overall contradictory dynamics of capital accumulation. Accordingly, I will present the explanation of food insecurity and economic crises offered by each approach, point out their contradictions through immanent critique, and compare them to each other in order to develop an alternative explanation of food insecurity and capitalist crises. The approaches identified are the universalist approach, the entitlements and capabilities approach, the wealth transfer approach, and the food regime approach. Emphasizing the critical realist approach of immanent and explanatory critique, and taking inspiration from Smith's (2006)

¹¹ A number of 'eco-Marxist' writers such as Foster (2000), Burkett (1999), and Moore (2015) have argued that the development of capitalist production depends on the devaluation (e.g. articulated into value form analysis) of non-capitalist entities and spaces (labour and non-human nature).

study on globalization,¹² I systematically develop an alternate explanation and presentation of capitalist food insecurity.

Each approach contains certain contradictions in their assessment of food insecurity that cannot be fully resolved from within their own framework. The first is the Universalist approach that sees obstacles to food security arising due to universalist and naturalistic explanations of a nation-state's ability to provision an adequate amount of food for the demand-side of its population. This approach may be divided into two sub-approaches. The first sub-approach finds its articulation in Malthus' *An Essay on the Principle of Population* (1826) and has expanded to offer 'naturalistic' explanations of economic crises. The second sub-approach sees the development of technological efficiencies through market competition and comparative advantage as the solution to food security. Paired together, the position advanced in this approach is that food crises occur because a) market distortions do not accurately determine resource prices, and capital and consumable goods should be better distributed and because of this, b) market mechanisms are not in place to encourage comparative advantage at the international scale. This approach has been the dominant policy approach of mainstream financial, governmental and non-governmental institutions since the neoliberal period (Palley, 2005).

The second approach is Amartya Sen's (2010) 'entitlements and capabilities' approach that critiques the dependence on scarcity and supply-side explanations of food insecurity. Sen argues that instances of food crisis, such as famine, can occur in the midst

¹² In his study, Smith identifies the 'social-state,' 'neoliberal,' 'catalytic-state,' and democratic-cosmpolitan' models of globalization, contrasting these approaches to Marxist inspired models that a) explain the contradictions arising out of capitalist globalization and b) a model to look beyond and develop an alternative, socialist model of globalization.

of productivity increases. This approach holds that, empirically speaking, sufficient food is being produced to feed everyone on the planet (Daoud, 2007, pp. 205-7).¹³ Access to food is heavily regulated and determined by one's ability to command commodities in the market, influenced by, among many factors, democratic rights, institutional regulation and the creation of policies that increase food accessibility through the market or other social provisioning (Watts & Bohle, 1993). This approach argues that access to food is based on *distributional* institutions and ability to command 'entitlements' as the primary factor in producing and attaining human needs.

Approaches three and four problematize the development of capitalism geographically and specifically to food. Approach three is the 'wealth transfer' approach that sees the geographical concentration of wealth across scale and different geographical regions; and approach four is the 'food regime approach,' which identifies specific stable (and unstable) regimes of accumulation. Approach three, largely emanating from the dependency approach, sees the 'extreme underdevelopment' of states rich with natural wealth as a necessary precondition for global capitalist social relations to expand, causing extreme underdevelopment and a 'forced dependence on the world market.'¹⁴ Approach four argues that accumulation arises out of the various 'regimes of accumulation' that are articulated within institutional and national approaches and modes of accumulation. For both schools, food insecurity expanded as agricultural areas across the 'Global South' had been integrated into the colonial system of rule, where

¹³ Moreover, the development of agrarian techniques should be ecologically progressive, producing healthier food systems (Holt-Giménez, 2019).

¹⁴ As Bunker (1984, p. 1019) argued in the case of the Brazilian Amazon and the extreme underdevelopment that occurred due to resource extraction, the embeddedness of local ecologies and economies to the world market occurs because of the complete transfer of wealth outside of the valuation of labour or market prices.

natural resources were extracted. Moreover, both schools argue that there are deeper socio-ontological problems in the development of capitalism, where the relation to nature is perturbed, embedded into the value-relations of global capitalist production, thereby creating a number of social and environmental crises in the circuit of capitalism.

All four schools of thought offer the grounds for me to undertake a dialectical understanding of crisis tendencies in the development of the productive forces and the formation of *uneven* capitalist expansion across the globe. The most severe limitations are those of the Universalist approach, which seeks to either naturalize food insecurity, or to naturalize capitalist production as a solution to food insecurity. The appropriation and concentration of capital a) forces dependence on food provisioning in the market, and b) concentrates capital and therefore economic power. This approach has been critiqued on the basis that it universalizes a relation to nature, and that it in doing this it sees socio-ecological relations as unchanging, ignoring the social basis for economic crises and food insecurity. It also assumes an equilibrium approach to development, seeing uneven growth as separate from development that produces commodities for profit rather than for need. Moreover, this approach cannot fully take into account the problems of relative and absolute immiseration in the production of use-values, with the former including adulterated foods that are lowered in quality, or in the absolute immiseration of food that forces absolute under consumption, leading to hunger. The entitlement and capabilities approach is limited in that it stays at surface appearances of market access and does not fully consider production and exchange relations across nation-states. Access to food is increasingly mediated by the market, and income levels matter in accessing *healthy* and *nutritious* food, but it does not articulate the market in terms of productive relations and

the accumulation process at the international scale.¹⁵ The latter two approaches, the ‘wealth transfer’ and the ‘food regime’ approach contain some limitations related to their articulation of uneven exchange and regulation. For the ‘wealth transfer’ approach, the limits arise only because of its treatment of ‘uneven exchange’ across the globe as the prime driver of wealth transfer; this is based on ‘naturalistic advantages’ and ‘natural monopolies,’ and not, for example, on the *capitalist* production of space that is the generative mechanisms for wealth transfer to occur. Harvey’s (2017a) critiques this conceptualization of wealth transfer for it rests on geographical conditions, rather than on socially-construed systems of surplus value extraction, to explain imperialism in the context of the production of space. Lastly, the ‘food regime’ approach rightly points to the concrete construction of institutional supports for different regimes of accumulation, but can do so ways that reduces a class-based approach to the development of capitalism ‘taxonomically,’ veering closely to a middle-ground approach that rejects the generalization of capitalist crisis and development (Mavroudeas 2012). As Clarke (1988) points out, the regulatory approach relies on contingent developments located in institutional mechanisms to manage capitalist accumulation rather than on the level of class struggle. In both schools, the solution to food insecurity implicitly lies in its ‘dirigiste’ & ‘de-linking’ strategies, such as that arising out of state planning and control of food.

In light of these four approaches, this dissertation constructs a value-form approach to understanding capitalist social relations and capitalist crisis. A value-form approach locates the crisis tendencies of capitalist accumulation in the dialectical relation between

¹⁵ For example, Shiva (2002), representing an argument from the third approach critiques Sen’s (2002) suggestion that poorer countries should not rely on national self-sufficiency in order to maintain food accessibility. For Shiva, it is the dialectic of import and export dependence undermarked by trade liberalization that creates hunger.

the production and extraction of surplus value and the realization of profit in the marketplace (Saad-Filho, 2002; Knafo, 2012). A value-form approach helps articulate and tie together approaches two and four to explain food insecurity. Primarily, it completely negates the first approach in its explanation of food. It links social and food crises to the limits of the market in food provisioning (approach two). A value-form approach, however, also sees capitalist crises as constantly requiring 'outside' spaces that, acting as a gravitational pull, pulls in non-capitalist forms of wealth and spaces (approach three) and help explain the necessary institutional and regulatory features that condition capitalist accumulation in specific sectors such as agriculture and food (approach four).

A reconstruction of Marx's critique of capitalist crisis allows a focus on the general tendency for capital accumulation to devalue labour, and extract natures, leading to increasing absolute and relative immiseration in the midst of expanding, albeit uneven, human needs production. Specific to food accessibility, this is represented in what dominantly determines and conditions access to food: food prices in the world market, the differential wage rates of the working class across geographical space, and the general levels and character of (un-) employment. At a more qualitative level, this dissertation seeks to contribute to a value-form analysis by putting the question of use-values squarely at the centre, moving the satisfaction of human needs from the realm of necessity to the realm of freedom, and for revealing the 'rationality of irrational capitalist production' (Harvey, 2017). There is nothing inherently problematic with the development of a social division of labour – that is, the socialization of production along with the growth in productivity meant to free time. Yet it is expressed irrationally with high unemployment and under-employment under capitalist social relations, leaving needs-provisioning to the market.

1.4 Outline

This dissertation is divided into ten chapters. Chapter 1 has presented the introduction and summarizes the dissertation and expected contributions to knowledge production with respect to food insecurity from a historical-geographical and materialist perspective. This summary outlines the object of study, the research questions and objectives, and the contribute to the literature. Chapter 2 offers a general summary of how food insecurity has been explained by the four approaches I identity above. This consists primarily of a conceptual review of the pre-existing literature in terms of its view of food insecurity. Chapter 3 begins my heuristic examination of a historical materialist approach to food insecurity, where a theoretical discussion on the socio-ecological relations of human needs is offered in order to set the basis for a political economic critique of capitalist food provisioning. In this chapter, I summarize the importance of a theoretical discussion on the material form of need in order to outline the importance of human flourishing and the inability of capitalist valuation to offer a normative conception of food needs. Chapter 4 reconstructs a value-form analysis arising out of Marx's capital. In this chapter, I argue that Marx's explanations of capitalist crises from a value-form analysis offers an important explanation of food crises at the international scale, pegged to the generalized social relations between capital and labour. Chapter 5 and 6 is an is an analysis of the international food crisis of 2008. In Chapter 5, I argue that popular explanations that focus on the food crisis as a singular specific event is mistaken as they miss the general crisis tendencies of capital accumulation and the development of food import food provisioning. In this chapter and the next, I rely on my structure and presentation on the dialectic of generative mechanisms and events. In Chapter 6, I detail the general development of productive relations and the inversion between productivity growth rates and wealth and

income inequality. In doing so, I suggest that food insecurity is not simply a contingent feature linked to different geographical locations but on the general development of social inequality. In Chapters 7 through 9, I contextualize the Egyptian experience of food insecurity, focusing on the capitalist development of Egyptian food provisioning system linked to the conceptual and theoretical claims in the earlier chapters. Chapter 7 is a review of the literature on the colonial and post-colonial period of the development of capitalist social relations. In this part, I review the literature on the historical development of capitalism in Egypt, the changing agrarian features, and the dirigiste attempts to negate some of the excesses of absolute immiseration that were an outcome of colonial integration in the world market. This chapter is important in that it contextualizes the neoliberal form of Egyptian agriculture in the next two chapters. Chapters 8 and 9 offer a case study of Egyptian food insecurity and the transformation of the agrarian sector within the Egyptian context, analyzing how food insecurity has increased in the neoliberal period. These chapters include the dissertations main conceptual and theoretical claims, highlighting the inherent limits of national food provisioning in the context of uneven forms of agrarian development. Chapter 8 focuses on the national limits of the food subsidy program in Egypt and Chapter 9 discusses the growing articulation of agrarian production to the regional and world market. Lastly, Chapter 10 - the conclusion of this dissertation – summarizes in broad strokes the historical-geographical materialist critique of capitalist food provisioning. In this final chapter I offer some remarks for future research along the trajectory of this dissertation. I ultimately conclude that we must see capitalism and food accessibility as dialectically intertwined and uneven, and that a transformation of society into an ‘association of free producers,’ will require the democratic control of productive

resources as Marx outlined. It would be the only way to reconcile the contradictions of social development in line with a normative and materialist conception of human needs.

2 Food Insecurity and Crises: A Review of the Existing Literature

2.1 Introduction

There are a number of contemporary approaches that investigate the causes, consequences and resolutions to food insecurity and economic crises. These approaches reflect the political and economic contexts of the latter 20th century, with the rise of neoliberal doctrines of development emphasizing the role of market competition to allocate labour and capital, replacing Keynesian demand-side doctrines of regulatory monetary policies (Harvey, 2005a; Palley, 2005). Post-colonial states that at first adopted third-way Keynesian doctrines such as price controls on food and land have been replaced with the deregulation of agrarian development, embedding itself deeper within world markets, representing a maturing crisis of 'Third-Worldism' (Berger, 2004).¹⁶ Likewise, the response to the neoliberal experience in food provisioning has led to a critique of free markets with an emphasis on 'food sovereignty' and the right of nation-states to control agrarian and food production, aligned with social and ecological goals of equitable development (Akram-Lodhi, 2013, pp. 156-7). This experience suggests that all scientific and popular work, social and natural, are bound *and* limited in their implicit and/or explicit political premises (Levins & Dunn, 2003). Indeed, as Harvey (1974, pp. 256-7) argued, 'ethical neutrality' is itself an ideological claim that must be investigated. The purpose of this chapter is to map and chart out the general trajectory of these approaches in tandem with each other.

¹⁶ The FAO has taken this approach, in which food security through comparative advantage through the world market takes policy preference over principles that food should be a public good guaranteed to all (Friedmann, 2005).

This chapter reviews four dominant approaches to food insecurity and economic crises. By way of an imminent and explanatory critique, this review highlights each approach's conceptualization of economic crisis and normative assessments of food insecurity.¹⁷ These approaches were chosen because they each have specific conceptual explanations of economic crises and food insecurity. The first two approaches, the 'universalist' approach and the entitlements and capabilities approach, take for granted capitalist social relations and the free market as the basis to move beyond food insecurity and capitalist crises. The 'universalist' approach relies on Malthusian and free-market approaches that universalize either hunger and food insecurity or human behavior in economic activity. It is arguably the dominate approach in the larger academic research and public policy. The entitlements and capabilities approach arise from the work of Amartya Sen and negates the first approach by pointing to the mediation of money and unequal access of food in the marketplace to explain food insecurity. While different from the first approach, it does not fully disassociate itself with it as it also takes for granted free-market principles. The third and fourth approaches, the 'wealth transfer' approach and the 'food regimes' approach, counter market-based approaches. The 'wealth transfer' approach sees geographical and spatial uneven development as the major explanation for national food insecurity. The historical legacy of colonialism and the continued structural inequalities that define the world market explains why food insecurity occurs. The 'food regimes' approach finds the cause for food insecurity in the institutional arrangements that regulate capital accumulation. Both third and fourth approaches derive

¹⁷ The 'theoretical and conceptual lens' used by a variety of approaches determines what factors are included, and of equal importance, what factors are not included to explain certain phenomena. This work specific to synthesizing a number of approaches have been attempted a number of times. Each approach does this in its development as an approach. See also Watts & Bohle (1993).

from, but expand beyond, Marxist approaches to food insecurity; they focus on the extra-economic and institutional features that explain food insecurity. Moreover, these latter two approaches call for the right of nation-states to exercise ‘food sovereignty,’ which is antithetical to market-based provisioning. An assessment deriving from a summary of these four approaches will be grounds for establishing a dialectical and historical materialist approach to food insecurity in Chapters 3 and 4.

2.2 Food Insecurity and Crises: Explanations and Limitations

The approaches chosen in this chapter rely on particular notions of crisis that are underwritten by a respective mode of explanation. Table 2-1 is a summary of the four approaches’ understanding of crises formations, their respective mode of explanations, and the missing features of their approaches. These approaches are rough approximations and do not necessarily mean there is consistency in any of the characterizations in the table. However, these rough approximations allow for establishing the heuristic study of these approaches in order to carry out immanent and explanatory critiques.

Table 2-1 Summary of Four Approaches to Food Insecurity

Approach	Crisis Formation	Mode of Explanation	Missing Feature
<u>Universalist</u> a. Malthusian	Universal explanations Population and so-called Limits to Food Production	Universalism; ‘A-historic’ naturalism; ‘Methodological individualism;’ Inadequate natural and technical division	Social relations of production; Class analysis

b. 'Productivist' & Neo-Malthusianism	Geographical or technological inefficiencies	of labour (e.g. comparative advantage across scale and sectors not taken advantage of)	
<u>Entitlements and Capabilities</u>	Lack of entitlements or endowments	Social analysis; 'Methodological individualism' in some instances; Conjunctural	Uneven Exchange and contradictions in the social relations of production
<u>Wealth Transfer</u>	Unequal exchange of wealth between geographic and non-human entitles; Historical legacy and persistent effects of colonialism	Historical and social Analysis; International political structures	Particularity of surplus-value exploitation specific to capitalism and the capitalist production of space
<u>Food Regimes</u>	Articulation of production based on institutional regulation of the economy	Rearticulating modes of production	Taxonomical approach as opposed to the generality of capitalist class formation

2.2.1 Universal Explanations for Food Insecurity

This approach sees food insecurity as a universal condition. Universalism is a conceptual strategy that treats a phenomenon as the same in different spatial and temporal contexts. This approach identified by Smith (2008) as the 'bourgeois conception of nature' sees the relation to nature as static, unchanging, and built on a specific characteristic that defines all societies. It simultaneously naturalizes the relation to nature and naturalizes economic

behavior to the dictates of the free-market and capitalist behavior.¹⁸ The Malthusian approach sees the inevitability of environmental degradation while the 'productivist' approach naturalizes economic behavior and locates food insecurity as stemming from inefficiencies in the allocation of scarce resources. For this school, food insecurity occurs due to the lack of social, technological, institutional, and environmental capabilities that allow for the functioning of free-market exchange, free of market distortions. Both these approaches depend on a 'population growth theory of wages' in which demand side explanations such as population growth are the reason for economic crises (Mandel, 1990, p. 66). For the Malthusian strand, economic crisis is inevitable, while for the 'productivist' strand, economic crises can be avoided by the construction and maintenance of private property relations in the distribution of capital and labour in order to encourage a *technical* and *natural* division of labour. In both approaches, austerity is the mechanisms of resolving crisis.

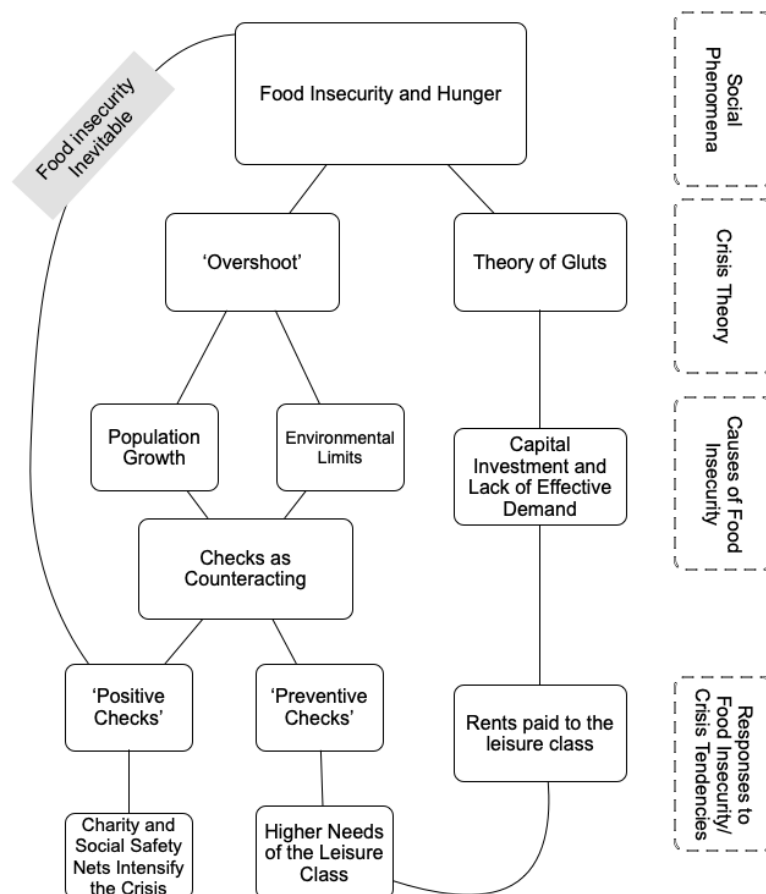
2.2.1.1 Scarcity and the Inevitable Hunger: The Malthusian Approach

Malthus argued through his economic theory of population growth that there is an irreparable gap between the impulses of human nature and the limits of the environment, and that there is a tendency for economic gluts due to the lack of effective demand in the market (Hunt & Lautzenheiser, 2011, pp. 83-9). Figure 2-1 is a summary of the Malthusian

¹⁸ For example, Mitchell (1988) argues in *Colonizing Egypt* that Foucault's 'enframing' is key to understanding the transformation of the Egyptian countryside. It is the process in which replica of social formations and its technical apparatuses are carried out over geographical space. As Mitchell writes, its power was greater than the military apparatus: "Projects of improvement of this kind contain less of the harshness of the methods of military order I have been describing. But the order they seek to achieve is a similar one. Such projects, no less than the military innovations, typify the new way in which the very nature of order was to be conceived. In modern Egypt, as in every modern state, order of this kind was to claim to be order itself, the only real order there has ever been" (p. 44). The same can be applied to the productivist approach to decreasing hunger and food insecurity.

and Neo-Malthusian position on the link between food insecurity and crises. Harvey (1974, p. 258) demonstrates that Malthus' method of analysis is a form of 'logical empiricism' that sets up certain postulates and verified with empirical measurements. For Malthus, 'human needs' pressure on growing food grow due to population growth, and that gluts occur because of over-investment of capital and the declining power of the leisure land-owning and rent-earning class. Malthus' theory of economic crisis therefore derives from the universal workings of these natural laws of distribution.

Figure 2-1 Malthusian Approach to Crisis and Food Insecurity



Food insecurity arises due to the ostensible 'vices of the working poor,' who cannot control their 'natural impulses,' of reproduction, and who reproduce beyond the carrying capacity

of the environment. Malthus argues that there is a gap between the human population and their needs, and the ability to grow food; the impulses of humans to procreate grows exponentially while food, a necessary and natural need of humans, grows arithmetically (i.e. 1, 2, 3, 4, 5, 6, 7, et cetera). The natural surplus that makes up the natural conditions of existence (e.g. trees, biodiversity, soil fertility, et cetera) is depleted overtime because Malthus' assumption that humans will overuse resources to produce subsistence needs. For Malthus, ultimately, "...all animated life...increases beyond the nourishment prepared for it" (Malthus, 1826).

According to Malthus, food insecurity inevitably results due to two forms of checks: preventive and positive checks, and as Harvey (1974, p. 259) argues, Malthus position is laden with justification of unequal class power, justifying crises on the poor that is not actually of their making. Malthus assumes that these checks are universal, that they cannot be negated, and work to put in place a crisis to stabilize a growing population. They emerge precisely due to the universal condition of expanding human numbers beyond the ability to grow food. Preventive checks are supposedly more 'virtuous' and are carried out by the upper landed aristocracy; Malthus defended the landed aristocratic class as he assumed their abstention from procreating because of their so-called 'higher and luxurious needs'. An example of preventive checks would be the practice of moral virtues of abstinence and in the consumption of higher needs (e.g. the arts, and leisurely activity). Moreover, from Malthus' perspective, the landed aristocracy actually seek to lower the tendency for crisis because they spend on more luxurious items rather than reinvestments that would continue to grow the need for consumption on a limited environmental base (Hunt & Lautzenheiser, 2011, p. 87). Positive checks, on the other

hand, are forced upon the poor as a consequence of their ostensible bad judgment arising from 'moral and social ills:'

The positive checks to population are extremely various, and include every cause, whether arising from vice or misery, which in any degree contributes to shorten the natural duration of human life. Under this head, therefore, may be enumerated all unwholesome occupations, severe labour and exposure to the seasons, extreme poverty, bad nursing of children, great towns, excesses of all kinds, the whole train of common diseases and epidemics, wars, plague, and famine (Malthus, 1826).

For Malthus, this is an inevitable outcome of so-called economic productivity. In this viewpoint, the relation to nature, and access to food particularly, will always be one of an external and universalized relation, and one where the eternal laws of the nature-society relation are constant. Technological improvements, charity, or attempting to alleviate poverty would just be 'extending' and postponing the inevitable crash. Malthus wrote against the redistribution of wealth and for charity, arguing instead that such policies will just delay the inevitable rise of poverty. For Malthus, food security can only occur by actually imposing harsh conditions of existence on the poor. This is to maintain the power of the landed elites:

Instead of recommending cleanliness to the poor, we should encourage contrary habits. In our towns we should make the streets narrower, crowd more people into the houses, and court the return of the plague. In the country, we should build our villages near stagnant pools, and particularly encourage settlements in all marshy and unwholesome situation. But above all, we should reprobate specific remedies for ravaging diseases... (Malthus, quoted in Hunt & Lautzenheiser (2011, pp. 79-80).

The Malthusian approach has persisted and transformed over time in a number of ways relating to environmental resource management and population growth (see Merkel, 2003, pp. 182-92; Srivastav & Srivastav, 2010; Weisman, 2007). There are a number of

examples and iterations. In their analysis of environmental resource management, the authors of the Club of Rome's (1972) *The Limits to Growth* and its subsequent and updated editions warn of the overshooting carrying capacity. Weisman (2007, pp. 271-272) argues that "Worldwide, every four days human population rises by 1 million...they'll wax out of control until they crash...the only thing that could change that...is to prove that intelligence really makes us special after all". Merkel (2003, pp. 52-56, 182-192), while recognizing inter-human and intra-species equality as a solution to prevent overshooting the earth's human carrying capacity, nevertheless suggests a limit on *human population growth*. Lovelock (2006, p. 180) have also argued that there is an ultimate limit to human population numbers, and that the expanding population has severe consequences for maintaining an ecologically-sound relation to nature:

The root of our problems with the environment comes from a lack of constraint on the growth of population. There is no single right number of people that we can have as a goal: the number varies with our way of life on the planet and the state of its health. It has varied naturally from a few million when we were hunters and gatherers to a fraction of a billion as simple farmers; but now it has grown to over six billion, which is wholly unsustainable in the present state of Gaia, even if we had the will and ability to cut back (emphasis added).

In summary, the Malthusian position argues that there exists a universal tendency to natural scarcity, from an analytical viewpoint grounded in an assumed external relation to nature where human population numbers are ultimately separate from nature. For Malthus, there is no real efficient way to address food insecurity and hunger through charity or redistribution. This position therefore gives a universal justification and cover for the politics of austerity.

2.2.1.2 'Productivism' and Market Fundamentals

A second parallel sub-school offers a 'productivist' approach to the inevitable food insecurity and economic crises of Malthusianism. While most, if not all, proponents of Malthusian analysis of resource consumption would avoid the blunt language used by Malthus in his treatise, the reliance on the Malthusian logic persists in their analysis of food insecurity. The 'productivist' approach argues that food insecurity is avoidable through free-market regimes that allocate scarce resources towards efficient productive units. This position is best exemplified today under neoclassical and neoliberal orthodoxy of free markets and limited government intervention in the market for the *correct* allocation of human needs provisioning.¹⁹ Scaling this argument to international trade, Ricardo's theory of comparative advantage is utilized to justify the allocation of ostensibly scarce resources within the framework of the international division of labour.

The 'productivist' position sees efficient productive organization as the most effective strategy of addressing food insecurity. The Malthusian position on absolute scarcity has been critiqued in a number of ways that, in response, point to the relative relation to nature and the utilization of science and technology to create new avenues to satisfy human needs. Dispelling the Malthusian assumption, Fedoroff (2015, p. 2) argues that human populations can surpass real natural limits through the advent of agriculture and technological development of settled civilizations which allow the increased production of food and not are necessarily bound to limits. The ability to produce food had always been mediated by the socio-technological manipulation of the natural environment; what has driven this process is for the need to produce food beyond a supposed natural

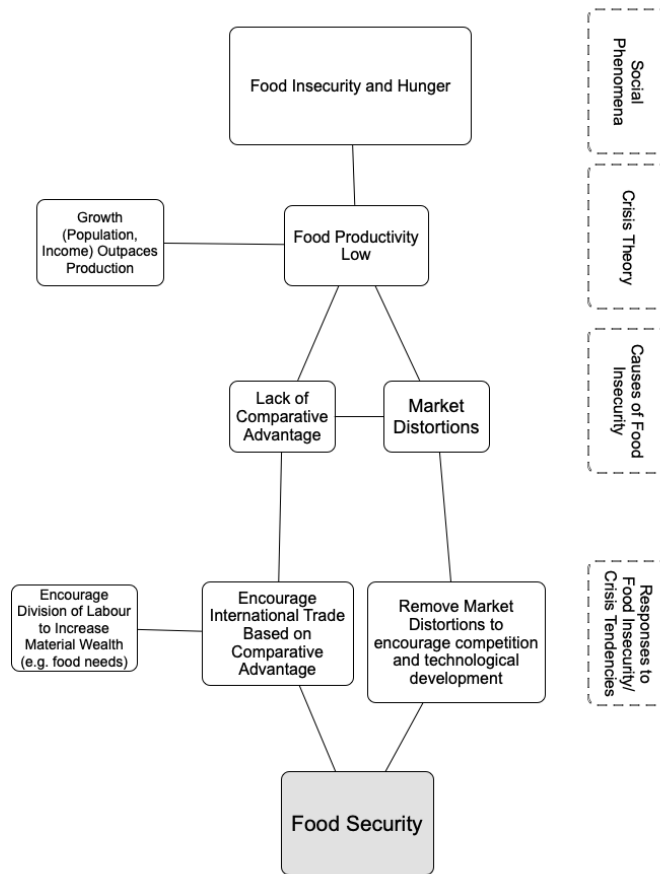
¹⁹ On market-based environmentalism versus 'political environmentalism', see Anderson & Leal (1992).

limit, therefore inverting the position arising from their Malthusian counter-parts. The various agricultural revolutions throughout human history - such as the first agricultural revolution that did away with land tenure requiring fallowing, the second agricultural revolution that expanded mechanization, the development of synthetic fertilizer, and seed selection (Mazoyer & Roudart, 2006, pp. 313-26, 375-95), and the third agricultural revolution involving the further mechanization of agriculture along with biotechnology - avoid the Malthusian prediction of the overshoot of carrying capacity.

The 'productivist' viewpoint has had widespread acceptance in academic and policy circles that seek to develop free-markets and the privatization of land, resources, and capital. Hardin (1968) wrote the classic text against the commons in arguing that private property relations and the regulation of access to resources are important to prevent the over-usage of a common good.²⁰ Accordingly, food insecurity arises due to the lack of market fundamentals; market fundamentals avoid the problems of state planning and management. Borrowing from Malthus, the 'productivist' approach sees geographical and environmental limits as real causes for food insecurity, but which can be overcome through the development of free-markets, infrastructural development and the privatization of resources. In a globalized world, nation-states are prefigured with certain natural and technical comparative advantages that should be used as a jump start in allocating goods and labour efficiently (Shaikh, 2005, pp. 43-5). Therefore, neoliberal orthodoxy argues that food insecurity can only be resolved through world trade. Figure 2-2 is a summary of the 'productivist' approach to crisis formation and the responses to food insecurity.

²⁰ For a critique of Hardin, see Clark (2010a, 2010b).

Figure 2-2 'Productivist' Approach to Food Insecurity



This approach's conceptual and theoretical basis relies on the neo-classical supposition that wealth is best achieved through market valuation that seeks to best allocate scarce resources. Daoud (2007, pp. 209-10) argues that this is articulated through the supposed scarcity postulate and comparative advantage. Daoud argues that neoclassical approaches to food insecurity depend on Carl Mengers postulate of resource scarcity, in which scarce resources get priced in the market defined first by their utility and second by their supply and demand. Menger argued that as soon as a commodity begins to be consumed and satisfied, its marginal utility decreases, and its importance relative to the 'wants' of other commodities that are of so-called 'higher order' occupy more preference

in the purchasing power of an individual (Hunt & Lautzenheiser, 2011, pp. 256-7).²¹ Market signals distribute and allocate goods based on the availability of resources, with market signals and the profit motive being the gravitational pull attracting capital investment to increase productivity. That is to say, resources carry with them a corresponding price indicating the quantity found in the market and in relation to the demand-side needs for consumption. If a commodity carries with it a higher price, producers will begin to shift their capital towards its production, improving techniques and investing more capital. This has the effect of increasing the mass of produced commodities, pushing out more inefficient producers, lowering the price, all resulting in an equilibrium price. Accordingly, there will be an equilibrium in market price due to expanding production and the taking advantage of the rational economic distribution of productive resources.

At the scale of the nation-state and developmental politics, Rostow's (1990) analysis on the state of development of the newly emerging nation-states holds that through integration with global circuits of capital, countries can focus their geographic 'comparative advantage' to 'take off' from traditional society to an age of mass-consumption. Ricardo argues that comparative advantage can open the space for nation-states to focus their natural or technical 'advantage' to capture their rightful share of total wealth production (Hunt & Lautzenheiser, 2011, pp. 119-20). Comparative advantage is the specialization in production of a certain commodity by each country to maximize efficiency. This international specialization is akin to Adam Smith's discussion of the division of labour as the source of productivity. Absent of the mechanisms that facilitate

²¹ Not to confuse Menger's terminological distinction between goods of the first order (i.e. food and other consumable items) and goods of higher order (goods that are used in production) (259). Marx's terminology would be Department 2 (production of consumable goods) and Department 1 (production of the means of production).

the division of labour at multiple scales, food production would be precarious and subject to inefficiencies due to a variety of geographical, environmental, and socio-technological reasons.

The 'productivist' school of thought is prevalent in all major international institutions that focus on food and agricultural productivity. In many ways, the solution to these issues centers upon technological fixes that increase production, improve investment in rural areas, increase information flows to farmers, entrench property rights, and extend and promote producer organizations to strengthen linkages to the market. The World Bank, FAO, IFPRI, among other international development and financial organizations, center the role of free trade in the world market of food from the assumption that it will remove market distortions, increase food accessibility for food farmers, and increase labour productivity by farmers. The World Economic Forum (2018) has argued that population pressures and other environmental factors can be offset through increases in production and accessibility:

The global food system today is beset by serious challenges and risks. Major demographic shifts are increasing and changing the demand for food with a rapidly growing population expected to reach 9.5 billion people by 2050 which will increase global demand for food by 60%. These shifts are driving new threats to our populations, systems and environment. *Feeding the global population will require substantial changes to ensure the production, distribution and consumption of sufficient nutritious and sustainably produced food.*

The solutions offered by a position is framed by the problem they set forth; in the case above, the neo-Malthusian framing allows for the solution. The World Economic Forum (2016) in their report 'New Vision for Agriculture' appeals to solutions that are technical in nature and focused on the institutions of private property. They write as solution:

- 1 Locally-owned and aligned with country goals
- 2 Market-driven with projects led by the private sector and rooted in viable business cases
- 3 Multi-stakeholder with open and inclusive engagement from the beginning
- 4 Holistic integrating full value chains that benefit all actors in the agriculture system
- 5 Globally connected and supported by an international network providing solidarity and support.

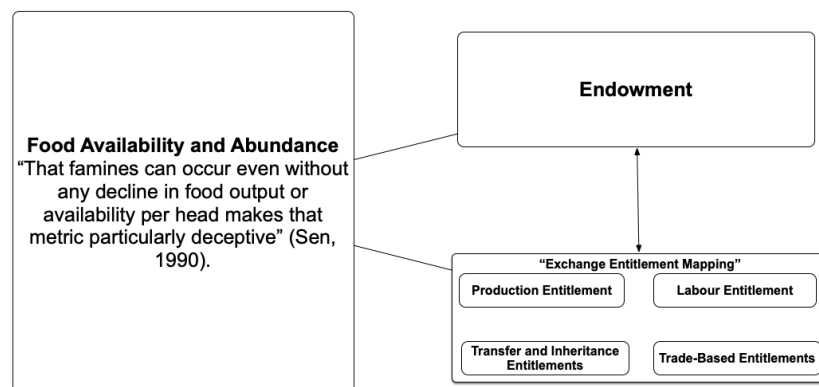
Under this approach, market-fundamentals based on private property rights, technological development, and an appearance towards inclusive agricultural development is the correct strategy for increasing productivity. While there are differences among the various international institutional organizations above in terms of their focus, mission, and activities, treating them all as identical is problematic. For example, Friedmann (2005a, pp. 85-98) has shown that the FAO activities have been shaped preventing the adoption of social-democratic principles which was a real potential after the end of World War II; its activities were as such oriented towards market fundamentals as a given in the international institutional setting.

2.2.2 Entitlements and the Critique of Universalism

The second approach is the entitlements approach, which directly critiques the first approach that understands food insecurity as caused primarily by an absence of productivity and efficiency in production. The central issue for this approach is that food availability is largely mediated by social entitlements that determine individual access to it. This critique arises out of Sen's work on entitlements and command over resources through markets. Sen (2010) has written extensively on the relation between poverty, starvation, famine, and the social determinants of entitlements. This approach, essential

for development work and scholarly research in food accessibility,²² is a theoretical inquiry into, and an empirical verification of, the variables that determine access to food. Yet important as the work is to have a multivariate explanation of human development, it can easily be absorbed into the market-based first approach. Daoud (2007) argues that Sen's work ultimately surpasses Menger's utilitarianism that relies on a form of a scarcity postulate that inaccurately reflects the actual level of production.²³ Daoud argues that quasi-scarcity is a more suitable conception based on the fact that today, the ability to produce food globally has far surpassed the Malthusian 'end-game,' or the 'productivist' insistence that productivity needs to be increased. Figure 2-3 is a representation of the entitlement approach from Amartya Sen's work.

Figure 2-3 Entitlements Approach to Food Insecurity



The entitlements and capabilities approach sees access to food as primarily linked to entitlements access, and market and non-market, 'capabilities,' such as pre-existing

²² For example, Sen has been directly involved in developing the Human Development Index (HDI) to measure levels of development based on life expectancy, education levels, and income.

²³ According to Daoud, Menger's and neoclassical economics depends on this postulate when a human requirement is greater than the goods available for its satisfaction, than these are economic goods (scarcity), whereas in the opposite scenario, these would be non-economic goods (abundance).

wealth holdings, and as not linked strictly to the productivity levels of a given large economic unit, such as a region or a nation state. Sen (2010, p. 1) begins his study saying that "...[starvation]...is not the characteristic of there being not enough food to eat. While the latter can be a cause of the former, it is but one of many possible causes". Sen continues that the 'relationship of persons to the commodity' define starvation statements, and that we must understand the 'structure of ownership' (p. 1). For Sen, there are various kinds of entitlements which revolve around the questions of ownership; the 'entitlements' involve various links that define the total makeup of accessibility:

- Trade-based entitlements;
- Production-based entitlements;
- Labour-entitlements; and
- Inheritance and Transfer entitlements

In this regard, food security is founded on existing marketing mechanisms of a current locale (itself influenced by various trading relations at the international scale) in varied ways. Production-based, trade-based and labour-entitlements are presupposed by wage labour and private property relations. The inheritance and transfer entitlements are decided contingently within nation-state policies regarding distribution of goods. Ownership and the various forms of entitlements are shaped further through the mode of production, which Sen sees as conditioning entitlements (Sen, 2010). Class plays a role in determining entitlements and the possibility of starvation due to sectoral imbalances, but in general depends on a 'methodological individualism' in the explanation of food access (Fine, 2010). Moreover, he does not distinguish his analysis of distribution from the general tendencies of capital accumulation (see Chapter 4).

These general gaps in Sen's analysis of food accessibility through entitlements and capabilities has led to general advancement in the literature. Sen's argument that certain entitlements at certain conjunctures has been extended to include more political and structural modes of explanations. Geographers Watts & Bohle (1993) argue that various concrete contexts are defined by historical, geographical, structural, and socio-economic variables that give rise to 'spaces of vulnerability'.²⁴ Entitlements are not simply based on the relation between citizens and their state or on the local market and their levels of entitlements, but are also based on agency of disenfranchised groups, and the systemic tendencies that shape the empirical level of food accessibility for various social groups. Accordingly, food insecurity is a matrix defined by entitlements (economic access), agency (political participation), and systemic features of crisis (class position):

1. **Entitlements:** command over food and the specific outcomes tied to accessibility to food;
2. **Agency:** the political arena in which the command over food is not simply 'given' but contested; and
3. **Systemic:** the wider structures that are prone to crises and give rise to (or negates) accessibility to food.

Levels of food accessibility vary by social groups, such as the economic position of small farmers, landholders, urban and rural labourers, migrant labourers, and along demographic lines such as gender and age, as well as by different groups' relationship to state decision making. Sen gives the example of those in sharecropping arrangements

²⁴ The coordinates of risk and actual impacts that people are situated in and affected by can be conceptually and theoretically mapped out into a geometrical figure in both social, political, and economic content, and in structural-historical contexts.

having greater accessibility to food than those rural or urban workers who rely on a wage in times of food price spikes. The changing production and trade arrangements in the 19th century have been shown to undermine food security for those living in rural areas, while strengthening food security in urban areas in the European core.

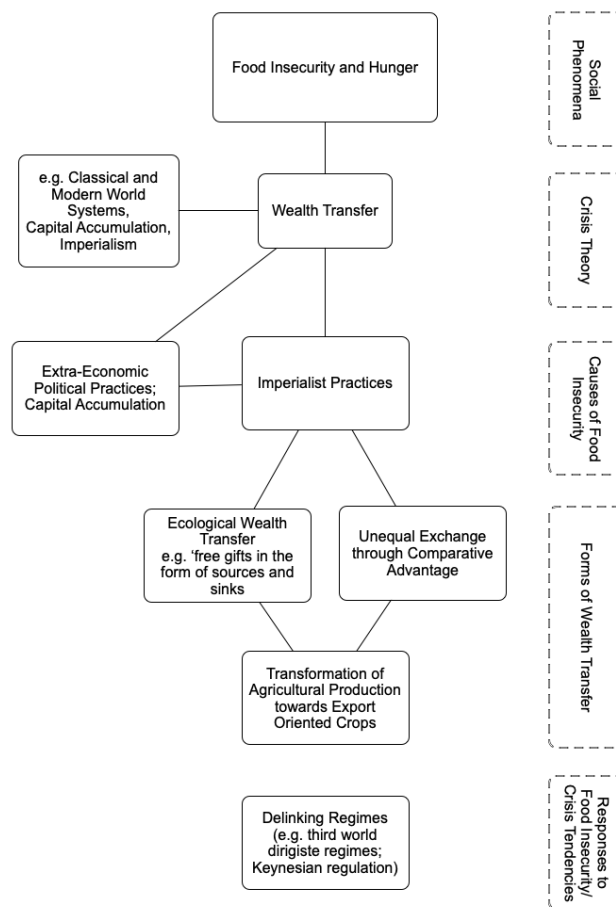
This analysis is not limited to the absolute poor in 'undeveloped' states but on changing dynamics of different social groups, across varying levels of national development. Kodras (1997) & Schwabe & Kodras (1999) write on how race and class are all conditioned by place, locality, and political and historical legacies of poverty. The same can be applied for an analysis of food. While food accessibility has typically be seen at the international scale in understanding food vulnerability, place-based investigations of how race and class (and other social indicators such as age, and gender) are important to contextualize concrete experiences and positionalities.

2.2.3 Wealth Transfer Approach

The Wealth Transfer approach is the first of the final two approaches that critique market-based food provisioning. The wealth transfer approach is an inversion of the Ricardian theory of comparative advantage. International exchange relations, rather than working towards food security through comparative advantage, are instead a catalyst for the loss of political and economic independence. This approach moves beyond the second approach in that it sees wealth transfer as a necessary rather than contingent feature of market relations and international trade. This approach is so named because it centralizes the uneven exchange of wealth between different geographical regions and socio-ecological entities throughout the 'long durée' of capitalist development since the 16th

century (Bunker, 1984; Moore, 2010, 2015). The historic legacy of colonialism and the current practices of ‘primitive accumulation’ Marx articulates in *Capital* are the focus point of this approach, where “expropriation of the agricultural producer, of the peasant, from the soil, is the basis of the whole process” (Marx, 1990, p. 876). Figure 2-4 summarizes the wealth transfer approach: the extraction of wealth through colonial and imperialist extra-economic and economic policies is the cause of food insecurity.

Figure 2-4 Wealth Transfer Approach to Food Insecurity



This approach argues that wealth transfer depends on unequal exchange in different wage rates and the devaluation of exports. First, Emmanuel argues that unequal

exchange facilitates wealth transfer through differential wage rates and the reproduction of labour in various productive branches and in different geographic regions. Brewer (1990, p. 203) writes, summarizing Emmanuel that

Exchange is 'unequal' because the low-wage country has to pay more for its imports than it would if wages were the same in both countries, without getting higher prices for its own exports. It thus has to export more to get a given amount of imports.

This form of uneven exchange heightens the extraction of both wealth and surplus labour. Second, the transfer of wealth occurs due to the historical legacy of monopoly control and the hierarchical nature that emerged in the extraction of nature, requiring labour regimes of slavery and semi-feudal relations (Amin, 2010; Davis, 2007; Frank & Gills, 1993; Moore, 2003; Patnaik, 1999; Patnaik & Patnaik, 2017). While this perspective finds food insecurity as arising from the link of capitalist social relations and international trade, it can sometimes lapse into a *universalist* conception of uneven exchange, with the example of pre-capitalist forms of uneven exchange in the construction of empires that emerged with settled society and agrarian development (see Frank & Gills, 1993).

2.2.3.1 Unequal Exchange and Food Insecurity

Food insecurity is caused by the devaluation of labour and nature that occurs in order to export wealth to core countries. Davis (2004) argues that food and nutritional insecurity is directly tied to the historic legacies of colonialism, through the loss of communal control of production, the decline in state provisioning, and the attachment to the world market, all part of the 'structural vulnerability of hunger'. This approach sees food insecurity stemming from uneven exchange relations through the integration to the world market.

This integration comes from what Harvey (1981) calls a spatial fix inherent in the contradictions of capitalism, requiring it to search for 'fixes' to the problems of capital accumulation: cheaper sources of labour and an outlet for labour migration, more fertile agricultural lands as in the development of American agriculture, and the search for cheaper raw materials from colonies all represent can all represent a form of unequal exchange. This approach sees the relations between nation-states as one based on core-periphery relations in a global capitalist system built on hierarchical flows of wealth and surplus labour asymmetrically. The dependency school of thought argues that 'underdevelopment' is a result of the long process that embedded local markets to the world market:

Both Underdevelopment and development are aspects of the same phenomenon, both are historically simultaneous, both are linked functionally and, therefore, interact and condition each other mutually. This results...in the division of the world between industrial, advanced or "central" countries, and underdeveloped, backward or "peripheral" countries... (Sunkel & Paz, quoted in Valenzuela & Valenzuela 1978, p. 544).

The legacy of colonialism is one of constant economic and extra-economic imperialist practices that attempt to mitigate the crisis tendencies of capitalist social relations at the international scale. Patnaik & Patnaik (2017) argue that unequal wealth transfer occurs for two reasons. First, concrete instances of capitalist social relations require a relationship with non-capitalist spaces (spaces of production that are dominated by local and small-scale production). This approach, first articulated by Luxemburg, sees the crisis formations of capital accumulation arising from a crisis of underconsumption (Harvey, 2005b, p. 138). Exporting excess capital to non-capitalist spaces in exchange for raw material and other primary goods is the primary way in which 'underdevelopment' occurs

and unequal transfer occurs (Brewer, 1990; pp. 58-9). The importation of capital is the formation of debt crisis puts countries seeking to attain comparative advantage in the international scale in a precarious position due to crises that occur with the drop of international prices. Second, Patnaik & Patnaik argue that capitalism depends on the Global South to produce specific use-values because they have a monopoly of suitable growing conditions, such as land with longer growing seasons, warmer weather to grow tropical products, and in addition to this, non-agrarian products such as metal ores (see Moore, 2003).

The wealth transfer school directly critiques the productivists' approach of comparative advantage. Different geographical areas have certain physical conditions that allow for the growing of specific crops that could not be grown elsewhere; this characteristic amounts to a natural monopoly that is qualitative and quantitative in character.²⁵ As detailed above, the productivist approach sees the technical division of labour as the source for wealth production; in the form of food, the division of labour ostensibly leads to efficient allocation of productive resources, and therefore increases the food supply. Patnaik (2011, p. 29) argues that the Ricardian notion of comparative advantage is a form of 'false universalism' that contains within it the 'converse fallacy of accident,'²⁶ ultimately assuming a non-zero-sum game between two countries' division of labour. This point is scaled up to include all the countries in a relation of trade between different climatic geographic areas (temperature versus tropical areas) and political structures (metropole and periphery). The relations between these different areas are

²⁵ She argues that qualitatively, different geographical areas can grow certain agricultural items. Quantitatively, different geographical areas have longer growing days or more land.

²⁶ These three fallacies include material, verbal, and formal fallacies (Patnaik, 2011, p. 29).

fundamentally unequal as they are a reflection of the varying *material* grounds, which ignores or downplays the fact that various countries engaged in international trade cannot produce the same commodity and thus cannot be compared equally (Peet & Hartwick, 2015, pp. 143-8). Moreover, since some use-values in the Global South can only be produced there, land is limited for local food production, and for Patnaik & Patnaik, there is a tendency for the supply price to increase, having great implications for the accumulation process; for them, this occurs “...because of a decline in labour productivity per efficiency unit of labour, which means that as more is produced, more labour *in efficiency units* is needed per unit of output” (2017, p. 10; emphasis in original).

Unequal value exchanges across the globe are part of the ‘global value relations and imperialist rent’. For Amin (2010), “unequal exploitation is manifested in unequal exchange” which stifles development in the periphery. Accordingly, the periphery is ‘extroverted’ and *is dependent* on the core in an asymmetrical relationship of wealth transfer & value relations:

Historical capitalism, as it has really existed, has always been imperialist in the very precise sense that the mechanisms inherent to its worldwide spread, far from progressively "homogenizing" economic conditions on a planetary scale, have, on the contrary, reproduced and deepened the contrast, counterposing the dominant (imperialist) centers to the dominated peripheries (p. 84)

Patnaik (1999) argues that this change has a direct correlation to decreasing national food security as the local subsistence production and supply to local markets is undermined.²⁷

The devaluation of a national currency is a political lever in forcing more extraction of

²⁷ This argument has been influential in the recent move towards arguing for food sovereignty by a number of authors.

natural resources in order to attain the currency for imports. The promotion of monocultural and plantation agriculture in the tropical areas for goods such as sugar, coffee, cocoa, et cetera, replaces petty agricultural production for grains and other use-values for local food consumption. By effectively devaluing commodities through currency devaluation, more of nature and labour is extracted to attain the foreign currency to import cheaply produced, but relatively higher value items, such as cheap food grains produced in the north or other manufactured products. Imbalances in the totality of terms of trade result, and an intensification of the commodification of labour and nature continues to take place.

Lastly, the unequal exchange of commodities through the devaluation of both labour and commodity exports is the simultaneous devaluation of 'extra-human' natures as a free gift to lower the cost of the reproduction of labour. Foster (2000) and Burkett (1999), among others, have argued that capitalism creates a metabolic rift between nature and society due to the separation of labour from the means of production. Moore (2015) argues that wealth transfer is a feature of capitalist nature-society relations, a feature which relies on 'cheap natures,' such as cheap food and energy, that allows for cheap labour and more capital-intensive forms of extracting nature (Moore, 2010a).²⁸ The cheapening of nature, far from resolving the crisis tendencies of capitalism, is a positive feedback loop that expands and heightens capitalist organization of nature. Moore argues that value accumulation itself, based on the social relations of production, cannot be

²⁸ Moore (2010a, 2015) argues that the fundamental forces of capital accumulation rely on the utilization of four 'cheaps' throughout its history. These four 'cheaps' include food, labour, energy, and raw materials (Moore, 2010a): "Great leaps forward in labor productivity, expressing the rising material throughput of an average hour of work, have been possible through great leaps forward in the world-ecological surplus. The assembly line of classic Fordism, for instance, was unthinkable without cheap steel, rubber, and oil" (Moore, 2010a, p. 228).

located solely in the social or in the exploitation of the working class *per se*; it also requires the extraction of wealth from non-human natures. As he writes, “Civilizations move through, not around, the web of life” and

We can, through the *oikeios*, implicate the widest range of meta-processes in the modern world as socio-ecological, from family formation to racial orders to industrializations, imperialism, and proletarianization. From this perspective, capitalism does not develop upon global nature so much as it emerges through the messy and contingent relations of humans with the rest of nature (Moore, 2015, p. 44).

According to this argument, capitalism does not and cannot exist strictly through the value relation between capital and labourer. Capital is not a force that can self-sustain itself through alienated labour. Rather, as Moore argues, alienated labour comes coupled with capital’s cheapening of natures:

The substance of value *is* socially necessary labor-time. The drive to advance labor productivity *is* fundamental to competitive fitness. This means that the exploitation of commodified labor-power is central to capital accumulation, and to the survival of individual capitalists. But this cannot be the end of the story...Capital must not only ceaselessly accumulate and revolutionize commodity production; it must ceaselessly search for, and find ways to produce, Cheap Natures: a rising stream of low-cost food, labor power, energy, and raw materials to the factory gates... (p. 53)

For Moore, “In other words, value does not work unless most *work* is not valued” (Moore, 2015). Because we cannot see an absolute separation between human and extra-human entities, transfer between various spheres is a necessity that sustains capitalist social relations throughout various waves of crisis. Bunker (1986) illustrates this point in the case of the Amazon, in the transformation of nature for extractive industries:

Extractive appropriation from nature impoverishes the environment on which local populations depend, both for their own reproduction and for the extraction of commodities for export (pp. 1019-10).

This extraction relies on non-capitalist forms of valuation, as the exchange of these commodities fundamentally depends on a form of international pillage. In articulating natural resource extraction, there is the possibility of reducing the costs to reproduce labour and built environments across the Global North. In the case of food, agricultural lands that were once situated within their own social contexts and relations are embedded into the world market in order to help capitalist value to expand. The dependence on cheap food is important for lowering wages, as it leads to a necessary reduction of the price paid out to reproduce the labourer:

Baltic grain flowed into Amsterdam during the mid-seventeenth century as Polish peasant diets were squeezed - and soil fertility exhausted - ...But Poland's crises led to its relative de-linking from world trade by the eighteenth century; although hardly prosperous, its exposure to agro-extractive dispossession, dietary immiseration, and resource exhaustion was greatly relaxed (Moore, 2010a, p. 237).

The role of capitalist agricultural revolutions throughout the *long durée* dispossessed low-productive populations in order to increase the food surplus and establish various nation-state hegemonies through the control of food. These revolutions were varied but held this in common: funneling cheap energy into a system that is based on a Cartesian dualism causes it to crash. English agricultural revolutions eventually crashed, and the transformation of agriculture in American settlements took course, and eventually crashed, relying on further revolutions (with the recent revolutions in industrial inputs tied to biotechnology (see Saito 2014). In the case of Egypt which will be explored later, colonized Egypt took the path of American agrarian development without the extensive land: extensive production of land without having the land to move on from quickly brings about local food and agrarian crises. Simultaneously as so-called 'internal contradictions'

were taking its place, 'external fixes' were taking place. The emergence of plantation systems for a variety of agricultural and food products, such as cotton, sugar, and coffee, were established that led to the loss of local autonomy, material insufficiency, and systems of political domination that implemented colonial rule.

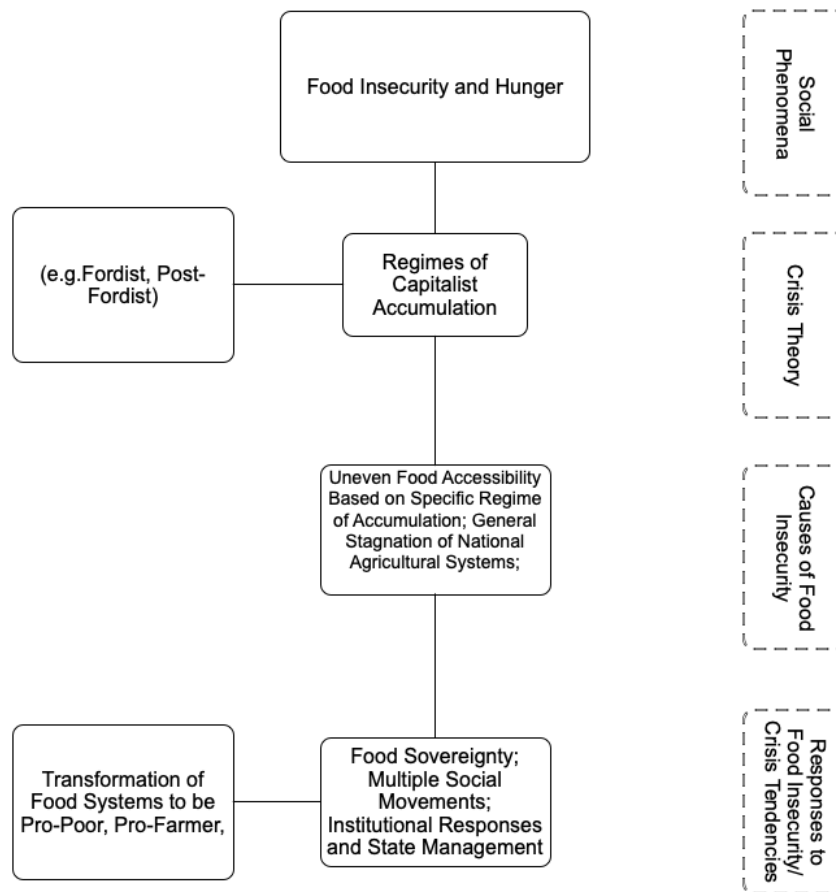
2.2.4 Food Regimes of Accumulation

The food regimes approach is the most recent approach linking food provisioning to the regulatory frameworks that govern international and national capitalist production. This approach shares a number of features with the second and third approaches to food insecurity but is focused on understanding how institutions and regulatory mechanisms maintain stability in the accumulation process. This approach explains the general features of capitalist food production and the concrete manifestations of what they call 'regimes of accumulation' (Aglietta, 1979; Lipietz 1987). In this regard, the food regimes literature explains hunger and food insecurity by contemporary relations that form the unity of production, consumption, trade, and institutional frameworks of capitalist agricultural and food production. Intellectually, food regimes stemmed from the development of the New Rural Sociology and the "...discovery of classical Kautskian Marxism" (Campbell & Dixon, 2009), and a synthesis of world-systems theory (such as Wallerstein et al) and the Marxist regulation school (McMichael, 2013). In doing so, the regulatory approach separates the economic development of capitalism from the politics of class struggle, relegating the stabilization of capitalist development to regulatory features, and not to the international and national class struggle between capital and labour (Clarke, 1988, pp. 23-5).

The food regimes literature carves out specific forms of regimes of accumulation in the food sector. This taxonomic ordering includes finding differences and similarities in the institutional frameworks that shape and regulate capital accumulation according to: specific tendencies, governing premises, historical features, ecological conditions, and civil society (Bowler & Atkins, 2001; Essex, 2016; Le Heron, 1993). Moreover, food regimes literature attempts to construct a conceptual apparatus that pinpoints the place of food in capitalism through a three-prong of theory, description, and normative assessments: theoretically, its goal is to understand how food production and its corollary components have been shaped by capitalism and capital accumulation; descriptively, it labours to paint the empirical details of the agrarian and food provisioning sectors; and normatively, it seeks to critique market-based provisioning of food at the national and international levels, seeing the development of world trade as inherently corporatized, and it seeks to show the socio-ecological pitfalls of capitalist production and ecological relations (McMichael, 2009; Schneider & McMichael, 2010). In this regards, it pairs an understanding of forms of production to ethical/normative prescriptions that argue for the inability of capital accumulation to construct an ecologically and socially just food system.²⁹ In light of this, there is an argument for a 'food sovereignty' approach, similar to that of the third approach. Figure 2-5 is a general summary of the food regimes approach's understanding of food insecurity. This approach stresses the importance of institutional frameworks as part of the regimes of accumulation.

²⁹ See also Schneider & McMichael (2010) for a general discussion on metabolic and epistemological rifts under capital accumulation.

Figure 2-5 Food Regimes Approach to Food Insecurity



2.2.4.1 The Development of Capitalism, Crisis and Food Regimes

The food regimes approach employs a (world) historical analysis of hegemonic systems of power internationally, the functioning components of accumulation, and the dialectic of structure and transformation from the regulation approach (Araghi, 2003; McMichael, 2009). Food regimes links the institutional and political structures that make up different states and their relations to each other. Just as there were world structures of various empires and the city states they controlled (Frank & Gills, 1993), so does capitalism contain its own order, which developed through colonial times and found its final form in

the nation-state system. McMichael (2009) argues that conceptions of extensive and intensive accumulation from the regulation school are necessary to understand how certain regulatory frameworks of capital accumulation are used to explain the long trajectory of different regimes of accumulation. These modes of accumulation are tied to certain hegemonic power structures internationally.

Food regimes synthesize its structuralist understandings with room for contingencies that make up the concrete formations of food regimes. These concrete formations of various food regimes develop over-time and transform into a new arrangement (see Fine, 1996 for a greater discussion). In other words, food regimes trace out the structural features of capitalism in agriculture and food production by fusing global relations of food production and consumption, on the one hand, and geopolitics, national and supra-national institutional arrangements, on the other hand (McMichael, 2013). As Friedmann & McMichael (1989, p. 95) argue, "...food regime[s]... [link] international relations of food production and consumption to forms of accumulation [in] broadly distinguishing periods of capitalist transformations since 1870".

The food regimes literature identifies three periods of capitalist organization of food and agricultural production. There is agreement on the first two periods, whereas there remains some uncertainty with respect to the third, and perhaps the most current, food regime (McMichael, 2009, 2013). According to Friedmann & McMichael (1989), the first food regime roughly corresponds to between 1870 and 1914, during the peak of the British hegemony and European colonialism on the international scale and the rise of the nation-state system expressing the 'culmination of colonialism.'³⁰ Corresponding to the regimes

³⁰ Friedmann has recently called this period the 'colonial-diasporic regime' (McMichael, 2009), and McMichael (2013), calls this period the 'British Centred Imperial' food regime.

of accumulation literature, this would be an example of an 'extensive' regime of accumulation which depended on the raw extraction of material resource from colonial possessions during the rise of global capitalism. Under this period, colonial power was based on extended outreach in order to facilitate cheap imports that would lower the wage rate for the working class. It also had a simultaneous effect of lowering the power of the traditional landed aristocracy.³¹ In this period, colonialism was both 'of settlement,' where colonies were established with their own political and economic autonomy (e.g. ability to apply tariffs on trade, control of local resources), and 'of colonial,' reflecting the landed settlement practices and occupation of new areas. Both of these forms of colonialism were to increase the international market in tropical commodities from colonized regions and to find new spaces to 'outsource' and produce grains and livestock production for the core.

The second food regime emerged from the collapse of the first, beginning after World War 2 and ending in the 1970s with the onset of the economic crisis (Friedmann, 2005, pp. 85–98). The second food regimes entrenched the rise of the nation-state, which furthered the tendency for these political units to manage and control the production and trade of agricultural products. Corresponding to the regulationist approach, this period would be part of the intensive form of accumulation. This period's main characteristics are multiple but can be distilled into two main dominating features. First, the United States replaced British imperialism as the leading global hegemon. It used its massive grain surpluses accumulated through its state-support subsidy programmes during the Great Depression to exert its political influence internationally (Friedmann & McMichael, 1989). Second, the development of an intensive, as opposed to extensive, accumulation strategy

³¹ See Marx's defense of the abolition of corn laws as a means to undermine the power of the landed aristocratic class.

grew out of this regime with the integration of horizontal and vertical control of the food sector: more and more, 'family' farming enterprises either collapsed or became embedded in the growing auxiliary industries such as inputs (fertilizers and chemical sprays) and machinery (tractors, irrigation, infrastructural) in order to create new commodity sectors such as food processing. It was in this period where the emergence of large agribusiness developed, heightening the technical division of labour across the entire sector. Moreover, in this period, different forms of accumulation (extensive and intensive accumulation) cross with each other in order to facilitate new forms of accumulation and private property rights. For example, the intensification of science and technology in poultry production expanded alongside with these more extensive remnants of production (Boyd, 2001), mimicking much of the development of hybrid seed varieties (Kloppenborg, 2005). This required new institutional forms to support these new industries, such as intellectual property rights. As McAfee (1999) argues, the commodification of nature brings with it certain regulatory and institutional features that support the accumulation of capital and the control of nature. Much of the second food regime had changed and shifted from the first, but some similarities remained; the retention of mass grain and livestock grown and the importation of plantation goods from the tropical areas, such as sugar, tree crops, and tea and coffee, persisted and were also intensified. In this period, extensive accumulation such as sourcing important tropical food products developed side-by-side with food processing and newer commodities (Atkins & Bowler, 2001, 27). Overall, this period was a transformation from the previous colonial era, where cheap staple products from the tropics were replaced with more high-valued agricultural products to facilitate deeper integration within trade networks (Atkins & Bowler 2001, 27-8).

After the collapse of the Bretton Woods System and the crisis of Global Keynesianism, McMichael (2009) argues that a potential third food regime has emerged.³² McMichael (2013, 42-4) argues that, as opposed to Friedmann's emphasis on clear implicit rules and regulations that define a stable and hegemonic accumulation period, a third food regime is a continuous consolidation of agribusiness from the second food regime in the context of free trade regulatory regimes within the neoliberal period. This leads McMichael to call the current food regime the 'corporate food regime'. This period contains characteristics of both intensive and extensive accumulation. With the growing concentration and centralization of capital at an international scale, deregulation and the force of the market became the prime institution to organize the production and consumption of food. As McMichael writes, citing Claire Cutler, "private regimes work to limit state regulations in the service of the neoliberal "competition state", reconstituting civil authority via informal power" (44). Thus, we see the emergence of deregulation side-by-side with the entrenchment and growth of transnational agro-capital. In this period, the growing concentration and centralization of capital is expressed with more entrenched horizontal and vertical networks, such as the increased deregulation and financialization of world trade and production, the qualitative consolidation of agrofood capital in food manufacturing, processing and distribution, the rise of biotechnology, the creation of new dietary trends, and the 'free-marketization' in the farming sector (Atkins & Bowler, 2001, p. 30). The neoliberalization period also came with the abolishment of subsidies, and the reversal of land reforms. This third food regime has culminated in a crisis of development, characterized by austerity measures. In both the Global North and South, "...taxpayers

³² It is deemed 'potential' because it is not entirely agreed upon, and it contains features that are not traditionally seen as stable.

served as the default in the event of crisis" (McMichael, 2016, p. 665), currencies were devalued to facilitate world trade, and market rule was consolidated by financialization.

The characteristic and impacts of food crises and hunger are in constant change, reflecting the crisis tendencies of the particular mode of accumulation. In extensive accumulation, all areas were brought into world trade to facilitate cheap food imports, creating a crisis of food insecurity linked to wealth transfer and the transformation of land for the production of cash crops to be sold in the world market. Likewise, in intensive accumulation, the dependence on 'cheap food' and the integration of all nation-states into the provisioning of food in the international market had *rearticulated* food insecurity rather than removed it. In all of this, this approach share what the wealth transfer approach emphasizes as the unevenness of capitalist development and the dependence on 'cheap food,' itself predicated on an entire assortment of 'cheaps,' (Moore, 2015). Social oppression of various groups and their character and level of food accessibility is impacted unevenly based on international and national modes of production. Therefore, hunger is not a natural by-product but an outcome of social processes in all three regimes. Food access is determined and compounded by an assortment of social oppression that are contingent to time and place. The uneven character of food crisis and uneven access are essential to explain the concrete catalysts that give rise to different instances of food insecurity for different social groups. Therefore, implicit in this approach's method is the dependence on what Mavroudeas (2012, p. 91) calls 'taxonomic formalism,' of the regulationist school that 'splinters' the centrality of class struggle between capital and labour' into a variety of social classes. For Clarke (1986, p. 23), a 'modes of accumulation' approach displaces a 'class approach,' because it relegates institutions as a separate entity that attempts to regulate capitalist crisis, overproduction, underconsumption, or any

other feature that this approach attempts to explain. For this reason, Araghi (2003), sees the 'global working day' in the agrarian sector as deeply embedded to world value relations. As Chapter 4 seeks to explain, the centrality of class struggle analysis shows how productivity and the character of food provisioning is contingent on its intensity.

2.3 Conclusion

This chapter has distilled and explained four contemporary approaches to the political economy of food insecurity and crisis. Each of these approaches have a theory of economic crisis that explains food insecurity. The first approach, universalist, sees crisis as emerging out of natural and universal law based on population and demand-side income, and market distortions of capital and labour allocation. The market in this regard is seen as a universal mechanism to best expand productivity. The second approach, entitlements and capabilities, negates the Malthusian position of the first approach and argues that food insecurity and hunger arise due to the mediating role of the market and the lack of entitlements. For this approach, access to necessary use-values for survival, such as food, is mediated by entitlements and social mediators, such as money, or government policies, such as welfare and food entitlement programmes. The third approach, wealth transfer, points to wealth transfer as a mode of explaining general crisis and, stemming from this, particularized food insecurity in its overt and covert forms. The fourth approach, food regimes, sees the dialectics of stability and change in capital accumulation as defining the character of food production and food insecurity. The last three approaches taken together are important conceptually in negating the Malthusian and Neo-Malthusian principles of comparative advantage and the development of capitalism. The last three approaches all seek to explain the link between essential

functions within the economy and the character and level of food accessibility: the national and international markets and level of capitalist production, the hidden socio-ecological and geographical wealth transfers that occur to sustain such a food provisioning system, and the social inequalities that arise out of food provisioning prefiguration. The next two chapters seek to expand on these three approaches to show how capitalism has simultaneously enabled the potential abolition of food insecurity in all its forms and expanded the social cohesiveness in the development of production, but yet contains its own limits contingent on the level of class struggle.

3 Growing Human Needs: A Historical-Materialist Approach to Food and Social Development

3.1 Introduction

Food is an object of inquiry studied on multiple fronts. As seen in the previous chapter, this includes socio-economic research to understand the link between productivity and crises, world trade, and socio-ecological relations. On top of this, there has been a recent growth in socio-philosophical studies on the place of food in society. This approach attempts to weave together social analysis, social theory, and discourse to capture the place of food in society.³³ Out of concrete and practical concerns regarding the issues raised in the previous chapter have grown the ‘food sovereignty’ movement and the various normative studies on food and society that counter mainstream market-based solutions to food provisioning (Altieri, 2009; Pollan, 2010; Holt-Giménez, 2019). The purpose of this chapter is to contribute to outlining a historical materialist approach to food and human needs, while also recognizing limits in current approaches, in order to offer a critique of capitalist forms of social provisioning. In doing so, this chapter and the next will inquire into a number of questions that delve into how food is valued in the development of social formations, such as the following: In what way does a historical materialist perspective conceptualize the development of human needs in the era of ‘cheap food?’ How does this conceptualization articulate the simultaneous growth of food production in

³³ This body of work research has focused upon various questions. These include food, animal rights and ethics (Francione, 2012; D. Fraser 2012), the role of culture and debates surrounding how local food needs are formed (Heldke 2012; Purcell & Brown, 2005), the aesthetic quality of food (Sweeny, 2012), the policy implications of food hunger and famine (Drèze & Sen, 1989), the ethics of biotechnology in food in the form of genetically-modified organisms, and lab-grown meat (Bridi, 2016; Comstock 2012; P.B. Thompson, 2007), ecological degradation due to industrial capitalist food production (Akram-Lodhi, 2013; Albritton, 2009; Moore, 2010b), and historical and contemporary normative ideas of food and society, including what it means to have ‘good food’ (Pollan 2010, 2013).

light of the growing productivity of social production and the release of labour from agrarian production globally? What is the link of expanding needs to the wider question of socio-ecological development of food needs? Moore (2015, p. 45) has begun establishing a *relational* socio-ecological approach to the nature-society relation through his utilization of *Oikeois*, aiming to negate the static understanding of ‘objects’ (e.g. non-human natures) and replace it with an understanding of socio-ecological relations.³⁴ I seek to expand on this approach and contextualize how *normative* food needs prefigure in a historical and dialectical materialist method.

This chapter is divided into two parts. First, I briefly review and establish the ways in which food needs are approached in some philosophical and economic traditions. Most of these traditions do not fully articulate a normative position of food in society with the historical development of class society. I link this to the philosophical position that sees food as a ‘lower need.’ The consideration of food as a lower need has been a ‘prejudice’ of major philosophers who aim to theorize the uniqueness of humanity in the world; food is primarily treated as an economic question rather than a practical and normative one.³⁵ Imbued with the market-logic that treats nature as a ‘free-gift’ and that actively creates the separation of labour from the means of production, capitalist social relations are facing a crisis in food productivity gains of the 18th century (Moore, 2010a, 2010b). Second, I articulate a dialectical and historical materialist perspective contra to the dualist approach described above. I do this by centralizing the place of alienated labour in questions

³⁴ This is similar to Smith’s (2008) earlier work in negating the study of nature and space from a static understanding to a relative, and most importantly, a *relational* understanding.

³⁵ For example, developmentalist ‘third way’ politics had an ‘urban bias’ and releasing labour to higher end, capital intensive industries, in order to solve food scarcity. This bias was a reflection of limits from the international capitalist order that forces development along a specific *capitalist* trajectory of development. In the critique of developmentalist discourses, see Escobar (1999).

surrounding the development of labour and human needs. Specifically, I argue that capital accumulation in the nature-society relationship is beset by alienation (Foster 2000; Moore, 2015; Burkett, 1999), whereby accessibility to the means to produce food (the site of production) is hindered and food itself (as consumable goods across economic sectors) takes an alienated form. The problem of capitalist alienation is not strictly about food; rather, fundamental issues of food lie in wider questions of the ontology of labour, and the historical metabolic relation to nature. I argue that recent scholarship is apt in centralizing the place of food in society (Kaplan, 2012; Tefler, 1996), but requires a historical materialist perspective to reveal the contradictions arising out of generalized commodity form in social production as well as the capitalist valuation of nature and the reproduction of labour.

3.2 Human Needs and Society: Food as a 'Lower Need' and Hunger

3.2.1 Food, Meaning, and Hunger through Social History

Food is a vehicle that not only contains socio-ecological and cultural specificity and meanings but also one that moves along a terrain of social contradiction. Pollan (2013) documents, through a variety of examples how food is imbued with specific political and social concerns of the time, often arising out of necessity. Novelist Ben Okri (2015, p. 1034) comments on how ritual and food meanings have always been about the link between life and death, an existential question, where "Of all the pains hunger is the most constant. Hunger is therefore one of the most existential things about us". Food also contains within it 'social distinction,' borrowing from Bourdieu's notion of 'cultural capital;' food consumption and food choices are differentiated by social status and educational

levels (Kamphuis, Jansen, Mackenbach, van Lenthe, 2015). Moreover, food choices can be sites of representation and contestation. Using Foucault, LeBesco and Naccarato (2008) argue that “food representations have historically been understood as mere barometers of cultural sensibilities... we contend that these representations actively *produce* cultural sensibilities and the possibility of transgression” (p. 2).³⁶ Food is therefore stamped with social specificity that is contingent throughout time and space.

Rather than food being simply a terrain of Foucauldian ‘micropolitics,’ the provisioning of food also strikes at the social totality of its production and distribution, and the forms of economic crises these social forms produce.³⁷ The conditions in producing and distributing food have been a central component of social (in)stability. Access to food has been the grounds for social upheavals and crises throughout the entirety of capitalist production (Bohstedt, 2010, 2014). Food accessibility is therefore at the top of strategies of rule and hegemonic consent, all to maintain a form of social cohesion or social contract. Yet this social contract does not necessarily provide access to decent and nutritious food, but rather to a certain quantity of lower quality foods, such as sugars and simple carbohydrates (Carolan, 2013, pp. 12-13). Vernon (2007) shows how hunger itself had become a focus of many intellectuals and journalists documenting the rise of hunger and famine in England and its colonies. Post-colonial states such as Egypt were sites of

³⁶ Food being a vehicle containing social, cultural and political meanings jumps from being ‘Anxieties’ around food consumption and ‘proper’ dietary nutrition. Coveney (2000) reflect the general point that is not simply a biological input for a biological being, but itself carries meaning. It is a site of ideology, where, utilizing Barthes’ *Mythologies*, for example, “chocolate cake does not merely remind the viewer of the essential human need for food...it [also] plays upon sexual desire and culturally ingrained fantasies...keeping our economic machinery well-oiled (4)”.

³⁷ Writing at the time, De Castro (1952) argues that hunger has been a sort of ‘taboo’ in societies around the world, and that the number of books on the subject is “shockingly scanty - especially in the view of the abundant literature on matters of obviously secondary social importance” (pp. 4-5). The celebration of humanity’s ability to escape natural necessity and the various natural forces set out against human survival simultaneously represses from view the fact that many in human history and society cannot satisfy their food needs.

extreme wealth inequality arising out of the colonial transformation of the countryside for the export of food and agrarian products (like sugar and cotton) and the growth of market-based food provisioning had both been the cause and the exasperating effects of food insecurity (see Chapter 7). Populist discourses during the colonial and post-colonial experience in Egypt showed the necessity of land reforms, food provisioning programs such as access to cheap bread and other food goods, in order to construct key pillars for the nationalist movement in its struggle for political independence from Europe (Schewe, 2017).

As the empirical chapters on Egypt will demonstrate, the food provisioning programmes were limited due to the wider context of capitalist social relations. The ability to provision food by state planning is limited to the world market and the contradictions arising from it. Moreover, the qualitative and quantitative nature of food production and accessibility are limited to the social form that allocates value in very specific way. The limits of a specific form of social provisioning therefore attaches itself to the meaning of food, all the way down to the material conditions of production and consumption. The production and distribution of food can be interrupted due to the collapse of food production due to its class-based relations. Environmental degradation can occur simultaneously while local food access is attached to the world market. For example, Malm (2016) writes of the catalytic role of ecological crises such as droughts and growing climate instability in the production of food with the examples of social upheavals throughout the Syrian and Russian revolutions. In the case of the Syrian revolution, the growing concentration of land for the sake of export-oriented production and the ecological context of droughts had impacted local food prices, putting strains on rural livelihoods and migrants, which undermined the ability of the state to govern. Similarly, the causes and

outcomes of the 1917 Russian Revolution were also beset by the same dynamics of increasing food prices that had led to famine (p. 128-9).

The question of food is therefore qualitative and connected to all factors of *social production and social provisioning*. The question of social provisioning of food is one that reveals the social contradictions that develop. In the examples of social upheavals and the crisis of development and social stability, a qualitative account of all working-class experience should be undertaken and linked to the question of food. On food, CLR James (1947), in his commentary on universalism, internationalism and social change, argues that the context of the 1917 revolution was not merely one of class struggle but of a question on the experiences of the working class: access to 'good' bread, along with other practical human needs (such as peace during times of war, social stability, et cetera) all come together in a totality of social critique. Citing Lenin, CLR James writes of the observation of how class struggle exists only in the abstract if not based in the concreteness of working-class needs, quantitatively and qualitatively:

"Look," says the host, "what fine bread. They dare not give us bad bread now. And we had almost forgotten that good bread could be had in Petrograd... As for bread, I, who had never experienced want, never gave it a thought. Bread to me seemed a matter of course, a by-product, as it were, of the work of a writer. Fundamentally, the mind approaches the class struggle for bread by a political analysis and an extraordinarily complicated and involved path.

Concluding from this observation, CLR James wrote how "...this representative of the oppressed class, although one of the better-paid and well-educated workers, took the bull by the horns with that astonishing simplicity and bluntness, with that firm resolution and amazingly clear insight...". The question of food, from the social and all the way down to

its materiality, is bound up with the social context in which they are produced, distributed, and consumed.

3.2.2 Food as a Lower Need

Underlying the limits of food provisioning in the political and economic experiences above is a dualistic conceptualization of food. Various philosophic traditions ignore or downplay the position of food in a normative hierarchy of needs. Telfer (1996) demonstrates that a number of philosophic traditions adhere to the binary distinction between higher and lower needs. Accordingly, higher needs such as art and aesthetics and philosophy have primacy over lower needs (e.g. food, shelter, clothing) because it is the former that defines human specificity (pp. 24-5). Specific to philosophical studies of food, Kaplan (2012, p. 1) observes that food does not pre-figure in any concentrated study and only figures in philosophic texts through scattered statements and footnotes. Moreover, the totality of food provisioning becomes relegated as merely an economic question, where food is just as any other commodity to be bought and sold and valued in the marketplace. Brought together, food is relegated as a universal and *ahistorical* commodity that does not prefigure a *normative* socio-ecological view of human food needs.

Although this prejudice is found in the works of various philosophers throughout the ages, there are a number of exceptions. Most famously, for example, the Greek philosophy school of Epicurus argued that food plays a central position in individual and community flourishing. With the emphasis on gardens, community food provisioning, and simple food needs, this Epicurean tradition emphasized social bonds linked to the 'good life' (McHugh, 2014). The American transcendentalist writer Henry David Thoreau placed

the fulfillment of individuals as primarily rooted in a 'deep' relationship to nature. For Thoreau, basic needs of existence such as food are the grounds for an individual's unconstrained relation to nature: a rich ecological relationship to nature found in the 'materiality' of existence where basic needs are the grounds for a higher synthesis to nature. He writes how "...improvements of ages have had but little influence on the essential laws of man's [sic] existence..." (2000, p. 11), and that "most of the luxuries, and many of the so-called comforts of life, are not only not indispensable, but positive hindrances to the elevation of mankind [sic]" (p. 13). Lastly, recent interpretations have located a healthy diet as a central feature of the 'good life' in Plato's philosophy (Skiadas & Lascaratos, 2001).

Despite the aforementioned exceptions, the general trend is a dualistic understanding of food in the ontology of socio-ecological relations, which can be seen, in particular, in the positions of Plato, Kant, Hegel, and Mill. This dualistic understanding involves the general emphasis of 'higher forms' over concrete substance. In Plato's works, there is a general favouring of higher being in the world of forms over the material world; beauty and the good life do not exist in material objects but exist in the form of beauty which cannot be reduced or even derived from the objects themselves. In Plato's *Phaedo*, food is a mere object of survival necessary for reproducing the body, which will allow for higher needs and a higher form of life. Food, because it is *merely* a condition for material existence, does not contribute to any kind of higher living. In fact, it can even be seen as an obstacle to the philosopher because it serves a bodily need that distracts from higher states of being. Food is important, but in a negative way, in which "... the body keeps us constantly busy by reason of its need of sustenance" (66b). Similarly, Sweeny (2012) argues that Kant shared the same prejudice against material needs. Kant's

philosophy as a whole depends on the distinction between the natural body, the site of “difference, discord and disunity,” and the rational mind, the source of universality and rationality (Assiter & Noonan, 2007, p. 173). For Kant, food and drink block the development of an ‘imaginative appreciative experience,’ that is contemplative and reflexive. Sweeny writes that for Kant, “gustatory experience [food consumption] fails [due to exhibiting] a personal preference that prevents it from serving as the basis for a universal or objective evaluation” (2012, p. 53). In the same vein, Hegel argues that in the development of history, the non-material is the grounds for the development of ‘geist’. In extension to this, food as a material need would be a ‘degrading part’ in human beings. For example, Fraser (1998) remarks that Hegel sees the site of food consumption in art as ‘backwards’ in showcasing the development of humanity. Fraser writes:

For Hegel, the ‘sculptural form’ of the human figure is a perfect example of this. This is in contrast to ‘the animal which does not go beyond the expression of animated natural life in its firm connection with natural needs (*Naturbedürfnissen*) and with the animal organism’s structure that is designed for their satisfaction...Hegel emphasizes the spiritual aspect assigned to humans in distinction from nonhuman animals, which as ever, remain tied to the realm of natural necessity (p. 114).

Sayers (1998) writes that Mill’s essay on utilitarianism concisely establishes a strict difference between higher pleasures that are mental, philosophical and aesthetic, and lower pleasures such as food. In a direct departure from Jeremy Bentham’s understanding of utilitarianism, in which the source of happiness could arise from poetry and art, or a game of pushpin, he argues that “Prejudice apart, the game of push-pin is of equal value with the arts and sciences of music and poetry”. For Mill, there is a qualitative higher nature of mental activities over Bentham’s quantitative distinction of any kind of activity (mental or physical). These higher pleasures are rich and satisfying in themselves and

cannot be compared to so-called lower activities such as eating. The former is seen as the realm of freedom, of aesthetic beauty and higher forms of consciousness, whereas the latter is seen as animal-like, not human, vulgar, and impossible to expand into transcendental higher grounds. Furthermore, it is not simply the pleasure that matters but the qualitative nature of our needs. As Mill sums up the important distinction between higher and lower faculties, “it is better to be a human being dissatisfied than a pig satisfied; better to be Socrates dissatisfied than a fool satisfied”.

The dualistic understanding of food is replicated within classical political economy, reflecting the dualism in the nature-society relation. On the one hand, the physiocrats reduced value to natural resource production, giving primacy to agriculture and seeing other forms of labour as unproductive activity that have to be supported by productive activity such as food and agricultural production (Hunt & Lautzenheiser, 2011, p. 37). In spite of their insistence that value arises from these primary industries (such as agriculture), their viewpoint nevertheless depends on a universal and naturalistic understanding of value because they do not locate the totality of relations which organize production. On the other hand, Adam Smith, through his diamond and water paradox, and David Ricardo, in his labour theory of value, argue that value does not come from the utility of an object but rather from the labour time necessary for the production of said commodities, contrasting Bentham’s Utilitarianism which sought to reduce all value to utility. In both cases though, there rests a universalization and naturalization of social relations to the production and consumption of higher and lower needs.

Certain points can be distilled from the philosophical claims made above. First, there is the claim of transcendence as an ontological act of being and becoming that creates a dichotomy between human and animal existence and universality. As Sayers

(1998, p. 18) remarks, the above specificity of human needs could be a powerful charge against a form of hedonism, in which existence can flourish with simple contentment with the status quo of everyday living. However, this viewpoint itself relies on a universal conception of the division between human society and non-human nature. Moore (2015, p. 35-6) argues that Theophrastus conception of *Oikeois* helps break down the strict divisions between natural and social, universal and historical, and material and immaterial. Food itself is not simply a caloric intake of energy and nutrients; food itself is imbued with culture, history, and social relations. Second, focusing on immediate 'natural needs' tends to ignore the historical character of needs that develop through the interaction between human society and non-human nature. Soper (1981) argues that the primacy of production is human specific and not characteristic of mere existence, creating variety in our human needs that cannot be seen as existing since time immemorial. Naturalizing human society and the inequality found in society rests on the 'moral justification' of eighteenth-century liberal theory and philosophers from Hobbes and Locke. For liberal theorists, human needs are universally given, and human beings are all equal in rationalizing their consumption needs through the market; any social inequality arising between humans in society stems from the 'natural equality of men' (1981, pp. 73-5). Opposed to this is the historical materialist view that inequality arises not from nature but rather from society. Human needs are imbued with class relations that dictate its character and with how these commodities are distributed for satisfaction.

A dialectical approach to human needs and food also avoids the limits of the four approaches outlined in Chapter 2. A historical materialist approach avoids the universalization of behaviour that rests on historically specific social relations of production forming the metabolic relation to nature (Foster, 2001), and also avoids the

particularization of needs in the midst of the totality of wealth production (food, housing, clothing, communications, et cetera in its qualitative and quantitative facets). The Universalist approach either depends on a dualism of higher and lower needs, where the interests of the aristocratic and landed property class are more important than the food needs of the working class and the poor (Malthusian), or on the belief that food is a commodity that can be valued based on the rational allocation of goods in the free market, irrespective of the quality of said food (Productivist). Deeply embedded in this worldview is a covering up of class inequality with universal and naturalistic laws of population, the distribution of value in the market, and the ostensible importance of 'austere' budget spending by the state. The crude class-politics of Malthusianism reflects onto the face of modern neoliberal politics, in which cuts to social assistance, and food subsidies, among a wider assault on the public sector, become the defining de-facto policies of resolving capitalist crises.³⁸ Instead of catering to food needs, 'higher needs' of the aristocratic landed class - which would be found in the organization of the market towards higher-end and expensive commodities - becomes more valuable than having to ostensibly extend ecological conditions to feed a greater 'mass' of the poor.

Running parallel to this is the simultaneous downplaying of food as just another commodity required to reproduce labour. The continued emphasis on free markets for individuals to 'truck, barter, and trade' their resources limits itself to productivity increases and not normative value claims, ignoring the social impacts that occur with the accumulation of capital. Qualitative questions surrounding the nature of how food is produced, such as the conditions of production, in what quality they are produced, such

³⁸ See Albo & Evans (2010) on the character of class politics and resistance to austerity after the 2006-08 financial crisis.

as the kinds of food that is emphasized for mass production, and in what distributional share, relegate food needs to the calculations of the market. The implication is that the allocation of productive resources is decided within the realm of private calculations and not through democratic channels in determining how human needs are to be produced and provisioned. Illustrating this point, Pollan (2009, pp. 106-36) writes that the transformation of food into its constituent and abstract parts (such as the rise of nutritionalism), the removal of culture, and the abstraction of production conditions have all given way to a broken food system. Lastly, approaches that separate the politics of food from the generality of capitalist development isolate and treat the production and distribution of food as a separate struggle from the struggle for socialism. The experiences of post-war and post-colonial states to provide cheap food and to redistribute land in the agrarian sector did not challenge the social relations that gave rise to social inequality. The wealth transfer approach and the food regimes approach in their promotion of food sovereignty do not fall into the universalizing conceptions of bourgeois economics, but the ability to 'delink' from the capitalist world market is difficult to achieve. There are structural limits because the question of food needs is not strictly about national food sovereignty but rather about the *international* character of capitalist production and crises. The romanticizing of the peasant class is one stark example of the limits of this approach, neglecting features of rural living, frozen in poverty and the dictates of capitalist competition and exploitation, that are antithetical to the development of human flourishing that would lift individuals and society as a whole from the need to labour out of necessity.³⁹

³⁹ See Bernstein (2014) sympathetic critique of the 'peasant's way' food sovereignty movement

3.3 Historical Materialism, Food, and Labour

This section presents a dialectical and historical materialist approach to food needs and social change. The goal in establishing a historical materialist approach to food needs is to weave together the dual character of needs to the centrality of labour, and needs that take universal and socially-specific forms which are beset by alienated relations.⁴⁰ The dualism above is a reflection of the dualistic approaches to human society and nature. Smith (2008) calls this the ‘bourgeois’ conception of nature, while Moore (2015) has recently labeled this ‘green arithmetic’ of nature *plus* society. Establishing a historical materialist approach also works to construct a *normative critique* of social formations, challenging the *actual* totality of social relations because it blocks the *potential* possibility of universal flourishing (Bookchin, 1999, 204-6).

In achieving this normative critique, Bhaskar (2011, p. 6-7), echoing CLR James above, argues that socialist politics must simultaneously touch on the concrete needs of the working class, such as food, housing, and other essential needs, without being reduced to it, highlighting the important ‘higher order needs’ that allow for humans to realize their flourishing potentials. A form of socialist politics that does not grasp the concrete needs of the working class is in danger due to this perceived dichotomy, either as a crude materialist world to be utilized *ad infinitum*, or as a limiting feature in needs provisioning for the working class. Emancipatory politics cannot be guided separately from material or social concerns. Bhaskar continues with this point, stating that:

Related to the crude dichotomy of nature and society is a crude distinction between basic, bodily (physical) or natural needs such as for food or housing, and higher-order psychological (mental) or spiritual needs such as for respect or self-development. These latter needs are not the object

⁴⁰ These forms are linked to normative statements against alienated social relations. (Mikati, 2020).

of a separate set of practices, but are intrinsic to the way so-called basic needs are met (p. 7)

For Marx, social relations are the primary way in which needs are formed and blocked (Holt, 2009, p. 151). In this sense, needs cannot be seen as either higher or lower, universal or particular, and material/natural needs or social/necessary needs. Marx's approach is opposed to Cartesian dualism that sees food as either one-sidedly universal and abstract, or particular and conjunctural (Lewontin, Rose, & Kamin, 1984; Sayers, 1980).⁴¹ For Soper (1995, p. 37), the ideological division between nature and society makes a distinction "...between what is naturally given and what is contrived (the artificial) and that between what is dictated by nature and what is humanly instigated (the cultural or conventional)".⁴² To speak of essential human needs is to treat humans as unhistoric, "thing-like, static or physical quality" (Doyal & Gough 1991, p. 13). The position of nature and the material is important, but only insofar as it is conditioned through the human form of use-value.⁴³ Moreover, Marx saw 'radical needs' of the working class, needs which saw the expansion of working class politics as a pre-requisite to turn the potential of social and individual development across the board to an actual path of development.⁴⁴ Therefore,

⁴¹ The perceived division between the material and the immaterial, rude and spiritual, manual and mental, nature and culture, and mind and body remain as a core conceptualization of food.

⁴² Despite the development of this dialectical approach to socio-ecological development, there still remains universal conceptions that rely on a dualistic division. From this division, the so-called immaterial side of the binary has always been important for human beings because it is the springboard for consciousness, philosophy and the faculty that always examines existence.⁴² For example, Castree (2014, p. 3), while acknowledging that nature is a subject of matter and ontological existence, focuses nature as constructed by the observer, conflating objectivity and subjectivity.

⁴³ Chitty (1993, p. 24) quotes Marx, writing with the example of a burning log: "If I burn a log for warmth I am treating it as an instance of firewood. My action on the log is mediated through the concept of 'firewood', and the object of my activity is the log as a piece of firewood. If instead I sit on it I am treating it as 'a stool'. If I throw it away I am treating it as 'rubbish', and so on. In this sense species-activity is activity which takes 'universal objects'."

⁴⁴ See Fraser (1998), Heller (1976), Lebowitz (2003) and Soper (1981) for a thorough review on Marx's conception of need.

Marx's question is not simply about the distributive character of commodities (such as food) but the creation of *democratic spaces* in the realm of production, the state, and by extension, in societies' relation to nature. It is this democratic control of production which allows for equalizing development under the conditions of "the free development of each... [as] the free development of all".

Marx's conceptual strategy of general and determinate abstraction articulates the historic and general character of food needs in light of growing productivity of labour. A summary can be found in Table 3-1. A historical materialist categorization of food can be established through a need-form analysis (Fraser, 1998), Ollman's (2003) analysis of Marx's methodology based on the latter's' various 'level of generalities,' and Marx's method of determinate abstractions in the analysis of social formations (Paolucci, 2007, pp 114; 169). General abstractions are statements that are transhistorical, whereas determinate abstractions are statements specific to that society. Marx writes in the Introduction to the *Grundrisse* that, "Hunger is hunger, but the hunger gratified by cooked meat eaten with a knife and fork is a different hunger from that which bolts down raw meat with the aid of hand, nail and tooth". This is an example of dialectical difference and identity in Marx. Without production, whatever the form, the human form of history would not exist due to the material necessities of existence. Notwithstanding, it is not enough to satisfy food needs in the abstract. Heller (1974) writes on an early discussion of Marx's theory of need that the worker reduced to a mere animal ignores the general growth and development of the productive forces that can satisfy the essential natural and necessary needs of workers.

Table 3-1 Marx's Different Level of Generalities with Food Based on Ollman's Analysis of Marx's Method of Abstraction

Level of Generality	Food as an Object of Inquiry
<u>Six – Human as Animal and Natural</u>	- Food as physiological, biological, containing energy and nutrients to fulfil biological reproduction
<u>Five – Human Society</u>	- Food as a good arising out of the material interchanges with nature; ideas about nature develop as a form of 'second nature' - Food as culturally specific and historically and geographically specific
<u>Four – Class Societies</u>	- Food stamped with the mark of class society - The production, distribution, exchange and consumption food are based on class-relationships
<u>Three – Capitalism: General Characteristics</u>	- Food as a commodity with a use-value and exchange-value; interchangeable with other commodities - The production, distribution, exchange and consumption of food under capitalism is stamped with the labour-capital relationship, along with the abstract tendencies of crisis
<u>Two – Capitalism: Recent Forms</u>	- Different forms of capitalist food production (food regimes literature (see section on food regimes); - The dominant features that define national and international structures of food production; various policies that define food provisioning
<u>One – Specific Individuals, Events, Commodities</u>	- Particular food markets; - Particular food commodities; - Particular tools to produce food; - Particular 'actors', and policies, laws and regulations.

Deeply embedded in Marx's historical materialist project is a dependence on a form of naturalism, where labour is embedded in the fundamental basis of existence and reproduction of species and societies. Naturalism connotes that any kind of idea, thought, imagination or practice is derived from the social world and has some relative degree of connection to the non-human natural world (Collier, 1999). The importance for Marx's

socio-ecological naturalism is to separate different levels of generalities to avoid stamping a universal character onto specific socio-economic and ecological formations, and to generate a conceptual hierarchy to see the similarities and differences within and between each level (see Ollman, 2003, p. 86-90; Paolucci, 2007, pp. 110, 114). As Ollman argues, Marx primarily focused on levels three and levels two in order to bring out what is unique to the social relations that have developed from levels five and four. The generalization of the commodity form across social reproduction, the commodification of food, and the specific tendencies associated with capitalist social relations in general all play an important *determining* conceptual strategy for Marx. Going deeper to level two allows Marx to have a more historically specific understanding of level three. Just as the food regimes literature links the generality of capital accumulation to specific institutional structures (see section 2.2.4), Marx links the specific formations of food provisioning and production in the recent capitalist era to the wider relations of capital accumulation and class struggle. As a historical materialist, Marx did not reduce labour to a steady-state form. For Marx, this link is found in his conceptualization of species-being, where particular existence can only be found within the essential universality of its form of existence. Marx locates the natural powers of human beings embedded in the natural world to demonstrate the historical-materialist conception of human beings in light of the development of class societies (level of generality four) and the general formation of capitalism and their recent expressions (level of generation three and two).

Despite the specificity in Marx's analysis of capitalism, naturalism and 'species-being' remains as a normative guideline for Marx throughout his critique of capitalism. This position has been critiqued by a number of writers from within and without Marxist political economy. Althusser argued that Marx was not interested in a normative

understanding of human existence but in the structural causes that shape society in specific ways (Soper, 1981, p. 103). Against humanism, Althusser wrote against the concept of species being, which prescribes an essential character to human nature. Moreover, a variety of thinkers from Western Marxism rejected realism, naturalism and materialism due to prejudice deriving from their critique of positivism and *asocial* analysis (Foster, 2000, pp. 7-8). Moreover, Marx's analysis of 'species-being' is critiqued as a form of 'speciesism' because Marx made a distinction between humans and animals in the abstraction of human society (Benton, 1989). According to Benton and a variety of eco-socialist thinkers, Marx relies on a dualism between humanity and nature, privileging the social over the non-social and non-human (Bookchin, 2005; Clark, 1989), or a separation in economic categories that devalues non-human natures in his value theory (Braun, 2008; Deléage, 1989).

Against this general critique, I argue that Marx's development of dialectical and historical materialism involves what critical realist scholars Bhaskar and Collier call *explanatory critique*, which points to the contradiction between social forms of organization and the needs arising from humans in nature and society. Explanatory critique, as originally defined by Bhaskar and expanded by Collier, works to expose both the conceptual structures that fail to explain the world but which instead produce ideological apparatuses to make invisible the social relations of production that create inequality and immiseration in the midst of wealth production (Collier, 1988, pp. 446-7). In this regard, Marx's analytical utilization of species being allows for the development of a normative critique of social formations that locates essential features of existence that are denied by a social form that are historically specific (Holt, 2009). Critical realism moreover argues that there is an 'ontological stratification' in reality. For Bhaskar (2011, p. 129)

society is founded in an 'ecological asymmetry' with the rest of nature. This relationship is the fundamental grounds for a mode of existence and (re)-production. Assiter & Noonan (2007) borrowing from Collier's (1999) concept of 'intransitive dimension of ethics', argue there is a 'natural nature', which objectively determines life, and a 'social-nature', which means that society, and individuals within, are fundamentally dependent on material sustenance.⁴⁵ In this regard, we can interpret the construction of species-being as a conceptual strategy by Marx that he applied to ecological existence in the universal abstract and the concrete. Foster (2000) and Foster & Clark (2018) argue that Marx's general discussion of 'species-being' in *The German Ideology* is linked to the metabolism of a subject with its 'inorganic body':

The 'essence' of the fish is its 'being,' water.... The 'essence' of the freshwater fish is the water of a river. But the latter ceases to be the 'essence' of the fish and is no longer a suitable medium of existence as soon as the river is made to serve industry, as soon as it is polluted by dyes and other waste products and navigated by steamboats, or as soon as the water is diverted into canals where simple drainage can deprive the fish of its medium of existence (Marx, quoted in Foster & Clark, 2018).

Echoing Timpanaro's (1975, pp. 34-5) insistence that we cannot conflate social formations to their outside conditions of existence, they argue that social formations can be critiqued by seeing what needs are denied and how.⁴⁶

⁴⁵ Moreover, they argue there is a 'constraint of pre-condition signifies the above importance of material practice over linguistic ideas of the world. (2007, 179). Furthermore, Archer (2000, p. 159) argues that the line between linguistic and cultural ability and natural preconditions of existence is blurred, with the latter always having a supreme and intensive element of importance than the former.

⁴⁶ It is a materialism that recognizes the dual existence and dependence of a subject to its object. Accordingly, it would be an 'epistemological trap' to assume the unique specificity of human existence outside of its environmental and natural context. In other words, human nature and human society cannot self-replicate. Human imaginations and concepts (e.g. decisions, thoughts of higher needs, practices, what we do), are not independent of material reality existing outside humans but are necessarily dependent on non-human nature, and also have causal powers to affect change (Archer, 2000, p. 2).

Marx's concept of species being has primarily been interpreted as a determinate abstraction of the human condition that is shared with non-human nature (Paolucci, 2008, p. 114; see also Geras 1994). This human condition is the unique attribute of consciousness in humans and the universalizing role of concepts through a specific form of existence, mediated by labour. Arthur (1986), borrowing from Mészáros (1970), distinguishes Marx's socio-ontology of labour based on two sets of mediations. First-order mediations see labour as within a unity of nature; it is 'self-mediated being of nature and of man,' defining the necessity of labour and the 'metabolic interchange' with nature. First-order mediations can also be interpreted to be normative value claims that serve as a point of departure in the critique of capital and social forms of production. 'Second-order mediations' are what Arthur and Mészáros call the "...historically specific mediations of the ontologically fundamental self-mediation of man with nature" (Arthur 1986, p. 11; Mészáros 1970, p. 79). These two sets of mediations are dialectical articulations of the labour process. In *The German Ideology*, Marx writes in two places that human needs take a material form that are universal:

The first premise of all human history is, of course, the existence of living human individuals. Thus the first fact to be established is the physical organisation of these individuals and their consequent relation to the rest of nature... [Men] begin to distinguish themselves from animals as soon as they begin to produce their means of subsistence, a step which is conditioned by their physical organisation.

[Humans] have history because they must produce their life, and because they must produce it moreover in a certain way: this is determined by their physical organization; their consciousness is determined in just the same way (Marx, quoted in Geras 1994, p. 67).

In Marx's more developed critique of capitalism in *Capital Volume I*, Marx's conception of labour is grounded in a metabolic relation to nature. In chapter 7 of the labour process, Marx (1990, p. 283) writes that:

Labour is, first of all, a process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature. He confronts the materials of nature as a force of nature. He sets in motion the natural forces which belong to his own body, his arms, legs, head and hands, in order to appropriate the materials of nature in a form adapted to his own needs. Through this movement he acts upon external nature and changes it, and in this way he simultaneously changes his own nature. *He develops the potentialities slumbering within nature, and subjects the play of its forces to his own sovereign power* (emphasis added).

Lastly, species-being is to abstract the general conditions shared between humans and non-human animals, and to focus on the determination of human consciousness in choosing their own life-activity (Fraser 1988, pp. 143-144). Species-being of humans-in-nature, to use Moore's (2015) dialectical approach to socio-ecological formations, is beset by alienation. Marx's theory of alienation is different from dualistic and idealistic conceptions of separation. Alienation for Marx is historically specific and is marked by the social relations that deny the right or existence of labour to control its conditions of existence in society and in the labour process. This includes the fruits of labour. This is opposed to the Hegelian conception of need. Mandel (1970) argues that Marx's philosophical conception of alienation is opposed to that of Hegel's because it links alienation to the historically specific relations that alienates the worker, as opposed to the Hegelian notion of alienation in which human needs are ideological and endless, infinite and never able to be satisfied. For Marx, alienation as a socially-specific phenomena that turns the wealth arising out of productive activity as an alienating force due to specific

mechanisms that outline the general structure of how capital is made and sustained (Mandel, 1970, pp. 12-3). As will be detailed in the next chapters, the scientific and productive capacity to grow food extends well beyond the actual needs of humans.

Natural scarcity is replaced with socially-induced scarcity that still gives rise to food insecurity. Chitty (1993 p. 24) shares in this interpretation and argues that human species-being is a contrast with an animal nature. For Chitty, species-being is important because it reveals a) the social character, b) the consciously directed activity in labour, and c) the mediation of general concepts that are historically specific. This is not a kind of anthropomorphism for which eco-socialists have criticized Marx, but rather a concrete observation. Through the social metabolism of production, the refinement of production and needs take particular forms. The distinction between human labour and animal labour is not dualistic but dialectical. Marx writes that the form of labour is humanly specific because labour is the mediating requirement in the transformation of nature for human needs:

We presuppose labour in a form in which it is an exclusively human characteristic. A spider conducts operations which resemble those of the weaver, and a bee would put many a human architect to shame by the construction of its honeycomb cells. But what distinguishes the worst architect from the best of bees is that the architect builds the cell in his mind before he constructs it in wax. At the end of every labour process, a result emerges which had already been conceived by the worker at the beginning, hence already existed ideally. Man not only effects a change of form in the materials of nature; he also realizes his own purpose in those materials. And this is a purpose he is conscious of, it determines the mode of his activity (1990, pp. 284).

This interpretation can be argued as anthropocentric; however, Marx here is identifying the concrete practices and activities that human society has to necessarily engage in to form their societies in socially specific ways. To flatten human labour and human society

in ahistoric ways is to essentialize and naturalize human activity. The early and late Marx recognized the problematic character of production geared towards abstract value production in the production of human needs. Marx's entire discussion of the labour process and the socio-ontological nature-society relationship is laden with value judgements that are normative in substance and form. Returning to Marx's method of general/abstract and specific/concrete analysis, Marx critiques speculative reasoning and value as functioning in the same way, where abstract ideas of food, for example, take precedence over the real concreteness. Labour and production are therefore not universal but are constantly bound by the social relations that define them. As the next chapter will detail, there are specific social formulations that shape the quality of food and the conditions in which these foods are produced, distributed and consumed. In a fitting description in *The Holy Family*, Marx (1845) writes that speculative reasoning is stuck at the plane of 'real abstractions' that diminishes the concrete. McNally (2011, pp. 128-9) writes that Marx's critique of speculative reasoning resonates well with Marx's critique of abstract value accumulation. Marx writes:

If from real apples, pears, strawberries and almonds I form the general idea "Fruit", if I go further and imagine that my abstract idea "Fruit", derived from real fruit, is an entity existing outside me, is indeed the true essence of the pear, the apple, etc., then in the language of speculative philosophy — I am declaring that "Fruit" is the "Substance" of the pear, the apple, the almond, etc. I am saying, therefore, that to be a pear is not essential to the pear, that to be an apple is not essential to the apple; that what is essential to these things is not their real existence, perceptible to the senses, but the essence that I have abstracted from them and then foisted on them, the essence of my idea — "Fruit". I therefore declare apples, pears, almonds, etc., to be mere forms of existence, modi, of "Fruit" My finite understanding supported by my senses does of course distinguish an apple from a pear and a pear from an almond, but my speculative reason declares these sensuous differences inessential and irrelevant. It sees in the apple the same as in the pear, and in the pear the same as in the almond, namely

"Fruit". Particular real fruits are no more than semblances whose true essence is "the substance" — "Fruit".

Marx critiques the inability for capital or for speculative reasoning to incorporate the sensuousness of materiality and qualitatively different natural forms in their value systems. Similar to the development of needs under capitalism, the relation to nature is stamped with the capital-labour relation, in which production is geared not towards satisfying human needs but capital needs. The search for profit in a social formation that organizes commodity production based on its attainment under a quantitative measurement of value makes it so real substance, such as the ecological conditions of food production, the kinds of food produced, and the conditions of workers, are secondary. Moreover, access to food becomes mediated by the conditions of the labourer. Not only is food denied in the midst of growing productivity, but the condition of existence of the workers are in general one of relative and absolute immiseration. Marx in his early works criticized the classical political economists for treating the needs of the workers as mere minimums:

...Light, air, etc. – the simplest animal cleanliness – ceases to be a need for man. Filth, this stagnation and putrefaction of man – the sewage of civilisation (speaking quite literally) – comes to be the element of life – for him. Utter, unnatural depravation, putrefied nature, comes to be his life-element. None of his senses exist any longer, and (each has ceased to function) not only in its human fashion, but in an inhuman fashion, so that it does not exist even in an animal fashion... It is not only that man has no human needs – even his animal needs cease to exist. The Irishman no longer knows any need now but the need to eat, and indeed only the need to eat potatoes and scabby potatoes at that, the worst kind of potatoes. But in each of their industrial towns England and France have already a little Ireland.

Marx's position on labour and needs is found within the context of material existence and the valuation system implied by capitalist production that does not account for the development of qualitative needs. As Fraser (1998, p. 150) remarks, human needs in the form of 'natural' needs are still crude and restricted. Marx writes on human senses 'trapped by crude practical need:'

Not only the five senses, but also the so-called spiritual senses, the practical senses (will, love, etc.), in a word, the human sense, the humanity of the senses – all these come into being only through the existence of *their* objects, through *humanised* nature...Sense which is trapped by crude practical need has only a *restricted* sense. For a man who is starving the human form of food does not exist, only its abstract existence as food does (Marx, quote in Chitty, 1993, p. 26).

The above dialectical distinction between universal and socially specific needs has normative connotations for the development of human food needs. Marx argues that food exists for humans, but food only in its human form *should* be considered as suitable and appropriate. It is not enough to judge a social system by the accessibility of food in the abstract. Rather, food is social, cultural and imprinted with social relations of production. In conjunction to this Marx saw the separation of labour from the means of (re-)production and from the labour process as the dehumanizing feature of capitalist crisis. This critique was a normative one linked to his discussion on alienation, where economic activity is based on the separation of workers from their ability to democratically regulate the conditions of production and reproduction.

3.4 Conclusion: Capitalist Needs as a Crisis of Human Needs

In locating the discussion of human needs within Marx's normative framework of labour, the production of needs in capitalist society does not produce for human need as the

primary driver but for capitalist needs. Marx's conceptualization of the human-nature relationship is one that is dialectical within a totality of expanding socialization of labour and the expansion of wealth.⁴⁷ However, this expansion is concealed and driven by the abstract social forms of wealth that are fueled by the development of the capital-labour relation. Accumulation and *capitalist* economic growth can only continue as long as the value of labour power does not surpass an allowable ceiling (Mandel 1990, p. 69; see next chapter). The relationship between capital and labour is one based on a consistency of crisis as a general state of social existence (the accumulation of capital being the negation of labour through constant devaluation due to the replacement of labour with capital), and one that gives rise to recurrent signal crises (such as the international financial crisis, the 1970s crisis, et cetera).

This historical form of labour exists through socially created mechanisms of production, consumption, distribution, and exchange. This socio-ecological form of separation and distinction (Barry 1995; Kovel 2003) does not erase the natural necessity that exists whatever the social form may be. As Marx (1993, p. 489) explains in the *Grundrisse*:

In it not the unity of living and active humanity with the natural inorganic conditions of their metabolic exchange with nature, and hence their appropriation of nature, which requires explanation or is the result of a historic process, but rather the separation between these inorganic conditions of human existence and this active existence, a separation which is completely posited only in the relation of wage labour and capital.

⁴⁷ This wealth can be measured in a multiple ways, depending on the purpose. One can outline the relationships of symbiosis shared between

It is through this wage-labour relation that human beings cannot be in a direct relation to their means of existence. Their existence depends on being paid a wage, and yet this wage cannot satisfy both material needs, and the human form of material needs in a universal fashion.

What this chapter has sought to explain is Marx's dependence on normativity and value judgements in both his critique of capitalism and his prescription for a more ethical society. This chapter tackled two specific points arising from a theoretical discussion of need and the materialist interpretation of such a discussion. First, the distinction between so-called lower (material, bodily) and higher (intellectual, cultural) needs is a false dichotomy. To accept this binary which is a simultaneous rejection of a unity of needs (both material and social), will have political consequences as the chapter on responses to the international food crisis by the left will show. The social demand for healthy and sustainable food production and access is a simultaneous critique of the structures of capital accumulation. Separating the realm of production and consumption is to accept a binary of real and nominal democracy or development. A strict focus on food needs is to problematically reduce the worker and the labourer to a steady state, where a strictly quantitative struggle for sufficient food becomes the primary, rather than the qualitative control of the means of existence and means of production of the worker. Second, this chapter conceptually tackled the issue of need arising from a Marxist materialist philosophy. This discussion of need reflects the debate above through a discussion of a materialist concept of individual and social existence.

The consequences of the capital-labour relationship are clear when the accumulation of capital becomes both the conditions for reproduction of society and also the conditions for social disaster, where absolute immiseration begins to develop. In the

next chapters, capital's tendency towards crisis, as experienced by various states in supporting food provisioning via the market, will be identified. Whatever the various character or features of capitalist crisis, Marx writes that, left to the dictates of market, it is the working class in its totality that must bear the brunt of the experiences and resolutions of its crises. In the chapter on the working day, Marx writes that the question of how crisis impacts the worker is not whether it will but to what degree.

Capital, which has such 'good reasons' for denying the sufferings of the legions of workers surrounding it, allows its actual movement to be determined as much and as little by the sight of the coming degradation and final depopulation of the human race, as by the probable fall of the earth into the sun. In every stock-jobbing swindle everyone knows that some time or other the crash must come, but everyone hopes that it may fall on the head of his neighbour, after he himself has caught the shower of gold and placed it in secure hands. *Après moi le deluge!* is the watchword of every capitalist and of every capitalist nation. Capital therefore takes no account of the health and the length of life of the worker, unless society forces it to do so (Marx, 1990, p. 381).

The implications of this are clear: there is a normative foundation to human existence, and human foundation is not only debased due to the pursuit of surplus value and the general tendency to immiserate the working class, but even the abstract character of human needs is no longer possible up to a point. Thus, while it is true that capitalism eliminates natural scarcity through the development of the social means of production and the intensified division of labour, machinery, science, and technology, there remains scarcity, socially created, due to the wage-labour relation, which has a turbulent trajectory that, left to its own, will 'sap' the source of wealth: labour and nature. The next chapter will show this contradiction, and the crisis tendencies inherently found in capitalism's valuation system.

4 Finding Hunger in the Belly of Capital: A Value-Form Analysis of Food Insecurity

4.1 Introduction

The purpose of this chapter is to continue the reconstruction of a historical materialist approach to food insecurity by analyzing capitalist crisis and food insecurity from a value-form analysis. A value-form analysis links food insecurity to the capital-labour and its tendencies for crisis, avoiding *ahistorical* approaches that naturalize social crises. In this form, crisis results from the kernel of capitalist crisis in productive relations at the international scale and world trade.⁴⁸ A value-form analysis reveals the limits of capitalist food provisioning because of the countervailing tendencies to capitalist crisis that seek to overcome barriers and ‘move around’ its problems (Harvey, 1981; Lebowitz, 2003). Barriers arising out of capitalist crisis are revealed in the world market because the law of value operates at this level. Along with this operation are real limits to its ability to allocate production for human needs satisfaction because the expansion of value depends on the search for profit realization in the market. Capitalist crises therefore are neither static nor even; they are expressed unevenly in the world-market, suggesting a combined and uneven form of capitalist food insecurity expressed at the national level.

In tracing out a value-form analysis of food insecurity, this chapter will outline three generative mechanisms of capitalist food insecurity at the world-scale. First, food insecurity arises out of the social relations between capital and labour and the mediation of the market for use-values necessary for reproduction. While there is an assumption by

⁴⁸ Dialectically, a value-form analysis pairs the Hegelian notion of content and form, of essence (exploitation of labour and the production of surplus-value) and surface appearance (exchange relations and the realization of value), and their empirical conditions (Arthur, 1979; Knafo, 2012; Saad-Filho, 2002, pp. 26-33).

Marx that workers will be given a wage sufficient to fulfill their natural and (socially construed) necessary needs, the crisis tendencies of this relation create conditions in which there will be food entitlement loss for a portion of the population as capitalism develops and seeks profits. I argue that the question in the debates of whether Marx had a relative or absolute understanding of immiseration of the working class is a misplaced binary (Lebowitz, 2003; Patnaik & Patnaik 2017; Geras, 1994), and that as a dialectical thinker, Marx saw both occurring in the international totality of the working class. Second, and a corollary to the first point, capitalist food insecurity occurs within the context of both the over-production (abundance) and under-production (scarcity) of food and the conditions of its production. Capital's measurement of wealth is contradictory. Use-values are important because they satisfy natural and social needs, but they are not produced in the abstract; they are stamped with the social relations of production that dictate the kind of food produced and the method of organizing production. The qualitative ecological impacts of production, along with the general health of the working class are only considered if, as Marx suggests, capital is compelled to do so by social struggle. The development of capitalist agriculture has created a surplus of food but the economic power of the working class as a whole is substantially disproportionate to the capitalist class in access to and control of wealth. Third, food insecurity arising out of the generative mechanisms of the capital-labour relation is expressed as capitalist crises at the international scale. Imperialist relations between different geographical regions are expressed through the consolidation of wealth and value relations in which lands are repurposed for export-oriented production and by which these states become reliant on food imports from more 'advanced capitalist states.' In this relation, the state is a general

actor that mediates the promotion of capital accumulation while simultaneously attempting to 'regulate' the excesses of this accumulation.

This chapter is divided into three main parts. The first part is an exposition of a value-form analysis and Marx's critique of capitalism. The second part will show how the overproduction of wealth in the form of commodities and specifically of food contains within it seeds of its own negation, the adulteration and cheapening of food and the socio-ecological contradictions of capitalist agriculture and farming. Moreover, what Marx calls the general law of accumulation is a structural feature that gives rise to a segment of the population that is underemployed or un-employed *at a generalized level at the world scale*. The third part of this chapter explains the countertendencies to capital's proneness to crisis at an international scale. These countertendencies are expressed in the international order and structures as imperialism (Amin 2010; Harvey, 2006, p. 439-42; Lenin, 2008; Luxemburg 2004). These countervailing tendencies do not work in a vacuum but are constantly mediated by the nation-state in its attempt to regulate the contradictions of capitalism.

4.2 Value-form and Capitalist Crises

4.2.1 Marx's Method and Capitalist Crises

Marx's critique of political economy rests on a dialectical understanding of development (Ollman, 2003; Paolucci, 2007). This is based on the notion of contradiction, which roots the outcomes of social relations to the structure of accumulation, and not to external factors, such as theft, threats of violence and social oppression, nor to external natural

features, such as ‘natural’ droughts or natural disasters.⁴⁹ While these factors are usually present and compound crises, they do not point to the *differentia specifica* of the capitalist mode and relations of production. Ollman (2003, p. 17) summarizes dialectical contradiction as “...the incompatible development of different elements within the same relation, which is to say between elements that are also dependent on one another”. In this sense, capitalism, that is generalized commodity production, is a contradictory-ridden social system that can simultaneously: a) develop the productive forces and produce an enormous amount of wealth relative to labour inputs over time, and b) generate economic crises and stagnation.

The kernel of capitalist accumulation and development is therefore contradictory and emerges out of the ‘laws of motion’ which govern how labour is valued, the development of productive forces, and the social relations that stifle human needs satisfaction. For Marxists, there are numerous features of capitalist crisis that emerge out of the capitalist social relations (Clarke, 2012). The tendency for overproduction, underconsumption, and the falling rate of profit are three major features of capitalist crises. Analyses of the overproduction of capital focus on the development of productive forces in tandem with the growth of wealth inequality and the growing concentration and centralization of capital. Underconsumption theories of capitalist development point to the limits of the working class to consume the overproduction of consumable goods. Lastly, the tendency for the falling rate of profit points to how the development of capitalist

⁴⁹ These external features are not absent from capital accumulation; in many cases, violence and extra-economic force can be utilized as strategies of wealth accumulation. Moreover, exogenous features such as drought can heighten or depress the ability to accumulate capital. However, as Smith argues, Marx’s critique of capital is not that the capitalists steal from the workers, but that the capitalists exploits them based on the fair dealings of commodity exchange (2010, pp. 39-40). Theft and swindling are everyday features of capitalist social relations but cannot be conflated to them; otherwise we would be collapsing what is specific to capitalism to what can be general to all societies.

production paves the way for the growing concentration and centralization of capital and the devaluation and replacement of labour, leading to capitalism undermining its ability to extract surplus value.⁵⁰ Thus, Marx's critique of capital and capitalism rests on scientific rather than moral grounds in revealing the laws of motion that determine the production of human needs (Smith, 2010, p. 33).

Value-form approaches were developed by numerous Marxists and Marxist schools that sought to avoid undialectical and ahistorical approaches to the valuation of commodities, productive relations, and forms of crises that are linked to realization of surplus-value in the realm of exchange. Saad-Filho (2002, p. 26-33) and Knafo (2012) argue there is a variety of streams of value-form approaches. In the realm of political economy, one of the earliest developers was Rubin (1973) who sought to link the realm of production to the realm of realization (exchange). This link binds the *essence* of exploitation found in the labour process to *appearance* of value as *realization* crises and the constant devaluing and transformation of the productive forces. The 'new-interpretation' approach sought to make a distinction between the value of money and value of labour-power, seeing the socialization of labour-power in the realm of sales. The 'Open Marxists' centred the role of money, the role of the state, and the role of class struggle in value relations (Saad-Filho, 2002, p. 29; Knafo, 2012, pp. 370-1). And in the stream of Marxist philosophy, the work of Hegelian Marxists emphasized the dialectical pairing of form and content, and essence and appearance (Arthur, 1979). What these various approaches have in common is their commitment to link the generality of capitalist

⁵⁰ Smith argues, "...the fundamental social production relations that define capital push inexorably toward an enhancement of labour productivity at the level of the individual capitalist form...the resulting fall in the average rate of profit prepares the ground for crises that have a negative long-term impact on the global productivity" (Smith 2010).

social relations as a historical form of use-value valuation to concrete price formations of different commodities in the market, to the ‘substance’ and ‘magnitude’ of value found in the commodity from labour, to the appearance of wealth in the commodity form (Elson, 1979, p. 123; see also Arthur, 1979; Pilling, 1972), and to the breakdown of social provision in the market.⁵¹ The value-form approach rejects the task of accurately delineating and ‘proving’ the law of value’ because such a task runs counter to Marx’s critique of political economy as carried out in *Capital*.⁵²

A value-form approach explains food insecurity and food crisis because it avoids some of the limits to the approaches explained in Chapter 2, and because the value-form approach links problems of realization of profit in the world market. In contrast to the analytical limits of the four approaches, a value-form approach is able to tie all contingent and social formations to the essence of labour exploitation, which is found primarily in the alienation of labour. The universalist approach sees food insecurity and economic crises as ahistorical, such as the naturalization of food insecurity to environmental limits (Malthusian), or the universalization of capitalist and market relations that do not grasp the contradictions of development, productivity and the social impacts that arise from these. The entitlements approach also does not grasp the contradictory dynamics that arise out of productivity increases. Moreover, the wealth transfer approach links food

⁵¹ This is not the same as saying all differences are removed under present-day capitalism. However, as Harvey (2014), De Angelis (2015, pp. 1-5), and Das (2017, p. 17) argue, there are specific laws governing capital accumulation that are specific to how capital accumulation takes place; its concrete manifestations that co-mingle with important democratic questions of equality, liberty, and freedom from prejudice are important and necessary questions surrounding capitalism, but cannot be conflated with capital as such.

⁵² For example, approaches that the value-form tradition critiques were neoclassical universalization of capitalist-market relations, or Ricardian and Marxist ‘embodied labour’ approaches that attempted to measure the magnitude of labour and value strictly in the realm of production. These approaches rest on undialectical and ahistorical grounds, reading capitalist exploitation across history and not on its own historic terms that expresses a power relation.

insecurity to exogenous wealth transfers strictly in the realm of international exchange relations, rather than to the totality of capitalist valuation (Harvey, 2017). Wealth transfer is part of the accumulation of capital but is not itself the prime driver for food insecurity. Lastly, while the commitment of the food regime's approach to linking regulatory and institutional features of food production to accumulation is positive, this approach can sway too far from the universalizing and 'gravitational pull' of the law of value in the development of social power. In making this point, Mavroudeas (2012a, 2012b, pp. 308-9) argues this approach depends on positioning itself on a 'middle-range' theory that simultaneously undermines its ability to explain crisis because it either neglects or rejects universally specific explanations of crisis and class struggle (see also Clarke, 1989).

In light of the above, I argue, following Elson (1979) that a value-form analysis should be *politicized*, and not left to either approaching an equilibrium between prices and wage-levels (such as food accessibility in the market), or treating capitalist productive relations as separate from institutional features. Rather than seeing these as separate features, they are inherently bound together. Treating questions of capitalist food insecurity as questions of production, exchange and circulation, distribution, or from a pairing with institutional formations is problematic as it treats capitalist crisis as a matter of organizing capitalist modes of articulation, rather than the inevitability of crisis tendencies surrounding the production of value and class struggle. As Elson writes:

...there is a problem of a bifurcation of money relations and labour process relations, so that exploitation appears to take two separate forms: 'unfair' money wages or prices, and/or arduous work with long hours and poor conditions. The politics that tend to arise spontaneously from this fragmented experience is in turn bifurcated: it is a politics of circulation and/or of production...Both these kinds of politics have been pursued by the labour movement in both Marx's day and ours. The point is not that these kinds of politics are in themselves wrong, but that they have been

pursued in isolation from one another... as if they were two separate arenas of struggle, circulation and production; money relations and labour process relations.

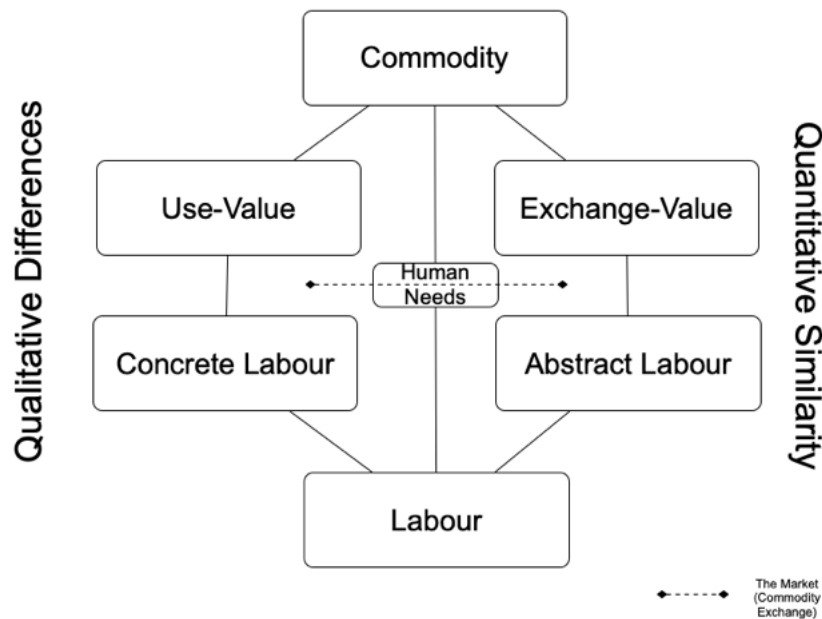
Similar to how Engels once remarked that capitalism does not resolve its housing crises but moves them around, so too does capitalism not resolve crises of food insecurity but shifts them. A value-form approach therefore illuminates how capitalist food insecurity at the international scale takes form in uneven ways. Marx's analysis of capitalist crisis identified a number of attendant countertendencies, or responses, that attempt to stem these very crises. These countertendencies do not *resolve* the tendencies for capitalist crisis, but 'move them around,' offsetting capitalist crisis as social crises. As I will explain in section 4.4 of this chapter, the world-market is the sphere where capitalism offsets its contradictions. What needs are produced (or not produced) with the associative changes in prices and technological development, under what conditions (whether they are ecologically and socially sound or not), and for what reasons (e.g. profit needs or human needs) are central questions that arise in the analysis of capitalist food insecurity. Therefore, a value-form approach brings into focus how the uneven dynamics of capitalist development and social crisis result, and what the social mechanisms are that become necessary to stem off the crisis tendencies associated with capitalism.

4.2.2 The Contradiction of Use- and Exchange-Value

Capitalism is generalized commodity production that contains within itself contradictory dynamics that are socially bound. Among the many contradictions of historical and

modern-day capitalism, Harvey (2014) illustrates two that are central to capitalist crises.⁵³ The first contradiction arises out of the generalized commodity form in the dialectical pairing of use-values and exchange-values, and the second is between concrete and abstract labour. Figure 4-1 is a summary of the dual formation of the commodity and labour.

Figure 4-1 The Contradiction emerging out of the Commodity Form



The commodity, regardless of the social form under which it is produced, serves an important human need arising from the *social* organization of production and its development. Marx (1990, p. 125) writes on the nature of commodity's use-value:

⁵³ Harvey (2014) characterizes such contradictions into three groups: foundational contradictions are at the kernel of capitalism, moving contradictions are processual results of the foundational contradictions which shape the concrete manifestation of the capital-labour relation, and dangerous contradictions are enduring effects of capital accumulation.

A commodity is, in the first place, an object outside us, a thing that by its properties satisfies human wants of some sort or another. The nature of such wants, whether, for instance, they spring from the stomach or from fancy, makes no difference. Neither are we here concerned to know how the object satisfies these wants, whether directly as means of subsistence, or indirectly as means of production.

The commodity form contains within it a use-value and an exchange value. Harvey (2014, p. 14) writes:

All the commodities we buy in a capitalist society have a use value and an exchange value. The difference between the two forms of value is significant...The use values are infinitely varied (even for the same item), while the exchange value (under normal conditions) is uniform and qualitatively identical...

These different forms of value are simultaneously dissimilar from and inherently bound to each other under capitalism.⁵⁴ A use-value must have a specific usefulness to it, whereas an exchange value is a measure of value that takes its *form of appearance* through prices. As articulated in Chapter 3, the production of commodities is not produced for the sake of human needs, but for profit valorization and the extraction of surplus value. Food is an essential *natural need* that emerges out of its unique ontological and material characteristics in supplying caloric energy and nutrition to the body. Food as a commodity also carries an exchange value that determines its price in the marketplace. The price is contingent on numerous factors such as those found in the costs of production and other features related to supply and demand in local, regional, national and international markets.

⁵⁴ In other words, there must be a use value for an exchange value to exist and vice versa for a use value to act as a commodity.

The second central contradiction is between concrete labour (qualitative and different) and abstract labour (quantitative and similar substance). Labour-power is measured by abstract labour, and is the quantified substance arising from the ability to work but is itself not the individual labourer or labour itself. Labour-power is labour quantified and abstracted from the concrete, making it the substance of abstract labour. Concrete labour is the physical and technical character of producing a specific use-value. The production of food for example requires concrete laboring activities that are specific to agriculture (sowing, transplanting, weeding, harvesting, et cetera), have the right environmental and geographical conditions, and have specific tools that develop historically.

The distinction between abstract and concrete labour is important because this allowed Marx to avoid the universalization of value on which Ricardo and Smith rested their analysis. This duality in the commodity form and the treatment and measurement of labour is the essence of exploitation and the creation (but not realization) of value. As Harman (2010, p. 30) argues:

...Marx stressed [the value of labour and the labour actually performed by the worker] were by no means the same. Labour... was like all other commodities in that it was bought and sold. But it differed from them because it had the peculiar property that when put to use it performed more labour than required to produce it.

The importance of this distinction and contradiction in regard to food insecurity is twofold: first, abstract labour under capitalism becomes the measure of value under socially necessary abstract labour time (SNALT), and second, abstract labour becomes the measure of *abstract* wealth valuation through the accumulation of capital. The remainder of this chapter will detail how these two contradictory features of the commodity form

impact food insecurity in terms of both the conditions of agricultural production and the remuneration to the working class, and how the contradictions of capitalist crisis find their countertendencies on the world market.

4.3 Overproduction, Crises and the General Law of Accumulation

4.3.1 Introduction

This section will argue that the dichotomy between relative and absolute immiseration is not a binary but dialectically bound within the global capitalist system that develops unevenly. A number of features of capitalist accumulation can influence the ability of the working class *as a whole* to attain a secure source of food. First, the expansion of human needs develops only with the qualitative debasement of mass-produced use-values in both the conditions of production and in the quality of use-values available for sale. At the site of production, Marx argues that the production of commodities has a tendency to undercut the conditions of production in an anti-ecological manner. A variety of authors have recently shown the irrationality of capital's relation to nature: Foster's (2000) metabolic rift, Burkett's (1999) emphasis on socio-ecological wealth production, and Moore's (2015) concept of 'negative value' point towards this contradictory character of capitalist agriculture. The production of 'cheap food' depends on the debasement of ecological conditions, despite advancements in science (Moore, 2010a, 2010b; Pollan. 2008, p. 101). Conversely, capitalist provisioning of food for a variety of income levels tends to degrade due to different costs. At the site of consumption, the reproduction of the worker in capitalism is not for the satisfaction of use-values but for the increase of profit that can be captured in the market (Albritton, 2009). The implication

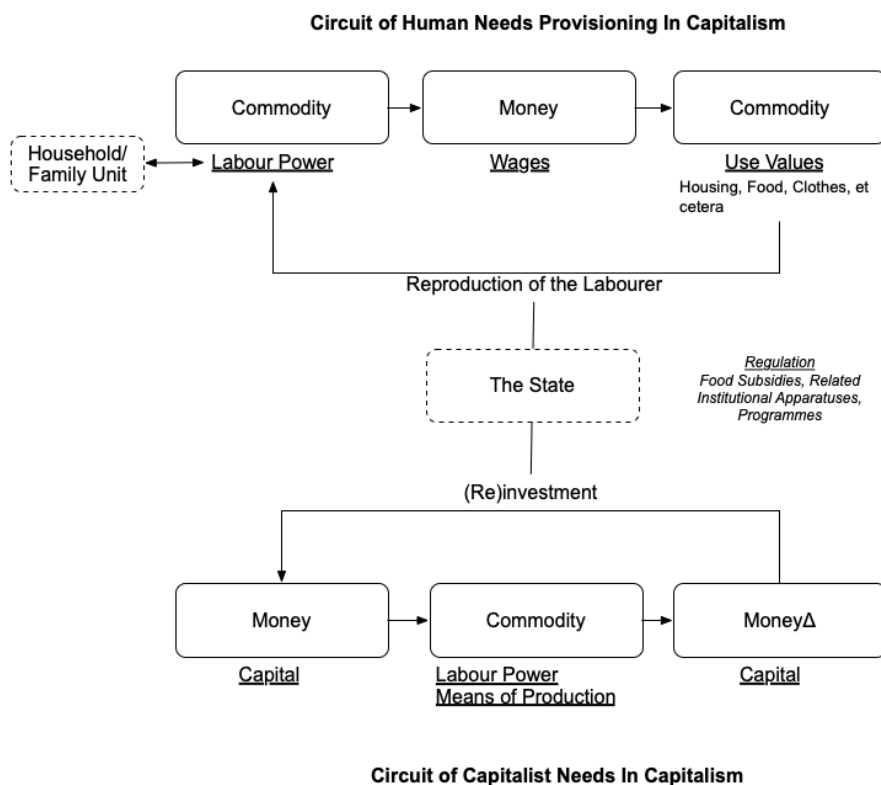
for both examples is that Marx's assumption of equivalent exchange of commodities with the reproduction of labour-power is not always the case. Second, the increase of production is the simultaneous devaluation of the working class as a whole and the concentration and centralization of the productive powers in smaller (capitalist) hands. The dispossession of small-scale farmers throughout the globe, and the concentration and centralization of wealth at the farm gate and throughout the entire chain of agribusiness leads to the monopolization of control. This has an outward expression in global unemployment, what Marx calls the reserve army of labour. Third, and corollary to the first and second features above, is the crisis tendencies of capitalist production. Because capitalism is constantly searching for self-valorization, it begins to break down social bonds that govern and dictate the allocation of money. The law of value creates a world-market in search of a way to resolve some of its crisis tendencies, such as spaces to resolve some of the contradictions of productivity, but itself becomes limited in solving capitalist crisis because it does not produce human needs, but capitalist needs (increasing rate of capital). It has therefore depended on fictitious forms of capital accumulation, compounding, rather than solving, its crises.

4.3.2 The Working Class and the Contradictions of Productivity

The two contradictions explained above are generated from the overall dialectical contradiction between capital and labour as two different classes that simultaneously enforce and undermine each other throughout the development of their relation. The level of class struggle determines the outcome of the distribution of social power and is fundamentally linked to, for example, state policies that attempt to regulate the overall

class struggle (Clarke, 1990). In this regard, there are two circuits that are necessary for the reproduction of capital *and* labour. Figure 4-2 is a summary of Marx's dialectical circuit of organizing labour, the labour process and needs provisioning. This schema is generalized to illustrate how the tendencies of capital accumulation lead to the general, but segmented, immiseration of the working class vis-à-vis the power of capital.

Figure 4-2 The Dialectical Circuit of Capital and Labour Reproduction



There is a double freedom accorded to the worker in capitalism: the worker is a free subject that can sell their ability to labour (in the form of labour-power), and is also *freed* from the means of being able to reproduce themselves, i.e. their ability to labour is

separated from the object and conditions of existence (i.e. land, tools, et cetera).⁵⁵ In other words, workers are freed and separated from the control of the means of production (capital, private and alienated wealth). Therefore, workers *must* enter into a wage-contract with those who have capital (i.e. money as investment capital to purchase land, labour, machinery, tools, etc, and who have access to markets) in order to receive money to buy products necessary for their reproduction (food, shelter, clothing, articles of entertainment, et cetera). The contradiction is that workers are simultaneously unfree in this double freedom; workers must be free from their ability to reproduce their being individually but are placed in a social position in which they are compelled to sell their ability to labour for a wage, otherwise they face absolute poverty (Fine & Saad-Filho, 2016, pp. 19-21). In wage labour, Marx argues that the working class must be adequately compensated for the value of their labour-power, given all things constant, otherwise the worker as a *free agent* would choose another capitalist. Moreover, as established in Chapter 3, the working class is not guaranteed just an adequate amount of food; there is a whole assortment of needs required to be met for the worker's reproduction. These needs not only reproduce the worker, but also reproduce capital; the profit from the realization of a sold commodity is reinvested to make more money, marking the re-distribution of wealth (as a whole) to the capitalist class. In this dual circuit, capital will only invest and produce commodities that are profitable. Marx explains in *Capital* how needs are not static and unchanging but rather are historically specific and are constantly revolutionizing the production process and the commodities available for the reproduction of the worker:

⁵⁵ The genesis of capital began through *primitive accumulation*, where "conquest, enslavement, robbery, murder, in short force, play the greatest part" (Marx, 1990, p. 874). For a history of extra-economic history of capitalism, see Perleman, Woods, Harvey, De Angelis.

The ultimate or minimum limit of the value of labour-power is formed by the value of the commodities which have to be supplied every day to the bearer of labour-power, the man, so that he can renew his life-process. That is to say, the limit is formed by the value of the physically indispensable means of subsistence.

We began with the assumption that labour-power is bought and sold at its value. Its value, like that of all other commodities, is determined by the labour-time necessary to produce it. If it takes 6 hours to produce the average daily means of subsistence of the worker, he must work an average of 6 hours a day to produce his daily labour-power, or to reproduce the value received as a result of its sale.

This is based on the equivalent trade of commodities that Marx says must be the basis for commodity exchange, but one in which the parts are fundamentally at odds with each other:

There is here therefore an antinomy, of right against right, both equally bearing the seal of the law of exchange. Between equal rights, force decides. Hence, in the history of capitalist production, the establishment of a norm for the working day presents itself as a struggle over the limits of that day, a struggle between collective capital, i.e. the class of capitalists, and collective labour, i.e. the working class (Marx, 1990, p. 344).

The reproduction of the worker will be equal to the wages they receive that are in turn equal to the commodities required to reproduce what workers sell to the capitalist class, their ability to labour (i.e. labour power, their ability and functionality of being able to produce). There is a strong assumption made by Marx that the workers under capitalism will be given the necessary use-values for their reproduction. Furthermore, the needs of any personal dependents of the worker (i.e. the parent-child relation, family units, et cetera) will be accounted for in this wage-bundle. This also includes the reproduction of

labour power from within the realm of the household (Vogel, 2013).⁵⁶ The assumption by Marx is that the active worker under capitalism will not be left without the ability to secure necessary food items. The worker in capitalism is paid a wage needed to reproduce themselves (and their dependents) for another day at work. This is a necessary precondition since the length of the wage-labour contract is in many cases extended past one day (meaning, the capitalist expects the worker to return to work), and reproducing the worker is a necessity for capital accumulation.⁵⁷

On the other hand, the driving force for the capitalist to enter the wage relationship is not the attainment of necessary needs or even luxury needs, but the expansion of *capital*. Expansion emerges due to the competitive impulses in capturing market share and profit over other capitalists. While labour and capital are involved in the same relation, they sit in different socio-ontological positions in the circuit of commodities and money. While the worker sells their ability to labour in order to attain wages to buy necessary use-values, the capitalist disposes their capital as wages to the worker and to the means of production with the expectation that the production process creates more value than the costs of production. Those capitalists who do not reinvest their capital will eventually be replaced by capital that does. In all of this, and in contradiction to arguments of unequal exchange, there is an assumed equal exchange of commodities in the market, with one

⁵⁶ There is some degree of abstraction here; it does not fully take into account the schemata. Other features are included. It is important to distill the *unique* elements of this system, thus abstracting away *temporarily* causes of under- or non-reproduction. This assumption is critical for explaining the *differentia specifica* between different class societies, that is, between the capitalist form of appropriation and non-capitalist forms of appropriation.

⁵⁷ This contrasts with slavery as a mode of production, where the reproduction of slaves is of low concern due to the extensive reach of slave sources, thus leading to brutal work conditions that lessen the lives of slaves (Laibman, 2008, pp. 24-36). This is not to say that slave like elements had or continue to not have a role in capitalist social relations. As will be discussed later in this chapter, capitalism as a concrete manifestation that simultaneous requires an outside (Brass, 2011; Harvey, 2005b; Luxemburg, 2004), but an outside which is dialectically formed in the totality of internal capitalist social relations.

class (the capitalist) receiving profit due to the extraction of surplus value. The source of profit is found in the equal exchange of commodities because labour-power purchased by the capitalist is the use-value that is the source of the creation of value. The creation of this surplus value comes from the ability of labour to create more value than it costs to reproduce itself. Therefore, surplus value can arise, either 'absolute surplus value,' which comes from extending the working day, or 'relative surplus value,' which is the ability to create more in less time.⁵⁸

4.3.3 Capital, Agro-Ecological Crises, and the General Adulteration of Food

The two ways that the accumulation of capitalism expresses itself as a crisis in food provisioning are the socio-ecological contradictions in the societal metabolic relation to nature, and the quality of food for the working class. The spatial- and socio-ecological relation to nature is formed by the general laws of accumulation and the social relations undermining production. (Harvey 1981, 1996; Lefevbre, 1992). A number of geographers have questioned the general thrust of capitalist industrialization of agriculture relative to industry. They emphasize the contingent 'natural conditions' that make agricultural production inherently different from industrial production due to non-human elements in the conditions of agrarian production (Goodman & Redclift, 1994; Murdoch, 1994). Rainfall, cloud cover, wind, and other ecological processes interrupt the subsumption of nature to capital. Whereas industrial sites are 'human controlled,' agrarian production is

⁵⁸ This is through the investment of machinery, technology, science, and other techniques that make the working day more efficient in the production of use values. The impulse to invest capital comes from the capitalists' need to outcompete other capitalists. The logical outcomes that comes through this tendency is crisis due to the makeup of capital more and more being made of constant capital/dead labour and not variable capital/living labour.

much more contingent due to natural conditions. On top of this critique is the ethically based critique of Marx's 'domination of nature,' which celebrates the 'Promethean' ethos in the realm of production (Clark, 1989). According to this argument then, agricultural production cannot be abstracted into a generalized social system of agrarian production, as it instead relies on the built-up local environment and knowledges outside of any market or capitalist valuation system (Schneider & McMichael, 2010). In what follows, I argue that these critiques are better directed at the general ethos of 'accumulation for accumulation's sake,' and not at how Marx saw the socio-ecological relationship. While development in the agrarian sector has generally lagged behind industrial production, this may not always be the case, with automation entering the spaces of food production. Moreover, 'alienated labour' is still a feature of capitalist organization of agricultural production.

Capitalism is a social system of production that has historically revolutionized the productive capability of society. Specific to food, capitalism has revolutionized the ability of agricultural production in ways similar to industry. In *Capital*, Marx writes that revolutions in the agricultural sectors occur in the same way as in large-scale towns, and, "...thus the need for social transformation, and the antagonism of the classes, reaches the same level in the countryside as it has attained in the towns" (Marx, 1990, p. 637). Food production in the countryside helps facilitate the general industrialization in the towns. Marx's cites the development of the cotton gin and the transformation of agricultural fields to illustrate this point. Marx (1990, p. 637) writes that:

The capitalist mode of production completes the disintegration of the primitive familial union which bound agriculture and manufacture together when they were both at an undeveloped and childlike stage. But at the same time it creates the material conditions for a new and higher synthesis, a union of agriculture and industry on the basis of the forms that have developed during the period of their antagonistic isolation.

Marx argues that capitalist development is contradictory, and this reflects both the social form labour takes (the consolidation and development of productivity) along with the social consequences capitalist development carries within it. Harvey (2010, pp. 257-63; 2014, p. 234) argues that there are 'dangerous contradictions' arising from capital's relation to nature, and points to Marx's argument of agriculture and industry being a higher synthesis simultaneously emerging with capital's tendency to despoil non-human natural wealth. Marx recognizes this fact and writes that the increasing productivity of capitalist production generally (in agriculture and non-agricultural industry) is also increasing the contradictions surrounding the sustainability of such productive advances:

Capitalist production collects the population together in great centres and causes the urban population to achieve an ever-growing preponderance. This has two results. On the one hand it concentrates the historical motive power of society; on the other hand, it disturbs the metabolic interaction between man and the earth, i.e. it prevents the return to the soil of its constituent elements consumed by man in the form of food and clothing; *hence it hinders the operation of the eternal natural condition for the lasting fertility of the soil* (Marx, 1990, p. 637).

Marx argues that capitalist agriculture, left to its own devices, will 'sap' the foundation of its ability to extract wealth: wealth arising from labouring activity, and nature. Marx (1990, p. 638) writes that capitalism is an art in robbing the workers and the soil (e.g. earth, non-human nature, environment, et cetera) of their ability to replenish:

Moreover, all progress in capitalist agriculture is a progress in the art, not only of robbing the worker, but of robbing the soil; all progress in increasing the fertility of the soil for a given time is a progress towards ruining the more long-lasting sources of that fertility. The more a country proceeds from large-scale industry as the background of its development, as in the case of the United States, the more rapid is this process of destruction. Capitalist production, therefore only develops the techniques and the degree of combination of the social process of production by

simultaneously undermining the original sources of all wealth – the soil and the worker.

The development of the productive forces in agriculture is not necessarily in accordance with the laws of nature. While improvements in agricultural productivity occur through the replacement of labour with capital, constant improvements in tools, techniques and rotations, and the conditions of fertility and yield productivity,⁵⁹ it only does so in accordance with the dictates of the market.

Marx critiques capitalism's formation of the human-nature relationship as beset by contradiction such as the above: it simultaneously creates the productive capacity of agricultural production through industrialization, but also creates seeds of its own 'fettering' that are socio-ecologically based and cannot be understood in terms of reductionist left-wing iterations of Malthusian predictions. As shown in the previous chapter, and elsewhere (Mikati, 2020), there are fundamental ontological foundations of human beings, which requires that the natural be taken into account in any concrete analysis in Marx's conception of the nature-society relationship (Timpanaro, 1975). The impacts of industrialized agriculture are being recognized in physical and social scientific studies as problems of 'ecological debt' (Amin, 2010; Datlon, 2018; IPCC, 2001, pp. 222-226; Wackernagel & Rees, 1996).⁶⁰ In light of this, the progress of capitalist agriculture in creating 'cheap food' in the development of capitalism rests on grounds that give rise to ecological crises.

⁵⁹ such as through better inputs and improvement in seed selection

⁶⁰ As we shall see in the empirical chapters on international food crisis of 2008 and the historical and contemporary experience of the Egyptian context, the ecological considerations surrounding the *global* organization of agriculture for the sake of industrialized export-oriented trade to the wider practices that are undermining and/or changing the face of agricultural production due to the increasing threat of irreversible climate change.

Stemming from this alienated form of agrarian productivity and wealth production is the selection of specific foods to be grown for sale in the market and their quality. The selection of foods is inextricably linked to industrialization of agricultural production. Crops that can be grown in a monocrop arrangement take priority over other crops that may be important to both human and soil health. While many of these crops may be important in human nutrition and in terms of a diversity of food items, capital's over-reliance on them (such as on edible oils, certain grains, sugar and corn) reflects the undervaluing and the dismissal of important agro-ecological principles, such as, for example, companion planting, increased duration of fallow, cover crop rotations, no-till agriculture, and more labour-intensive, as opposed to carbon and energy intensive, farming.

The adulteration of food in the marketplace is a second feature of capital's undermining of food provisioning in its quest to lower the costs of labour reproduction. Dixon (2009) argues that in the contemporary international food regimes, the quality of food in the form of 'nutritionalism' takes specific forms based on the accumulation of capital. This is beset by uneven access to healthy food and the replacement of ecological relations. Similar to the socio-ecological conditions of agrarian capitalist development in which the ecological conditions are undermined and replaced by capitalist conditions, the reproduction of the worker is tied to the dictates of accumulation. The reproduction of labour-power is primarily the reproduction of the labourer as a *socio-biological* entity outside of social relations.⁶¹ Harvey (1998) writes how the body is a site of contradictions and a site of political struggle. This political struggle is reflected in the objective formation of the treatment of labour-power as a form of capital (variable capital) and is itself a site

⁶¹ This is an important point to avoid the naturalization of capitalist social relations.

for contestations. This contestation is about the fruits of labour that are produced by social labour.

In the quest for profit, individual capitalists in competition with each other must find ways to lower the cost of production to capture a greater share of profits in the circuit of capital accumulation ($M - C - M^A$). One way is to lower the quality of food available to the worker.⁶² Marx writes in the *Economic and Philosophical Manuscripts of 1844* that the worker within capitalism cannot even satisfy their animal needs of shelter and suitable living environments, and that natural needs required for reproduction are denied. In particular, food, one of the ostensibly 'lowest' but most fundamental needs, is adulterated or denied. Worker needs are secondary to capital needs to expand further capital:

...It is not only that man has no human needs – even his animal needs cease to exist. The Irishman no longer knows any need now but the need to eat, and indeed only the need to eat potatoes and scabby potatoes at that, the worst kind of potatoes. But in each of their industrial towns England and France have already a little Ireland.

Food adulteration lowers the costs of production by increasing the amount of food commodities for sale with lesser quality and quantity of essential nutrients and food content. The cost of reproducing labour is reduced at the expense of the labourer's bodily health from their consumption of adulterated foods. The adulteration of food can be viewed in three ways: the time and nature of mealtimes, both in the workplace and in the realm of reproduction, the quality of a specific food item (i.e. the quality of specific foods), and the choice of food (i.e. the reliance on cheap carbohydrates, sugars, and an overreliance on edible oils in processed foods) (Albritton, 2009, p. 80, 177). With respect to the first

⁶² Just like Marx argued there is a natural limit to how much absolute surplus value can be extracted.

two, there is a *concrete* tendency within the laws of capital accumulation to deny time for reproduction and access to a nutritious quality of food. In the chapter on the working day in *Capital Volume I*, Marx writes how within the labour process, the necessary act of eating during the day is constantly pushed back against, compelled by the capitalist competition to increase production, “These ‘small thefts’ of capital from the workers’ meal-times and recreation times are also described by the factory inspectors as ‘petty pilferings of minutes’, ‘snatching a few minutes’ or, in technical language of the workers, ‘nibbling and cribbing at meal times’” (1991, p. 352). In the realms of reproduction, Marx writes in the EPM1844 that the conditions of the worker at home is denied suitable mode of consumption, with the above direct quote in Marx’s EPM1844 in which the conditions of workers in reproduction are beset with absolute forms of immiseration. With respect to the quality of foods, Marx summarizes the findings of the state’s committee investigation into the adulteration of food items. He writes how the committee found that the ‘free trade’ in food items in the market meant the free trade in adulterated or ‘sophisticated’ food goods (1991, p. 358). These ‘sophisticated goods’ became intolerable:

Englishmen, always well up in the Bible, knew well enough that man, unless by elective grace a capitalist, or landlord, or sinecurist, is commanded to eat his bread in the sweat of his brow, but they did not know that he had to eat daily in his bread a certain quantity of human perspiration mixed with the discharge of abscesses, cobwebs, dead black-beetles, and putrid German yeast, without counting alum, sand, and other agreeable mineral ingredients. Without any regard to his holiness, Free-trade, the free baking-trade was therefore placed under the supervision of the State inspectors (Close of the Parliamentary session of 1863), and by the same Act of Parliament, work from 9 in the evening to 5 in the morning was forbidden for journeymen bakers under 18 (Marx, 1991, p. 359).

In this part, Marx also refers to Dr. Arthur Hill Hassall, who, in his discussion of the London bakery industry and food modification, defines adulteration in the following way: “it

consists of the intentional addition to an article, for the purposes of gain or deception, of any substance or substances the presence of which is not acknowledged in the name under which the article is sold” (Hassall, 1861, pp. 1-2). He identifies the adulteration of food in a variety of ways, corresponding to the specific food item (e.g. bread, honey, butter, et cetera). In many of these instances, the reasons for adulteration arose directly from the need to lower the costs of production and increase profit by way of offsetting increasing costs in the growth of the baking sector. One consequence of capitalist production and control of the market is offsetting the costs to the worker’s body:

The great profit of adulteration arises from the sale of articles so adulterated as to be greatly inferior in value to genuine commodities, a price being demanded for these mixed goods yielding a larger profit than could be obtained by the sale of unadulterated goods; in fact, they are often sold at the rate of the pure articles. This increased profit to the seller is just so much loss to the consumer...It is clear that the sellers of adulterated articles of consumption, be they manufacturers or retail detailers, are in a position to enhance their profits by the practice of adulteration, and are enabled to undersell, and too often to ruin, their more scrupulous and honest competitors (Hassall, 1861).

Moreover, the ‘hidden costs’ and extraction of surplus value are found at the site of production, just as they were found in the farm gate. Marx writes how those who worked in the food processing industry, such as in bakeries, had unsafe working conditions. Long and early hours and difficult working conditions (e.g. having to labour during the night, high temperatures in bakeries, or dangerous conditions at millers) were prevalent. Stimulant beverages such as coffee or wine (such as sherry and port) were also introduced as a way to maintain ‘failing labour-power’ (Marx, 1991, p. 364). Therefore, capitalist industry, through its workings, tends to lower the quality of food in order to ‘undersell’ its price and maintain labour productivity. Simultaneously, the food industry

itself forced such unbearable and difficult working conditions on its own workers that the state had to step in to regulate the working day and eliminate morally reprehensible forms of labour (such as child labour).

In summary, the adulteration of food is a mirror of the overutilization of biological nature, but at the scale of the worker's body. Capitalist agriculture itself remains a fulcrum point in any analysis of food insecurity precisely because of its tendency to despoil the metabolic relation to nature (Foster, 2000; Magdoff, Foster, & Buttel, 2000; Stache, 2017). Any analysis of capital accumulation cannot be separated from the consequences of such a productive process. As the previous chapters show, Marx avoids the universalist and Malthusian natural limits argument and pinpoints ecological degradation to the social relations that depend on the exploitation of labour and nature; this is reflected in the third approach's critique of socio-ecological wealth transfer. In contradistinction to capitalism, Marx argues that a society well suited to reducing ecological theft and labour exploitation would prioritize the improvement of those conditions outside of the market-logic. Marx writes:

From the standpoint of a higher economic form of society, private ownership of the globe by single individuals will appear quite as absurd as private ownership of one man by another. Even a whole society, a nation, or even all simultaneously existing societies taken together, are not the owners of the globe. They are only its possessors, its usufructuaries, and, like *boni patres familias*, they must hand it down to succeeding generations in an improved condition (Marx, 1999).

In the next chapters, it will be demonstrated how the growth of food production has been the simultaneous growth of capitalist agriculture that depends on the wealth arising out of natural scarcity, producing products that are high in caloric energy and low in nutrition while simultaneously producing high-valued food products to be articulated in world trade.

4.3.4 The General Law of Accumulation as Structural Food Insecurity

Capitalism is a system that simultaneously develops the productive forces and creates barriers to food accessibility in what Marx, in Chapter 25 of *Capital*, calls the general law of capital accumulation. The reason is that the dynamics of capitalist competition tends to either a) replace living labour with dead labour in the form of machinery and technical apparatuses, or b) revert to extreme forms of absolute surplus value extraction that lead to absolute immiseration.⁶³ This occurs in all forms of industries, rural or urban, agrarian or industrial. The consequences of this law arise due to the dialectical process and result of the capital-labour social relations described earlier in this chapter. Structural unemployment therefore acts as a lever by the capitalist class in the class struggle against the working class as a whole. In this chapter, Marx shows how the concentration and centralization of capital is a process that constantly reformulates the remuneration of all workers: the best and most poorly remunerated, urban and rural, and all classes of workers from different sectors. By showing the capital-labour relation as process rather than just a ‘thing’ or a steady-state equilibrium,⁶⁴ Marx’s analysis shows the limitations of the ‘productivist’ approach that sees market-valuation as the best method to allocate resources and capital. The wage-levels of workers, whatever their current remuneration, are always in flux. Overtime, the constant capitalization of the labour process increases inequality. Marx writes that, “the intimate connection between the pangs of hunger suffered by the most industrious layers of the working class, and the extravagant

⁶³ There are limits to both of these as they are tied to the totality of social relations. One cannot completely replace labour with machinery, as that amplifies the problem, and one cannot extract absolute surplus-value as there are also natural limits to this.

⁶⁴ See Harvey (2014, pp. 70-1).

consumption, coarse or refined, of the rich, for which capitalist accumulation is the basis, is only uncovered when the economic laws are known” (Marx, 1991, p. 811).

There are two features of the general law of capital accumulation which ultimately determine the level of food security of the working class as a whole: the concentration and centralization of capital and the creation of a reserve army of labour. First, capital accumulation is not only about the exploitation of labour; it is also about the competitive impulses between different capitals within and between sectors (Chattopadhyay, 20012). Through the competitive struggle to lower the costs of production, increase production within a given time period, and in turn retain a larger market share, there is a resulting greater concentration and centralization of capital in a variety of forms.⁶⁵ The concentration and centralization of capital negatively impacts the working class through increases in both absolute and relative immiseration. Through the impulses of capitalist competition, labour is replaced by ‘productivist’ innovations in science, technology, technique and machinery, all part of what Marx calls ‘dead labour’. The increases of productivity under capitalism give rise to a surplus population that is unemployed or under-employed, thereby reducing the wages of the working class in a given sector due to the simple laws of supply and demand. On the one hand, Marx writes that the dynamics of capitalist production could raise wages through skilling and the creation of new sectors:

...the scale of accumulation may be suddenly extended, merely by a change in the division of the surplus-value or surplus-product into capital and revenue, the requirements of accumulating capital may exceed the increase of labour power or of the number of labourers; *the demand for labourers may exceed the supply, and, therefore, wages may rise...* For since in each year more labourers are employed than in its predecessor,

⁶⁵ Not only do they concentrate and centralize economic wealth within their specific sectors, but also attain political supremacy in defense of their specific economic interests. As Amin (2013) writes, economic concentration and centralization also comes with political supremacy and power of communication in the media, therefore ‘manufacturing a consent,’ echoing Chomsky & Herman (1988).

sooner or later a point must be reached, at which the requirements of accumulation begin to surpass the customary supply of labour, and, therefore, a rise of wages takes place (Marx, 1991, p. 763; emphasis added).

On the other hand, the rise of wages for the working class, and the subsequent increases of use-values attainable by them, does not imply the weakening of capitalism as a whole, even if capitalists individually are forced to pay a higher wage to a segment of the working class. Rather, the rise of wages is only at a given *and temporary* moment:

A larger part of the worker's own surplus product, which is always increasing and is continually being transformed into additional capital, comes back to them in the shape of means of payment, so that they can extend the circle of their enjoyments, make additions to their consumption fund of clothes, furniture, etc., and lay a small reserve fund of money. But these things no more abolish the exploitation of the wage-labourer, and his situation of dependence, than do better clothing, food and treatment, and a larger *peculium*, in the case of the slave. A rise in the price of labour, as a consequence of the accumulation of capital, only means in fact that the length and weight of the golden chain the wage-labourer has already forged for himself allow it to be loosened somewhat. (Marx, 1991, p. 769).

A rise of wages beyond the ability to produce surplus value leads to either a) defaults of private capitals that are inefficient or b) investment in fixed capital in order to lessen the dependence on living labour.

The consequences arising from capitalist competition and the increased investment in fixed capital leads to what Marx calls the reserve army of labour. While the Malthusian approach sees this growing 'reserve army of labour' as a universal tendency for overpopulation, Marx sees the reserve army of labour as a consequence of capitalist development. Marx writes:

Modern industry's whole form of motion therefore depends on the constant transformation of a part of the working population into unemployed and semi-employed 'hands'. The superficiality of political economy shows itself

in the fact that it views the expansion and contraction of credit as the cause of the periodic alternations in the industrial cycle, whereas it is a mere symptom of them. Just as the heavenly bodies always repeat a certain movement, once they have been flung into it, so also does social production, once it has been flung into this movement of alternate expansion and contraction. Effects become causes in their turn, and the various vicissitudes of the whole process, which always reproduces its own conditions, take on the form of periodicity. When this periodicity has once become consolidated, even political economy sees the production of a relative surplus population – i.e. a population surplus in relation to capital's average requirements for valorization – is a necessary condition for modern industry (1990, p. 786).

The dictates of capitalist accumulation do not allow the relative increase in wages to last for long precisely because overproduction is a symptom of capitalism's inability to resolve its own contradictions of creating surplus value. This also simultaneously undermines the source of value: surplus labour. The general impulses of capital accumulation only allow for a temporary increase of the remuneration to the working class; capitalist competition dictates the increase in production and the devaluation of labour.⁶⁶

4.4 The World Market and the Countertendencies of Capitalist Food Insecurity

4.4.1 Introduction

The purpose of this section is to situate the contradictions of capitalism outlined above in relation to the world market and the various countertendencies that temper these contradictions. These countertendencies do not negate the dynamics of the capitalist

⁶⁶ The devaluation of labour is due to the exchange of equivalents established by Marx in the reproduction of labour power.

system but shape them in specific formations.⁶⁷ The law of value operates at the international level and the world market, which explains how differential access to food by different nation-states occur. Capitalism must constantly find outward expression in realizing profits across state boundaries, lest there be a devaluation of capital (Harvey 2006, pp. 438-9). Indeed, a number of theories of imperialism link capitalism's abstract laws of production and contradiction to its manifestations internationally; Luxemburg, Hobson, Hilferding, Bukharin, and Lenin are among the classical theorists of imperialism linking the dynamics and formations of capitalist crisis to its international expression (Brewer 1990; Kiely, 2012). Moreover, the character of development in globalized capitalism is beset by unevenness: Trotsky's analysis of global capitalism as being combined and uneven illustrates its unitary development (Ashman, 2012; Mandel, 1995, p. 98). The world market is the most important scale in understanding how the crises of capitalism are tempered, offset, and *expanded*. There are various countertendencies that ultimately limit the ability for colonial and post-colonial nation-states to adequately provision food. Either as an outlet for cheap food that is produced by highly capitalized agrarian nations that form the politics of 'food dumping,' destroying local production and re-shaping food consumption, or by re-articulating agrarian production for export, the countertendencies of capitalism attempt to lessen, but do not fully negate, the crisis tendencies of capitalism. More competitive and capital intensive agrarian and non-agrarian industries dictate the food security position of a variety of countries due to

⁶⁷ Recall in chapter 3 of this dissertation of the level of generalities Marx situates his critique of political economy. We can never touch, feel, or observe capitalism as it operates as a general law of accumulation. Rather, it is always historically situated within the present day processes and contemporary history. Nevertheless, these general laws of accumulation are necessary to begin deciphering present day capital accumulation.

simultaneously forcing import dependence on specific food items that can be capitalized by large-scale capital units while simultaneously undermining the productive basis of national agriculture, transforming them into productive fields of 'luxury' foods to be exported into high-end capital markets. The nation-state, as a facilitator of capitalist development, embodies a contradictory position: to be able to maintain access to cheap food while also being undermined by the international structures of accumulation.

4.4.2 The Production of Space and the Limits to National Food Provisioning

In *Capital Volume I*, Marx assumes an abstract and general understanding of capitalist development within the scale of the nation-state to extract the kernel of how capitalism develops and undermines its own development. The law of tendency for the rate of profit to fall, outlined in Section 4.3.4 occurs because of the "...progressive decline in the variable capital in relation to the constant capital, and hence in relation to the total capital as well..." and in which "...the progressive development of the social productivity of labour... [enabling] more raw and ancillary materials to be transformed into products in the same time by the same number of workers, i.e. with less labour" (Marx, 1991, p. 318).

Deeply embedded in this process is the production of space and nature that are suitable for the accumulation process. Jumping off from Lefevbre's (1992) thesis of the capitalist 'production of space', Harvey (2006, p. 431; 2014, p. 146) argues that one strategy offsetting capitalist crisis is the expansion of the spatio-temporal dynamics of capital accumulation to create new spaces of accumulation, and the devaluation of spaces in order to form future sites of accumulation. Marx does not limit the analysis of capitalist development and social crises to a multitude of capitalist nation-states isolated from one

another but rather sees capitalist development in its totality for the expansion and articulation of the value ethos internationally. De Angelis (2007, pp. 71-5, 115) argues that deeply embedded within the capitalist ethos is an expansion of the 'global work machine,' allowing for the contradictions of capitalism to constantly shift across international space, and in uneven results (Smith, 2008, p. 196).

The constant expansion of capitalist development, producing both space and nature in its image, is fueled by the various contingent responses to capital to find outlets in more suitable spaces for value-extraction and to offset the crisis tendencies for the law of tendency for the rate of profit to fall. In *Volume III, Marx* identifies six countertendencies in Chapter 14, five of them of particular importance to an analysis of capitalist food insecurity. Table 4-1 is a list and summary of how these counteracting tendencies to the crisis of capitalist development further 'offsets' and heightens the contradictions of food provisioning under international capital accumulation. The five countertendencies are: i) 'more intense exploitation of labour;' ii) 'reduction of wages;' iii) 'cheapening of the elements of constant capital;' iv) the increase of the 'relative population;' and v) 'foreign trade.' These countertendencies to capitalist crisis are not set in stone; any analysis depends on a concrete identification of these countertendencies to specific concrete examples. This task is to be performed in the second half of this study on the international food crisis of 2008 and in the Egyptian case. Moreover, these are analytical features and not necessarily present in all times. The level of class struggle internationally and in each nation-state determines the degree of these countervailing tendencies. Moreover, the offsetting of the general law of capitalist crisis tendencies does not necessarily mean there's an offsetting of food insecurity.

Table 4-1 The Counter-Vailing Tendencies to Crisis and its Impacts on Food Security

		Impact on Food Security	
Counter-Vailing Tendency		Production (A)	Consumption (B)
i)	More Intense Exploitation of Labour	- Cutting mealtimes for workers - Increase Share in Constant Capital (Contributing to Crisis Tendencies such as in iv)	- Lack of Affordability - Adulteration of Food Items - Consumption of Food with Lack of Nutrients as Primary Food Commodities - Spatial Access to Food Denied ('food deserts')
ii)	Reduction of Wages		
iii)	Cheapening of the Elements of Constant Capital	- Wealth extraction of Nature's wealth (as a source and sink) leads to a threat of increasing costs of production down the line (e.g. Greenhouse gas emissions, dependence on energy inputs for nutrient production and application, et cetera)	- Environmental Impacts on food production in both short- and long-wave temporalities. - Increase of food prices due to changes in production
iv)	Increase of the 'Relative Population'	- Depression of Wages - Loss of localized food production - Concentration of Wealth and Land	- Food Inaccessibility Structurally Grounded through under/un-employment
v)	Foreign Trade	- Land-Acquisitions - Dispossession of Local Artisan Production - Transformation of Food Production Towards Export Oriented Commodities	- Dependence on the World Market: - Export Oriented Food Production - Food Import Dependence

	- International Debt Relations	
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The first countertendency and second countertendency are the increasing intensity of exploitation, which function to extract ever more absolute surplus value from living labour, and the reduction and depression of wages below the value of labour-power, which lessens the tendency for the rate of profit to fall (p. 342). For Marx, these are of 'empirical reference' but is one of the most important factors. Marx writes that this offsets the first countertendency because it "bring about a rise in the rate of surplus-value...taking given magnitudes of total capital applied" (1991, p.339), or by increasing the mass of resources produced in agricultural industry, thereby lowering the weight of constant capital (p. 340). Worsening food security is linked to worsening accessibility of commodities and the production of use-values that are adulterated and lacking nutrients. There are limits to this⁶⁸ but the link to food insecurity is evident in the fact that the natural reproduction of labour becomes more precarious due to the decrease of entitlements relative to the wages they receive. The standards at which the labourer can attain their natural and necessary needs will tendentially be lowered. Both the quality and quantity of food will be compromised.

The third countertendency involves the cheapening of elements in constant capital (pp. 342-3). In reducing the cost of constant-capital, capital can offset the costs of production, thereby increasing profit. Marx gives the example of the production and processing of cotton. He writes how:

⁶⁸ For example, one cannot extend the exploitation of labour past a typical day (past 24 hours). In terms of conditions of production, one cannot sap more wealth from the soil than one receives. These are laws of energy that cannot be broken, even though they are usually transgressed with severe future temporal implication. As Engels suggests in his *Dialectics of Nature*, societies that deforest face the wrath of nature.

The same development that raises the mass of constant capital in comparison with variable reduces the value of its elements, as a result of the higher productivity of labour, and hence prevents the value of the constant capital... In certain cases, the mass of the constant capital elements may increase while their total value remains the same or even falls” (p. 343).

The third countertendency has an impact on food insecurity in two ways. The capitalist nature of organizing production sets in motion anti-ecological features of agricultural production that depend on the devaluing of natural conditions. There are increasingly important impacts on food security due to the reduction in the cost of constant capital. One is the social phenomena of wealth extraction due to the devaluing of the wealth of nature in the form of agricultural fertility and biodiversity (Moore, 2010a; Saito, 2014), and the increasing costs of production of the labour process, setting in motion a social metabolism that is constantly throwing ‘petty commodity producers’ out of their landholdings, and into a class of wage labour and landless peasants (Bernstein, 1994). The current threat of climate change will impact the production of food by increasing its production costs (therefore creating barriers of entry) and the frequency of environmental degradation throughout the world (droughts, and the destabilization of ecological processes).

The fourth countertendency is an increase of ‘relative overpopulation’ (p. 343-4). This can occur due to a number of reasons. For Marx, this increase is an outcome, and not external, of the development of capitalism. He writes that “the cheapness and quantity of available or dismissed wage-labourers and of the greater resistance that many branches of production, by their nature, oppose to the transformation of manual work into machine production” (p. 343-4). This acts as a check for the tendency for the profit rate to fall because an increase of population will depress wages (CT 1 and 2). This

countertendency has impacts on food security due to dynamics similar to the first and second countertendencies.

Lastly, the fifth counter-vailing tendency is the increase of foreign trade, where constant capital can decrease, and where surplus-value can increase in order to make use of labour processes that are not fully developed as capitalist, or to 'dump' cheap goods (either agricultural goods or manufactured goods), thus undermining small-scale peasant production (Patnaik & Patnaik, 2017). As Brass (2011) has argued, slavery and other forms of bonded labour are compatible with capitalism, despite these labour regimes belonging dominantly to other modes of production. Therefore, to lower the costs of production, various capitalist can 'sap' wealth in ways that support and are supported by absolute immiseration. The conditions of labour processes are as much a contribution to absolute immiseration as access to commodities that Patnaik & Patnaik (2017) argue are needed for reproduction.

Moreover, the countertendencies can run in tandem with each other. For example, the increasing intensity of exploitation in the realm of production (1A) has an impact in the depression of wages in terms of its consumptive character (2B), because food accessibility would count as a higher percentage of the food basket from that specific wage rate. As the next chapters will show, the reduction of food subsidies in Egypt and in other geographical locales impacts the cost of food. Another example is that the reduction in the cost of constant capital (3A) has an impact on the increasing intensity of exploitation as it relates to production (1A) and would rely on the increase of relative overpopulation (4A). Furthermore, foreign trade in terms of production and consumption (5A & 5B) is a mechanism to cheapen the costs of food in other locations, whether it be the urban metropolis in the Global South, through the various practices of Import-Substitute

Industrialization (ISI) which favoured urban areas over rural areas, or relatively cheap food prices in the Global North supermarkets. This can go both ways, where cheap food production fueled by the state in the Global North can dispossess farmers in the Global South in order to influence non-food production in the urban areas.

Marx was clear that social relations must be rooted in an explanation of property rights, and not in uneven exchange. Class relations are material relations based on access to the means of production, nature and modified tools and infrastructure. Individuals dispossessed from their means of production and compelled to sell their labour power are at the whims of the market to reproduce themselves. This is a general feature of class societies. Specific to capitalism, property rights are embedded in the capital-labour relation where generalized commodity production takes place.

4.4.3 The World Market and the Limits of the State

Lastly, the role of the state is a necessary component of an explanation of food insecurity in capitalism. As opposed to the regulationist approach to institutions as a 'facilitator' of capitalist accumulation, the view outlined here re-centres class struggle and the ultimate limits of the state to resolve this struggle. While the capitalist state mediates the level of food insecurity, it does so while simultaneously attempting to maintain accumulation. As Figure 4-2 above demonstrates, the role of the state is a necessary precondition for the maintenance of extra-economic institutions that regulate the functioning of the capitalist system as a whole. In this regard, its character and policies reflect the contradictions of the capitalist system. In the *Eighteenth Brumaire*, Marx argues that the state exists to manage the common affairs of the capitalist class. In *Capital*, Marx shows that the state

has usually stepped in to introduce laws to ban labour practices that hurt the working class and to implement consumer protections.

Since Marx, there have been various theories of the state from a Marxist perspective (Das, 1996). As opposed to the four approaches in Chapter 2, the Marxist theory of the state centralizes the class struggle as a struggle of value production in class society and its distribution at the international scale. The first approach has generally seen the role of the state as important to maintaining a structure of legal private property rights. Specifically, the Malthusian strain sees any effort by the state to constrain hunger and food insecurity as compounding the problem of inevitable collapse. The productivist strain on the other hand sees the state as enabling, implementing, and encouraging market mechanisms. The second approach sees the role of the state as an important terrain and instrument to stem the excesses of capitalist accumulation by creating social and welfare programs to allow access to food and other important human needs (such as through food subsidies, access to community gardens, et cetera) to avoid the excesses of free-market fundamentalism (Doyal & Gough, 1991). The third and fourth approach (wealth transfer and regulation) see the state as an articulated domain that depends on the regime of governance. On the one hand, the state is seen as *disabling* of food security, especially when it comes to the 'Global South,' and their experience of colonialism and neo-colonialism under neoliberalism. The role of the state in this regard is the power of imperialism to implement policies (through mechanisms of trade, finance, and debt) and structural adjustment policies (SAPs) that lower state support for food subsidies and other social services. The fourth approach (food regimes) sees the role of the state as based on the regulation of capital accumulation on the basis of its utilization of institutionalism, but one where the state must manage the various contesting social groups. This character

changes based on the different particularities of the accumulation process; however, what remains the same is the state's role to maintain a class-position in which it enables capital accumulation while simultaneously negating some of the excesses of capitalist development and concentration.

The role of the state is instrumental in both enabling or disabling food security throughout history. There are times where the state must step in and ensure proper standards for food production and consumption, and to setup welfare programs that can allow capital accumulation to take place. This seems antithetical to capital accumulation, due to the various neo-classical calls for deregulation and lower corporate taxation. However, this regulatory feature becomes a necessary one of capitalist accumulation. The latter is necessary to fund such food welfare programs. However, from a value-form analysis, the state must be understood and sublated as an element of the wider social relations of production. As Ollman (1992) writes, capitalists "...require more direct political help in their efforts to enrich themselves". This is done by regulating economic life so that it does not completely break the class system of capitalism. In other words, the class system that tends towards crisis and that entrenches poverty is accepted by the working class".⁶⁹

In all this the character of the state is limited by the context of the world market. The nation-state is limited to the objective conditions of capitalist development in the world market. In the context of developmentalist politics, the state has an urban bias which has historically linked to the world market in order to attain cheap food sources, as had been the history of the 20th century, and which the latter half of this dissertation will address. As

⁶⁹ See also Laibman (2017).

Malm (2016) argues, the state's 'capture' by a crony capitalist class undermines the very basis of its ability to rule with hegemony.

Therefore, the role of the state in food provisioning in capitalism is limited by the law of value. There are obvious limits to the state to provision food, for example in the context of the pairing the dynamics of capitalist growth and the concentration and centralization of wealth at the world scale. States, at whatever their level, have no other recourse but to move along the 'stormy seas' of capitalist crisis and to attract capital investments in the agrarian sector. Ultimately then social struggles fighting for certain food provisioning features to achieve food security come up against hard limits, just as the capitalist class faces its own limits. The only resolution to this contradiction would be to abolish the law of value internationally.

4.5 Conclusion

This chapter sought to explain both the implicit and explicit conception of food security from Marx's *Capital*. I argue that Marx's concept of crisis explains the structural real abstraction of capital accumulation, links it to the crisis tendencies of capital accumulation, and relates both to the concrete emergence of food insecurity for the working class. I show that Marx's *Capital* is an essential study to understanding the social relations of production that are based on the dialectical contradiction of overproduction and generalized insecurity for the working class as a whole. In so doing, I point to how food insecurity arises abstractly through the general trend of *exploitation and immiseration*, how food insecurity is concretely intensified and felt unevenly, and how food insecurity is compounded by the counter-vailing tendencies to capital crisis. These countertendencies are articulated within the world market. Moreover, the role of the state

is an essential feature of managing capitalist crises of development. Crisis at the world scale here prefigures and must be centered on a value-form analysis. By filtering the discussions on food security through a value-form analysis, several essential points were clarified, as summarized below. These points serve as the foundation for understanding the international food crisis of 2008, within the international context and in the Egyptian case study in particular. These case studies show the prevalence of a class society internationally.

First, universalism as a conceptual strategy is not adequate to explain food insecurity. The international division of labour and the social relations that prefigure it creates structural food insecurity because of the political and economic dynamics of uneven development. *Second*, food accessibility and the levels of food accessibility in is a primarily expressed in the world market but is ultimately linked to a growing form of productivity. Conflating accessibility to a mere analysis of price fluctuations is problematic but prices nevertheless play an immediate determination. As will be discussed in the following chapters, net food importing countries are placed at a level of structural food insecurity. *Third*, capital accumulation and inequality in food accessibility must be seen as the primary driver of wealth concentration in the agro-food sector but cannot be seen as just mere *wealth transfer*. Rather, wealth transfer is a form of appearance rooted in the social relations of production. The concentration and centralization of capital in agribusiness, the history of de-peasantization, and the increasing precariousness of workers is an on-going process tied to the growing value-relations of concentration and centralization of capital.

An understanding of these dynamics in colonial and post-colonial Egypt without a class analysis taking into account both the generative mechanisms that arise from the

international accumulation of capital, and the limits to the dirigiste regime to regulate capitalism, risks missing the rationality Marx thought positive of the socialization of production. What should be critiqued is neither the international division of labour and the socialization of labour that results from capitalist value relations and that releases 'labour from land,' but rather the alienating features of capitalist development that prioritize production towards capital needs rather than human needs, or to increase leisure time, and the potentialities of expanding 'realm of freedom', where "the development of each is the free development of all". Capital expands our needs and the ability to satisfy these needs, but does so unevenly, while both absolute and relative immiseration occur geographically, unevenly. *Fourth*, historical political and economic structures across scale are essential to tie together the uneven economic development with the limits of the state in the context of growing capital accumulation, crisis, and the processes of imperialism.

5 The International Food Crisis of 2008 I: Capitalist Crises and Import Dependency

5.1 Introduction

This chapter is the first in a two-part discussion of the causes and consequences of the international food crisis of 2008. In this chapter I will argue that the crisis was embedded in the general development of capitalist social relations that have increasingly seen the progression of uneven development in the world market and various national agrarian sectors. In analyzing the international food crisis, I rely on the critical realist hierarchical stacking of 'event,' 'generative mechanisms,' and 'deeper structures,' to explain the causes and consequences of capital accumulation on the provisioning of food at the international scale. These two chapters will interpret and link the 'event' of the international food crisis to the 'generative mechanisms' of capitalist social relations in the neoliberal period. This chapter will demonstrate just how the particularity of the food crisis event took shape and in what way the rise of food prices had an effect on food import dependent countries. The consequences of the food crisis were felt across the globe and led to numerous food riots across the world (Bohstedt, 2014; Schneider, 2008; Bush & Martiniello, 2017). These protests were variegated but all with a similar core message: the increase of food prices dramatically increased the effects of immiseration, namely forced under-consumption. These riots reflect many of the neoliberal food riots across the world that emerged with the IMF-led Structural Adjustment Programs (SAPs) from the 1980s and 1990s (Walton & Seddon, 1994).

This chapter will be divided into three parts to review and contextualize the development of food-import dependent countries during the neoliberal period and the

impacts of increased food prices. The first part will outline the political and economic contexts of neoliberal development, and its re-articulation of national agrarian sectors, and the economic and social impacts this entails. An examination of international food price increases, and the economic and social impacts this re-articulation has on net-food import dependent states. The second part of this chapter will outline some of the main features of the inflation of food prices since the 2008 international financial crisis. I will link the rise of food prices due to land-use diversion and the financial crisis to the crisis of food provisioning.

5.2 Generative Mechanisms of the International Food Crisis of 2008

The critical realist distinction between ‘event,’ and ‘generative mechanisms’ is a useful conceptualization to frame how food price increases shape crises, but which cannot explain itself self-referentially. Events and generative mechanisms moreover sit on top of ‘deeper structures’ that were analyzed in Chapter 4. Accordingly, with respect to the food crisis of 2008, the generative mechanisms and the events that arose are due primarily to the capitalist social relations that expand productivity, but in an alienating way. In analyzing food accessibility and provisioning from a critical realist perspective, Daoud (2007, p. 217-8) argues that quasi- scarcity and abundance are events that are generated by the market dynamics of supply and demand. Accordingly, the generative mechanisms function on the interplay of human needs, such as the for need of food, the ability to provision these needs in the market, and the ability to produce these needs from the socio-ecological relations to nature. The ‘events’ would be the actual concrete situation in which food can be accessed. These events, I argue, are mediated by uneven dynamics in the world market.

As reviewed in the previous chapters, capitalism goes through a variety of crises that, in their temporary resolution, change the forms of wealth redistribution. Whether it was in the abolishment of corn laws in 19th century England that allowed for cheaper imported grain and colonial food products, or in Fordist-Keynesian strategies that focused on demand-side variables such as a greater share of income for workers, capitalist accumulation and its resulting crises take different forms. In this regard, the inner kernel of capitalist accumulation and crises occur in spite, not because of a lack of, the institutional political structures that attempt to manage and mitigate the concentration of economic power and its products (Robinson 2018, pp. 239-40). In the mid 20th century, there was a class compromise to dissuade the growth of communist and socialist movements in the Global South by way of encouraging cheap food for developing states in their path towards industrialization (Patel 2013, p. 14; Robinson 2014, p. 53). As articulated in the chapter on the value-form analysis of food insecurity, capitalism in times of crises utilizes different countervailing tendencies in order to reformulate and entrench class power in different ways (Harvey 2005a, 2005b; Robinson 2014). While these different modes of regulation reflect changing institutional dynamics, they arise primarily from their roots as a class project (Das 2017; Mavroudeas 2012).

The recent neoliberal period carries with it its own 'signal crisis,' which culminated in the financial crisis of 2008. Whereas the crisis of the 1970s was a by-product of 'embedded liberalism' that coupled redistributive politics with capital accumulation (Harvey 2005a), the current neoliberal crisis is a reflection of unencumbered capital that siphons wealth from society and concentrates it ever more in the circuit of transnational and financial capital (Robinson & Harris, 2000). The teleology of capital towards self-expansion (M-M^A) has led to the rise of finance capital in the control of the productive

sectors, thereby heightening capitalist contradictions. On top of this, Neoliberalism as a class project emerged by way of a) heightening the politics of austerity and wealth transfer, and b) intensifying the processes of imperialism that have subjugated the Global South to the politics of wealth transfer (Colás, 2005). While generally seen as a new form of capital accumulation, neoliberalism is a return to its bare-faced form of accumulation so characteristic of *capitalist* class society (Saccarello & Varadarajan, 2015). Kliman (2012, p. 14) remarking on the crisis of 2008 shows how it is one of many *signal* crises that capitalism generates. Kliman (2012, p. 14) remarks:

Such policies succeeded in propping up demand, keeping it from falling back to levels consistent with the production of new value and the rate of profit. But in between, there were increasingly severe debt crises and burst bubbles – the Third World debt crisis, the stock-market crash of 1987, the US savings and loan crisis, the East Asian crisis, the burst dot-com bubble, and finally, the biggest debt crisis and burst bubble since the Great Depression...

Despite the anchor of different strategies of accumulation to the generality of capitalism, the differences between ‘embedded liberalism,’ and neoliberalism are useful to chart in order to reveal their respective generating mechanisms of food insecurity. Within embedded liberalism, heavy state intervention guided capitalist growth in a manner sensitive to the necessary class compromise required for growth. This system existed in both advanced and developing capitalist states. As Harvey (2005a, pp.10-1) writes within this context, Keynesian demand-side economics dominated political and economic development:

What all these various state forms had in common was an acceptance that the state should focus on full employment, economic growth, and the welfare of its citizens, and that state power should be freely deployed alongside of or, if necessary, intervening in or even substituting for market

processes to achieve these ends... A 'class compromise' between capital and labour was generally advocated as the key guarantor of domestic peace and tranquility. States actively intervened in industrial policy and moved to set standards for the social wage by constructing a variety of welfare systems (health care, education, and the like).

It is within the context of neoliberalism that wealth disparities have increased, negatively impacting food security. It is popularly suggested that those residing in high wealth countries are food secure. Yet the number of those considered food insecure had also increased, despite world-wide increases in agricultural productivity. The United States continues to be seen as a powerhouse in technological development, higher education and economic growth. At the same time, the assault on the American working class through neoliberal governance, such as austerity, assaults on organized labour,⁷⁰ and the expansion of corporate power, has decimated the economic and political bases of the working class in its various social-democratic and radical forms. The shift away from Keynesian policies of implementing effective demand to manage the contradictions of capitalism has been characterized as the rise of class power (Harvey, 2005a, p. 33). The decimation of Keynesian economic policies is a reflection of the working class' weakness in taking the state. This has led to the general rise of finance capital and the inability of any concerted effort to challenge the concentration of economic wealth:

This helps explain why North American ruling classes have not been divided around what type of regulation to impose on financial markets. They have been able to take advantage of labor market insecurities and rewrite collective bargaining agreements while the American state finds new ways to reconstitute neoliberalism globally. Elements of finance may still be in disarray, but the ruling classes in the U.S. and across North America have the resources, power and the organizational support of the state to restructure and recast and pursue their political interests. Labor

⁷⁰ The ability of unions to form in the U.S. has become difficult. Ten percent of U.S. workers in 2013 are part of a union, compared to 35% in 1945 (Gebelhoff, 2016).

and the Left more broadly in North America are currently bereft of any comparable strategic resources (Albo et al., 2010, p. 25).

The limits of the working class and the expansion of financial capital across the globe are both a reflection of the spatial-fix and the re-articulation of capitalist accumulation across the globe. The rise of the neoliberal form of governance is grown from the structural inabilities for Keynesian modes of development. Mandel's (1989) linking of 'Third-World debt crisis' to the 'overheating' of credit and speculative capital is indicative of the global contradictions of capitalism, and not necessarily to inefficiencies of state planning and regulation. Yet the ability of the latter was structurally limited to the former articulation of credit and finance.

Therefore, the neoliberal period was an enabler of the concentration of wealth and the re-articulation of agrarian development along the practices of imperialist global relations. The countervailing tendencies of resolving capitalist crisis impacted the changing land tenure relations. These policies include income deflation in the Global South in order to prop up metropolis' exploitation of workers in the Global North, and a variety of political mechanisms at the international scale that force restructuring due to loans and debt crises (Patnaik & Patnaik, 2017, pp. 8-10). Capitalist social relations rest on a value relationship that forces an outward expression. At an international scale, this is expressed in the rise of food-import dependent states, and its articulation to the world market. The Keynesian form of development, of increasing industrial productivity & urbanization, depended on agrarian land reforms and energy and consumer subsidies. In the case of Egypt, in which this discussion will expand in Chapter 8 and 9, much of the social reforms were abolished with the SAPs, with this trend continuing past the 2008 financial crisis, representing a decade of austerity (McNally, 2011a). Before these

neoliberal reforms, the Keynesian form of development was instituted to stem the rise of communist and socialist movements in the Global South (Patel, 2013, p. 5). These reforms stymied the excesses of capitalist immiseration but did not actually abolish the rise of a national bourgeoisie; the implementation of socialist policies of labour control of production was merely ideological and populist, rather than sincerely socialist. In actual fact, these reforms were a class compromise that helped the working-class gain material concessions to allow for a 'Third-World' form of capitalism to develop. 'Third World' developmentalism centered heavily around high employment and state support policies that depended on increasing capital accumulation at a national scale (such as through Import Substitution Industrialization [ISI]), and on the highly capitalized industries in the Global North (such as cheap grains). In the agrarian sector, ex-colonial states also "...adopted significant land-augmenting measures under the aegis of their states, uninhibited, in the new situation characterized by the hegemony of Keynesianism and the practice of Keynesian demand management..." (Patnaik & Patnaik, 2017, p. 129). Yet there were limits to this strategy. Embedded within ISI strategies of development were severe limits, such as a limited national market of goods and a lack of comparative advantage in the export of these manufactured foods. States dependent on cheap food grain imports from the United States through their Public law 480 pegged their industrialization attempts to cheap imports of oil and debt-led development (Kiely 2007, pp. 51-4). In the agrarian sector, the Green Revolution increased food yields and accessibility, but only in a capitalistic manner, whereby the concentration and centralization of capital had an outward and devastating expression that increased toil and hardship for small-scale farmers (Patel, 2013). This was, as McMichael argues, also under the tutelage of US-led post-war reconstruction that attempted to replicate the U.S. model

of “building national economies with articulated manufacturing and farming sectors...” (McMichael, 2013, p. 33).

The neoliberal form of capitalist development made the Global South reliant not only on cheap food imports from more advanced agricultural states, which remains as an important remnant from ‘embedded liberalism,’ but on the growing development of agrarian export-led production. This form of development was pegged onto the growing neoliberalization of labour and capital through the development of financial capital. The main international regulatory mechanism to respond to the economic crises of ‘embedded liberalism’ was the regulatory apparatus of the International Monetary Fund (IMF) and the World Bank, working on behest of international capital. The disciplinary apparatus of SAPs and the disassembling of state demand-side protections encouraged international capital movements in the form of Foreign Direct Investments (FDI) and export-led ‘development,’ that increased privatization, removed state subsidies and ‘price distortions’ in the market, and devalued national currencies (Cavanagh, Welch, & Retallack, 2000, pp. 23-24). SAPs put developmental states in a position overpowered by austere ‘fiscal responsibility’. This represents the neoliberal class project of massive redistribution of wealth, in contrast to the production of wealth of earlier periods (McMichael, 2013, p. 45). After the 1970s global crisis, through SAPS, much of the debt load had to be paid off, therefore orienting trade towards export-oriented production and privatization of productive wealth (McMichael 2013; Patel, 2007, p. 48). While Harvey (2017a) argues that the United States itself is a producer of tropical agricultural goods that can compete against tropical countries, therefore putting doubt to Patnaik & Patnaik’s claim of material uniqueness of the Global South, the point stands that this relationship is asymmetrical, where the Global South is absolutely reduced to tropical exports and outlets for cheap commodity imports, while the

Global North has a greater advantage in their terms of trade within the agrarian sector, and in other sectors.

Lastly, this period is characterized by the expansion of agricultural production which has socio and ecological contradictions that lead to forms of a 'metabolic rift' in the production and provisioning of food (Foster 2001; Foster 2008). The export-oriented nature of agricultural production, and dependence on fossil fuels for the expansion and growth of grain, oilseed, and unsustainable livestock farming, have led to an overuse of the 'free gifts of nature' in the expansion of capitalist agriculture (Harvey, 2014; Moore, 2010a; O'Connor, 1991). In addition, as Schneider & McMichael (2010) argue, the loss of small-scale labour in agriculture is causing an epistemological rift in terms of the loss of built-up knowledge of local ecological conditions, representing a crisis of humanity within nature; the rise of 'food from nowhere,' takes a generalized and international form. The loss of local forms of productive relations and knowledge becomes problematic when the contradictions of capitalist accumulation at the world scale eventually slow down. While the contradictory relation to nature under capitalism is a 'dangerous contradiction' (Harvey, 2014), in which these productivity increases are articulating nature in ways that have ecological consequences,⁷¹ food insecurity is generated out of the global social relations of production. Food security in the Global South is precarious because of the concentration of land and economic power that effectively makes food prices linked to international markets where the export of foods is controlled by select agro-trading

⁷¹ The major ecological consequences are the threat of yields due to climate change and the loss of biodiversity due to the expanding need of land for producing further inputs. Both of these serve as a feedback loop that requires greater intensification of carbon based fuels, therefore contributing to greater amounts of Greenhouse Gases (GHGs) in the atmosphere. Therefore, the processes that have given rise to both social and ecological problems, become much more heightened as the contradictions of capitalism reach higher grounds.

businesses, growing unemployment due to dispossession, and the growing concentration of market share for essential inputs in farming. Both the processes and results of the following demonstrate the contradictory character of wealth accumulation under capitalist social relations. There has been a general rise of productivity levels in both absolute and relative yields of global food production in relation to population growth and human food demand, despite the ecological contradictions that come along with it. In a world full of plenty, people are denied access to food due to the uneven wealth accumulation that comes with capital accumulation. With productivity increases leading to increased yields, the price of reproducing labour-power should be lowered; however, the dynamics leading to price food increases suggest that segments of the working class throughout the world are effectively denied access to food due to rising unemployment and underemployment.

The social impacts of neoliberalism replicated the laws of accumulation that saw the simultaneous growth of wealth concentration of capital and lagging incomes and employment opportunities. As the rest of this and the following chapter will show, states have become embedded in the world market in order to simultaneously provision their basic food needs and to articulate growth into export-oriented production of certain high-valued crops. As will be discussed, the dependence on food imports has put food-import dependent countries in a precarious position in terms of their food security. The growing concentration of land and capital by larger farmers is more and more becoming a trend of the agrarian landscape. The power of international traders put pressure on what kinds of food could be grown and sold.

5.3 International Food Prices and Crisis as Event

The international food crisis of 2008 is a 'signal crisis' of global capitalist development of food production since the neoliberal period described above (Moore, 2010b). The rise of food prices occurred primarily due to the overheating of the financial crisis that began to emerge in 2006. A dialectical and value-form reading sees the 2008 crisis 'event' as itself causal, indicating how the path of development for food import dependent countries has reached a crisis point due to the role of the world price of food in continuing a neoliberal re-structuring of national markets post-crisis.⁷² The mainstream approach to the international food crisis of 2008 focuses on the market fundamentals of supply and demand, conflating generative mechanisms and events to the levels of productivity and market prices. As articulated in Chapter 2, the mainstream approach sees crisis simply as under-production and the lack of the free flow of information to allocate scarce resources. Therefore, this approach sees 'disproportionality' of investments as an outcome of incorrect resource allocations. Yet this reading relies on a 'static' understanding and not on a relational view that reveals how the world capitalist market in food, and the resultant increases in world food prices, grow from the deeper constructed socio-environmental space that furthers the processes of capitalist (uneven) development.

The mainstream approach conceptualizes the rise of food prices as an overdetermination of market-based indicators that determine the price of food. The international world price of major international commodities such as of cereals and edible oils impacts the national food provisioning ability of nation states within the international division of labour in food production. The World Bank argues that "...the main causes of

⁷² In Chapter 8, I will demonstrate how the embeddedness into the international market increased further due to the social consequences of world food price increases.

food insecurity in developing countries are fluctuations in domestic production and in the price of imported cereals” (Huddleston, Johnson, Retlinger, & Valdés 1984, p. 3). The FAO (2009, p. 16) illustrates this point, with an emphasis on the world price formation based on world export supply and import demand. Accordingly, import demand, export supply, and national productive capacities are all mediated by weighted factors. Accordingly, there is an export supply and an importing demand. The export supply is based on the price formation between i) the exporting countries domestic production costs (determined by inputs, weather and domestic policies), and ii) domestic demand, with excess production being exported. Import demand is reflected in the price formations based on domestic supply (of domestic production and stocks) and on domestic demand of the importing country (arising out of consumption, feed and industrial use). The equilibrium between the exporting supply and the importing demand sets a price, and any analysis of price increases or decreases is found due to these weighted factors.

Specific to the international food crisis of 2008, Liverman & Kapadia (2010, pp. 15-6) summarize and identify the major variables of the cause for prices to increase. According to them, the major variables that led to the food crisis are the following:

- Production declines in key exporting countries due to extreme weather events;
- Stock levels were depleted and eventually led to shortages;
- Increases in energy prices, such as in oil that led to increases in ancillary support networks such as in transportation and the cost of fertilizers;
- The rise of biofuels and the diversion away of land away for the production of food goods;
- Potential increased consumption due to the rise of incomes in Asia;
- Restrictions on exports by countries, instigating a positive feedback loop in decreasing international supply; and
- The role of financial speculation due to futures and option markets that raised the price of food in the real economy.

5.3.1 Food Price Increases

The increase of food prices that culminated in the international food crisis of 2008 began to rise within the first few months of 2005 and increased until 2009. Table 5-1 summarizes the annual international price index (2002-2004=100) for food, meat, dairy, cereals, oils, and sugar between 1990 and 2016.⁷³

Table 5-1 International Food Price Increases for Select Commodity Groups

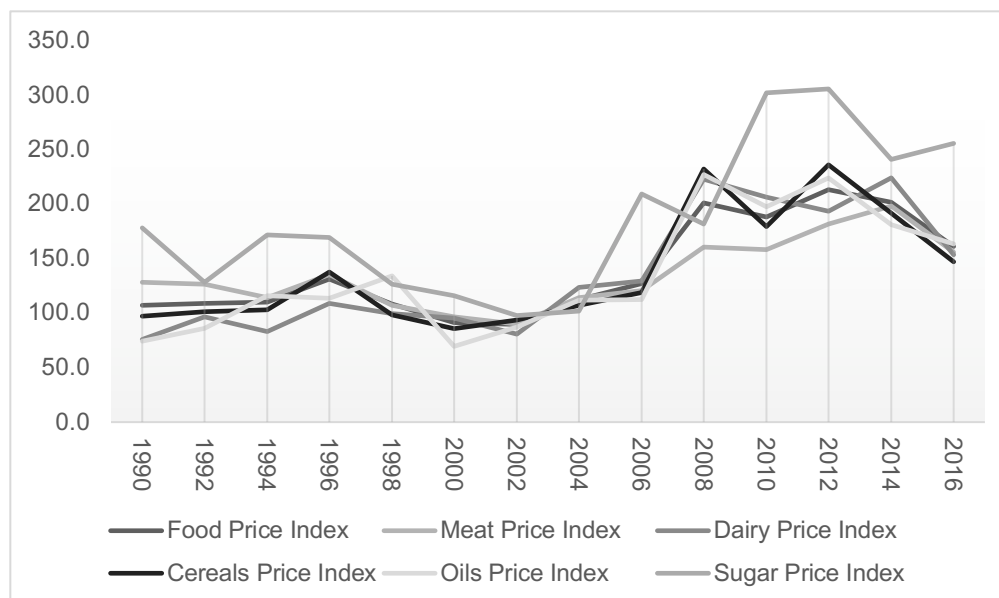
COMMODITY GROUP PRICE INDEX	IMPACT ON PRICES
FOOD	Food Price Index rose from 114.0, to a high of 225.8 in June 2008, an increase of 98%. • The percentage difference for December 2009 was 58.7%. • The highest price index between 1990 and 2016 was 240.1 in February 2011, suggesting a stable but overall increase of food generally.
MEAT	Meat Price Index rose from 117.4, to a high of 179.7 in September 2008, an increase of 53.1%. • The percentage difference in December 2009 was 21.4%. • The highest price index between 1990 and 2016 was 212.0 in August 2014.
DAIRY	Dairy Price Index rose from 134.3, and reached a high of 271.7 in November 2007, an increase of 102.3%. • The percentage difference in December 2009 was 65%. • The highest price between January 1990 and December 2016 was 275.4 in February 2014.
CEREALS	Cereals Price Index rose from 101.1, and reached a high of 267.7 in June 2008, an increase of 164.8%. • The percentage difference in December 2009 was 64.9%. • The highest price index between 1990 and 2016 occurred in June 2018.

⁷³ Pre-2005 prices are displayed to illustrate the extent of the price increase.

COMMODITY GROUP PRICE INDEX	IMPACT ON PRICES
OILS	Oils Price Index rose from 100.2, and reached a high of 284.9 in June 2008, an increase of 184.3%. • The percentage difference in December 2009 was 73.1%. • The highest price between 1990 and 2016 was 286.5 in February 2011.
SUGAR	Sugar Price Index rose from 123.7 and did not reach a high of 334.0 until December 2009, an 170% increase. • The highest price between 1990 and 2016 was 420.2 in January 2011.

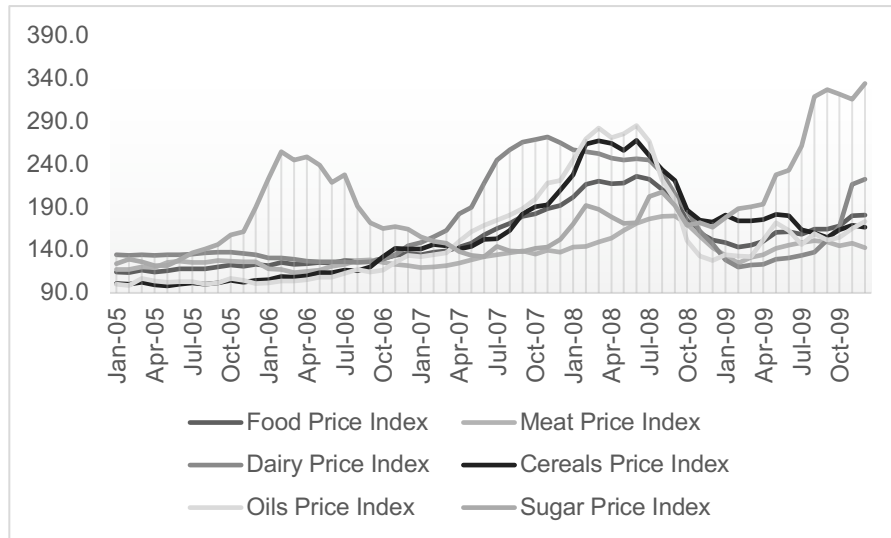
At a finer level of detail, Figure 5-1 and Figure 5-2 respectively display snapshots of the dramatic rise of international food prices from 1990 to 2016 and the monthly price increases from January 2005 to October 2009.

Figure 5-1 Annual International Food Price Index From 1990-2016



Source: FAO.

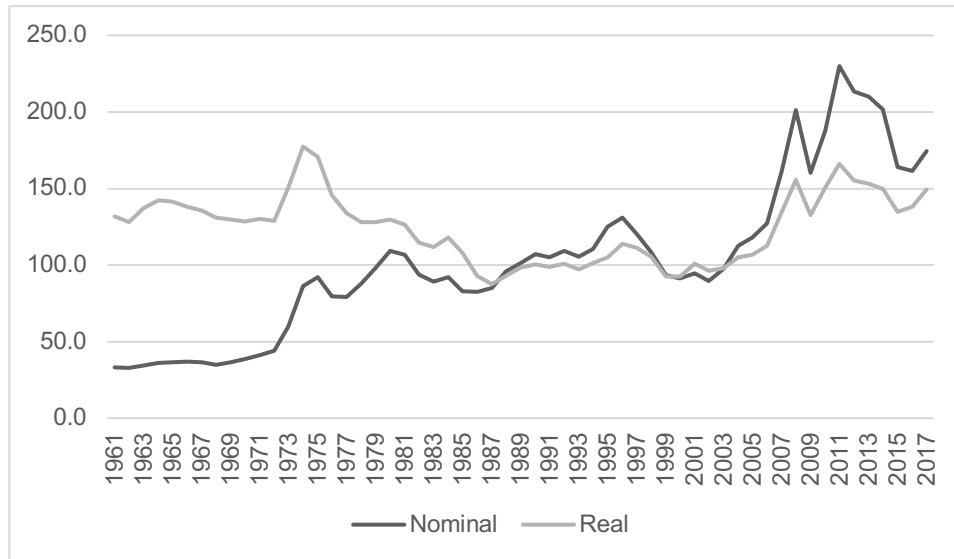
Figure 5-2 Monthly International Food Price Index from January 2005 to December 2009



Source: FAO.

Lastly, Figure 5-3 shows the general price of food from 1961 to 2017. Since the 1960s, food prices had seen a general decline, except for some of the major financial crises arising out of the oil embargo in the 1970s, such as the first and second oil shocks in 1973-75 and 1977-80. Increasing food prices were linked to both the world price and the general dependence on cheap energy in major developmental projects in the ‘Third World.’ The increased food prices had been instrumental in generating national crises of development that saw the rise of IFI SAPs discussed in the previous section.

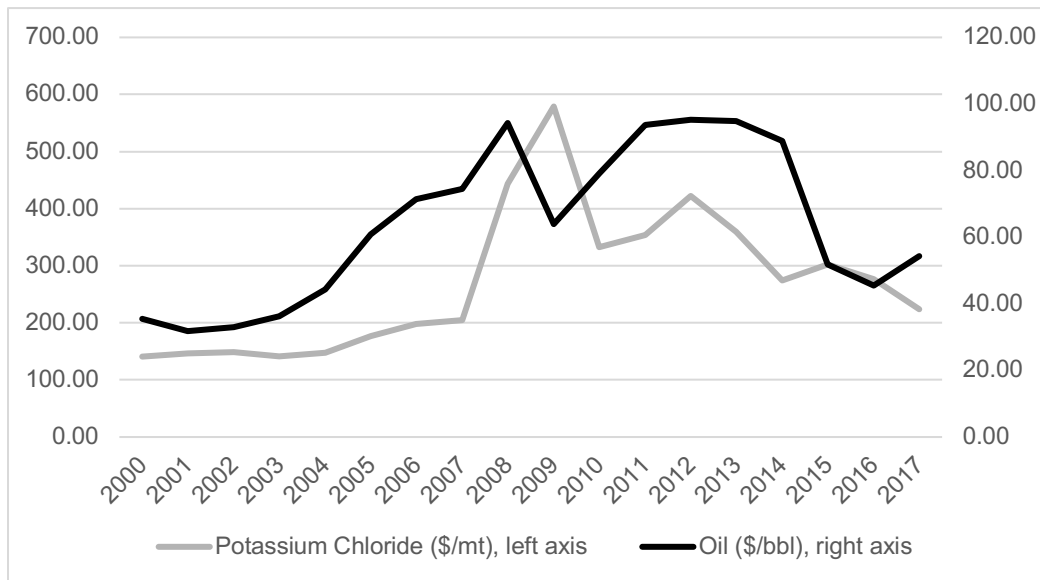
Figure 5-3 Food Price Index, Nominal and Real Prices from 1961 to 2017



Source: FAO.

On the supply-side of inputs, the costs of production for agriculture had increased due to the increased costs of carbon energy and fertilizers. Ostensibly, the rise of food prices was caused by the price increases of inputs for farming that fluctuated (e.g. oil price), among other macro-economic features such as bad harvests, U.S. dollar depreciation, and export restrictions (FAO, 2009; D. Mitchell, 2008; Plant, 2008). Figure 5-4 shows the increases of price for crude oil and potassium chloride.

Figure 5-4 Real Price of Oil and Potassium Chloride, 2000-2017



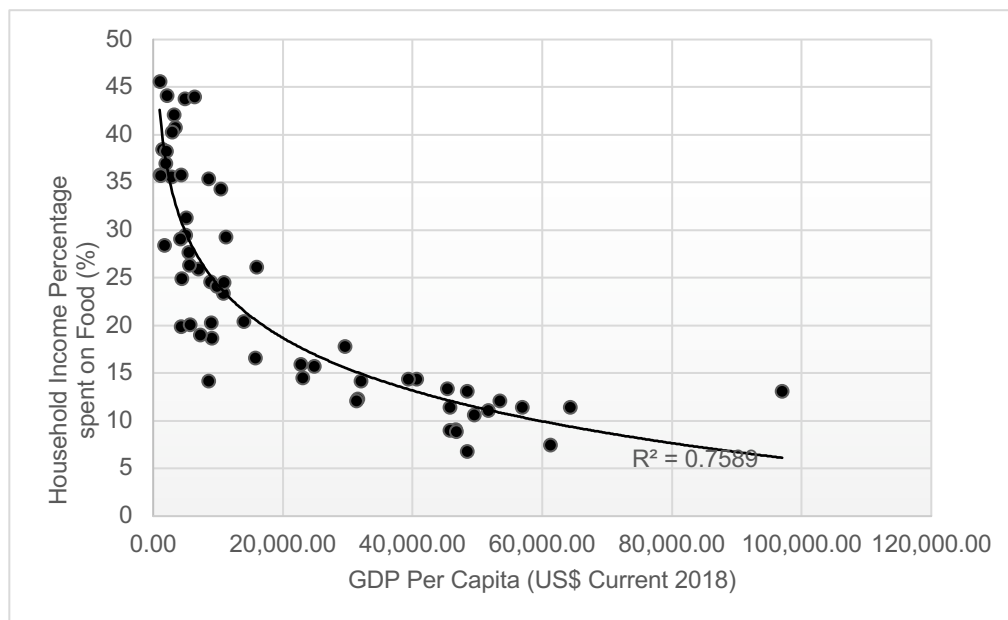
Source: The World Bank Commodity Markets

There are three features that should be noted regarding the food price increases. First, Figure 5-1 and Figure 5-2 demonstrate how the food price increase was sudden and relatively quick, as opposed to the relatively lower prices from the 1990s and early-to-mid 2000s. Second, the food prices after the food crisis of 2008 have remained relatively high, with sugar, dairy, oils, and food in general having higher prices in 2011 than the 2006-2008 period, with a slower decrease in price as compared to the 2008 highs. In addition to this, food prices, which increased in 2006-2008 and in 2011-2012, did not return back to their pre-2006 levels. Third, real food prices have increased and remain higher than some of the earlier crises from the 1970s. All three features point to the difficulty for nation-states of relying on food-imports. Not only does quick food price increase make it difficult for nation-states to respond adequately to mitigate the impacts of price increases at a national scale, but the half-century of relatively cheap food is progressively ending (Moore, 2010b).

5.3.2 International Markets, Unequal Access to Food, and Import Dependency

The increase of food prices has major implications for developing countries that must allocate a significant proportion of their income to food purchases (Clapp & Cohen, 2009, p. 3). Developing countries that are food-import dependent face greater burdens due to food price increases in the international world market. The implication of this, as has been suggested by Moore (2010a, 2015) and others, is that the era of ‘cheap food’ is progressively ending, creating problems for capitalist development which depends on cheap access to food. Figure 5-5 displays a scatterplot of the relation between the GDP per capita in relation to the average annual expenditure spent on food. During the 2008 crisis, those countries classified as ‘higher income’ by the World Bank spent less on food consumption on average than countries classified as Upper-Middle and Lower-Middle.

Figure 5-5 GDP per Capita and Household Percentage Spent on Food (as a %), 2008



Source: Data for Household Income Expenditure from the United States Department of Agriculture. Data for GDP per Capita from the World Bank DataBank.

The consequences of this relationship are that countries with more purchasing power have a greater command of food in the market, putting lower income countries in a position of structural vulnerability in purchasing food in regional and international markets. To highlight this point, Table 5-2 displays the top 10 cereal importers for the year 2007.

Table 5-2 Top 10 Cereal Importers (USD per Capita), 2007

Country	USD Per Capita
Belgium	182.85
United Arab Emirates	173.77
Netherlands	168.89
Cyprus	141.12
Malta	132.39
Saudi Arabia	125.22
Jordan	117.97
Saint Vincent and the Grenadines	117.71
Seychelles	113.46
Kuwait	112.33

Source: FAOSTAT.

A higher dependence on food imports exacerbates the effects of food insecurity. As will be analyzed in the next chapter, the growth in food import dependence is linked to productivity changes and the embeddedness into the capitalist world market. Table 5-3 and Table 5-4 below display and contrast the growth of domestic production and imports per decade of select countries that have witnessed the relative decline of domestic production of total cereals to overall imports and the extent of food import dependency for a number of countries.

Table 5-3 Growth of Cereal Production and Imports, 1961-2010

	Growth of Cereals Production from 1961- 2010, average per decade	Growth of Cereals Imports from 1961- 2010, average per decade
Burkina Faso	267%	1557%
Cameroon	200%	1394%
Côte D'Ivoire	180%	952%
Haiti	-14%	1068%
Mexico	170%	7072%
Peru	208%	433%
Bangladesh	176%	238%
India	165%	-84%
Indonesia	309%	609%
Egypt	228%	484%
Jordan	-64%	1065%
Tunisia	107%	737%

Source: FAOSTAT Food Balance Sheets.

Table 5-4 Amount of Wheat and Wheat Products as Food and Import Dependency for 1987 and 2007

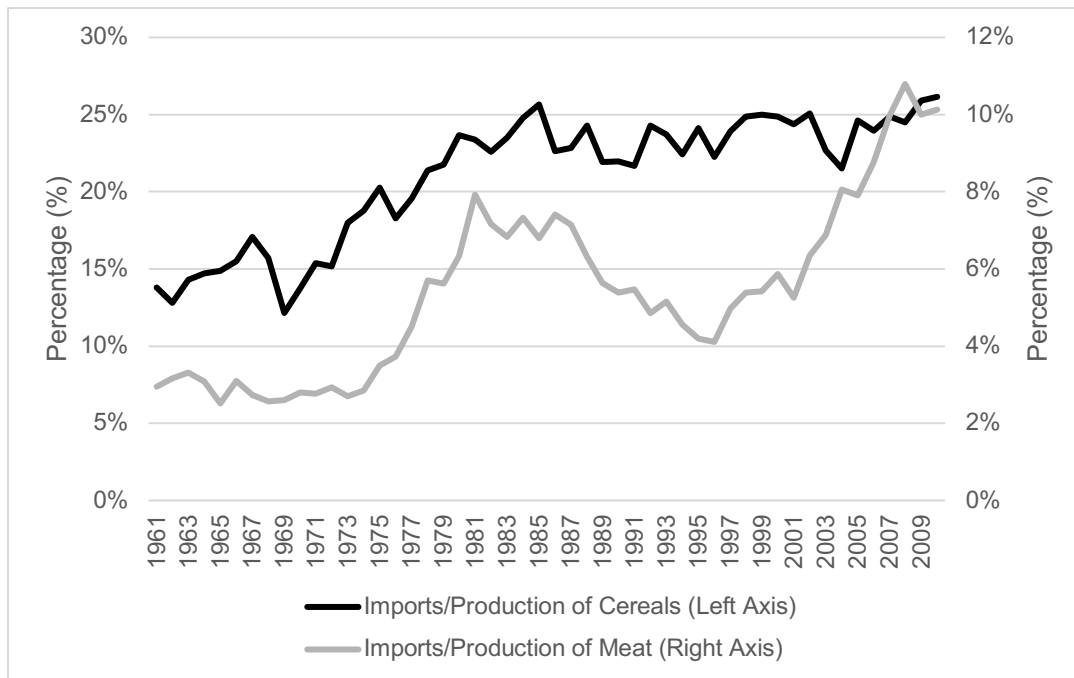
		1987			2007		
	Country	Food (1000 tonnes)	Food % of Total Domestic Supply	Imports as a % of Total Domestic Supply	Food (1000 tonnes)	Food % of Total Domestic Supply	Imports as a % of total domestic supply
<i>Middle East and North Africa</i>	Egypt	8043	85.42%	72.71%	10549	64.87%	50.74%
	Morocco	3918	85.98%	43.23%	5405	81.03%	55.79%
	Jordan	389	90.26%	132.95%	791	96.58%	144.08%
<i>South Asia</i>	India	45134	89.38%	0.05%	69311	89.58%	3.48%
	Bangladesh	2596	93.72%	54.87%	2317	77.99%	91.59%
	Indonesia	1541	90.49%	100.06%	4966	93.38%	103.40%
<i>Sub- Saharan Africa</i>	Cameroon	190	97.44%	100.51%	312	96.00%	76.31%
	Madagascar	53	100.00%	100.00%	174	98.86%	99.43%
	Mozambique	158	98.14%	98.14%	438	97.99%	75.84%
<i>Central and</i>	Haiti	181	98.37%	79.89%	268	98.17%	92.67%
	Peru	1162	97.16%	86.04%	1538	94.18%	94.37%

South America	Mexico	3180	66.15%	9.05%	3923	66.00%	58.38%
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Source: FAO, FAOSTAT Food Balance Sheets.

Generalizing across space is difficult as there are a number of political and economic contexts to each case; however, the overall trend has been the increased dependency on world food markets for net-food importing developing states. Figure 5-6 illustrates the extent of this structured dependency with cereals and meat between 1961-2010. For both commodities, the decline of the production of cereals, an important source of calories, and the growth of meat imports for many of the food importing developing states suggests a general stagnation of food production. The growth of meat production and changing diets has been an important feature defining the transformation of diets in ways that are ecologically unsustainable and with health impacts due to over consumption (Weis, 2010). The national ability for net-food import developing states to produce cereals and livestock has declined, and they are relying more on international markets, with devastating results for farmers who have to exit from the market due to rising costs and inability to realize sales to reproduce their operations.

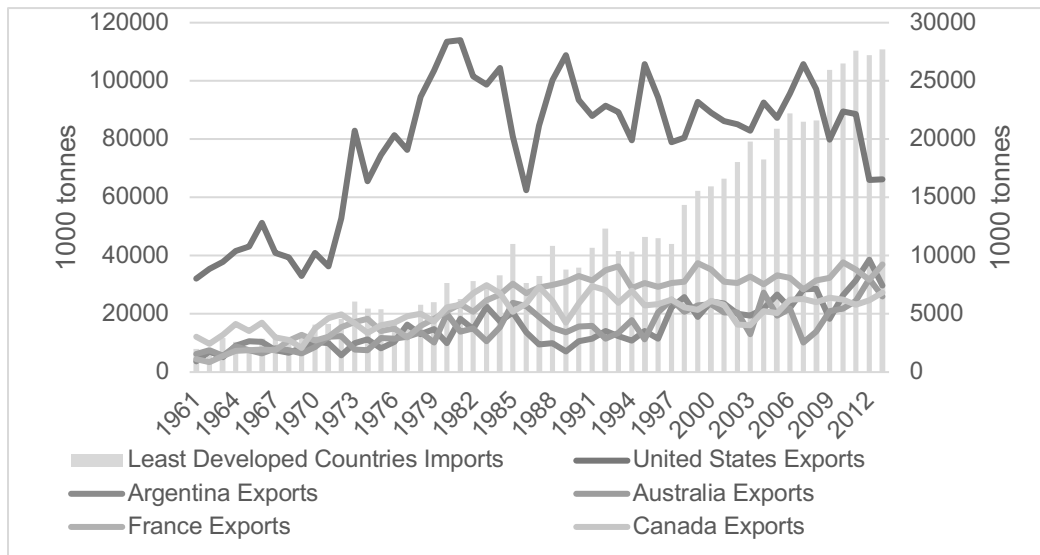
Figure 5-6 Imports as a Proportion of Total Domestic Supply for Net Food Importing Developing States, 1961-2010



Source: FAOSTAT Food Balance Sheets.

Figure 5-7 shows both the exports of cereals by the top 5 exporting countries and the total cereal imports of all those countries classified as 'least developed' by the FAO. The exports of the US have declined but the overall amount of imported cereals by developing countries has nevertheless increased.

Figure 5-7 Exports of Cereals by the Top Exporters and the Total Imports of the Least Developed Countries



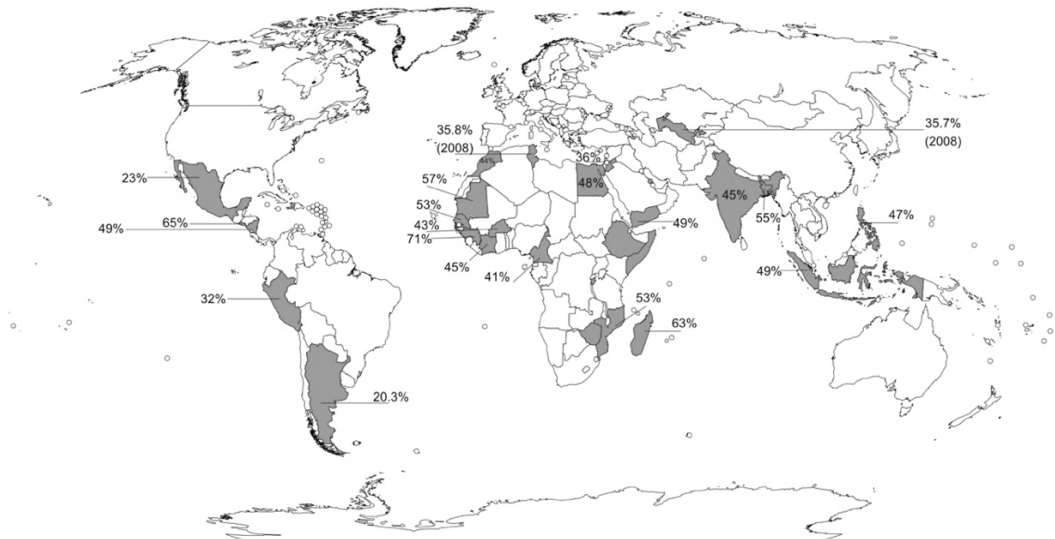
Source: FAOSTAT.

As discussed in the section above and further investigated in Chapter 6, this dependency is a result of the restructuring of agricultural production during the neoliberal period, which saw the devastation of small-scale farmers due to the importation of cheap foods and the transformation of land for the purposes of export-oriented production (McMichael (2010, pp. 62-3).

5.3.3 Food Import Dependency and Social Instability

One of the consequences of dependencies on the world market for food and the development of neoliberalism is the occurrences of food riots (Bohstedt, 2014; Bush & Martiniello, 2017). Figure 5-8 shows a world map of countries with reported significant unrests due to increased food prices in 2008. Many of these countries report a relatively high average of household income spent on food compared to those countries that did not witness much social instability.

Figure 5-8 World Map of Countries with Significant Unrest Related to the Increase of Food Prices Along with Household Average % Spent on Food



Source and Notes: Many of these countries are sourced from reports and compilations from Berazneva & Lee 2013, Schneider 2008, Lagi, Bertrand & Yam (2011), Brown (2008), Moore (2008), The Economist (2011). Data on Average Expenditure on Food from the World Bank Compilation on Household Consumption 2010 Surveys. The percentage for Tunisia and Uzbekistan is for the year 2008 due to missing 2010 data.

Coupled with the rise of food imports through the slow dismantling of food production for domestic consumption, many of these states are dependent on food from the international market, and any increase of the food prices leads to social unrest.⁷⁴ Brown (2008), Lagi, Bertrand & Yam (2011, 3), Moore (2008), Schneider (2008) and the Economist (2011) have documented the variegated character of food unrests that occurred. Schneider (2008) documents that many of these protests involved food riots by people, in which they chanted their demands to be able to buy food and put the blame for their inability to do so on traders and distributors who refused to deliver food (e.g. hoarding, price gouging, or selectively accepting currency), or involved the organized action of consumer or labour groups, who protested the rising costs of basic food goods.

⁷⁴ In other words, the poorest cannot stock up on food products and 'weather the storm,' compared to the ability of exporters or transnational grain traders to do so. Even the latter are limited due to food spoilage.

Food riots in those countries represent a failure of food provisioning. Some of these protests were violent in character, with Lagi, Bertrand & Yam (2011) estimating that approximately 89 people died between 2007 and 2008, and at least 12,392 in the years 2010-2012 if one accounted for the violence and instability associated with the 'Arab Spring.'⁷⁵ In many cases, direct violence was used to try to suppress these protests; governments cracked down, through the force of violence by the police and/or military, on protests that were in the planning process (e.g. thwarting by way of arresting leaders), and that were occurring both spontaneously and through planned action.⁷⁶

It is characteristic to see grievances of food insecurity such as the food riots as a signal feature of the failure of financial capitalism to adequately allow nations to provision food (see below for a discussion on the role of finance on food prices). Yet it is the 'hidden' violence of the global structure of capitalism that forces many to go hungry and remain food insecure. Žižek (2007, p. 10-15) argues that the usual 'hidden' features of *systemic* violence as opposed to the more-apparent 'subjective violence' is ignored in common-sense understandings of violence; systemic violence arising out of the normal functioning of capitalism both encompasses sudden eruptions of violence (such as food riots) *and* the long-term and normal and invisible functioning of capital accumulation. Therefore, food riots in the Global South cannot be seen separately from the normal functioning of capitalist development in agrarian production.

⁷⁵ See Malm (2016). The bulk of this violence was due to the violence in Libya (over 10,000), the Egyptian Revolution that forced an overthrow of then President Hosni Mubarak (over 800), and the start of the Syrian Civil war (over 900). While not the focus of this dissertation, these revolutions were sparked due to the economic instability that marked a crisis point of neoliberalism within these countries. See Hanieh (2011) and Joya et al (2011) for analysis of the contradictions that arose with neoliberalism in these countries.

⁷⁶ These governments also attempted to weather the storm by initiating various policy responses that would lessen the impacts of the rising food costs. This will be discussed in a later section.

5.4 Land Use Diversion, the rise of ‘Energy Farming,’ and Speculation

5.4.1 Introduction

The two major factors in increasing food prices in 2006-08 were inextricably linked. The first factor was the diversion of land for the purpose of biofuel production and the expansion of livestock production and exports. As Pimentel (2010) argues, the rise of biofuels had come about at the same time with increases and malnutrition. The second factor was the rise of financial instruments that emerge from futures trading and financial speculation that came with the crisis of the real economy and the subprime housing crisis in the United States.

5.4.2 Land Use Diversion and Bioenergy

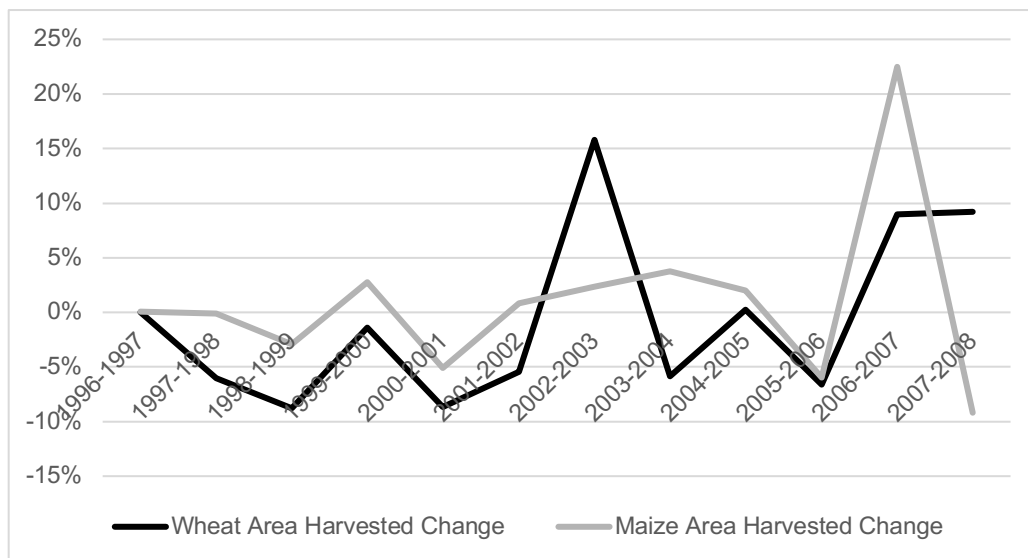
Part of the underlying increases of food prices in grain stem from the dominant grain producers during the period between 2000 and 2008. There was a significant diversion of land to the production of biofuels, with the production of maize and vegetable oils increasing substantially due to state supports in the US (2004) and the EU (2003) and the general decline of wheat production (see Mitchell 2008, pp. 7–11; 2006 pp. 38–9).⁷⁷ The OECD and FAO (2006, p. 51) projected in 2006 that there would be an expansion of maize production for non-food use, which would scale back the amount of land set aside for wheat as food, and consequently, wheat exports to the international market.⁷⁸ There is

⁷⁷ Tokar (2010) argues that the international food crisis is underlined by the general increase of biofuels due to the diversion of land from growing food to growing inputs.

⁷⁸ Wheat can be used for non-food use such as a biofuel but has been historically eclipsed by maize and sugar. Specific to the United States, one of the top exporters of wheat, maize can be grown in areas where wheat grows; therefore, land does get diverted as in the United States.

evidence to suggest that there had been a decline in production, with a simultaneous decrease in stock levels that led to some of the dynamics of supply shortages in the overall supply and demand price formations. The area harvested of wheat and maize in the United States is displayed in Figure 5-9, showing a greater increase of area dedicated for Maize in the 2005-2007 period than that of wheat. The growth rate of wheat production internationally declined for most years, with a 16% production decline in 2006.

Figure 5-9 Area Harvest Changes for Wheat and Maize in the United States, 1996-2008

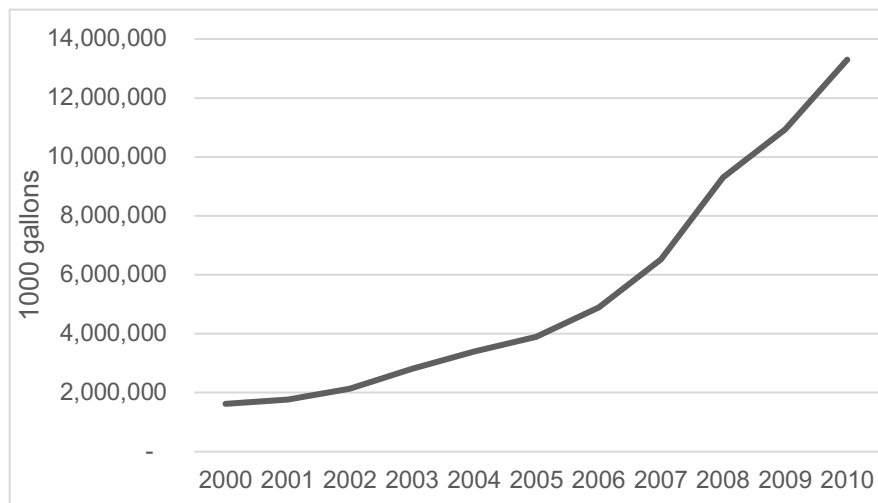


Source: FAOSTAT.

Land can be diverted between wheat and maize without much infrastructural change or transformations in the physical features of agrarian production at the farm site, and it became more lucrative for farmers to switch to maize over wheat due to greater capture share of the market. While wheat paid out more per bushel, corn had much cheaper operating costs. As Ghosh (2010, p. 73) points out, this diversion occurred not only in the United States, where over 30% of land in 2007 was diverted for biofuel production, but also in Brazil, where half of sugar cane went to biofuels, and, indirectly, in the EU, which

used its domestic production and import bill for vegetable oil. In the United States, biofuel production in 2008 increased 474% from 2000 levels. Figure 5-10 shows the production of ethanol as a biofuel in the United States. From 2000/2001 to 2008/2009 growing seasons, the ratio of corn grown for ethanol to total corn grown (for food, fuel and other industrial use) grew from a ratio of 0.32 to 0.74.⁷⁹ The world price for maize increased from \$111.3 per mt to \$217 per mt (real 2010 dollar). However, the amount of maize produced for food did not significantly increase or decrease (USDA, 2017).

Figure 5-10 Fuel Ethanol Production in the US, 2000-2010



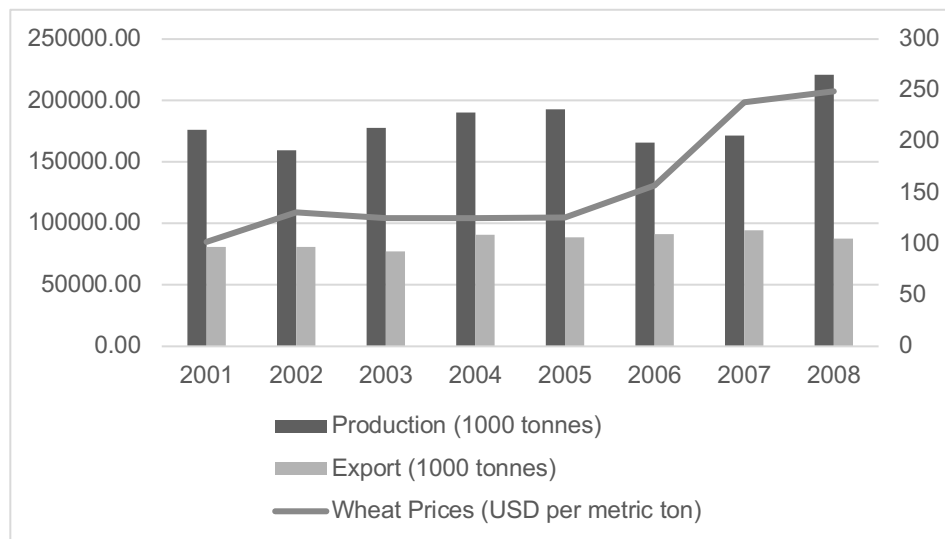
Source: USDA Economic Research Service.

Despite the changes in land use purposing of the top grain producers, there was nevertheless an *overall* increase in wheat production, with greater productivity in the 2004-2008 period compared to the 1999-2004 average. Therefore, evidence suggests that the diversion of land from wheat to maize had not significantly changed the supply of wheat

⁷⁹ Corn grown for feed is abstracted from this calculation to show the pronounced growth of corn for ethanol. Furthermore, the USDA ERS keeps these numbers separate. Corn for feed did remain high, from 5818.902 million bushels in 2000 to 6131.649 in 2004 but declined to 4770.118 in 2010. In 2016, 5463.822 million bushels were grown for feed.

by the top exporters; multiple reasons for the increase in wheat prices was therefore at play (see next section). The international price nevertheless increased. Figure 5-11 aggregates the total production and export of wheat by the top 5 exporters,⁸⁰ and compares it with the annual average price of wheat. While production had decreased overall among the top exporters of wheat, their actual export numbers had not decreased significantly.

Figure 5-11 Total Production and Export of Wheat, Top 5 Exporters and the Annual Average Price of Wheat, 2001-2008



Source: FAOSTAT, and USDA Economic Research Service. Production and Export on Left Axis, Wheat prices USD per metric ton on right axis.

Export numbers had slight changes. In the United States, the end-of-year stocks of wheat did decline, from 247 million tonnes in 2000/2001, to 151 million tonnes in 2007/2008, suggesting a drought drew away more stock from reserves.⁸¹ However, after the harvest

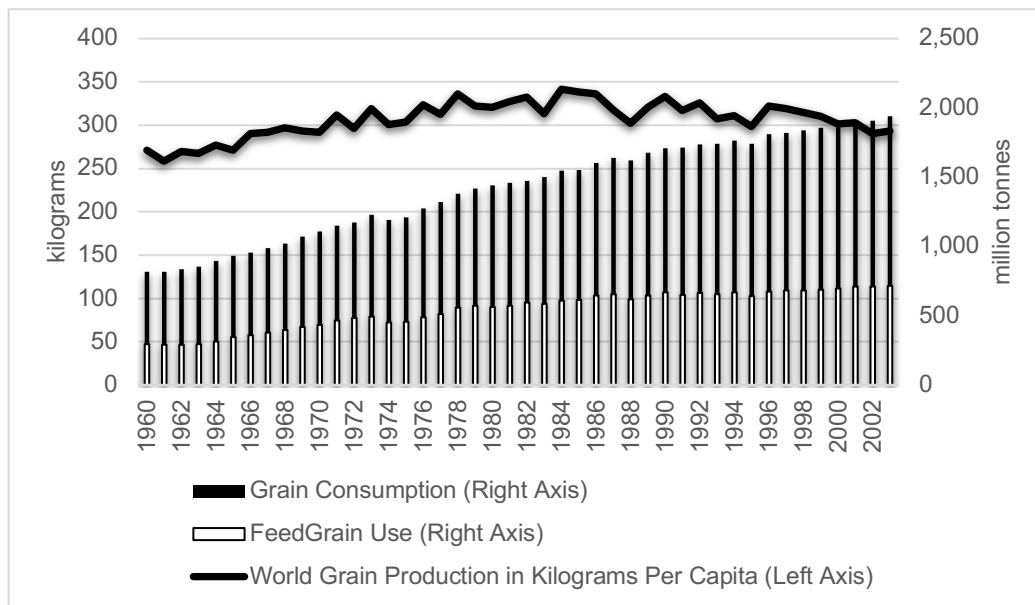
⁸⁰ Australia, Canada, France, Russian Federation and the United States. In 2006, the United States accounted for approximately a fifth of *all* wheat exports.

⁸¹ NASA's Scientific Visualization Studio documents data obtained by the Global Inventory Monitoring and Modeling Studies, utilizing the Moderate Resolution Imaging Spectroradiometer aboard the Terra and Aqua satellites. <https://svs.gsfc.nasa.gov/vis/a000000/a003600/a003651/>.

year of 2008, the wheat harvest in 2008 had massive yields, leading the US Department of Agriculture to report that “...657 million bushels of 2008 wheat remained in U.S. silos after the buying season, a record “carryover” (Kaufman 2010).

All food items, except for cereals, continue to grow, but have slowed down in the last few decades. Data compiled by the Earth Policy Institute, illustrated in Figure 5-12, shows that the production of grains per capita has increased, and that grain consumption has increased but so has grains used as feed; the implication of this increase however shows a slowing down which could mean the slowdown of productivity increases.⁸²

Figure 5-12 World Grain Production Per Capita and Grain Use as Food or Feed



Source: Data compiled by the Earth Policy Institute from U.S. Department of Agriculture data.

⁸² In regards to the slowing down of food growth, more concrete social factors surrounding state policies in Europe and the US worked to slow down cereals production by switching away from cereals production and the collapse of the USSR and Eastern Europe had no longer guaranteed purchases of grain, thereby leading to productivity declines (Atkins & Bowler 2001, p. 116). Nevertheless, the dominance of grain production for the sake of livestock production remains a major contradiction in capitalist provisioning of food.

Specific to the 2008 international food crisis, Moore (2010a, p. 245) has suggested a reversal of the cheap food prices of neoliberalism, with the end of cheap energy and cheap labour, among other factors, and that "...this dramatic reversal...turns on the rise and demise of the world-ecological surplus enabled by the enclosure of modernity's last frontiers". In its push to maintain an artificial 'cheap food' without expanding productivity as in previous agricultural revolutions, neoliberalism, in short, depends on productivity increases through the strategy of plunder (Moore 2015, p. 255).⁸³ There are signs that the contradictions of capitalist production in agriculture are confronting an ecological crisis that may lead to crises in production.⁸⁴

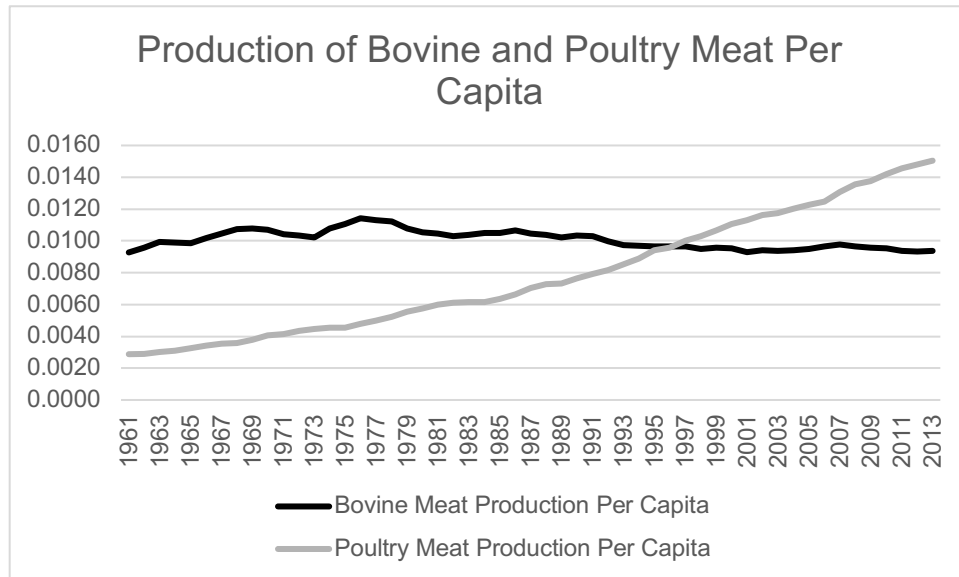
The rise of meat consumption in affluent regions is an example of the ecological contradictions leading to a 'metabolic rift' in food production and provisioning. Weis (2010) demonstrates how changing diets since the second food regime have expanded meat production, leading to a global 'hoofprint', which will have ecological and ethical implications in the production of meat and with respect to the wider relation to nature. Weis argues that "...agriculture's 'footprint' in the landscape necessarily expands as per capita meat production rises beyond the densities of small integrated farms and non-cultivable pasture, as does the use of energy and agro-inputs" (2010, p. 317). While bovine meat per capita is decreasing in general, the amount of poultry farmed is increasing, and the absolute numbers of both products are creating conditions of current (and future) environmental degradation. Figure 5-13 shows that per-capita production of

⁸³ For example, the agricultural dependence on fossil fuels is built on the inefficient transformation of fossil fuel to food. As argued by those who critique capitalism on ecological grounds, capitalist agriculture depends on a massive transformation of food production-consumption relationships, and capital accumulation overall depends on the 'free gifts' of nature as both source and sink.

⁸⁴ Malthusian and neo-Malthusian approaches have suggested this position, such as from Lester Brown of the Earth Policy Institute (Atkins & Bowler 2001, pp. 108-109).

bovine and poultry meat is either stable (as for bovine) or increasing (in relation to poultry meat). The increasing diversion of land for the production of agro-inputs can be seen as a reliance on the free gifts of nature that will eventually run out.

Figure 5-13 The World Production of Bovine and Poultry Meat per capita



Source: FAOSTAT & UN Population Division.

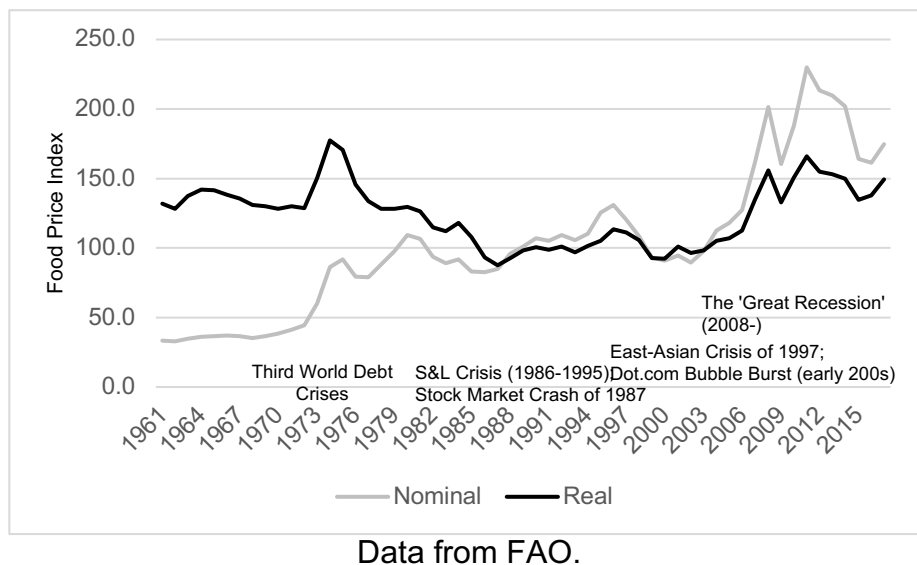
5.4.3 Food Price and the Role of Financial Speculation

The second feature is the role of speculation in the international food crisis of 2008. This has been examined by a variety of authors who assign a certain 'weight' to its impact on food prices. Many have explained the increased food prices on the market-fundamentals of supply and demand. Wahl (2009), Ghosh (2010), Isakson (2014), and Clapp (2014), among others, have identified the rising role of financial, *non-investment*, speculative capital as a major, if not the main, cause of the 2008 international food crisis. I will demonstrate below that speculation did clearly play a role in raising prices, but it cannot

be divorced from the wider *international* capital-labour relation that rests on generalized commodity production *and* the coupling of use-value with exchange-value (next chapter).

Speculation involved in commodity and index markets can explain food price increases. Mandel (1989) argues that the 'overheating' of crisis had played a significant role in the crisis of capitalism. The food insecurity crisis of 2006-08 should be seen as a repetition of various debt-led mechanisms that undermine national food security; speculation is just a different form of crisis that is *not a brand-new feature of capitalism per se*. Because food is a commodity to be bought and sold interchangeably with other commodity circuits, the ability for finance capital to inflate the costs in the 'real' market plays a significant role. Financial capital has historically played a role in causing turbulence within the market of commodity goods, through agricultural futures contracts (see Henwood 1998, p. 29). As Figure 5-14 shows, the increase of food prices, represented as a food price index, has always been linked to financial and credit crises.

Figure 5-14 Occurrences of Debt Crises and the Food Price Increases, 1961-2017



In relation to the financial crisis of 2008, speculative investors were deemed as new entrants in existing commodity futures' markets, markets which had been traditionally secured for actual 'commercial traders';⁸⁵ there were checks in place that required mandatory reporting which limited the number of futures contracts non-commercial actors could obtain (Clapp & Helleiner, 2012, pp. 185-186). Gutierrez (2013, p. 219) comments that the amount of assets in commodity indices in 2008 was \$260 billion compared to \$13 billion at the end of 2003 (according to testimony before the US Senate).⁸⁶ The rise of food speculation as a financial vehicle was in tandem with various investment indexes, such as that from Goldman Sachs in the early 1990s, and increasing in 2000s. Ghosh (2010, pp. 73-74) argues that speculative activity by finance capital increased following the deregulation of trading markets; this shifted and expanded production to the most simple, monocultural production practices, such as biofuel production, driven by the need to find the most 'liquid' assets possible.⁸⁷ The increase of financial speculation on food and agriculture items is directly brought about by state encouragement and de-regulation. As a key player in the global grain trade acknowledges, the rise of biofuel production and the influence of US policy is linked to the rise of speculator capital, even if ultimately the rise of prices still relates to the market fundamentals of supply and demand (IFPRI, 2008).⁸⁸ Moves to slowly deregulate futures trading gained energy with the industry

⁸⁵ Some of these new entrants are commercial traders such as Cargill, which are themselves 'new entrants' into financial activity. They market themselves as experts with on-the-ground material activity and logistics as necessary towards their financial know-how of the agricultural financial markets (Cargill).

⁸⁶ The CFTC places it at 200 billion in March 2008.

⁸⁷ Kaufman (2010) also suggests that the same occurred with wheat. Red spring wheat used primarily in bread making became a vehicle for many speculators to invest in.

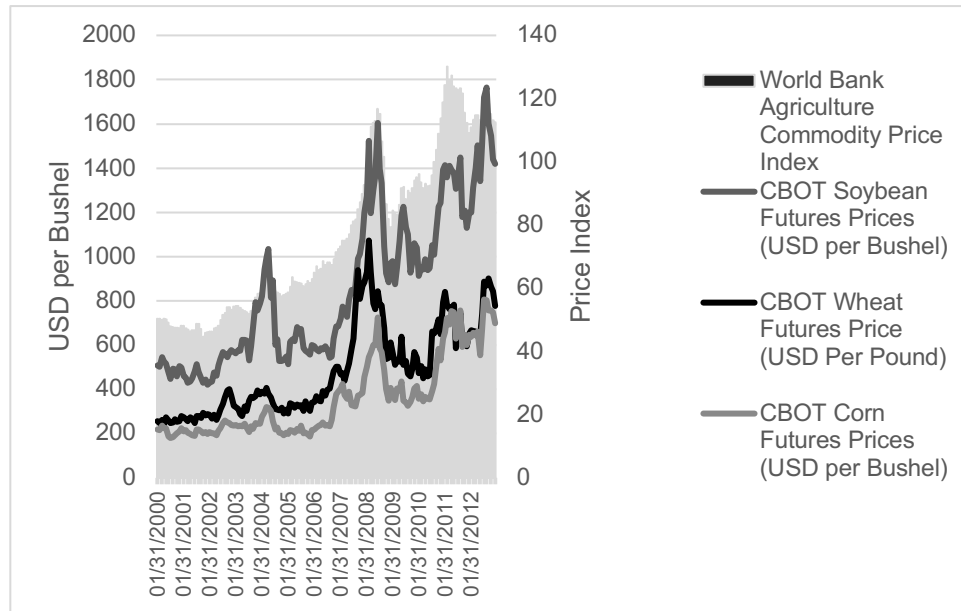
⁸⁸ Carl Hausmann, President and CEO of Bunge North America writes to IFPRI: "However, it is important to understand that none of these market participants actually participate in the cash markets. As such, their investments are subject to the same market fundamentals that are driving the cash markets more broadly." The implication therefore is to increase supply in order to meet demand.

practice of ‘over-the-counter’ (OTC) swaps, through both US legislation,⁸⁹ and moreover US regulatory *inaction* that allowed various types of funds to enter these future markets. OTC swaps and trades make it difficult to ascertain the exact form and character of food futures; for example, the proliferation of OTC swaps made it difficult to ascertain the number of ‘non-commercial’ players in food futures markets.

Figure 5-15 illustrates these dynamics, showing the World Bank’s commodity price index and the futures markets of Soybean, Wheat, and Corn at the Chicago Board of Trade. The increase in futures markets runs counter to the claim by many traders and financial actors that financial instruments have no bearing on the ‘real economy’. Baines (2017, p. 501) calculates that the ratio between futures contracts to total production of what those future contracts are supposed to represent, increased from 7.8 (1884-1888) to 3.2 (1971-1974) to 32.7 (2011-2014).

Figure 5-15 Chicago Board of Trade Futures Markets for Select Agricultural Commodities and the World Bank Agricultural Price Index, 2000-2012 at monthly intervals

⁸⁹ The Commodity Futures Modernization Act deregulated OTC derivatives (Clapp, 2012, p. 187).



Source: Global Financial Data & World Bank Agricultural Price Index.

The ‘productivist’ school of thought contends that speculation, if it indeed played a significant role in the crisis, was attracted to the rising food price and not the *cause* of the price increase. A player in the futures markets stated:

It is not a big problem. Just compare wheat and rice prices. There is no genuinely international rice futures market where speculation can take place, and yet prices are high and volatile...The “speculation” on prices gives a signal to producers that encourages them to produce more. The end-result is that prices are stabilized: rather than a severe crisis at some time in the future, there is a gradual increase in prices that gives people opportunities to react (Quoted in IFPRI, 2008, p. 4)

The President and CEO of one of the largest grain importers during the food crisis suggested the same:

I think speculation is too easily the villain... there are many factors and events shaping the dynamics of the current energy and agricultural marketplaces, the most important of which are the fundamentals of supply and demand. *Moreover, traditional speculators tend to be trend followers and as such are unlikely to affect anything more than short-term intra-day prices* (Quoted in IFPRI, 2006, p. 6).

It is worth pointing out that historically, the number of futures contracts did not actually 'follow' the food price increase of the 1970s, which is even more apparent with a focus on the 'real price' of food; moreover, speculative activity began to increase in parallel with historic food price lows throughout the 1970s to the early 2000s, suggesting that finance is a contingent feature of food price increases. Speculative activity tied to financial capital cannot be the prime motivator in the increase of food prices, what Kovel calls the efficient cause of the crisis in the capital-labour relation, because it is not any different from the kind of speculative activity that occurs in the productive realm (so-called disproportionality crises). The commodity form in capitalism involves speculation precisely because of the dual form of the commodity containing within it a use-value and an exchange-value.⁹⁰ However, what can be said is that the mass of capital takes control of the real economy, forcing the prices to go up and revealing the core contradictory dynamics of capitalist accumulation. Rather than being a direct measurement of commodities produced for human needs, finance capital through institutional supports is able to inflate the price faster than income levels. All needs mediated in the market are at odds with the impulse to accumulate capital, in whatever capacity. The food price inflation occurring due to speculative activity indicates that the capital-labour dynamic outlined in Chapter 4 hits a crisis point in choosing what is produced and for what reasons. Within these structural mechanisms and constraints, and the rise of neoliberal governance that puts food accessibility on par with the power of finance capital and cheap credit, many currencies of developing countries in the Global South are at the mercy of their own currency

⁹⁰ For example, the difference between the costs of production and the realization of surplus value is mediated by the market. Prices form based on this demand. However, prices do not represent the importance of commodities for human needs, but for productive, capitalist needs.

valuations, making it more expensive to purchase food, and thereby re-articulating local food production for the purposes of international export to regional markets.⁹¹

5.5 Conclusion: Real Abstraction and the Crisis of International Food Provisioning

This chapter sought to explain how the growth of the world food market led to different levels of food accessibility during the 2006-2008 international food inflationary crisis. This chapter outlined how the sudden price increases arose primarily due to the diversion of land and the role of financial speculation. Moreover, the increased dependence of net-food importing states on the world market for the provisioning of basic food needs such as cereals, meat and edible oils has led to a general decline in their ability to provision food. The surface appearance of price changes due to supply and demand matter but must be qualitatively assessed in terms of the structural tendencies of international capital accumulation. As Harvey (2014, p. 178) writes, capitalist social formations are tied to the kernel of surplus-value accumulation and its crisis tendencies. While tied to food production and the production of commodities in general, what makes it unique as a specific form of production is the drive to speed up turn over time, depress costs, and seek ways to increase the rate of returns. Specific to the financialization of capital for example, Harvey writes:

What makes the current phase special is the phenomenal acceleration in the speed of circulation of money capital and the reduction in financial transaction costs...The pressure asserted by finance 'drives investment

⁹¹ It is for this reason that the bailouts in the 2008 crisis centered on failed institutions rather than on all the people who have lost their homes, suffered due to the increasing costs of living, and have generally seen a general stagnation in their lives, and at worst, had suffered the weight of increased food prices in the form of absolute hunger.

towards ever more short-term profits and undercuts long-term and deeper growth. It also produces speculative bubbles and busts.

For many of these developing states, what could have been just potential was actualized due to the political economy of capitalist agrarian development in tandem with the rise of finance capitalism and the development of a world market. The next chapter will be dedicated to outlining the political economy of this development in light of the value-form approach outlined in chapter 4. This value-form approach will demonstrate how food production becomes more and more geared towards specific forms of food production which impacts the ability to maintain food production in the national context.

6 The International Food Crisis of 2008 II: Political Economy of a Food Crisis

6.1 Introduction

This chapter continues the analysis of the international food crisis of 2008 with a discussion of the outcomes of the 'deeper structures' emerging from the development of capitalist agriculture and food provisioning. In this chapter I demonstrate how the growth of capitalist food production coincides with uneven development across and within various states across the globe. Across different nation-states, the shift towards export-oriented production has placed a burden on net-food importing states to attain the promises of comparative advantage. Moreover, the uneven development of capitalism manifests itself as extreme levels of wealth and income inequality and the growing inverse relationship between the growth of wage-labour and quality of employment, signalling what Harvey (2014) calls the 'dangerous contradictions' of capitalist development. The *generalized* and secular movement towards wage-labour employment and the concentration and centralization of capital expands these 'dangerous contradictions' of capital accumulation (Harvey, 2014) that simultaneously undermines food provisioning and the quality of employment (Mandel, 2002; McMichael, 1999).

This chapter focuses on two features of the international food crisis of 2008 that have laid bare the generality of neoliberal capitalist development. First, the rise of export-oriented production as a path of development for the Global South has redirected land away from national food needs, negating the promises of comparative advantage. The international division of labour, as an objective necessity capitalist production develops in and through an articulation of world trade that heightens the concentration of land and

capital, rather than achieves food security. Food provisioning in the Global South is then based on the dialectic of import and export-oriented production where markets take more of a role in determining food access than other forms of social provisioning. The relative and absolute immiseration of farmers in the Global South through the loss of land, and the growing articulation of export-oriented production, has made the provisioning of food in the international market, that we saw in the previous chapter, difficult. Second, I link the changes in the agrarian sector mentioned above to the general tendency for productivity increases and the growing concentration of wealth. Across developed and developing nation-states the stagnation of income levels and the general decline of employment opportunities shows the universality of capitalist immiseration and austerity despite the uneven and combined character of world trade.⁹²

6.2 Historical Gains of Food Production and Socio-Ecological Contradictions of Capital Accumulation

6.2.1 Historic Highs in Food Production

The international food crisis of 2008 developed in the context of growing agrarian production and a historically low real price in food. This contradiction is characterized by the growing replacement of living labour with machinery and capital-intensive development, the concentration of wealth and land, and the growth of agrarian production geared towards export-oriented markets. These trends, along with the import dependency outlined in the previous chapter, strike at the core of the inability for the nation-state cell

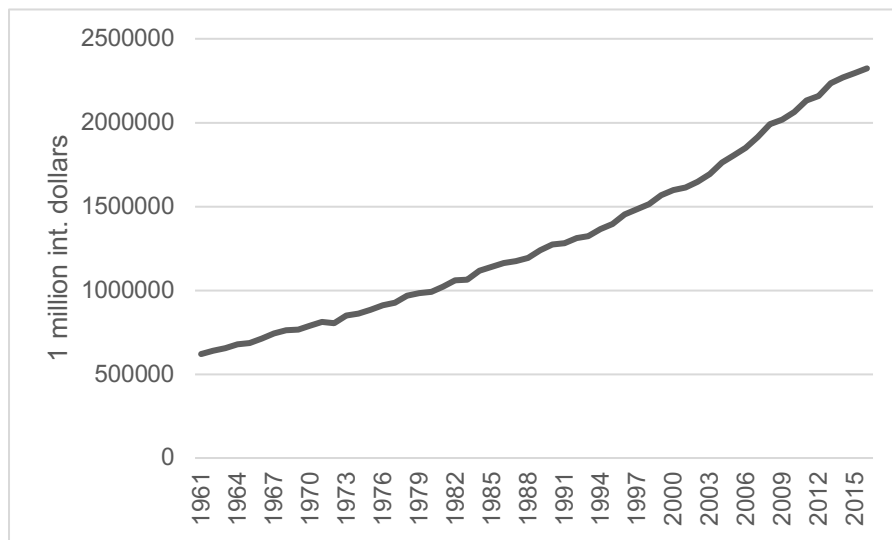
⁹² See McNally, 2011a and Albo, Gindin, & Panitch, 2010 who argue that the crisis of financial crisis stems from the generality of capitalist concentration of wealth, and Das (2013) who comments that the food crisis is not strictly about the agrarian sector but on the generality of capital-labour relations.

to maintain adequate supplies of food. This development reflects what Otero, Pechlaner, & Gürcan (2013) have argued to be a form of ‘combined and uneven’ development in the agrarian and food provisioning sector. An articulation of food production towards comparative advantage increases the burden for developing nation-states to provision their foods needs through the exports of ‘luxury’ and higher value crops. The percentage of world-wide labour employment in agriculture and food production has declined at a rapid pace, but there are areas in which labour employed in agriculture still remains high. In this regard, there remains regions in which the labour share in food production remains high. Rather than contradict the Marxian notion of capitalist development, this uneven character of capitalist development across different sectors and space develops at an uneven pace, scale, suffering what Amin calls a form of ‘mal-development.’ (Amin, 2011).

Agricultural productivity and export market share are dominated by countries with high input farming. The long history of capitalist agriculture is one that is based on both productivity yield increases, with labour intensive farming being replaced by mechanization (Mazoyer & Roudart, 2006, pp. 423-8), and plunder (Moore, 2015, pp. 242-3).⁹³ Figure 6-1 displays the increased net value of food production and the substantial decrease of the labour force employed in agriculture at the world scale.

⁹³ Plunder is the idea where non-human nature is treated as a ‘free gift’ by the capitalist class in its costs of production. An example of this is early American agriculture in which farmers chose to migrate to more fertile lands than improving the conditions of production and fertility of their existing lands. See Saito (2014) for a discussion of Marx’s views on American agricultural production.

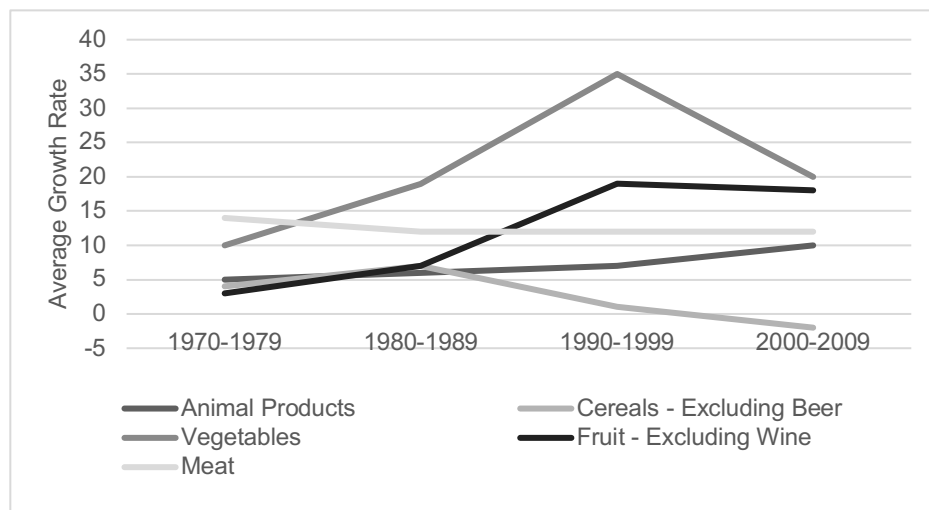
Figure 6-1 Net Production Value of Food, 2004-2006 Prices, 1961-2016



Source: FAOSTAT.

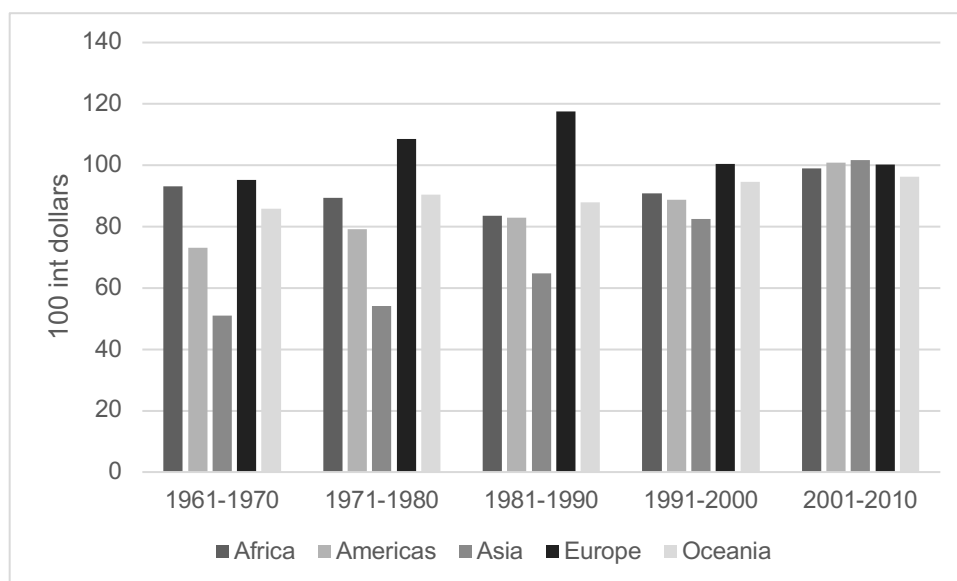
The productivity of food relative to current population numbers and relative to the history of agricultural production is high. Figure 6-2 shows the global growth rate of the global food supply for animal products, vegetables, cereals, fruit, and meat and Figure 6-3 shows the net per capita average value of the production for food.

Figure 6-2 Global Food Supply (Kcal/Capita/Day) Average Growth Rate per Decade from 1970 to 2009, Select Food Categories



Source: FAOSTAT.

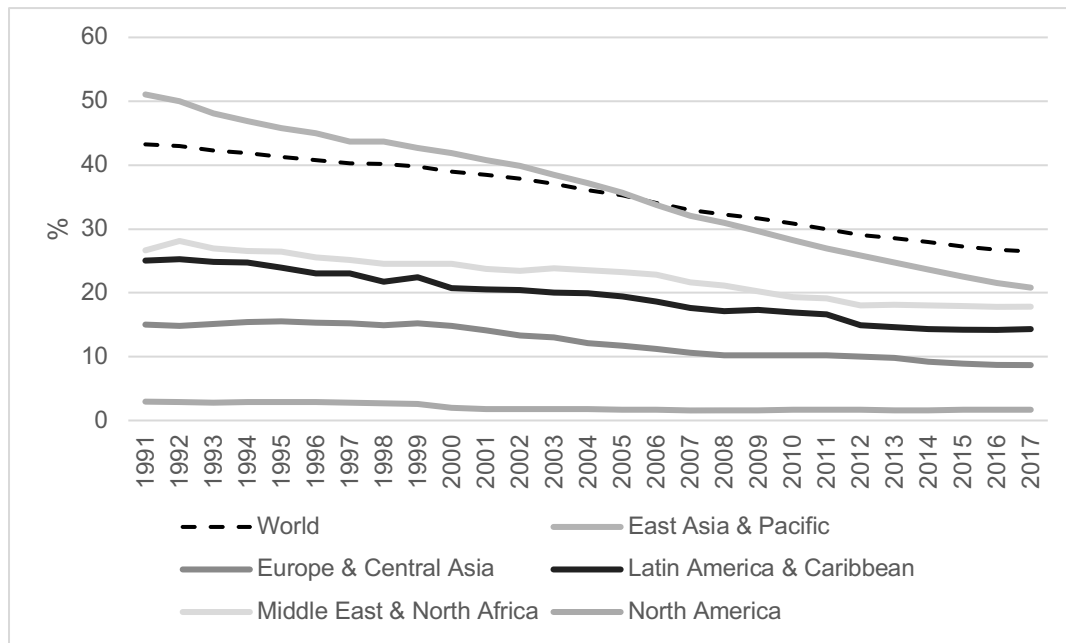
Figure 6-3 Net per capita Production of Food, 2004-2006 Prices, Decade Averages from 1961 to 2010



Source: FAOSTAT.

This growth was characterized by the expansion of meat production, leading to a relative decline in cereals geared towards food consumption. The relative growth rate of cereals has declined because its surplus is shifting to the production of meat and other food processing activities. In light of this development, the major developed agricultural states such as Canada and the United States depend on the production of food that can be highly mechanized and input intensive (Otero, Pechlaner, & Gürcan, 2013, p. 280-4). Figure 6-4 displays the regional character of the decreasing percentage of labour employed in agricultural production throughout the world.

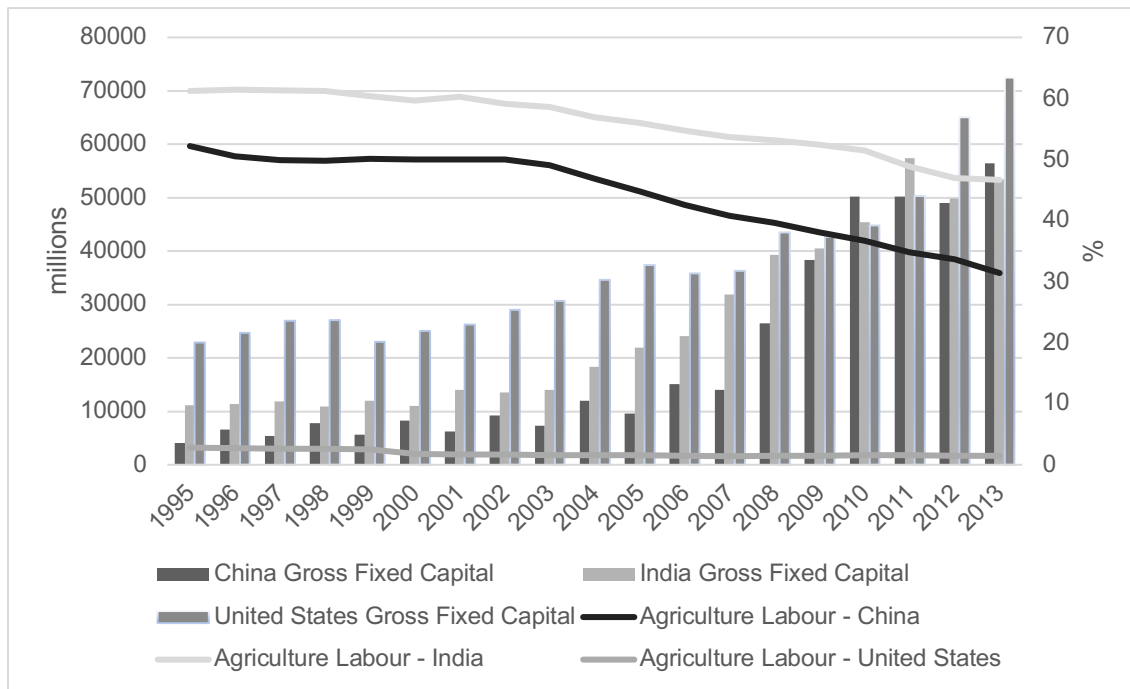
Figure 6-4 World Employment in Agriculture (%) by Region, 1991-2017



Source: World Bank.

Moreover, there has been a rapid growth of capital investment in farming during this same period. Comparing China and India to the United States reveals the general trajectory of this trend (Figure 6-5). This comparison is indicative of the general progression of *industrialized* agricultural production that relies more on dead than living labour. The outcome of the release of labour will be discussed later in this chapter; many developing states that are food import dependent have experienced increasing social immiseration because labour, pushed out of these sectors, has no other place to be re-absorbed without the structural makeup of national economies that can re-absorb labour surpluses into higher end sectors.

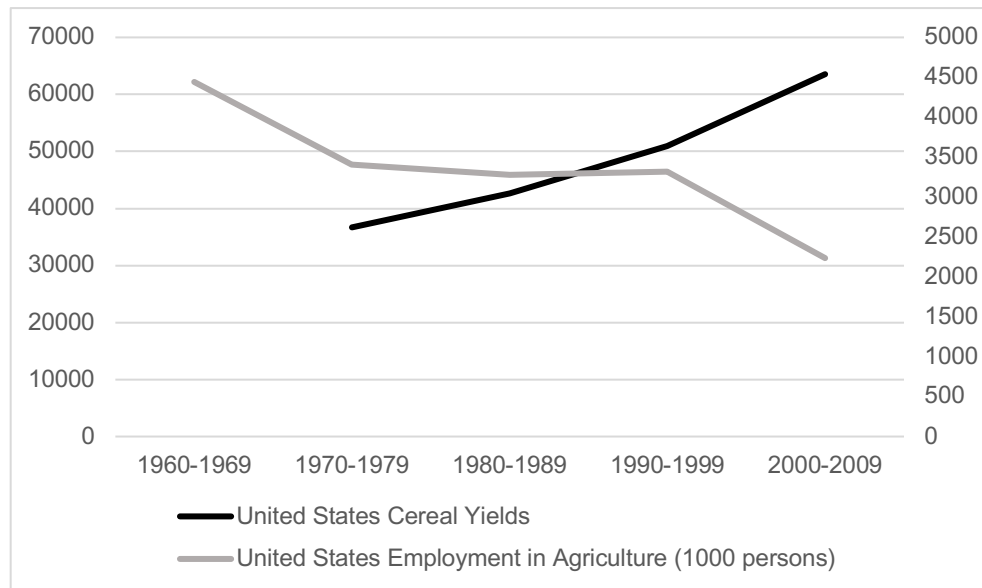
Figure 6-5 Gross Fixed Capital Formation (US\$ Millions) and Agricultural Employment (%) of China, India, and the United States



Source: FAOSTAT & World Bank.

Concentration of economic power at the international scale is reflected in the uneven dynamics of global food production. Reflecting this, Figure 6-6 shows the expanding productivity of agricultural capitalism within the United States. As one of the biggest exporters of food aid, the expansion of cheap food exports from the United States was pivotal in the construction of post-war capitalism across the globe due to geopolitical considerations vis-à-vis the USSR (Friedmann & McMichael 1989; p. 111; Patel, 2013). Indeed, many of the industrialization strategies taken up by countries articulated in section 5.2 and the formalization of independence was dependent on relatively cheap food imports, leading to a neglect of the agrarian sector.

Figure 6-6 Agricultural Employment and Cereal Yields in the United States, Decade Averages, 1960-2009



Source: FAOSTAT. Cereal yields on left axis, and employment in agriculture on right axis.

The replacement of labour with capital has three significant features within the context of agrarian neoliberal development. First, the ‘treadmill of production’ has led to processes of uneven development that have forced many developing countries to open up their agricultural markets to accept relatively cheap grains produced by some of the more advanced cereal producers (Patnaik 2010, p. 95). While small-scale family labour is recognized as being more efficient in terms of the use of economic resources such as land, the *mass* of production by high capital inputs involved in monocultural production⁹⁴ displaces the operating power of small-scale farming across the Global South. Mazoyer & Roudart (2006, pp. 423-8) argue that real food prices fell because of the increasing productivity in the form of yields per land and the reduction of labour employment in agricultural production. The dynamics discussed in section 4.3 are at play here. The concentration and capitalization of the agrarian sector devastated farmers throughout the

⁹⁴ The advanced agrarian economies depend on the ecologically-unsustainable use of dead capital in the form of carbon and in the auxiliary industries (such as nutrient fertilizer industries), and low-labour farm operations.

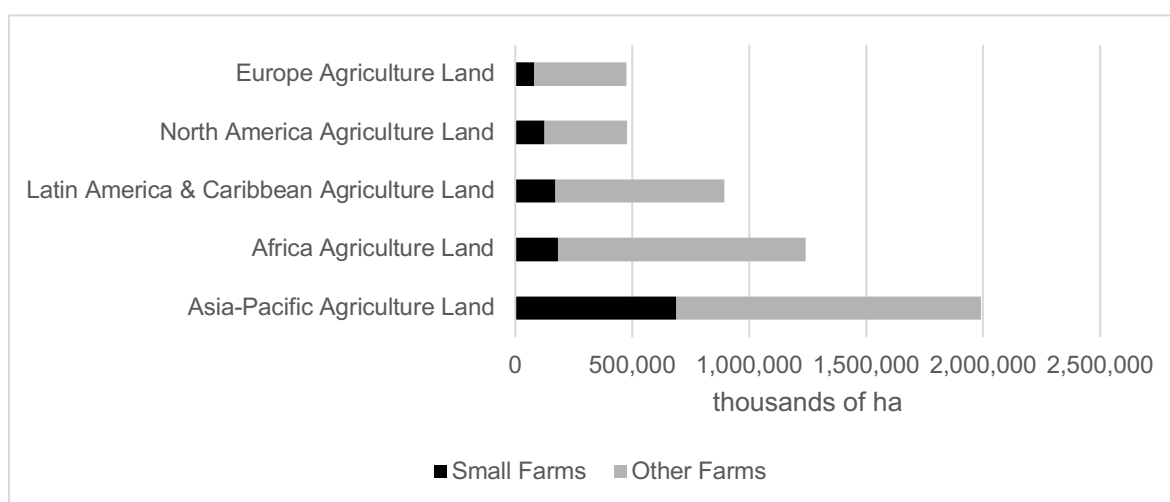
world as competitive impulses to invest in machinery, the extension of the working day in order to attain a 'survivable' market share, and the inevitable proletarianization of agricultural labour led to the uneven growth of capitalist agriculture:

Prolonged low prices cause the untimely ruin of farms that would have remained viable without such wide fluctuations. They accelerate the agricultural exodus in proportions that are unrelated to the labor needs of other sectors and can consequently be the source of unemployment. *Marginal farms and regions excluded from production during the periods of low agricultural prices are no longer there to take advantage of the periods of high prices that follow, and it is the surviving farms and regions that profit from their elimination by investing and conquering additional parts of the market* (Mazoyer & Roudart, 2006, p. 427).

Second, this dynamic points to the impacts that arise from what Mazoyer & Roudart call 'cumulative unequal development' (p. 433). Underlying the first dynamic is the inability of small-scale farmers to keep up with 'expanded production' found on the international scale, or even the 'simple reproduction' of their farming operations. Bernstein (1994) points to the history of this development as being one of 'peasant differentiation,' in which peasants and farming operations that could not invest capital into their operations were thrown out of the market. De Angelis (2007) and Harvey (2005b) call this feature the continuous character of 'enclosures' and 'primitive accumulation,' and 'accumulation by dispossession' (ABD) of small-scale agrarian producers that typically produce food for local markets. However, ABD cannot be divorced from the dynamics involved in the overall dynamics of capital accumulation internationally. The crisis of ABD is directly linked to the objective tendencies for the costs of production to increase through the replacement of labour with dead capital simultaneously. The social consequences of this tendency is that small-scale farmers undercut their own reproduction (i.e. simple reproduction) in order to prevent being thrown out of the market. The dispossession of small-scale farmers in the

Global South has been increasing, suggesting a general concentration of capital. While the majority of farms in the world are considered small-scale, the land-holding size of small farmers has declined, even though small-farms continues to be the majority. Figure 6-7 illustrates the share of land of small farms to total landholdings, and Table 6-1 displays the percentage of small farms of total farms.

Figure 6-7 Small-Farms' Possession of Total Agricultural Lands



Source: Data Compiled by GRAIN Report 'Hungry for Land'.

Table 6-1 Number of Small-Farms and Their Proportion of Total Farms

	Small Farmers	
	<i># of Farms</i>	<i>As a percentage of all Farms</i>
Europe	37,182,000	88.6
North America	1,850,000	76.8
Latin America & Caribbean	17,894,000	80.1
Africa	84,757,000	89.6
Asia-Pacific	420,348,000	93.9

Source: Data Compiled by GRAIN Report 'Hungry for Land'.

The inverse proportion between the land-holding inequality as demonstrated above suggests the growing concentration of land in the hands of capital-intensive farms as

opposed to the labor-intensive, and dwindling economic power basis, of small-farms. Small farms are generally more efficient due to the utilization of family labour and have been shown to be more efficient in terms of yields. This is due to the economic necessity of having to do more with less but also to important agrarian techniques and skills that are in line with 'labour-form' of knowledge, such as working with the land and being efficient calculators of the allocation of resources, understanding local conditions, and having an agricultural production geared towards the production of food for consumption rather than commodities to be sold as further inputs (GRAIN, 2014, pp. 10-6).

Third, the inability of farmers to maintain expanded reproduction in the Global South is linked to the uneven supports for agricultural production characterized by the neoliberal period. The decreasing support and public investments in agriculture in the Global South makes the national food supply more volatile to international food price swings as section 5.3.2 has shown in the case of countries that depend on food imports to satisfy domestic demand. The state plays a central role in the development of a national agrarian sector. The advanced capitalist states' agrarian sectors rely heavily on subsidies, research, and direct purchases in order to prop up the productivity of the agrarian sector. The relative cheap food prices arising out of technological innovation is directly tied to these support mechanisms like that which emerged from the Great Depression and the post-war state-management of agricultural surpluses in the United States (Friedmann, 1989).

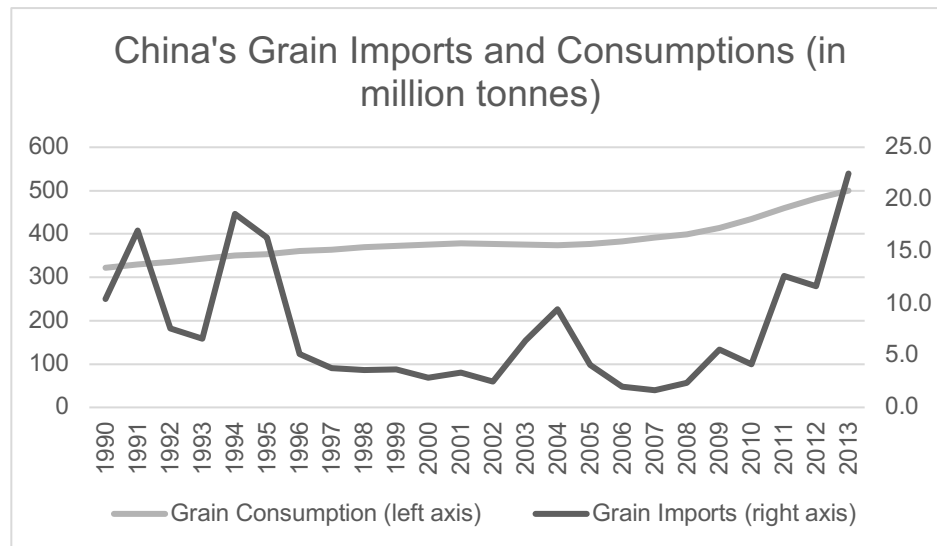
In the neoliberal period, a level of state support had been essential in avoiding the high prices of imports from the international food crisis of 200, but the general trajectory has been the dismantling of the public sector. As McMichael (2010, p. 59) argues, the role of the state in agricultural development and food provisioning strategies have lessened

with the creation of the World Trade Organization, and its Agreement on Agriculture (AoA) that has dismantled state management of the domestic agricultural sector, such as in price floors, removal of subsidies, and the dismantling of state-run cooperatives.⁹⁵ As opposed to this trend are states that have maintained strong regulatory supports for farms, such as China and India that had lessened their dependence on food imports. These states are recognized to have been able to reduce, but not completely eliminate, the impacts of food price increases from the world market. Illustrating this point, Figure 6-8 shows that grain imports fell in relation to the steady increases of food consumption of grains, thereby suggesting that food prices were not immediately impacted by the food supply diversions into China (Liverman & Kapadia, 2010, p. 16). Grain production in China was at 343 million tons in 1990 and reached productivity levels of 419 million tons. As the FAO has suggested, government policy of China and India regulating the domestic agricultural markets that gives relative higher support for their domestic agriculture production was able to satisfy internal demand (FAO, 2009, pp. 18-19).⁹⁶

Figure 6-8 Grain imports and Consumption in China, 1990-2013

⁹⁵ Investments into the agrarian sector by the state through production subsidies, and the link between biotechnology research and the state play important normalizing and regulatory roles (see Bridi, 2016; Prudham, 2007).

⁹⁶ Atkins & Bowler argues that the level of state support is essential and that "...in contrast, the record of increased food production in Asia has been outstanding" (p. 116).



Source: Data Collected from EPI's compilation of the U.S. Department of Agriculture
http://www.earth-policy.org/data_center/C24; <http://www.fas.usda.gov>.

With the subsequent dependence on the world market for food supplies for many developing states, food prices were increasingly set in the international market as production of food goods became more concentrated.

6.2.2 Embeddedness in the World Market and Export-Oriented Production

The politics of development characterized by the expansion of food production in the 20th century has expanded nations' embeddedness in global trade based on the principles of comparative advantage in technical and natural capabilities. Simultaneous with productivity expansion of global food was the development of an international market and the expansion of the world price in food. This necessitated an expansion of export-oriented production in order to maintain some form of comparative advantage. The increased concentration of capital in the agri-sector has therefore led to a systematic dependence on food provisioning by countries that are reduced to the simple trade of export oriented tropical products, mimicking colonial relations of wealth appropriation

(Patnaik 2010, pp. 95-6). The rise of export-led development in primary agricultural goods was encouraged as part of debt-restructuring programs of IFIs based on the Ricardian notion that national economies have natural comparative advantage properties.⁹⁷ According to this approach, it has been argued that small-scale farmers can become the backbone of nation-state food provisioning if they take advantage of the labour-intensive nature of small-scale farming along with investments in order to increase productivity for the international market. Concluding from their study on small-scale farmers, Rapsomanikis (2015) in a FAO study recognizes the positive role that small-scale farmers have in the ability of nation-states to feed themselves. This report argues that:

Today, it will be more difficult than in the past. About 70 percent of growth should come from yields. But the growth rate of the yields of the main staples has slowed down considerably, and fears are expressed that the trend may not reverse... Helping smallholders to close the yield gap is crucial. Labour- and input-intensive farm practices can increase production per hectare significantly. But what is needed to promote both food production and employment is significant increases in labour productivity. This will strengthen the demand for labour and raise the rural wage, benefiting the landless poor and setting the conditions for growth (p. 33).

According to this approach, the future of small-scale farming is at risk because small farmers are not using their labour efficiently (p. 15) and that the yield increases will be stalled due to their inability to produce more. Therefore, small-scale farmers in the free market must combine labour-intensity with input- and capital- intensity in order to raise rural incomes on small-plots of land. However, missing in this analysis is the contradictions

⁹⁷ Through a combination of selling their commodities and the construction of new needs, throughout the world, comparative advantage naturalizes uneven relations that put countries in a structural position of transforming production for the production of exports. An example of this has been the historical transformation of sugar from a luxury to necessary need in the diets of working-class Europeans (Mintz, 1986), the neoliberal period was a proliferation of tropical foods that arose with the expansion of export crops with the proliferation of liberalized production and trade policies.

of capitalist agrarian development, as articulated in section 4.3. Historical precedence such as in the Green Revolution in the 1970s points to the concrete and theoretical inadequacies of this approach (Das, 2002; Patel, 2013) in trying to increase rural wages alongside input and capital investments. Yet, this strategy stems from the Ricardian comparative advantage approach. The OECD argues that increasing food prices can benefit rural development and the incomes of rural labour. Attempting to fit the world into what Harvey (2017) calls the 'irrational rationality' of market relations, the OECD and its tight knit circle of development organizations argues that farmers can take advantage of price increases as would be expected from a *rational* economic actor, using the example of bioenergy growth. Far from helping small farmers, they argue:

On the other hand, farmers who are net food suppliers are likely to benefit from higher prices. Bioenergy growth can boost incomes by revitalizing agriculture, providing new employment opportunities and increasing access to modern energy, which can stimulate rural development. The food supply may be positively affected if the market for biofuel feedstock leads to new investments in agricultural research, infrastructure development and increased production (OECD 2010, 97).

As will be discussed in Chapter 8 through a focus on neoliberal Egypt, the growth of exports under a liberalized trading regime led by the World Trade Organization has led to a decline of the ability of nations to maintain domestic food production. Instead of realizing any comparative advantage in the export of food, they are continually becoming outlets for cheap food imports in the world market, necessitated by the surplus product of more advanced agrarian nations.

The 'maldevelopment' of the agrarian sector since the neoliberal period has seen agrarian growth primarily in export-oriented commodities and not in essential food needs. While variegated in political and economic histories, the nation-states listed below show

how there has been slower growth in the available supply of their major food staples compared to what they export. Table 6-2 shows the growth of the top export items along with the changes in national food supply of major food grains during the same period.

Table 6-2 Growth of Select Exports and Changes to per capita Food Grains for Select Countries, 1970-2013

	Top Export Items (1970-2013)		Food Supply per Capita of Major Food Grains (1970-2013, kgram/capita/day)		
			Maize	Rice	Wheat
Egypt	Oranges, Mandarines-	87%	+30%	+66%	+65%
	Potatoes and Products –	25%			
	Fruits –	230%			
	Vegetables -	326%			
Jamaica	Fruits	1175%	-13%	+28%	-15%
Jordan	Tomatoes and Products	83%	-	+127%	-3%
	Vegetables	-14%			
	Milk	369%			
	Fruits	311%			
Pakistan	Rice	457%	+71%	-58%	-6%
	Sugar	1200%			
	Wheat	164%			
Peru	Vegetables	1088%	-	+85%	+47%
	Fruits	-			
	Grapes and others				
	Coffee	31%			

Source: FAOSTAT Food Balance Sheet.

The expansion of export-oriented crops is an outcome of the political economy of international debt relations that had forced a regime of export-oriented production on net

food importing countries. However, the embeddedness to the international market does not necessarily help rural incomes at the farm-gate or at the local farmer's market and distribution centres but rather benefits exporters. Table 6-3 shows the price difference between farm gate prices (producer price) and the export value on the market for select countries and their select top exports. The growing dependence on exporting food goods to the world market *based on the principles of comparative advantage* forces a dependence on continuing this trend in order to attain foreign currency to import foods.

Table 6-3 Difference Between Producer Prices and Export Values for Select Countries, 2006

	Producer Price (USD/Tonne)	Export Value (USD/Tonne)
Egypt		
Rice	188	307
Oranges	173	231
Grapes	291	788
Morocco		
Tangerines (et cetera)	268	674
Tomatoes	165	628
Oranges	266	448
Jamaica		
Sugar	546	626
Coffee	1816	18,841
Bananas	422	464

Source: FAOSTAT.

Table 6-4 shows the top three cereal and agricultural exporters and their total share of the entire international market. Here, the promises of comparative advantages did not materialize. The major exporters of cereals and of all exports are overrepresented by advanced agrarian capitalist states.

Table 6-4 Top Cereal and Agricultural Exporters, 2005

Top Cereal Exporters, Worldwide	Share of World Exports	Top Agricultural Exporters	Share of World Exports
United States	24%	United States	10%
France	11%	Netherlands	8%
Australia	6%	France	7%

Source: FAOSTAT.

The *overall* implication of the recent period is the concentration of productive activity in tandem with the concentration of capital in agriculture (more investment needed due to competition on the market), further centralization of capital (smaller capital being eaten up by larger capital), and a decline in prices due to the increase of food quantity in relation to food needs, and the dependence on relatively cheap inputs from a 'surplus nature' such as fossil fuels and various nutrients.

6.3 Wealth Concentration, Social Inequality, and Food Insecurity

The international food crisis of 2008 was formed by the contradictory *economic relations* between labour and capital in the accumulation process, and the *political structures* that mediate the accumulation process. The totality of capitalist development in the neoliberal period has been one in which the growth of finance capital comes with the simultaneous dismantling of the 'developmentalist state,' and the articulation towards global financial markets (McMichael, 1999). This trajectory has 'torn asunder' the agrarian sector through the articulation of mechanized agrarian production and informalization of wage labour. It is for this reason that the international food crisis is but one expression of the accumulation process of capitalism as a whole and its progression across time.⁹⁸ There are two features that shape the current crisis of capitalism. First is the concentration of wealth and the

⁹⁸ As Das (2013) explains, the agrarian crisis is one that is simultaneously non-agrarian, and which is linked to the value relations of capitalism in its totality.

stagnation of incomes; accumulation in the neoliberal period is characterized as not having fully resolved the contradictions of capitalism. The real productive relations that accumulate wealth and economic control on the one hand, and a diminishing share of social wealth on the other hand have been accentuated by the *relatively unfettered* political control by the capitalist class as a whole through the financialization of capital (Robinson & Harris, 2000). These relations involve economic processes leading to uneven development, such as the international division of labour that has created an asymmetrical relation in food provisioning, and political supporting structures, such as the changing role of the state to facilitate a specific form of capital accumulation. Second, the accumulation process during the neoliberal period has influenced the distribution of wealth within and between nation-states to a degree that is characteristic of imperialist politics throughout the colonial period. Wages to the working class as a *whole* have been stagnant, thereby impacting food security within and between nations. The accumulation process rests on a process of imperialism that Patnaik & Patnaik (2017) and Amin (2010) argue increases food insecurity in the form of absolute immiseration. In this regard and based on the international post-war structure of nation-states within the wider process of imperialism, income and wealth inequality must be the focal point of understanding the international food crisis of 2008, because food is largely mediated by the market, and the political economy of capitalism since the early 1970s has been one of massive redistribution for capital (Harvey, 2005a). While this era has been one of relatively cheap food due to relative productivity gains that might be threatened in the future (Moore 2010a), the tendency has been the concentration of wealth, and the increase of both absolute and relative immiseration *even if production of agriculture and food have increased*. Moreover, the dynamics of growth arising out the of articulation of production towards 'new sites' of

accumulation such as in China, has hastened the concentration of wealth, rather than resolving capitalist crises (McNally, 2011, p. 26). The development of precarious petty agrarian commodity producers in the Global South thrown out of the market due to the concentration of land and the expansion of capital investment has come about simultaneously with the general expansion of capital accumulation in the form of post-Fordist techniques and technological development such as in computing, the internet, and robotics.⁹⁹ Through SAPs in the form of privatization and liberalization, absolute poverty emerged hand in hand with the concentration of wealth on national and international scales.

6.3.1 Transnational Capital and the Control of Agrarian Wealth

Surface appearances make the 2008 international food crisis appear unique to crises tendencies of neoliberalism and financial capital. Yet many of the trends in this and the preceding chapters show that the kernel of *capitalist development* depends on increasing rather than equalizing uneven development and the concentration of wealth. While the 'developmentalist' state was dismantled through the SAPs arising out of the debt crisis, with the dwindling land holdings of small farmers, the increasing concentration and centralization of capital in the productive assets of agrarian production increased (Wilkinson, 2010).

A report by the ETC Group (2007) compiled a list of the growing consolidations of capital in the agricultural sector, and the trends have revealed that the present necessary

⁹⁹ See Davis (2005) and Robinson (2014) who argue that the inability for capital to absorb surplus populations is a contradiction that has severe social impacts.

inputs are controlled by a small group of companies, which has led to increased prices and what McMichael has termed 'agflation.' Table 6-5 shows the market share of the top seed and pesticide companies in 2007.

Table 6-5 Top 5 Seed and Pesticide Companies - Market Share, 2007

Seeds		Pesticides	
Monsanto	23%	Bayer	19%
DuPont	15%	Syngenta	19%
Syngenta	9%	BASF	11%
Groupe Limagrain	6%	Dow AgroSciences	10%
Land O'Lakes	4%	Monsanto	9%
Top 5 Market Share	57%	Top 5 Market Share	68%
Top 10 Market Share	67%	Top 10 Market Share	89%

Source: ETC Group 2007, Who Owns Nature? Pages 11; 15.

Moreover, preceding the international food and financial crisis of 2008, costs of importing food were growing while the top agri-business companies earned increased profits. Table 6-6 illustrates the net revenue increases of the major grain traders and international seed and chemical companies. Accordingly, the net revenue change for Archer Daniels Midland and Bunge Limited increased 82% each from 2000 and 2008, while the net revenue from Monsanto and Syngenta increased 52% and 59% respectively within the same time frame. Moreover, Monsanto, which had been one of the major suppliers of seeds and inputs through Roundup spray and Roundup Ready seeds, was purchased by Germany company Bayer in 2018 (Daniels 2018).

Table 6-6 Net Revenue of Select Agribusiness Companies, 2000 and 2008

		2000	2008	Net Revenue Change
Grain Traders	Archer Daniels Midland	12,876 million US\$	69,816 million US\$	+82%
	Bunge Limited	9,667 million US\$	52,574 million US\$	+82%
Seeds	Monsanto	5,493 million US\$	11,365 million US\$	+52%
	Syngenta	564 million	1,385 million	+59%

Source: From the companies' respective annual reports.

The rise of export-oriented agricultural production in the Global South is marked by an international system in which advanced agricultural traders dominate. Otero, Pechlaner, and Gürçan (2013) argue, citing the FAO, that the dependence of many of these countries on food imports and exports of high value vegetables and fruits do not capture any comparative advantage value due to 'competitive' advantage. The growth of international traders resulted from the financialization of capital and neoliberal policies that tore down state control of agriculture and that increased the fluid movement of capital. As Murphy, Burch & Clapp (2012), writing for Oxfam, have demonstrated, the rise of financialization allowed for the steady, yet uneven, proliferation of international traders into developing states, where neoliberal policies have reduced state control over borders and agricultural trade. Traders have become the main receptacle for developing states to receive their food imports (pp. 48-50). The strength of the top four traders in the world, known as the ABCDs, is the market power to shape various states' access to food imports. This concentrated power is said to account for 75% to 90% of the global grain trade (EcoNexus 2013; Lawrence 2011). To provide a snapshot, Cargill, one of the largest privately held

companies in the United States, has investments allocated at 16% in Latin America, 27% in Europe, Middle East and Africa, and 16% in Asia Pacific, with net earnings exceeding USD\$ 1.822 billion in 2014 and USD \$2.377 billion in 2016 (Cargill, n.d.). All these companies have interests across the world; not only are they involved in traditional agricultural markets, such as grains, oilseeds, sugar, and biofuels, but they are increasingly involved in agri-inputs, energy, and financial trading (Baines, 2017, p. 520). What needs to be emphasized is that neoliberal financialization has increased the ability of traders to capture prices. As Baines (2017, p. 512) argues:

The commodity traders tend to thrive during periods of volatility due to their unsurpassed reach into global trade flows, their proprietary control over private grain storage data, and their often privileged access to policymakers and supply chain participants. Indeed, as they are privy to multifarious streams of commercially-relevant information they have a clear lead in the 'price discovery' process.

In contrast to the increasing power of these agri-businesses described above, farmers in both the Global North and South are losing out in the overall control and distribution of agrarian wealth. Farmers who grow food grains do so in the context of competition with highly efficient and productive industrial agro farms. Due to the necessary capital costs for inputs that increased yields necessitate, such as for fertilizers, petro-chemicals, and energy, any price increase will not be captured by farmers. As Baines (2017, pp. 511-512) suggests, there is a negative correlation between price increases and price capture by farmers, especially livestock farmers in the United States, for example, whose massive budget is spent on animal feed.

6.3.2 Food Immiseration in 'Developed' Capitalism

The growth of agricultural production has come about with the general increase of the wealth gap and stagnating and declining incomes in more so-called 'developed' capitalism. To understand *actual and potential* hunger, a focus on wealth concentration and inequality is necessary to explain why people go hungry in a world of plenty. Without lapsing to a 'thin theory' of inequality, which sees the problem as unequal distribution of income and wealth (Thompson, 2018, p. 202), a Marxist approach sees the gap arising from wealth concentration as a dialectical process that entrenches unequal distribution of wealth. Wealth and income inequality are a necessary by-product of the uneven processes of capital accumulation even if there are periods in capitalism's history where wealth distribution was more equal, or in which there were national food provisioning programs that maintained universal access to cheap food. A Marxist approach sees the problem of capital accumulation in tandem with the results of the process; uneven development, the creation of absolute and relative immiseration, and the end result of capitalism as a system inherently based on crisis.¹⁰⁰ As Thompson writes, inequality is the expansion of private wealth accumulation and the decline of sharing the surplus of public goods (2017 p. 203). While it is important to avoid a distributive politics, it cannot itself be ignored in the wider critique of capital accumulation. Practically speaking, the levels of inequality that arise out of the general processes of capital accumulation and concentration are general features of a class society that concentrates wealth and gives

¹⁰⁰ Crisis as either defined within narrow confines of allocation of goods, or crisis as defined to the qualitative relations that shape production in all its features (such as democratic control by labour, ecological relations that value nature as inherently valuable outside of human ethical concerns, and the organization of the relation to nature for the common good), can be the springboard that articulates an approach to food insecurity.

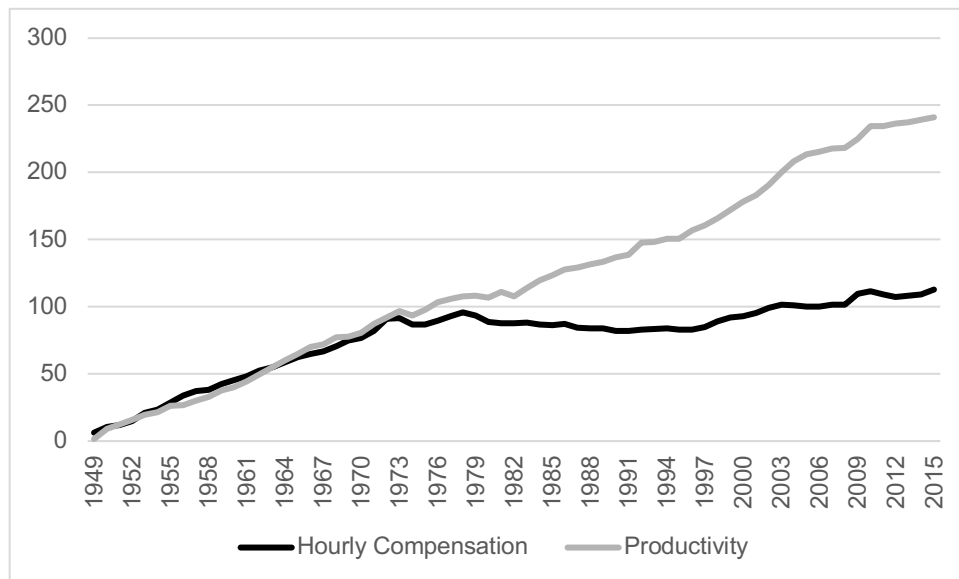
rise to social ills. As Harvey (2014, p. 169) suggests with the United States, the last time inequality existed at its current level was during the great depression in the 1920s and 1930s. An analytical focus on the capital-labour relation at the international level will help solve analytical contradictions found in the productivist school's accounts of national food insecurity. Furthermore, the argument of this chapter recognizes the entitlement approach but additionally finds the crisis in the tendency for capital accumulation to *cause unequal distribution that emerges from the capital-labour relation*, i.e. the sphere of production in its totality.¹⁰¹ In other words, income distribution and the wealth share is a mirror that reflects capital accumulation, the inherent immiseration at the heart of the system, marking the structural inability to satisfy food needs that are healthy, ecologically sustainable, and rich in cultural substance. The wealth of society at all scales becomes concentrated, wages are remaining stagnant, and the systemic tendency of value relations undermines the long-term existence from extracting wealth from human and non-human natures (Petras & Veltmeyer 2003, pp. 8-9). Specific to the crisis of agriculture and food, farmers in the Global South and North are placed on the treadmill of production in which free trade agreements encourage the concentration of wealth and production in the hands of transnational agro-industrial corporations (Robinson 2014, pp. 86-7). Food insecurity in 'developed' states reflects the capital-labour class struggle, and this struggle is reflected in growing inequality and immiseration. Food insecurity exists in developed capitalism. Philip Alston as United Nations Special Rapporteur on extreme poverty and

¹⁰¹ Even though there are instances in which capital accumulation and growth show greater distribution of wealth, it is important to view capital accumulation as a process underlined by crisis tendency. The point of discussing crisis tendencies is to show the systems' inherent tendency to cause a reserve army of labour and to underpay by food adulteration, undermining the conditions of existence, and by instituting a system based on alienated labour.

human rights, the United States has witnessed the simultaneous increase in the incidence of extreme poverty, rising inequality, homelessness, an increasing trend of hidden under and un-employment and prison incarceration, alongside increasing production and wealth concentration (OHCHR, 2017).

The decline in the share of growth by labour in the increases in productivity has been a feature of neoliberal development in the Global North. For example, Figure 6-9 shows that the American workers' compensation in wages has not risen in tandem with increases in productivity. Any of the gains in wages that did occur went to newly highly trained skilled labour in emerging industries (Schwellnus et al., 2017, pp. 18-19).

Figure 6-9 Productivity and Workers Compensation in the United States, 1949-2015



Source: Economic Policy Institute Analysis; Datasets from Bureau of Labor Statistics and Bureau of Economic Analysis.

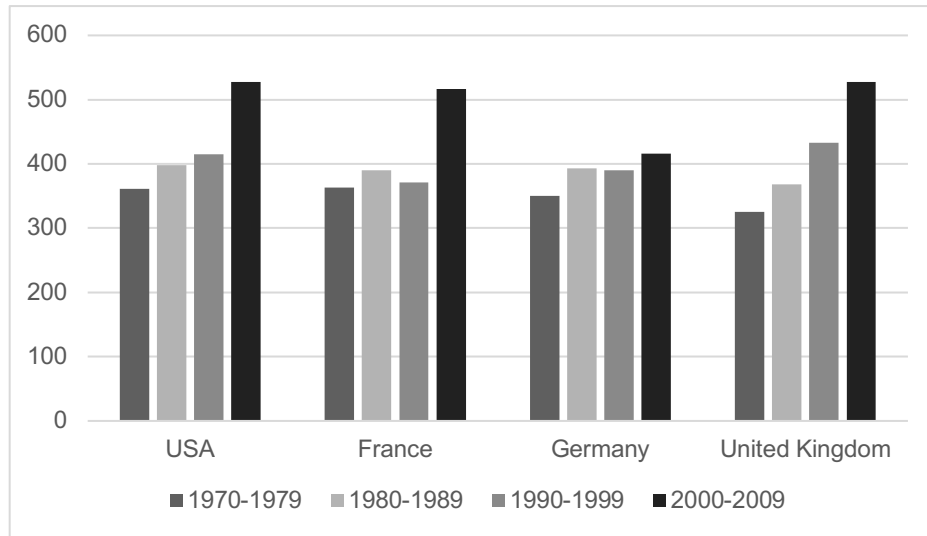
The focus on immiseration and the growing inequality emerging from the social relations of production point to the tendency of capital accumulation not only to cause hunger, but to make stagnant the distributional pie of total societal wealth. This is why a focus on the

social relations is key in the analysis of immiseration. As Petras & Veltmeyer (2003, pp. 4-5) illustrate, using data from the UNDP:

...the top 20 percent of the population in the world's richest countries had thirty times the income (in terms of total GDP) of the poorest 20 percent in 1960. This grew to thirty-two times in 1970, forty-five times in 1980 and fifty-nine times by 1989. By 1997, after five decades of development and fifteen years of structural adjustments – a period in which world production grew 600 percent (and trade three times as fast) – the top quintile received seventy-four times the income of those at or close to the bottom.

A country's level of development does not necessarily allow for an accurate estimation of food security for its general population. Because food is accessed primarily through the market, income levels of all family households in all geographical areas matter in the determination of food security, as opposed to a determination based strictly on geography. Across the world, the income levels of the general population have stagnated. Figure 6-10 shows the wealth to income ratio of select countries in the developed world, illustrating that wealth accumulation has been increasing at a greater rate than incomes to the working class. While this is a pixelated vision of the wage rate within these countries, and globally, it is a good indicator of wage stagnation.

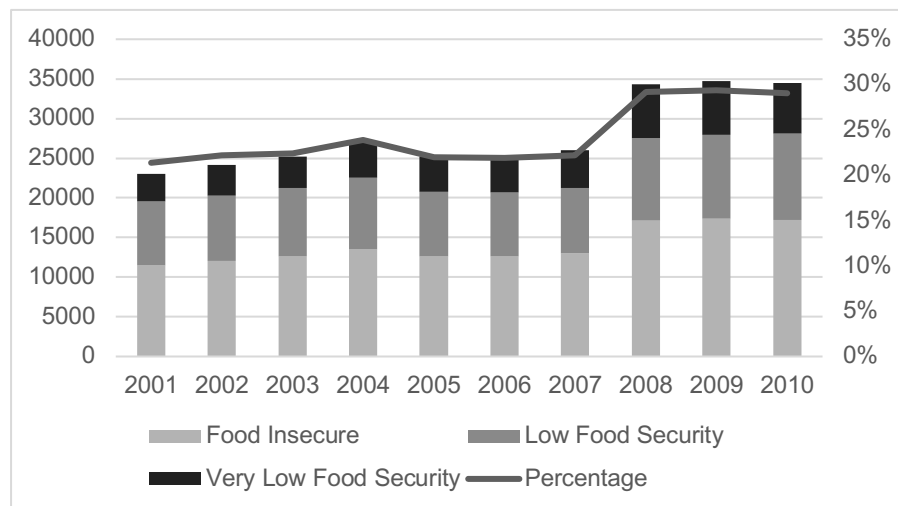
Figure 6-10 Wealth-to-Income Ratio in Select Countries, Decade Averages, 1970-2009



Source: World Wealth & Income Database.

The shocks of increasing food prices hit hard for those who spend a higher proportion of their income on food (Loney, 2008; Beltrame, 2008). In the United States, Figure 6-11 shows the increase in the number of people and households considered food insecure as a result of the rise of food prices in 2008.

Figure 6-11 Food Insecurity for All Households (1000s) in the United States, 2001-2010



Source: USDA Economic Research Service.

The number of those food insecure in 2008 jumped 49% from 2001 levels; there is a direct relation between declining food access, the increase of food prices, and the stagnation of

wages. Based on the Income to Poverty Ratio, which is the official poverty measurement of the US Census Bureau, the proportion of those under 1.00 who became food insecure jumped from 36.5% to 43% in 2009, with most of the change resulting in a status of 'very low food security'.¹⁰² For those under 1.30 and under 1.85, those food insecure increased from 32.3% to 39.7% and 27.9% to 34.8% respectively.¹⁰³

As with those under the poverty line, most of the change occurred during the onset of the international financial crisis. This period saw an increase in the usage of the United States' Supplemental Nutrition Assistance Program (SNAP). The dependence on food aid increased directly preceding, during and following (substantially) the food crisis of 2008 (see Figure 6-12); by 2013, 15% of the American population depended on this program.¹⁰⁴ Those who use the program are not temporarily unemployed but are largely those who work. As the USDA research unit states, a family of four that makes an approximate net monthly income of \$1,667 is eligible for this program, and about 30% of those who are on food assistance are employed, with 41% of families depending on an individual (or individuals) with a wage/salary, self-employed or having other earned income (Wolkwitz & Leftin, 2008, p. 38). In a summary report, the USDA concluded that the number of welfare recipients has lowered while the number of those working as a proportion of food

¹⁰² The Income to Poverty Ratio is calculated by taking the income and dividing it by a number three times larger necessary to buy a suitable basket of food. Therefore, a 1.00 ratio are those who are at the poverty line. Those under 1.00 are considered below the poverty line. See "How is poverty measured in the United States? Institute for Research on Poverty.

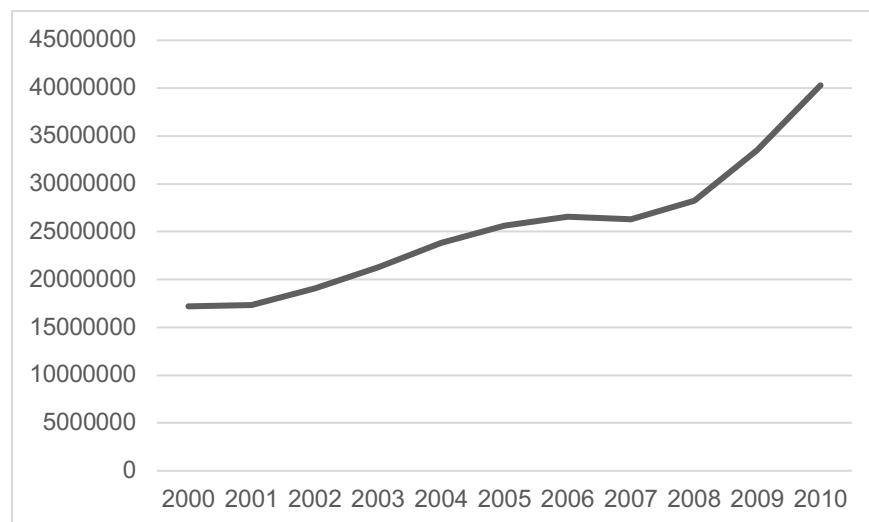
¹⁰³ This is significant because the official definition of food insecurity is "...the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways," and 'very low food security is defined as "...as households in which one or more people were hungry at times during the year because they could not afford enough food (USDA ERS).

¹⁰⁴ U.S. Congress has recently (Oct 2017) passed a budget that would see significant cuts to a variety of social programs, with the excuse that there are abuses to various social assistance programs (Matthews, 2017).

stamp users has increased. This suggests that those who work for an income are not earning enough to pay for their full reproduction of labour power:

The primary source of income among food stamp participants shifted from welfare to work. In 1990, 42 percent of all food stamp households received cash welfare benefits and only 19 percent had earnings. In 2007, only 12 percent received cash welfare, while 30 percent had earnings (USDA Food & Nutrition Service Office of Analysis, Nutrition and Evaluation, 2008).

Figure 6-12 Number of Participants on the United States Supplemental Nutrition Assistance Program (SNAP)



Source: USDA Food and Nutrition Service.

There is a direct link between the decline of incomes and food insecurity. Findings from surveys conducted by the USDA show that many food insecure households are receiving wages that are not enough to access a qualitative and quantitative amount of food needed for proper reproduction. As Rodgers (2016) demonstrates, there is a direct correlation between those who are considered food insecure and a lower wage rate, leading him to conclude that, "...increasing the federal minimum wage to \$15.00 per hour by 2023 would make a major impact on food insecurity across the nation. The share of food insecure households would fall by 6.5 percent. African-American and Latino households would see

their food security improve, corresponding to reductions in insecurity of 6.1 and 7.4 percent” (Rodgers III, 2016). Calls for increasing the federal minimum wage are a reflection that income distribution in the U.S. is facing a crisis; Table 6-7 shows the share of income received by each quintile population group from 1970 to 2008.

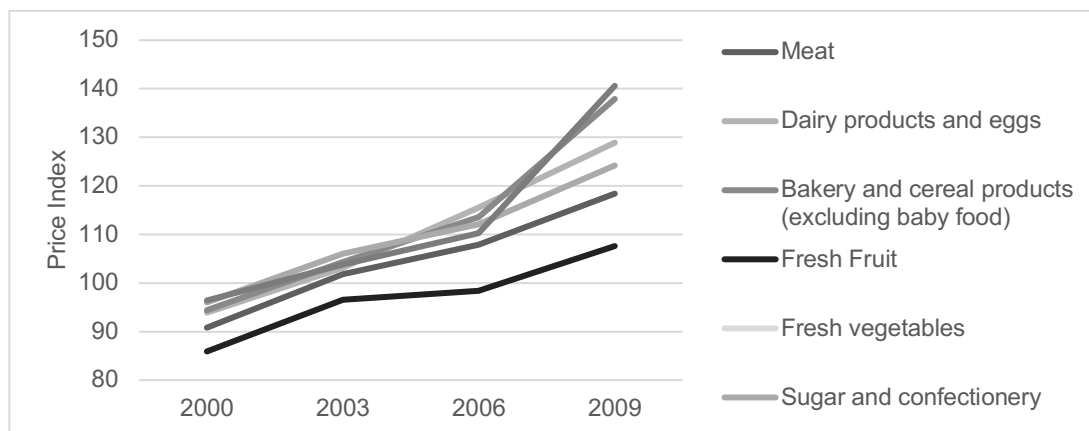
Table 6-7 Share of Aggregate Income Received by Each Quintile and the Top 5%

	Bottom Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Top 5 Percent
1970	5.4	12.2	17.6	23.8	40.9	15.6
2008	4.0 (-1.4)	9.6 (-2.6)	15.5 (-2.1)	23.1 (-0.7)	47.8 (+6.9)	20.5 (+4.9)

Source: US Census Bureau.

Canada has similar trends as the United States in terms of the connection between declining and stagnating incomes and increased food insecurity. In Canada, a food price increase in 2012 of 3-5% in food items, including dairy, meat, and bread, became a financial burden for about 3 million Canadians (about 9% of the total population) (Olive, 2012). Figure 6-13 shows the increase of food prices during the same time as the international food crisis.

Figure 6-13 Consumer Price Index for Select Food Groups in Canada



Source: Statistics Canada.

Tarasuk & Beaton (1999) show that the growth of food bank usage in Canada from the 1980s doubled by 1997; it is an alarming trend and one that is fundamentally linked to income levels. As with the United States, the loss of food entitlements can be attributed to the stagnation of income levels. Table 6-8 shows the median income and net worth of Canadians. In Canada, since the 1970s, the average growth of wages and income for the bottom quintile groups has stagnated, with very little increase in the minimum wage (Minsky, 2017).

Table 6-8 Median Income and Net Worth in Canada, Quintiles, 1999, 2012

		Bottom Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth
Median Income	1999	14,000	30,500	49,700	75,700	123,900
	2012	14,700	34,600	57,000	86,900	149,500
Median Net Worth	1999	7,600	70,900	135,100	203,700	424,900
	2012	8,700	113,500	236,900	388,200	879,100

Source: Uppal, S., & LaRochelle-Côté, S (2015).

From 1999 to 2012, the share of income and wealth has increased for the top four quintiles, with the top increasing the most, whereas the lowest quintile has not increased as much (Uppal & LaRochelle-Côte, 2015). The amount of those considered food insecure has been increasing in all provinces, and in absolute numbers. Between 2005-2013, there was an increase of household food insecurity in all provinces, with the loss of income share for many the primary cause. As Tarasuk et al (2014) has argued, those who are considered food insecure in Canada for the most part have lower household incomes, and

as a result are negatively impacted by spikes in food prices.¹⁰⁵ Increases in food prices negatively impact those in the bottom quintile groups who spend a significant amount of their income on food, with any slight increase affecting them greatly due to rising cost of other essential commodities such as transportation, rent, and housing. For example, in 2015, the lowest and second lowest quintiles spent close to 14.8% and 13.4% on food items (Statistics Canada 2017). In 2004, the amount of those experiencing some form of food insecurity in the bottom and second bottom quintiles was 48.3% and 29.1% respectively (Health Canada, 2004), while 2009 numbers remained similar.¹⁰⁶

In the United States, real wages for labour have been stagnant since the 1970s. An OECD study (2017) has recently concluded that there is a growing ratio between median to average wage rate, suggesting a 'partial measure' of wage inequality.¹⁰⁷ This allows for a more precise quantitative analysis of the relation of individuals to the wider share of the wage pool. The share of income for the bottom 60% of the U.S. has been steadily declining, whereas for the highest fifth it has increased. In the 1970s, the bottom 60% received 35% of income (aggregate), whereas the top 20% and the top 5% received 41% and 16% respectively. As Drennan calculates from data from the Bureau of Economic Analysis, the labour share of national income from 1969 to 2013 decreased from 65% (1969) to 60.7% (2013), never once increasing its share (Drannan, 2015, pp. 8-10). In 2008, the bottom 60% had received 29%, whereas the top 20% and top 5% had received

¹⁰⁵ This is done by taking the household income and dividing by the Low-Income Measure (LIM) ratio. The LIM is released by Canada yearly to calculate the proportion of spending.

¹⁰⁶ According to Statistics Canada, the various reports outlining food insecurity, and the methodology that measured the multi-faceted dimension of food insecurity cannot be directly comparable due to differences in the methodology. Therefore, even though the numbers are similar, they cannot be adequately comparable in terms of a trend. The point, nevertheless, is that food insecurity remains high for those who are on social assistance and have seen a decrease in their share of wealth (Health Canada, 2010).

¹⁰⁷ The ratio between median and average income is a 'partial measure' of inequality. The higher the ratio, the more equitable the distribution of labour income amongst the working class.

48% and 21% respectively. As the same time, labour productivity has been increasing due to the massive gains arising out of technical, technological, and logistical centralization in many industries.

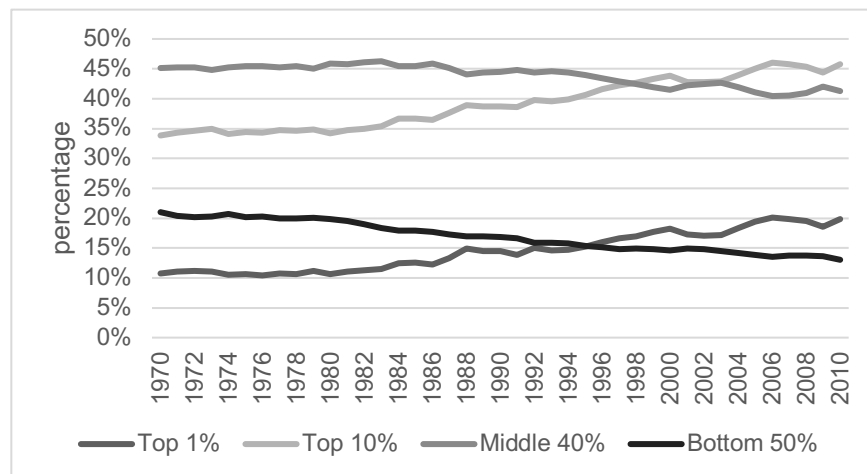
Stagnating income inequality is coupled with the potential rise of unemployment and the persistent trend of under-employment in the United States. Increasing and high capital investments in automation and labour-replacing technologies are depressing the wage rate, threatening the quality of employment. While unemployment has been low, the quality and nature of this work does not accurately reflect the real conditions of workers who have to experience under-employment, contract work, and multiple jobs. As Alston writes, the growth of productivity and the advancements of labour-saving technologies will compound this problem:

In terms of the employment market, the reality is very different from that portrayed by the welfare to work proponents. There has been a long-term decline in employment rates. For example, by 2017, only 89% of males from 25 to 54 years were employed. While 'supply' factors such as growing rates of disability, increasing geographic immobility, and higher incarceration rates are relevant, a 2016 report by the White House Council of Economic Advisors concluded that reductions in labor supply are far less important than reductions in labor demand in accounting for the long-run trend. Factors such as automation and new technologies such as self-driving cars, 3D printers, and robot-staffed factories and warehouses will see a continuing decline in demand for low-skilled labor (OHCHR, 2017).

The growing difference between the average and median wage rate indicates a level of inequality in which there is a slump for workers' compensation. In Canada, the average wage rate has been in a slump for most of the 1980s and 90s, with a slight bump in the 2000s; however, the difference between average and median wage has been growing larger, suggesting a hierarchy of compensation for different sectors of the population (Morissette, Picot, & Lu, 2013, p. 13). This has been the norm for most OECD countries.

Not only has the gap between the average and median wage been increasing, but the average wage of the top 1% has surpassed and grown from the rest of the population. Figure 6-14 shows the distribution of income in the United States from the 1970s to 2010. The bottom 50% and the middle 40% have seen their income share decline, while the Top 1% and Top 10% have seen their income rise. While not an indication of food insecurity in and of itself, it does indicate a measure and tendential process in which the distributional share of wealth will limit the distribution of food.

Figure 6-14 Distribution of Income in the United States, 1970-2010



Source: World Wealth & Income Database.

While the proportion of household income spent on food is low in the Global North relative to those in the Global South, two things are worth noting in terms of wealth accumulation in the former. First, the rise of food insecurity in the Global North is not a remnant of 'pre-development' or a feature of 'under-developed' areas in the developed world that just need to 'catch up'. Seeing food insecurity in terms of actual access to food is conceptually limiting if failing to take into account that the productive capacity of food in relation to the total wealth created in the form of agricultural products and of commodities in general; in

other words, it is a systematic outcome of capital accumulation that people will *constantly* be thrown out of proper employment. Therefore, immiseration is more important a concept than an absolute conception of poverty *because of rising productivity and the expansion of necessary needs*. Moreover, the quality of food in the Global North has been demonstrated to create the reverse problem of hunger in many ways: obesity. Diets high in carbohydrates, sugars, and fats have led to what Patel (2012) argues to be the simultaneous rise of starvation and obesity. Second, the end of the era of 'cheap food' a variety of authors have argued may be true due to the ecological contradictions of capitalism; however, the normative question about how the social surplus *distributes* commodities produced *in abstraction* of the productive limits is useful to show the social character of distribution and inequality, even if the ecological questions are abstracted out. This is to emphasize the social character of inequality and food insecurity, not to erase questions surrounding our ecological relations to nature.

6.4 Conclusion

This chapter argues that the international food crisis of 2008 must be seen within the context of capitalism as a whole and its various manifestations. As seen above, the capacity to grow food has been on par with population growth. Therefore, food insecurity is not a question of whether there is enough food but why some go hungry within the context of growing yields and productivity. The geographical difference of food production rates matter, therefore making some countries more dependent on food import than others. Price changes on the international market impact the ability of some countries to import food, especially those that are food-import dependent. From the empirical evidence provided in the previous chapter, there is a direct link between occurrences of food riots

and protests, food-import dependency, and income levels. However, these events in themselves do not explain the overall dynamics of the capital-labour relation. These two chapters also link food accessibility to the greater growing concentration of wealth and stagnating income levels across the world. As food prices have increased, income from wages have stagnated and declined significantly across the world. Many in the Global North who on average spend less on food as a proportion of their average wage are still impacted. Likewise, those in the Global South have seen a decline in their terms of trade, have been locked into a relation of structural vulnerability, and have seen their agricultural productivity geared more towards food exports of high value items at the expense of local food production.

The above is within the context of capitalism in crisis. While a variety of authors have located the uniqueness of food insecurity to the era of neoliberalism, such as through the rise of speculation, rise of biofuels, and the removal of state-support agricultural programs, I argue that food insecurity is an outcome of a greater crisis within capitalism that expresses itself in the causal factors above. Each financial crisis has a unique form that expresses itself in the rising cost of food. Understanding that the financial crisis is always a crisis of productive capital allows us to unite the seemingly separate incidences of food price increases with the conditions in global capitalism.

7 Colonial and Post-Colonial Food (In)security: Contradictions of Capitalist Development and Egyptian Food Regimes

7.1 Introduction

This chapter reviews the literature on the colonial and post-colonial history of food insecurity in Egypt within the context of the development of 19th century colonial capitalism. The conceptual development outlined earlier allows for a dialectical reading of this period to show the contradictory character of food accessibility in the world market. A discussion of the introduction of capitalist social relations in colonial Egypt also illustrates the limited form of development in post-Colonial 'dirigiste' Egypt. As in the development of capitalism in the colonial period, the neoliberal period shares the same trajectory of state implementation of a strategy of comparative advantage by dependence on food imports while seeking growth in export-oriented production. Woertz (2014) identifies the Egyptian colonial and post-colonial period as characterized by the first and second food regime. In the case of Egypt, the first food regime is associated with the rise of export-oriented production of raw materials, such as cotton and sugar, and the second food regime can be identified with post-colonial states that linked ISI policies with land-reforms and state management of the economy (Woertz, 2014, pp. 20-3). Owens (1969) and Richards (1982, p. 37) demonstrate that the colonial development of Egyptian agriculture was based on four key pillars: development of export crops, namely cotton and sugar; the growth of land concentration due to debt, tax and rent relations; the draining of labour from subsistence production to production on large estates; and the growing burden for small-

scale farmers in reproducing their capital, resulting in their under-consumption of food.¹⁰⁸ The ultimate endpoint of this process was the loss of personal private property, the growth of alienable land relations, and the proletarianization of labour. The development of an unfettered colonial capitalism and the colonial debt administration placed on Egypt led to absolute forms of poverty and food insecurity. The growth of land inequality became so extreme that this development simultaneously saw the emergence of social unrest because of food insecurity. From the 1950s to the mid 1970s there was a regulated form of capitalist accumulation that would guarantee access to cheap food and institute land reforms through a public agrarian system that created important safeguards and security for tenants.

Below I review the literature on the colonial history of Egypt and links it to the wider themes of capitalist development, 'uneven and combined' development of capitalism, and attempts of social regulation. This review contextualizes the development of 'unfettered' and 'uneven and combined' capitalist development and the world market, and the contradictory position of the state in its attempts to enable food insecurity in the midst of a regulated form of national capitalist development, and in view of its internal and external limits. The first part of this chapter explores the political economy of property relation transformations, labour relations, and the development of 'national food insecurity,' and the second part will details the construction of the national food subsidy and public agrarian system. In both periods, the state played a central role, where it both enabled and attempted to regulate the excesses of accumulation, or facilitated the transfer of

¹⁰⁸ See Rivlin (1961) who analyzes the economic policies and state formation of 19th century Egyptian agricultural change. Cuno (1992) analyzed the emergence of new landholding arrangements. Summarizing this period, Benin (2001) argues that this formed a 'backward colonial capitalist' form of development.

wealth through imperialism, and the concentration of landholdings to facilitate this transfer.¹⁰⁹ While dirigiste policies did reverse wealth concentration and decreased the barriers to food accessibility, it did so in a limited way to the rhythms of the world market and the world price in food.

7.2 Primitive Accumulation and the Development of Capitalist Food Insecurity

7.2.1 Introduction

This section reviews and establish a historical materialist reading of the introduction of capitalist social relations in Egypt during the 19th and 20th centuries, in the processes of what Marx called primitive accumulation. First, Richards (1982, p. 39) links primitive accumulation to a mix of overspending and overborrowing by the state to produce export crops at the expense of peasants who were burdened with over taxation, increased costs of production and rent, and the extra-economic force of violence and military conscription that reduced the amount of labour (see also Owen [1969, pp. 18-20]). As Luxemburg (2004) outlined in her analysis of the crisis of capital accumulation in Europe, the importation of capital through debt relations made it possible to extract more labour from small-scale peasants, in capital's constant search for 'cheap natures, labour, and food' as a spatial fix to its crises. In reviewing the literature, I focus on four generative mechanisms that increased the conditions for food insecurity, all linked to the world market. The first mechanism was the transformation of productive resources for the sake of export-oriented

¹⁰⁹ Davis' (2007) concept of 'structural vulnerability of hunger' is useful here because of articulating a productive scale through relations of state mediation of accumulation and regulation under the context of imperialism.

production. Land and property relations geared local productive forces for the international market. Wealth and productive forces were concentrated to grow cash crops for exports rather than food for local consumption. Results became processes and those who were unable to gain from the comparative advantage of export crops were effectively dispossessed of their personal private property. The second mechanism were changes to the agrarian landscape to facilitate these commodity exports. The changes to the agrarian geography of Egypt benefited mostly crops for export, without a relative corresponding improvement to the production of crops for national consumption. Moreover, technological changes by Mehmet 'Ali and the state elites descending from his rule increased production in ways that monopolized productive resources and capital (Rivlin, 1962). The third generative mechanism were the changing features of production and the growing power of the state alongside the articulation of labour through forced corvée labourers and military conscription. This drained family units of important sources of labour to grow food. These changes were made by the draining of labour from household and self-subsistent farming (Luxemburg, 2004, p. 409-11). The fourth generative mechanism was the devaluation of peasant labour without corresponding support networks to maintain food accessibility in local markets. All of this was in the context of increasing embeddedness in the growing world market in agrarian production. The introduction of alienable property rights, coupled with increased taxes and debt relations, created a class of labourers dispossessed of their lands. The four mechanisms identified in the literature formed a positive feedback loop towards food insecurity. This entire process culminated in a form of backwards colonial capitalist development and 'bimodal agrarian development,' (Beinin,

2001; see also Richards, 1982),¹¹⁰ and ultimately into a regime of colonial debt administration in 1882 by British and French administration.

7.2.2 Capitalist Development, Food, and Class

Food and class in the MENA and in Egypt have historically been intertwined in three ways: the kinds of food eaten, the depiction of wealth, and the form of distribution of agricultural wealth based on class relationships. This had both economic and cultural dimensions.¹¹¹

The diets of in the MENA were simultaneously unique to the geography of the region and largely based on class formations. Hourani (1992, p. 127) writes that there were basic food items such as bread, olive oil, and vegetables, such as onion, garlic, and aubergines. For the upper classes there was a more varied diet: there was a wider range of vegetable varieties and fruits that were both locally produced and imported, such as oranges, dates, peaches, apricots and grapes. Meat was consumed only rarely by the poor, such as the consumption of beef during festivals and celebrations, whereas the rich ate more meat, such as lamb rather than beef, chicken and fish. In terms of production, Owens (1969, pp. 7-8) writes that before the 19th century, Egypt had grown specific kinds of food products, and products for trade and inputs for the domestic industry:

The type of crop grown in Egypt before 1805 depended largely on the system of irrigation...Most of the land was devoted either to so-called 'winter crops – wheat, beans, barley, flax, clover, fenugreek, safflower, lentils, chick-peas, lipins, tobacco, and opium... or to Nili crops, such as dhuras (maize or Indian corn)...about an eighth of the cultivated area of Lower Egypt, and a smaller proportion of Upper Egypt, was used for

¹¹⁰ See also this form of colonial rule by France in Algeria.

¹¹¹ Such as the celebrations surrounding the yearly flooding of the Nile.

'summer' crops - sugar, rice, short-staple cotton, henna, sesame, and ground-nuts.¹¹²

Second, food was also the site of important cultural symbols of wealth and status. For example, gazelles and antelope were depicted as "...part of the wealth of great Egyptian landowners" (Toussaint-Samat, 2009, p. 86). There were also universal and culturally specific understandings of food and its environment; such as one specific to the yearly flooding of the Nile.

Third, the organization of production in agrarian and food production had specific formations depending on their moment in time. During ancient Egypt, Mazoyer & Roudart (2006, p. 163) argue that produce was distributed through 'state-controlled tributary,' and during the Ottoman empire, a mix of commodity market and tributary pressures led to revolts that undermined centralized rule. However, throughout much of these periods, Egypt was a net food exporter. Both the Roman and Ottoman empires treated Egypt as the great agricultural fields necessary for empire. Before the 18th century, there existed important markets for a variety of foodstuffs in Egypt and the entire Ottoman empire. Egypt was, as with the Roman empire, the breadbasket of the Ottoman Empire (Mikhail, 2011). Before the growth of the modern Egyptian state, there were productivity increases in agriculture production, relations of trade, such as in coffee, was already established, and there is evidence that market transactions and alienable land titles existed before the 19th

¹¹² There are three seasons in Egypt, Summer, Winter and Nili, which corresponded to the annual flooding of the Nile.

century (Cuno, 1992; Owens, 1969, pp. 12-13).¹¹³ Cuno details how Egypt in the 19th century had already begun the processes of land concentration and alienable land:

...court records show that before 1800 a market network and ties of credit and investment already linked villages to towns and to the regional and international markets. The production of crops for the market was widespread. In Lower Egypt peasant-held land was in effect already alienable, and this permitted the emergence of wealthy families in possession of large amounts of land, a phenomenon that seems to have been encouraged by proximity to the market.

It was the 19th century that saw the state implement capitalist and semi-feudal forms of labour arrangements, acting as important appendages for what Arraghi (2003) calls the 'global work day'. The formation of Egypt's position in the international market took a divergent path as compared to other countries during 'European contact' in the 19th century. Issawi (1995) argues that Egypt, and the Middle East in general, had very similar characteristics to Japan, but had taken a divergent path due to a number of reasons. Egypt did not reallocate surplus towards 'human resources' (such as education, health, and employment of women across sectors). With respect to the transformation of the

¹¹³ One does not have to subscribe to views associated with 'Oriental Despotism,' or that Egypt and the Middle East in general under Ottoman Rule entered the modern period with Napoleon's invasion of Egypt at the end of the 18th century, to recognize the transformative period this has had on the lives of the fellaheen. Indeed, it has been shown by historians that internal to the debate within the Ottoman empire had been reforms in order to keep up with the technological advancement of various European states. As opposed to the 'sick man of Europe' discussion by a variety of state elites in Europe at the time, the Ottoman empire had implemented the Tanzimat reforms (Hourani, 1992, p. 272). With that said, it is not necessary to go into the debate about class relations in the pre-colonial period and the non-capitalist modes of production (Asiatic, et cetera). In the case of direct colonization, such as in the case of Palestine and the Zionist nationalist movement, ethno-centric and racist conceptions of 'modernization' are problematic in that they force history into a historically specific understanding of development (Sa'di, 1997). Yet, a number of features should be charted because the development of capitalism was from the start international and based on 'primitive accumulation.' First, relative to pre-capitalist production, agricultural was mostly for subsistence, payment by the various regimes to the central Ottoman government, and non-capitalist market relations and commodity exchange. Second, the state was relatively untied to the production process in the same way as in the colonial period. As we shall see, the speed-up of private property relations occurred simultaneously due to the productive needs of European factories, and the necessity for European capital to find outlets for their manufactured goods.

agrarian sector, Egypt focused on the specialization of a raw material resource (such as cotton) rather than the development of its agrarian technology that could diffuse across the countryside and for different industries (pp. 174-6). The massive increases of cotton production and the associative transformation of life in Egypt was the content of the development of a backwards form of colonial capitalism. Facing similar situations as other regions in the world, Egypt became an appendage to the growing productive capacity of capitalist production in Europe. In this vein, Issawi writes that Japan was able to withstand the flooding of European consumer goods whereas the Middle East and Egypt in particular had terms of trade that forced a form of backwards capitalist development subservient to the dictates of the external international market, and finance capital (pp. 176-177).

7.2.3 Food Insecurity and the Limits to Comparative Advantage

The role of the state in the transformation of Egyptian production impacted food grown domestically. There was a qualitative shift in the production of cash-crop exports, which increased the qualitative intensification of production compared to Ottoman rule (Rivlin, 1961, p. 170).¹¹⁴ During the first few decades of Mehmet 'Ali's rule, food shortages can be attributed to the introduction and growth of long-staple cotton and sugar for the factories in Europe, the hoarding and exports of foodstuffs to Britain, Ireland and France when prices rose, and the shipments of food to the Egyptian armies during campaigns in Greater Syria in the early 19th century (pp. 154-156). The expansion of export-oriented crops occurred as part of the goal to create a modern state machinery to gain

¹¹⁴ This mimicked other regions in the Ottoman Near East which began to cultivate lands for European capital and factories; what was then Mount Lebanon specialized in sericulture for exports to European factories such as Italy and later France with implications for the local availability of cereals (Traboulsi, 2007, pp. 8; 46-7).

independence from a shrinking Ottoman Empire.¹¹⁵ Sugar and cotton were the prime exports of agricultural production, but food items such as wheat and rice were also exported and sometimes more profitable. For example, Rivlin writes that native rice was sold to export markets, with cheaper imported rice being distributed to Egyptians (p. 144). Wheat and beans were hoarded and sold to European merchants when regional prices increased, causing shortage problems for local markets (p. 152).

The expansion of cotton throughout this period saw ecological contradictions (Owens, 1969; Richards, 1982, pp. 69-72). The shift towards long-staple cotton required more water than usual but could only be planted when the Nile waters were low (Beinin, 2001, p. 26), therefore requiring significant labour time to create hydraulic changes. Cotton production also increased the strain on local ecological capacities because of its taxing nature on nutrients from the soil (p. 139). There were also changes to the agricultural rotations throughout the 19th and 20th century, increasing from two to three a year, causing ecological consequences for the small-scale *fellaheen* owners, similar to changes in England with the introduction of enclosures. Richards (1982, pp. 69-72) writes that the shift caused major problems for peasants who began to adopt the cotton crop on a two-year rotation; not only that, but other ecological consequences were at issue, such as non-aerated soils, the growth of pests and insect problems associated with over-planting and monocultures, and the reduction of plants important for land fertility, such as beans. Egypt had taken the path of American agrarian development without the land: extensive production of land without having the land to move once ecological

¹¹⁵ For example, one of his early challenges to Ottoman central rule, in the First Egyptian-Ottoman War (1831-1833) and the Second Egyptian-Ottoman War (1839-1841).

consequences emerged. As the next section will show, ecological consequences were translated into social ones.

The production of space favoured large-scale monocultural farms. The production of space is not only needed to transform large scale infrastructural projects, but rearticulated Egyptian rural and urban living in certain forms related to European development (Mitchell 1988). Some of the mass-scale projects for the cultivation of cotton and other export crops included railway construction, perennial irrigation, barrages, water wheels, canals, other waterworks, and a variety of public works that increased agricultural productivity (Richards, 1982, p. 30; Luxemburg, 2004, pp. 413-4). At first it was the larger estates that grew cotton for exports that were better at taking advantage of these new mass-scale projects. After all, the development of cotton had occurred directly due to the active hand of the state, through the importation of experts and the establishment of journals dedicated to cotton. While small farmers did grow cotton later in the 19th century, they did so under growing pressures of increasing costs of production (next section). Moreover, the ability to implement more ecologically-sound shifting patterns, or the ability to hold off on selling commodities at lower prices, was limited to large-landowners. This made them better able compared to smaller scale peasants to reap the comparative advantages associated with high cotton prices (Rivlin 1961, p. 139). The increasing need for land for growing cotton took away potential uses for local food production because it was more profitable to grow export crops than it was to grow wheat or beans. Rivlin writes during the time:

The area of land utilized for cotton cultivation increased enormously during Muhammed 'Alī's reign. In 1824 it was estimated that 50,000 faddāns would be devoted to cotton; in 1830 the Pasha claimed that he had planted 400000 feddāns...In 1836 the amount of land devoted to cotton cultivation

was estimated at about 320,000 faddāns. In 1844a total of 224,000 faddāns was supposed to be devoted to cotton. A smaller amount was probably sown... (p. 143).

The establishment of new property relations naturally developed along the growing concentration of land and its associative resources needed to produce export crops.

7.2.4 The Concentration of Land

The transformation of space and nature was a by-product of the changing production relations and property relations that emerged in the context of a backwards colonial capitalist state. The implication is that these large estates were much more productive than small scale peasants due to their ability to utilize and take advantage of technological developments in farming. Owen writes that the quantitative *mass* of productive power allowed rich landowners to reap the benefits of the cotton trade, while smaller peasant family farms were forced into debt bondage with traders, and had to exhaust their lands, compared to richer families who could maintain a suitable crop rotation (pp. 76-8). So, while productivity of agriculture had expanded greatly, the productivity of the fellaheen declined due to the uneven dissemination of technological change. This reflected the growing productivity of agriculture at the time. On the one hand J. Bowring would argue that the productive capacity of Egypt had expanded: the agricultural capability of Egypt to feed itself is great. For example, "...in Upper Egypt, I was told by the inspector-general, that 100,000 feddans had been brought into cultivation. In this part of the country, whose appearance is rich promising, wheat is the principle article produced; and such is the feracity of the soil that the districts of the Sayd would, under proper management, furnish a sufficiency of corn for the consumption of Egypt" (Bowring, n.d., p. 13). If we look at the

statistics, more land was brought into production. Rivlin (1961, pp. 265-270) calculates the amount of land in feddan, and she suggests that even though the land decreased, the qualitative change in the productive process increased. Relatedly to the class dimensions of productivity and land concentration, class apologists throughout the history of capitalism are not rare, and Egypt also had its share. Bowring argues that the Arab fellah is unproductive but for absolutely problematic ways: "...left to the free exercise of his own will, would confine himself to the wants of the moment..." (Bowring, n.d., p. 64). In another place, Bowring observed that "...the peasant is always desirous of producing what he and his neighbors consume, in preference to articles for exports..." (Bowring, n.d., p. 26).

The expansion of large-scale production and export-oriented crops had come about with the rise of the *'Izba* estate system. This land-tenure system restructured the working day, having direct, negative impacts on food security for the *fellaheen* compared to other previous forms of landholdings (Richards, 1982, p. 61). Property relations under the *Izba*' system grew due to the growing dispossession of labourers from their land and who had no other place to labour. In the 1850s, most landholdings were under this system.¹¹⁶ Owen (1986, p. 71) writes that this system became an important mechanism to control those dispossessed; many small scale peasants and workers who were in debt to the landowners, essentially working for free even though they got paid a wage, and were given small plots of land to grow their own subsistence crops (but were essentially forced to neglect their plots due to the massive work required on cash crop production):

They began with the control of the land itself and with the fight (institutionalised in 1885) to establish an *ezba* containing sometimes hundreds of peasants who were housed and given a small plot of land in

¹¹⁶ As Richards (1981) writes, these estates were primarily involved with the cultivation of cotton (about 3/8th of all cotton grown).

exchange for their labour service. This at once created a community of people, totally dominated by the landlord, which also acted as an important focus for economic activity, whether as a market for goods and services or as a source of credit, within the whole district... Most of the estate owners were able to play an increasingly important role in national politics, first simply by virtue of the fact that Egypt's rulers relied on them to maintain order in the rural areas and to help in the execution of certain necessary tasks like taxation and conscription.

The transformation in property relations was due to economic processes that concentrated productive resources and to extra-economic processes that expanded unfree forms of labour for commodity production in the international market. It has been suggested that the *'izba* system is a form of 'backward colonial capitalism', which contained political and physical threats of violence (with the whip, coercion, overseers, etc.) (Beinin, 2001, p. 53). The development of extra-economic forces was part in parcel of the growing concentration of capital occurring in Europe. The extra-economic forces did not lessen with the abolishment of the trade monopsony with the 1838 Anglo-Ottoman Commercial Convention (Owens, 1969, p. 71-72), and the implications of French laws that made land alienable. The establishment of the *Izba* system of land tenure led to greater land concentration that continued throughout the 19th century and culminated in the first half of the 20th century (Richards, 1982, pp. 26-9, 58-62; see also Owen, 1969, pp. 240-1).

From the 1850s onwards, there was a new period of land grants that led to greater concentrated wealth and land. The introduction of a formal private property system increased the number of labourers with little to no property rights. Owens (1986, pp. 69-70) writes that "...by the beginning of the 20th century, over 40 percent of the land was held in 12-13,000 properties of 50 *feddans* and over...while the remainder was divided up into some 140,000 medium units 5-50 *feddans* and nearly a million small parcels of 5

feddans or less". Likewise, about 45% and 30% of all cultivated lands were owned by large estates and rich peasants respectively, with the former using the same amount of labour as other small-scale proprietors (Richards, 1982, p. 61). By 1929, approximately 43% of all land was owned by large farms of 100 feddan which made up less than 1% of total landholdings, whereas farm sizes of 0-5 feddans, making up 83% of all rural households, controlled just 19.2% of all lands by 1929 (FAO, 2017; pp. 92-93). In Lower Egypt, small-scale subsistence farming decreased from 1,003,866 in 1820 to 674,914 in 1844 as opposed to in Upper Egypt where market linkages to Europe and the rest of the Ottoman empire were weaker than Lower Egypt, given the geographical proximity (Richards, 1982, p. 26). By 1907, paid laborers accounted for 37% of the entire agricultural workforce and small-scale peasant proprietors accounted for 23% of all peasant households under the threat of debt relations and dispossession (next section).

7.2.5 The Appendages of the Global Reserve Army of Labour: Landless, Semi-, and Proletarianized Labour

The growing concentration of land and the proletarianization of labour occurred due to the embeddedness in the world market. This processes hastened different forms of labour regimes that increased food insecurity. In terms of productive forces in the form of labour, the implementation of a forced labour army through military conscription and the *corvée* served as a labour force in the construction of important public works for the cultivation and transportation of cotton (Richards, 1982, p. 23-4; Hourani, 1992; Beinini, 2001, p. 52). The concentration of land intensified alongside with forced relocation of peasant land holdings that were abandoned when peasant families and individuals had fled conscription, taxes, or the *corvée*. Rivlin writes that "an average of 100,000 men or 4 percent of a population estimated at 2,500,000 had been withdrawn from agriculture to

serve in Muhammed Ali's armed forces" (p. 211), and that Egyptians had took drastic measures to escape conscription, as it was seen as a death sentence: homes were abandoned, children were hurt by their own parents, and adults did self-inflicted permanent physical damage (such as blinding and maiming) (p. 205). The development of capitalist agriculture in Egypt articulated free and unfree forms of labour characteristic of the first food regime (Friedmann & McMichael, 1989). The dialectic of forced & unfree and free labour found an articulation in the production of a *global* capitalist system, where unfree labour is dialectically intertwined with free labour in the capitalist form.¹¹⁷ The *corvée* system which had existed previously for work on local villages¹¹⁸ was transformed to be a work force for the state in the expansion of works to increase the production of export-oriented crops such as sugar and cotton (Richards, 1982, pp. 22-3).

The *corvée* system was implemented to accomplish the socio-ecological changes described in the previous section. In terms of the conditions of these workers, Richards (1982, p. 23) suggests that labourers "...received little, if any payment...often they had to supply their own food, water, and tools". Labour conditions were such that people died pre-maturely due to exhaustion, injury, and hunger & malnutrition. A newspaper article from the United States in 1855 describes the state of hunger for these *fellaheen*:

They are taken away by force from their villages, conveyed to a distance to work, and not only are they not paid, but it happens often that not even bread is provided for them, so that they are frequently seen eating the

¹¹⁷ See Brass (2011) and Bernstein (1994). As Brass writes, "...unfree relations are not merely compatible with a 'fully-functioning' capitalism, but...perhaps even in certain circumstances its preferred form" (2011, p. 4).

¹¹⁸ Improvements would be shared for the entire village, rather than labour being appropriated for private wealth.

thistles by the roadside, or clover from the fields to appease their hunger (Christian Observer, 1855).¹¹⁹

In addition to the *corvée*, military conscription also deprived local villages of important labour for family plots and subsistence farming, thereby increasing the probability that peasants could not increase production to satisfy the increasing taxes, thereby decreasing their production. The conditions of being a military man disrupted one's life for the remaining of their existence, and increased food insecurity was a result. Richards (1982, p. 23) writes that, "[The Fellaheen were]...deprived of any chance of family or clan life, were badly paid, miserably fed, and led by Turkish officers who despised them". An author writing in the 19th century goes on to state that... "there is no doubt the accuracy of an assertion commonly made in Egypt, that two-third of the deaths which occur annually in the valley of the Nile, have their origin either in hunger or ill usage" (p. 360). Numerous newspaper clippings during the period attest to this. One column on the 'Life in Egypt' indicates hunger during forced labour in the construction of the railways, where forced labourers were kept under the threat of violence, and were forced to eat "...thistles by the roadside, or clover from the fields to appease their hunger" (Druffield, 1853). As a report on conditions of Egyptian agriculture by Bowring writes, military conscription had led to a decline in agricultural labour:

Egypt is calculated to have 3,500,000 feddans of cultivatable land... There can be no doubt that the constant draining of the conscripts from Egypt has seriously affected the productive powers of the country... It may be doubted if the farmed land is less than it was a generation ago; in some districts it is undoubtedly greater; but the hands which cultivate are diminished in number, and their efficiency has been considerably interfered with by the

¹¹⁹ It is worth noting that thistles may be made into a tea that is rich with some vitamins and are used in dishes in the Middle East.

habit of mutilation to which they have recourse as a means of escaping the military life.

For those labourers who were de-facto 'free labourers,' they were limited to the amount of time they could produce food for their own subsistence. With tools brought by the fellaheen themselves, they did not have the capital or the means to increase production for the small amount of time they could tend to their own subsistence plots. The formation of the working day made it so the fellaheen could not be as productive on their land as they would have normally been.

In addition to the corvée and military system, the transformation of property rights came with the creation of new labour regimes in the Izba system discussed above (Beinin, 2001, p. 53). There were three types of labourers: regular day labourers, those who became landless labourers in search for wages, food as payment in kind, and accommodation (*tamaliyya*), and migrant workers who were temporary (*tarahil*) and who assisted in large-scale work projects on these estates, such as end of year harvests of cotton (Beinin 2001, p. 53; Richards, 1982, p. 62). There are important differences in how these different labourers were remunerated for their labour; some received wages, some utilized sharecropping arrangements, and some paid rent. There were also degrees of immiseration: the *tarahil* were worse off as they were dispossessed agricultural workers (Beinin, p. 2001, p. 53). The amount of landless *families* by 1907 had increased to 53% in Upper Egypt, 40% in Middle Egypt, and 36% in the Delta Nile (Owens, 1969, p. 249).

7.2.6 Food Crisis, Wealth Transfer and Colonial Debt Relations

The three above features of capitalist development in agrarian Egypt precipitated the effects of food insecurity and were all ultimately linked to the global value relations

and forms of wealth transfer. The development of capitalism in Egypt was attached to the world market and increased food insecurity rather than cheapened goods. The implications of the creation of the modern Egyptian state, the formation of large landed estates, and the transformation of labour-nature for export-oriented production were increased hunger and absolute immiseration. During this period, the state was not able to create adequate social support networks in times of drought or food shortage supply. While the amount of food produced for the national food basket may have increased, there should be caution in this reading. Hourani writes that the late 19th century was an era of increased food production and better nutrition, especially in those countries not dispossessed by *direct* colonial settlement (such as Egypt); in Egypt however, many in the countryside did not benefit at all. While food production increased, and even if peasants benefited from *high prices in the markets of the Ottoman empire and Europe* (Beinin, 2001, p. 25), the distribution of productivity in the hands of the majority, while local in scale, had eroded. One observer in the early period of the construction of the modern Egyptian stated that:

...in Egypt not less than one-sixth of the population are employed in the administration, and live on the sweat of the rest. It is the grand aim of these respectable individuals to push the fertility of the country as rapidly as possible to a point, where it can be made available by their rapacity, and to work the peasant to the utmost stretch of his powers. The ground which the Nile every year renews cannot be exhausted, but its tiller, taxed beyond the capabilities of nature, must at length faint and perish (Chambers, 1839, p. 59).

Growing crops for export meant a decline in local mechanisms to maintain emergency stock of food in case of future shortages. The early 19th century government in Egypt was quick to export excess crops, thereby lowering the amount as a 'social surplus fund' that

can occur due to bad floods of the Nile, or insufficient flooding (drought). As Davis recognizes, this is one of the consequences of state formation under international capitalist development. Even at times of food surplus, such as in the mid-late 1820s, mismanagement of the cereal trade led to food shortages in Cairo, with devastating impacts on the population; as Rivlin demonstrates, there had been a neglect of a social surplus for the local food market in the 1930s:

The government's policy in former years of exporting all available foodstuffs had failed to take into account the eventuality of a bad harvest, and the effects of this policy were severely felt during the early part of the 1830 when the poor harvest resulting from the disastrous flood of 1829 proved insufficient for the needs of the country. The situation was greatly aggravated by the fact that a large quantity of grain had fallen in the hands speculation who profited from the suffering of the people to obtain exorbitant prices (p. 153).

Not only had the social surplus been undermined but the amount of food stuffs grown for local production had declined. The amount of beans, a highly nutritious plant relative to maize, fluctuated from 1.2 million (1821) to 268 thousand (1830) ardabbs. Lentils also faced similar decline from 120k to 6.7k ardabbs in the same period. The *cholera morbus* disease killed approximately 150k cattle in 1842 (pp. 151-162); in 1863, a plague also wiped out cattle belonging to peasants who at the time were growing cotton at a time when the price crashed, therefore causing them to incur more debt (Richards, 1982, p. 38). The price of food in the country was also extremely expensive; Rivlin suggests that after England, Egypt was the most expensive place in the world in which to live due to the high cost of food (155). After Mehmet 'Ali's rule, there were a number of crises that saw the price of food increase due to low shortages. Owens (1969, pp. 98-100) writes that there had been a cattle plague and an overflowing of the Nile in 1863, which also saw a

simultaneous growth of the cotton boom but a severe social crisis that required massive importation of processing machinery for the agricultural fields, such as steam engines, and the importation of food goods, such as butter and meat.

Peasants suffered from increased taxation policies that overburdened peasant producers through direct taxation 'in-kind' in the early 19th century, (Richards, 1981, p. 19-20), and later had to deal with increased costs associated with rent and increased costs of capital, paid in cash. In the early 19th century, over-taxation occurred through in-kind transfers. *Fellah* households and villages were taxed at an accelerated rate. For example, taxes in kind became exceedingly popular with the new administrators that replaced the Ottoman tax collectors. Actual produce and livestock were collected more than actual coin in order to take advantage of price capture on the international market; Cuno writes that half the taxes were paid by grain and livestock (126), and the rest could be kept for the market, sold to the state, or used as advanced tax payment for the next year. Direct food (that would have been consumed by the immediate family producers) and indirect food (that would have been sold to local markets) were all funneled through the state's networks for export. Sheep, butter, wheat, rice, beans, green beans, chickpeas, and barley, among other non-food agricultural items, were taxed and eventually seized as property of the state. In many cases *it became illegal to market specific food crops for the local market*. For example, leading to the year 1812, not only surplus harvest and stocks, but food for consumption was directly taken from peasants who were barred from selling to merchants, and who were forced to undersell their harvest to the state (Owen, 1969, pp. 19-20); the government spent roughly 8 riyals (depending on the year), while local markets fluctuated between 5.5-10.66, but export prices were around 44-66 (Cuno, 1992, p. 128). The evidence suggests that much of the collected taxes and purchases of

agricultural goods had first priority to be exported, based on the cost and ambitions to raise foreign currency exchange. During this period, Richards (1981, pp. 37-38), writes that with the increased productivity of agriculture, and the boom in cotton prices in the 1860s, had saddled many peasant producers who borrowed with greater burdens.

The increased tax burdens were also paired with increasing cost of rent and debt relations. The latter was expressed between small-scale peasant producers and the lending arms, and for the state itself that was eventually placed under colonial administration in 1882.¹²⁰ With the abolishment of a trade monopsony and the greater integration of Egypt's agrarian system into the world market, there was an increase of peasants having to produce under the threat of selling their lands. Economic and social instability occurred in ways that saw the growth of foreign ownership of land, where an 1876 mortgage law based on French law allowed land to be seized due to non-payments of interests or capital (Owens, 1969, p. 241). In this period, increased rent prices or growing costs of production required extra labour to maintain a level of subsistence. Either a *fellah* family inputted more labour to maintain pre-tax end of season consumption levels, or they produced at the same levels but had to siphon away subsistence produce to pay the tax. In all of this, the soil available to peasants was exhausted due to the over-production of crops. Due to the cotton collapse, many farmers that had borrowed could not repay their debt, with their land being seized due to unpaid mortgages; Owens writes that "between 1883 and 1889, the Crédit Foncier was forced to expropriate nearly 20,000 feddans" (p. 242). Rent also increased during the latter period of the 19th century; Owens

¹²⁰ Bernstein (1994, p. 56) writes that class differentiation occurs due to the greater integration of the market, where small-scale peasantries have a more difficult time due to the 'simple reproduction squeeze,' eventually leading to the full commodification of their labour to the owners of capital.

writes that rent prices increased between 1890s to 1900 an average of 4 Egyptian Pounds per feddan to 8-18 Egyptian pounds, depending on quality (1969, p. 243). The period around the beginning of the 20th century saw the increase of agricultural incomes for a majority of crops, which saw the rise of rural living standards; those who owned lands were able to gain an increase in their wealth; Owens suggests however that rent ate away almost all the profit they would have made, and he cites one example where a tenant with eight feddan cultivated land paid 94% of their gross profit towards rent, therefore not having enough to expand production and pay themselves for self-reproduction (p. 266).

Hunger also increased due to growing debt relations at the international scale. The state could not invest in adequate food social support networks because of the growing debt repayments that the Egyptian population had to produce. As Luxemburg (2004) argues in her *Accumulation of Capital*, international debt relations were the primary lever to facilitate the extraction of surplus labour at the local and national levels. Luxemburg argues that finance capital originating in Europe had been the fuel to further exploit labour of the working class. Unequal exchange relations were an expression of the development of colonial capitalism and the productive relations that resulted.¹²¹ The four changes described above mirror Luxemburg's insistence that "...large scale capitalist enterprise, a rapidly growing public debt, and the collapse of peasant economy "characterized Egypt" (Luxemburg, 2004, p. 409). The massive transformation of nature above was financed and fueled with international capital. Capital that flowed from Europe to Egypt not only transformed nature to suit the need for increased commodity production, but also to satisfy

¹²¹ Indeed, a focus on mere wealth transfer tends to abstract away productive value relations, an argument Marx made in his critique of capital and political economy. However, we are able to avoid this problem if we treat productive relations as a whole, to include exchange relations as a subordinate, but necessary part in the reproductive of the capital-labour relation in Egypt.

some of the contradictions internal to the production process in Europe itself; this marks the rise of imperialism that Lenin, Bukharin and Luxemburg had identified, such as the rise of finance capital, and the export of capital itself as an outlet. Many of these public works are similar to the massive works originally constructed in other places with natural resources, such as in Brazil where purposely placed railways through the amazon forest to select port cities would export the raw resource to the central capitalist states. In Egypt's case, these public works were funded by loans by European capital to build up the ability to increase commodity production of cotton and sugar. Land was exceedingly owned by the family of rulers situated close to these public works, and capital was concentrated relative to previous labour processes that were more local in character. For example, by early 1912, approximately half of cotton was controlled by four exporting companies, with a total of 31 firms, all established before the British occupation of Egypt in 1882 (Owens, 1969, p. 221). The collapse of cotton prices after the end of the civil war made repayments more impossible and a colonial administration a reality. The British government formally established an economic administration government in Egypt to facilitate the repayment of debt. During this debt administration period, natural public works that would, for example, help to elevate the necessary drainage works to prevent ecological collapse were not funded; France which was part of the colonial administration had insistent on prioritizing debt repayments over investments (Richards, 1982, p. 79). Nevertheless, Egypt continued to be a major exporter of cotton, especially during the early 20th century, and became a prime source of food for British soldiers between World War I and II.

7.3 Social Development, Food, and the Regulation of Capitalist Agriculture

7.3.1 Riots of the Hungry and Dispossessed

The above discussion shows a dual history: one of progress and the transformations of nature, and one of suffering associated with hunger, underconsumption, and absolute immiseration. Much of the transformations in both the socio-agrarian landscapes and the social relations in property relations were fueled by a national bourgeoisie that attached itself as a dependent form of international (European) financial capital. In general, the cost of food decreased in Europe due to a 'spatial fix' of a reliance on cheap wheat and meat imports from emerging colonies, and imperialist practices that turned the globe into the fields for European factories and capital. The *fellaheen* were transformed into *de-facto* workers for the sake of global capital even if more *formal* characteristics of capitalism were not entirely present (such as the free labourer choosing their employers for a wage).¹²² This transformation led to forms of resistance from 'quiet', such as what Scott argues in his 'everyday forms of resistance,' to peasant uprisings by villagers against the greed of traders, to organized protests by local elites, nationalists, and eventually military personnel.

Resistance to the agrarian changes took on larger and more organized protests linked to the international market. In this period, Burke (1986) writes that throughout the

¹²² The processes that may have led to increases in food consumption also led to adulteration and massive disruptions in a labourer's life that are extra-economic and not simply based on the double freedom of labourers, as Marx assumed abstractly in his study of the laws of capital accumulation. As Brass (2011) argues, capitalism not only functions with, but depends, on non-capitalist labour regimes that aid in the quest for further surplus value. Moreover, the class relationships built on the newly codified private property regime in the mid 19th century that led to the further concentration of land.

Middle East there were riots and revolutions against the greater commercialization of the peasantry into the world market¹²³:

The rebellions can be seen as responses to the gradual commercialization of agriculture and the increasingly effective extension of government power into the countryside... The principle result of these rebellions was to consolidate in power a new coalition of forces in the countryside, in which urban-based landowning interests and moneylenders in collaboration with local wielders of power assumed local domination, and old agrarian and tribal forces were suppressed (p. 337).

The third wave of protest in the Middle East from 1880-1925 was a continuation of protest based on the incorporation of the local and national economies into the world market where "...as portions of the Arab world came under European domination, experiments with new forms of social identity and political cohesion, notably secular nationalism, began to develop" (Burke, 1986, p. 337). In his analysis, Burke concludes that:

"...if there was a moral economy of protest in the Arab world, then it was expressed not only in the language of the 'ulama' and works of *fiqh*, but also in the language of Islamic notions of justice freely available to all, and extra-Islamic forms of legitimation drawn from customary practice. Although subject to co-optation by the authorities, what the rebels did and said expressed a populist defense of age-old liberties threatened by the twin forces of government centralization and incorporation in the world market: the rights of the quarter, the tribe, and other social groups against encroachment on their subsistence... (p. 343).

As examples, ideas emerging from the Nahda in which Arabic intellectual thought had sought to engage with reform and social formations, and nationalist and popular movements began to organize in response to the position of Egypt in the international market. Regardless of the original source and intent of the protests, many were utilized

¹²³ Lebanon in 1858-1861, Tunisia in 1864, Algeria in 1864-1867 and 1871, and rebellion outbreaks in Palestine in 1852, and 1854, Syria for numerous years between 1852 to 1866, and Morocco.

by political elites in power struggles. Some of the nationalist struggles that began to emerge during the onset of British and French colonial administration in 1881 (for reasons discussed) in the third period co-opted and utilized some of the discontent from the rural and urban poor who had expressed a variety of grievances related to subsistence. Conflicts and revolts between colonial authorities and national leaders emphasized the dependent and unequal relationships occurring in Egypt. The failed attempt of the 'Urabi Revolt' of 1882 to take power right before the implementation of British colonial administration can be seen to be rooted in the profound changes to rural land relations and the concentration of wealth. The 'Urabi revolt was led by nationalist elites contesting British rule and was ultimately supported by peasantry because of Urabi's promise to abolish usury and lower taxation against the peasantry (Richards, 1982, pp. 39-44). The Spring riots of 1919 were also suggested to have been fueled by discontent with colonial administration and the symbols and mechanisms of that administration, such as large landed estates (Schulze 1991, pp. 192-193). Between World War I and II, there were a number of food crises that were rooted in colonial administration, the utilization of food goods for the British military, and the concentration of wealth. Between these two periods, Schewe (2017) shows that the various wheat shortages fueled concern in the establishment of a nationalist politics and a popular identity around the guarantee of bread for its population. The July Revolution of 1951 carried out by the Free Officers was a military coup that integrated the concerns over the absolute poverty and extreme inequality that increased further during the inter-war period (Sadowski, 1991, p. 56), and it was the concerns associated from urban and rural poverty, the dispossession of rural labour, and the guarantee of cheap and affordable food.

7.3.2 The Free-Officers Revolution and the Dirigiste Regime: The Contradictory State of Food Insecurity in Dirigiste Capitalism

The construction of the Egyptian state that arose with Nasser's Free Officers Revolution must be seen in the context of growing food insecurity and loss of lands during the long 19th century, which saw the integration of Egypt into the world market and the resulting concentration of land holdings. Discontent with foreign control and administration of debt repayments became part of the rhetoric of a demand for a national form of capitalist development that would shift state policies towards land redistribution and create a 'capitalist' social pact to would guarantee accessibility to cheap food.

The Free Officers' coup and the succeeding social reforms was one that sought to limit the excesses of capitalist development. What is known as Nasserism was the promotion of Arab Socialism to create a state that would limit the excesses of imperialism and establish a social contract based on socialist principles. The path of Arab Socialism can be seen in the context of an internationalist movement of post-colonial states to establish socialist principles, such as in India with 'Nuhruvian Socialism,' in Egypt with Nasserism and Pan-Arabism and Arab Socialism, and in Ghana through Nkrumah and Tanzania with Nyerere.¹²⁴ Characterizing this group, Berger (2004, p. 11) writes:

As a world-historical movement, Third Worldism...emerged out of the activities and ideas of anti-colonial nationalists and their efforts to mesh often highly romanticised interpretations of pre-colonial traditions and cultures with the utopianism embodied by Marxism and socialism specifically, and 'Western' visions of modernisation and development, more generally.

¹²⁴ The Arusha Declaration of 1967 is a nice summary of third-world socialism that characterized this issue. In this text, themes of economic centralization by the state, nationalist freedom vis-à-vis imperialist forces on the international scale, and the emphasis on agricultural self-sufficiency in order to prop up import-substitution industrial activity within the country.

'Third Wordism' in this strain attempted to reconcile Marxist and socialist movements with nationalist and productivist visions associated with modernisation theory. Patnaik & Patnaik (2017, pp. 104-105) argue that the dirigisme within the context of India stifled the excesses of capital accumulation and had actually led to the development of productive forces due to the protection of the population from a number of macro-economic structural features:

Under the dirigiste regime, for instance, peasant agriculture was protected against world market price fluctuations; it enjoyed significant input subsidies; it enjoyed subsidized credit, with banks, after their nationalization in 1969, being obliged to meet "priority sector" lending targets; there was a system of guaranteed remunerative prices for producers in twenty-two crops, with a mechanism of public procurement to make it effective; there was a network of government extension services, together with a substantial research and development effort under government auspices; and there was a significant step-up in public investment in irrigation and other heads of rural development (104).

Nasserism and Arab Socialism fall along these lines (Berger, 2004, pp. 17-18). There are two major policies that worked to create stability in food production and food accessibility. First, the food subsidy programme that had been originally formulated during WW II was not only maintained but expanded. At first a system meant to ration important commodities during WWII to avoid shortages (Adams, Jr., 2000, p. 117), it was expanded to include other commodity items and had a continuing legacy past the neoliberal reforms instituted by Sadat in the 70s and carried on by Mubarak (see next chapter). The context of rationing was a food crisis that emerged during WWII, a period which saw a decrease in cotton production, a decline of fertilizer imports that had subsequently led to a decline in yields, a relative increase of cereal production, and an increase in the real wage in order to cope with the rising cost of living (Richards, 1982, pp. 169-72). Important to this rationing

system included 18-20 different kinds of food and energy products; this rationing system would soon become part of a larger state-backed project to stabilize and subsidize important goods such as transportation and housing; bread, wheat flour, sugar, tea, butter, ghee, frozen meats and fish, chicken, beans, lentils, edible oils, maize, rice, and kerosene are among the most important products of the food subsidy programme (Abdalla & Al-Shawarby, 2018; Abdel-Fadil, 1980, pp. 121-3; Adams Jr., 2000; Akhtar et al., 2010; IFPRI, 2016; Salevurakis & Abdel Haleim, 2008).¹²⁵

Second, Nasser's regime sought to implement agrarian reforms characteristic of a dirigiste state through a number of initiatives that were spread out during the 1950s and 1960s. These reforms were intended to reverse land-concentration that was an outcome of the century-long formation of peripheral capitalist agriculture and that had reduced the state to the maintenance of a national ecology for the supply of cotton (Amin, 2012, p. 156). A number of features of this agrarian reform have been identified in the literature. First, the breakup of the large landed-estates over 200 feddan per individual or 300 feddan per family led to the redistribution of land to smaller-scale farmers. Those who worked the land received titles to it (Sadowski, 1991, p. 58). The percentage of areas between 0-5 feddan increased to 65.9% in 1975 from 23.2%, whereas the number for farms 50+ feddan decreased from 39.1% in 1950 to 1.8% in 1975, and the number of farms between 5-50 feddan decreased slightly, from 37.7% in 1950 to 33.3% in 1975 (Richards, 1982, p. 178). As Sadowski (1991, pp. 55-56) points out:

¹²⁵ As we shall see in the next section, the food subsidy programme has been attacked on these very grounds. Not only do they argue that there are leakages that are used by local producers to divert and make a profit off of, but that they are problematic as they are not targeted to the poorest of the populace. Moreover, some have argued that these food subsidies as a whole were a subsidy for the urban areas because people in the rural areas would have grown and processed their own food at home; wheat and fine flour that was subsidized was eaten in the urban areas (Abdel-Fadil, 1980, p. 123). Others argue otherwise; see Sadowski (1991, pp. 67-80).

Although a handful of large landholders prospered, millions of peasants lacked enough land to support their families. Fully 44 percent of rural families were totally landless and had to work either on large estates or as migrant labourers...Landless families grew from 24 percent of the rural population in 1929 to 44 percent by 1950...another 26% of rural families owned less than two feddans – the minimum land area necessary to sustain an average family.

In addition, the state set up a number of farming co-operatives that farmers were required to join as part of the land reforms. Credit would be given to these farmers, which was previously privatized and dominated by foreign and local moneylenders (Sadowski, 1991, p. 61), cropping patterns would be dictated to farmers to avoid fragmentation, and the state would provision inputs such as fertilizers, and machinery, and dictate the procurement prices for important crops such as wheat, and cotton, effectively establishing a monopsony in the agrarian sector.

There were immediate gains from these reforms, which is why Egyptians continue to reflect positively on the growth of Nasserism (Hanieh, 2011, p. 10). There was an increased food supply that led to growth in workers' standard of living. The greater consumption of food represented an important 'catch up' in nutritional intake. The state also sought to establish a greater standard of living (Abdel-Fadil, 1980, pp. 46-47). This was accessible during the PL480 US food aid program that used cheap cereals to gain geopolitical control over the new independent states. Moreover, Egypt increased the public sector. Nationalization programmes initiated by Nasser in July 1961 of the largest private firms in Egypt (Sadowski, 1991, p. 62), the guaranteed employment programmes for university graduates in Egypt, and the formalization of wage laws (Abdel-Fail, 1980, p. 33).

However, the suggestion that this project was sustainable can be problematized. I will describe the crises of Nasserism in Section 8.2.1. Hussein (1973, p. 16) writes that "...the very notion of a country such as Egypt achieving independence within the capitalist world market is... absurd". The breakup of large landed elites and the nationalization of the biggest companies were part of political calculations by the Egyptian state to gain popular support. In the agrarian sector, Egypt did not actually implement worker's control but instead became the mediator in the determination of what was grown and at what price. Rhetoric aside, Nasser constructed Arab Socialism in line with the policies of Import-Substitution Industrialization and state capitalism. The 1962 National Charter by Nasser was directed by this trajectory of Arab Socialism:

Nationalisation is not...a punishment inflicted upon private capital. The transfer of the means of production from the sphere of private ownership to that of public ownership is more significant than this. The private sector has its effective role in the development plan and must be protected to fulfil that part. The private sector is now required to renovate itself and strike a new path of creative effort *not dependent, as in the past, on excessive profiteering* (Nasser, 1962, p. 115, emphasis added).

The dirigiste regime of Nasser was authoritarian vis-a-vis any kind of opposition; communist leaders were jailed, and their supporters were harassed and jailed. Labour strikes were also crushed.¹²⁶ As Hussein (1973, pp. 87-92) writes, the communist movement was weak and isolated in attempting to steer social transformation. It had been increasingly separated from the proletariat movement, and had made organizational and political miscalculations.

¹²⁶ Hussein (1973, pp. 87-92) describes the isolation and 'un-revolutionary' position that the communist movement preceding the Egyptian Revolution were found in.

Second, Egypt was able to see growth at first due to the integration of the labour markets in the Middle East, allowing Egypt to 'offset' migrant labour to take advantage of arbitrage, moving to other countries and sending home remittances (Hanieh 2013). Land reforms were limited; they did not redistribute land to the poorest of the population, and did not necessarily break the power of the rural rich. As Sadowski points out, the state did not redistribute land to the landless poor and had actually encouraged them to migrate to the urban areas. Most of the land taken from the rural landlord elites went to the middle peasantry, with the hopes that the latter would be put to use productive use (Sadowski, pp. 56-59). This had an interesting dynamic in that those landless peasants who were without land were capable of leaving their homes to seek better wages elsewhere than those peasants who had land but were essentially 'stuck' with a newly formed agrarian sector that offered less real income (Sadowski, 1991, p. 86).

7.4 Conclusion

This chapter sought to review the historical legacy of international capitalist development and the transformation of the Egyptian countryside from the start of the 1800s culminating to the rise of Arab Nationalism and Socialism. In this chapter, I sought to collect the literatures' discussion on the international and national character of food provisioning. Not only had the state been set up in a way that instilled massive concentrations of land and wealth by local elites and foreign creditors, but food provisioning had gone from a period of major export of wheat during the Ottoman era to one of a massive importer of wheat during the Nasser period. Illustrating this long-development of a regulatory form of capitalist development is the value-form relation and the contradictions of capitalist development. This takes the appearance of uneven development and the transfer of

nature (commodities) and the extraction of surplus value (through economic and extra-economic means) to maintain capitalist social relations. The extraction of surplus value in Europe as well as in Europe's colonies is articulated in the totality of the global 'workday' (Araghi, 2003). The Egyptian state, first under the tutelage of Mehmet Ali, and then his extended family members, had transformed the Egyptian countryside into a massive cotton field for European manufacturing, capital, and debt administrations, similar to that found during the 1980s Washington Consensus and post 2008 international food crisis. The next chapter will outline the crisis of Arab Socialism and the subsequent privatization and reversal of land reforms.

8 Capitalist Food Insecurity in Neoliberal Egypt I: The Crisis of Provisioning and Social Inequality

8.1 Introduction

This chapter is a two-part exposition of the neoliberal reforms in Egypt and the crisis of food provisioning. This chapter and the next will demonstrate how Egyptian food crises are structurally derived from international value relations. The international value relations of capital accumulation in the agrarian sector has an ‘uneven and combined’ character, impacting the affordability of Egypt’s national food provisioning system. I argue this uneven character of food accessibility is illuminated by a value-form analysis that links to the necessary but uneven dependence on international markets to import specific food staple goods such as grain and to export agrarian commodity products. This embeddedness to the world market is based both in content and in form on international capitalist and agrarian crises. These food crises are expressed in two ways: *conjunctural crises* that define the agrarian sector in its functioning through the concentration of wealth-producing assets, and *signal crises* that impact the affordability of food due to international price increases. The neoliberal structural reforms represent the former while the international food crisis of 2008 is an example of the consequences of the latter.¹²⁷ In this regard, the general character of food insecurity in Egypt is characterized by two generative mechanisms that arises due to the international development of capitalist social relations. The first is the transformation and the general decline of the food subsidy program, representing a neoliberal shift of food provisioning towards the market, and the second

¹²⁷ As with the impact of the international market on food provisioning in Egypt during the colonial period, the post-colonial and neoliberal period has seen the impact of international crises on Egyptian food insecurity.

transformation is linked to the agrarian sector and the re-articulation of food production towards the international market. In this chapter, I focus on the transformation of the Egyptian food subsidy program and the growth of food provisioning in the marketplace. Typical of the developmental aid conditions of the neoliberal period, Egypt imposed austerity policies that led to increasing inequality, informalization of labour and its living conditions (in the realms of reproduction of labour), and a stagnating wage rate and access to food (Bush, 1999, pp. 60-1; Joya et al, 2011). The consequence was the growing cost associated with food consumption for the majority of the Egyptian population.

This chapter is divided into two major parts. The first part will first outline the general crisis of Keynesian and dirigiste regimes of accumulation. This part will review and discuss the various crises of the state and the crisis of the developmentalist project. This part will outline the general crisis of Arab Socialist policies in light of structural limits linked to capital accumulation. The second part will discuss the general crisis of the Egyptian state and its impact on the food subsidy programme. I will then conclude with a general assessment of social indicators that suggest that food accessibility has been decreasing due to the shift towards the market.

8.2 The Crisis of Development, International Crises, and The Limits to National Food Provisioning

There were a number of contradictions in the Nasserist reforms and the introduction of capitalist development at the international level, which reflect the internal contradictions of the Keynesian developmentalist state in regulating capitalist development in the provisioning of human needs. Bush (1999, pp. 9-10, 2014), Sadowski (1991), among others, offer a comprehensive account on the nature and form of Egypt's economic crises during the period leading up to and during the neoliberal reforms. This section will distill

some of the problems facing Egypt's ability to sustain its food provisioning system that was outlined in the previous chapter and to contextualize the limits of dirigiste regimes. While dirigiste regimes were instrumental in ensuring a form of economic stability, distribution in social provisioning of food and the maintenance of stable property relations, they faced limits in terms of their structural position as post-colonial states, a position Fanon (2004) had warned the national bourgeoisie could not escape. As a result of these limits, food insecurity has increased in Egypt since the expansion of open-door policies and 'economic openness' due to the expansion of austerity politics that sought to construct a transparent financial system built on open financial institutions that will attract capital inflow, and that sought to expand private enterprise and the free market (World Bank Group, 2019, pp. 6-9). The neoliberal reforms and programs of economic openness were judged on their own terms to be successful in halting the expansion of state expenditures, increasing revenues through the introduction of a value-added tax (VAT), and increasing the GDP; yet the reforms had mixed results, since they were not successful in raising private sector investment (Zaki, 2001, p. 1872).

8.2.1 The Emergence of Infitah and Economic Openness

The productivist and neo-Malthusian approaches locate the crises of Egyptian food insecurity in 'the over-burdened state' (Bush, 1999, p. 2-4),¹²⁸ and the failure of Nasserist management of the economy during its phase of ISI-oriented policies of nationalization and socialism.¹²⁹ According to this view, Egypt is an overburdened state that inherited an

¹²⁸ Also see Bromley & Bush (1994) on the economic and political contexts of economic liberalization in Egypt.

¹²⁹ See Sadowski (1991, pp. 62-3) on the unevenness of implementing socialist policies by Nasserism.

overbearing social provisioning system that could not simultaneously enable productivity increases and ensure state control of the agrarian sector and food subsidies. What highlighted these limits was the inability of the Egyptian government, increasingly in the 1980s to afford the rising costs of wheat and flour internationally, upon which it was dependent (Sadowski, 1991, pp. 17-9). Moreover, there were ostensibly geographic and ecological limits to rising demand of food due to 'population growth, land scarcity and insufficient agricultural yields' (p. 21). More recently, Lybbert & Morgan (2013) argue that the lack of technocratic governable institutions along with natural limits have led to a situation of 'serious food insecurity' in Egypt compared to other more food secure states in the region (such as the GCC). Harrigan (2014, pp. 158, 163) gives an elaboration of this argument in which Middle Eastern and Egyptian food security based on domestic food production for the local market might not be the best approach due to environmental limits, where "...the production of cereals, such as wheat, [is] not economically efficient when efficiency was judged by international market forces" (p. 125).¹³⁰

The productivist and neo-Malthusian articulation rests on the critique of non-market forces and problems that result from an absence of a favourable environment to attract capital and capital investment and achieve economies of scale, and the inability to attain foreign currency to import food. According to this articulation, the solution to crises rests on increasing national food security by way of reversing nationalizations of the 1960s, re-implementing free-market principles, and removing state control to allow the market to organize scarce resources to their most productive potential. On the demand side, the

¹³⁰ Therefore, a form of 'macro food sovereignty,' where investments in land acquisition outside of national boundaries, transparent, supported by state agencies, and socially and environmentally sustainable, can be a sustainable approach to solving food security issues (p. 158).

argument is to simultaneously improve better targeting programs to the poor, to reduce the debt, and to create more private sector jobs. A recent 2015 World Bank Project entitled 'Strengthening Social Safety Net Projects' sought to lend 400 million USD to implement a cash-transfer program named 'Takaful and Karama' to better target food and energy subsidies to the poor, freeing up the state from funding such programs traditionally characterized by corruption, waste, and untargeted transfers:

Egypt lacks well-designed, non-subsidy social safety nets (SSNs) directed to the extreme poor and that can be scaled up to protect against shocks. The existing Safety Net programs are characterized by low coverage rates, poor targeting, fragmentation and poor coordination and therefore low impact on poverty (World Bank, 2015, p. 3).

On the supply side which will be the focus of the next chapter, a number of development aid organizations argue that the Egyptian economy should focus on the development of export-oriented agrarian production in order to take advantage of its geographical climate. This would entail the creation of important infrastructure to transport commodities to regional markets and highlighting the important role of identifying and developing commodity production that can be sold on the international market. In a few interviews, infrastructural limits (such as roads, infrastructural capacity to store, transport and process commodities) was seen as a major reason for Egypt's food insecurity. Accordingly, great weight was put on the importance of developing technical and infrastructural projects in order to facilitate the development of high-end value commodities in order to develop its agrarian sector or to link small-farmers to commodity networks. The lack of infrastructure, such as roads, or the lack of proper capital equipment, such as refrigeration, were considered to be hurting the potential for growth of Egyptian agriculture. The limits of Egyptian agriculture for the development of its horticulture industry has been a key

concern in the wider neoliberal restructuring of the Egyptian economy undertaken to entrench its market in international circuits of capital accumulation, and to increase the inflow of capital and foreign direct investment. Egypt has been recommended to embark on export-oriented agrarian production to attain foreign currency to import food for domestic consumption (Khedr, Ehrich, & Fletcher, 1996; IFPRI, 2016; World Bank, 2009). This critique also came from within the ruling party during the 1980s. The military in Egypt has been an important factor in food processing and production activities, but there were segments within the state apparatus that were against the military's involvement in agriculture production because it was inward looking and could not collect foreign currency (Ayubi 1996, pp. 275-6). Similarly, IFIs recommended Egypt abolish guaranteed wheat purchases and the wheat flour subsidy because it currently encourages the over production of wheat in an environment that is limited hydraulically and geographically (Rakotoarisoa, lafrate, & Paschali, 2011; The World Bank & FAO, 2012, p. 4). The World Bank and the Economic and Social Commission for Western Asia (2011) argue that productivity increases encouraged by *exports* will allow for an overall efficient strategy to satisfy the import bill:

The overreaching objective of the agricultural strategy for the 1990s was to complete the policy reform programme which had already been initiated for the sector and to increase agricultural production and incomes...In addition, growth in production and increased exports within a strongly liberalized environment is expected to contribute to the overall food security of the country.

Accordingly, "Egypt has excellent opportunities for expanding its horticultural crops, particularly processed vegetables... Its main advantages are the quality of products, its strategic geographic location and more importantly, the long seasons of production" (WB

& ESCWA, 2011, p. 7). This outlook is carried by the general judgement that the reforms should continue in order to expand the production of goods for export.¹³¹

In their critique of Nasserism and Arab Socialism, the Malthusian, neoclassical, and Ricardian approaches miss three qualitative problems of the Nasser period which misplace the problems that arose with state-owned enterprises and the fiscal budget of the state. The first problem is their emphasis on natural and geographical limits to national food provisioning. This Malthusian approach assumes that population growth outstrips national productive capabilities. Mitchell (2002, pp. 209-215) in his study of the neoliberal reforms of the agrarian sector critiques this Malthusian approach by pointing out that Egypt's agricultural productivity and demand for food was similar to other countries that had similar geographic and demographic dynamics and who are considered food secure. As mentioned in the previous chapter, Egypt's population has historically been 'under fed' and Egypt had 'caught up' in food security. Yet there were still problems; Egypt's changing diets from grains such as wheat, barley, corn, sorghum to a diet of meats led to a dependence on food imports in order to satisfy the growth in meat consumption, and this was largely supported by remittances from overseas work (Ayubi 1996, p. 277; Bush, 1999, p. 25-8). This was common across the developing states during the 1970s, which had been able to secure an income source in sending labour across the MENA region in order to lessen the impacts of unemployment. Parallel to this problem is that the geographical limits is not just limited to domestic production but on export production: the encouragement of export-oriented production in higher-value fruits (such as oranges) and

¹³¹ Similarly, Springborg (2018) recently argues that food security has not been achieved in Egypt because the state has not done enough to expand the production of export-oriented crops in comparison with other countries in the region, because "...Egyptian agriculture, like industry, suffers from misguided policies inimical to export growth which have no hope of achieving self-sufficiency" (165-166).

horticultural vegetables for export, and the growth of meat production (Dixon, 2013) displaces, rather than resolves any ecological contradictions.

The second problem in their critique of socialist planning is their under-emphasis of geopolitical crises. Egypt is largely treated in isolation as a nation-state that has to balance of imports and exports and maintain fiscal responsibility in domestic spending. However, throughout the period there were massive problems linked to the geopolitical crises within the Middle East. Egypt depended on the importation of cheap grain by way of the US Public Law 480 program. As mentioned earlier, this program utilized food aid as a 'carrot' in order to keep Nasser as far away as possible from Soviet help.¹³² This dependence on cheap food helped offset the growing demands of food during this period and the re-orientation of labour to non-agrarian sectors (Hussein, 1973; pp. 211-7; Mitchell 1995, 2002). Hussein (1973, pp. 219-20) writes that in the totality of Egypt's agrarian sector, Egypt remained food-import dependent, particularly for wheat, and that its terms of trade were in the negative when compared to the amount of cotton being exported at the time. On the non-economic front, Egypt's June 1967 war with Israel war and its subsequent defeat led to a diversion of resources that contributed to stagnating economic activity (Owen & Pamuk, 1998, p. 134). This diversion had an impact on the symbolic and material power of Nasserism within the geopolitical spheres of influence. Bush (1999, p. 15) writes that the June 1967 war increased armament expenditures by 600 percent between 1967 and 1973 (from 150 million Egyptian pounds to 1 billion); the occupation of the Suez Canal and the subsequent loss of rents, the collapse of oil production and displacement of people exacerbated a difficult budgetary situation for the state.

¹³² However, this did not deter 'Third-way' nation states to seek aid from both Cold-war powers at the time, as with the example of the Suez Crisis in the 1960s.

Compounding these problems was the problem of available credit during the financial crises of the early and late 1970s (Ayubi 1995, pp. 329-32). As the figure on food price increases shows, the financial crisis and oil crises arising in the 1970s increased the costs of food imports, thereby placing fiscal pressures on the state (Alderman, H., & von Braun, J, 1986, pp. 231-2).

The third problem in their critique of Nasserism lies in the problematization of socialist state policies domestically and within the international sphere. Egypt under Nasser had characteristics that were state-capitalist and ultimately limited to external sources of funding to sustain the implementation of ISI policies (Waterbury 1983, pp. 12-20).¹³³ Whatever policies that were socialist in orientation propped up, rather than replaced, capitalist development in its entirety. Egypt had features common to many newly independent states that sought to form a Third-World bloc, generally aligned to a mix of socialist rhetoric and state management of the market. Berger (2004) writes that ‘the Bandung regimes’ were characterized by a developmentalist state that sought to modernize their economies through industrialization and productivity increases.¹³⁴ Yet, while these states established sectoral and social provisioning systems to maintain popular support, they did not fully transform the social relations of production. While Nasser did break the power of large landowners, there was still uneven access in practice

¹³³ One of the major problems with ISI development is that it is inward looking. It may substitute imports, but effective demand is limited internally, while industries aided by imports are limited in external markets due to competition from more productive companies. See the discussion of ISI policies in the context of Latin American states (Skidamore & Smith, 2005, chapter 8).

¹³⁴ See Fanon’s (1963, p. 98-100) discussion of the national bourgeoisie in newly independent states in Africa (as an example) that demonstrates the limits in the face of international capital. He writes that “independence does not bring a change of direction. The same old groundnut harvest, cocoa harvest, and olive harvest. Likewise the traffic of commodities goes unchanged. No industry is established in the country. We continue to ship raw materials, we continue to grow produce for Europe and pass for specialists of unfinished products” (pg. 100).

to decision-making powers; large landowners were better able to represent their interests compared to smaller farmers, landless workers, and female-headed households and farmers (Bush, 1999, p. 15; FAO, 2017). Despite its anti-imperialist rhetoric, Nasserist policies routinely appealed to private interests, and espoused that state capitalism would ensure the development of the nation, thus relegating class struggle to rhetoric rather than practice. In this period, there was greater control of rural life that did not benefit the peasantry. State tolerance of opposition was not total; communist parties were routinely repressed and censored, and the state cracked down on strikes orchestrated by trade unions (Benin, 1999, p. 19). On top of this, Nasserism and 'Arab Socialism,' could not escape the material conditions involved in the development of international capitalism. It not only benefitted from receiving cheap grain, but that capitalist development of agrarian production in grains, such as from the US, helped realize profits for big agrarian producers.

8.2.2 Infitah, Structural Wealth Transfer, and Instability

The neoliberal reforms had redirected, rather than reversed, decades of state-led agricultural development in Egypt through the integration of regional capital of the Gulf and European markets (see Abdel-Khalek [1992, pp. 44-5]; Beinini [2001]; Hanieh [2017]; and Joya [2017, p. 343]). There were limits to this, as this redirection is within the 'rent-seeking' behavior that emerged with Egyptian state bureaucracy and control of the economy (Vitalis, 1994; Springborg, 1989). Neoliberal structural adjustment programs were initiated within this context. Beginning with Sadat's April 1974 'October Paper,' and continuing throughout the Mubarak and post-Mubarak period, neoliberal structural adjustment policies were implemented to reverse some of the above-mentioned problems that the IFIs had identified. The primary purpose of these state reforms was to attract

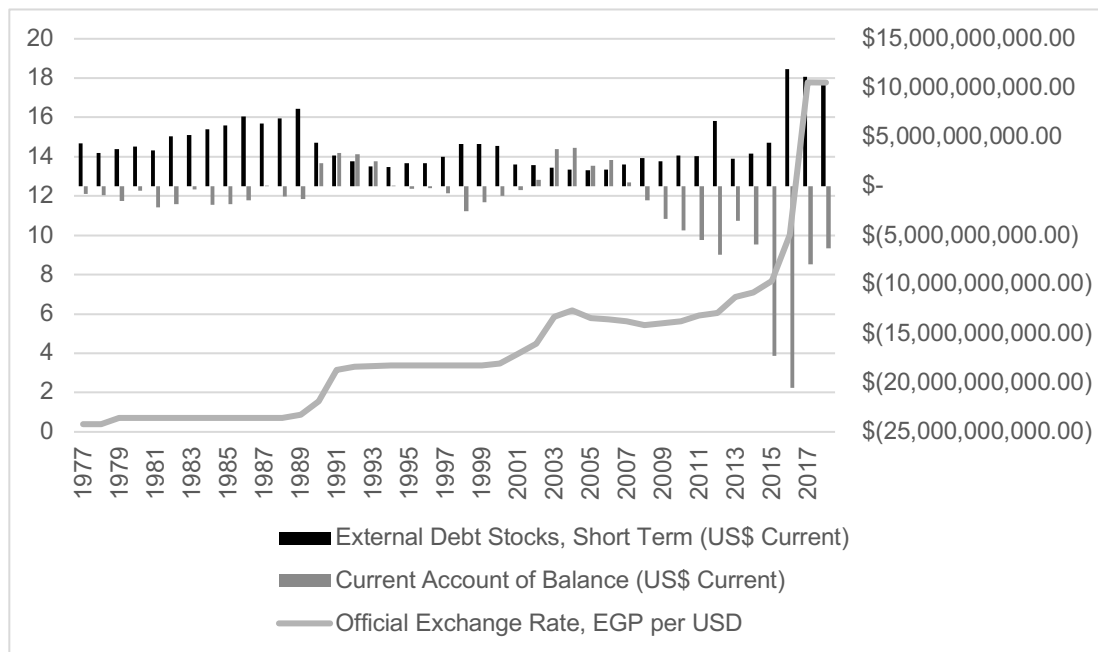
international and supra-national Arab capital by way of 'state fiscal responsibility' while divesting itself and implementing a privatization program (Owen & Pamuk, 1998, p. 135).

There were a variety of structural adjustment programs undertaken to implement pro-export-oriented production policies. The Economic Reform and Structural Adjustment Program (ERSAP) and Structural Adjustment Loan (SAL), signed in 1991 with the IMF and World Bank, sought to implement policies to balance the state's budget, resulting in the state's expenditures dropping from 61.3% of the GDP in 1987/88 to 36.6% in 1994/95 (Korayem, 1997, p. 18). By 2019, and in addition to the implementation of a variety of structural adjustment programs since the Egyptian Arab Spring of 2011, the World Bank claimed that Egypt's reforms had successfully reduced state budget expenditures:

The deficit narrowed to 4.9 percent of GDP in the first eight months of FY2019 compared to 5.8 percent a year earlier. The primary balance, excluding interest payments, reached a surplus of 0.5 percent of GDP from a deficit of 0.3 percent. Reform measures on both the expenditure side (ongoing energy subsidy reforms and measures to rein in the wage bill) and the revenue side (in particular, the VAT regime and a scale-up of tax collection efforts) have helped achieve the turnaround in fiscal aggregates (World Bank, 2019, p. 3).

These structural adjustment programs included currency reforms to devalue Egyptian currency throughout the 1990s and continuing through to 2017. As will be discussed in the next chapter, the primary purpose of floating the currency in the international free market of currencies is to allow the encouragement of FDI and export-led agrarian growth in order to import cheap foods. However, the results were mixed. Figure 8-1 shows that the external debt has been increasing alongside currency devaluation. This has led to the flow of capital to buy government debt, rather than as Foreign Direct Investment (FDI) (Financial Times, 2019).

Figure 8-1 Egypt's Current Trade Balance, External Debt (Short Term), and Currency Rate



Source: World Bank Data (2019). Official exchange rate on left axis, account of balance and external debt stocks on right axis.

The implementation of these reforms sought to create a favourable environment but were not without political calculations by the ruling party to maintain social stability. Bush (2010) and Bush and Martiniello (2017) argue that the state is limited in how much they can actually reform along the lines of neoliberal governance, due to the real need for these food programs. The state could not resolve some of the contradictions of neoliberal development. As one commentator in an IMF publication argues, Sadat carried on a form of statism similar to Nasser in the implementation of *Infitah* and his approach should not be seen as a radical reorientation (El-Ghandour 1990, p. 183). Sadowski (1991, pp. 159-60) also argues that it was actually Sadat, and not Nasser that sought to maintain and expand the food subsidy program because of the important 'patronage' needed to maintain social stability. As Sadowski writes:

Sadat embraced and popularized the idea that consumer subsidies were not just a safety net protecting the poor, but an expression of equity granted to the mass of society as a counterbalance to the privileges enjoyed by the rich... From 1978 onward the mass of Egyptians began to share in the buoyant feeling of prosperity that rich Egyptians already enjoyed (p. 160).

Social instability and social unrest, or the threat of, slowed down the pace and character of austerity.¹³⁵ In January of 1977, Sadat moved on IMF recommendations to lower social spending on food subsidies, eliminating subsidies for tea, and increasing prices for select items (*Fino* (French) bread, sugar and rice) (Abdalla & Al-Shawarby, 2018, p. 117).¹³⁶ During resultant protests, approximately 87 people died in riots protesting the price increase of bread, which Sadat ultimately had to rescind (Walker, October 28 1988). Mubarak afterwards also faced some of the problems associated with the food subsidy programme, trying to limit and redirect due to the fiscal burden it had on the state. The threat of social instability did not fully deter reforms, and as shall be discussed in further detail, agrarian instability resulted from some of the neoliberal reforms in order to appease IFI and other aid organizations such as USAID. The passing of the Land Law of 1992 which I will expand on in the next chapter had provoked unrest (Saad, 2002; Land Center for Human Rights 2000, 2002), with a variety of tenants pushed off agricultural land; social and political instability occurred in villages that experienced increasing costs and dispossession of small-scale farmers.

The international financial crisis of 2008 also precipitated the difficulty of attaining food in Egypt during 2006-2008. There were a number of protests related to the price

¹³⁵ Mubarak had also resisted the push to implement austerity recommendations of the IMF.

¹³⁶ Bein (2001, p. 157) writes Law 3 of 1977 was furthermore passed by the government in order to crack down on protests and free speech. Under this law, organized protests such as striking workers were imprisoned, and Marxist and leftist publications were closed or restricted due to tackling issues surrounding food insecurity.

increases of rice and shortages of bread (Mindi 2008, p. 5; 13). Much of these protests were predicated to the general development of neoliberal form of agrarian development (Bush, 2010; Bush & Martiniello, 2017). There were important labour actions as with the various strikes in mahallat-al-kubrah textile industries due to the inflation of food prices and shortages of subsidized bread (Beinin, 2008). Linked to this was also the January 2011 Arab Spring has also been fueled by the stagnation of the local economy and the overall price increases of food in the Egyptian market. The popular social revolts were calls for both political freedoms based on democracy and a transparent rule of law, and for equitable economic growth. These calls were expressed in the protest slogans of “aish, hurriyah, ‘adalah ijtimai’iyah” (Akram-Lodhi, 2013, p. 170; Hanieh, 2013, p. 2). Translated as ‘Bread, Freedom, and Social Justice,’ the demands were a clear indication that, for the majority of the population, issues surrounding democratic control of the state and economic development spread equally remain of utmost importance.¹³⁷ The most recent expression against the dismantling of the food subsidy program was in March 2017, with what was termed as *Intifada At-tamween*, when paper ration cards for bread were no longer recognized, therefore reducing accessibility to subsidized bread. The introduction of smart cards in order to offer targeted subsidies and the ‘Takaful and Karama’ program had increased food insecurity. ‘Paper ration cards,’ the type of card that allowed greater access to bread, were eliminated. With chants of “we want to eat,”¹³⁸ many protested the subsidy cuts that hit the poorest the hardest and which had disastrous consequences for

¹³⁷ Artist Ramy Essam’s popular song during the 2011 Egyptian Revolution became popular, representing the demands of the Egyptian people as a whole (عيش حرية عدالة اجتماعية - رامى عصام / Ramy Essam – Youtube, n.d.).

¹³⁸ On Twitter, the hashtag slogan ‘Intifada At-tamween’ انتفاضة التموين (Bread Uprising/Provisioning Uprising), was also a top trend for Egypt at the time (Middle East Eye, n.d.; Salem, 2017).

food security. An Egyptian state official reacting to these protests on video mimicked protesters, suggesting they eat too much and demand too much, suggesting that Egyptians ‘go hungry’ to help the nation (Diamante, 2017).

The potentials for greater social unrest and protests will be compounded by the ecological contradictions facing Egypt in a warming world, impacting not just food accessibility that arises from dwindling food supplies due to the acceleration of climate change, but impacting food production itself in Egypt (Malm, 2016, pp. 128, 133).¹³⁹ With stagnating wages and growing inequality as a backdrop, the slow dismantling of the public food subsidy system along with the macro-economic structural reforms described above raised the costs of reproducing labour. The second mechanism was the market reforms of the agrarian sector beginning in the 1980s.

8.3 The ‘Augmented Washington Consensus’ and the Decline of Food Subsidies

Beginning with the 1970s *Infitah* reforms, the food subsidy programme continues to be dismantled. Its dismantling has an uneven history, mostly due to the limits imposed on the state by general instability discussed in the previous section, and due to the real inability of the Egyptian state to provision enough food from the international market during times of spikes. As Bush (2014, pp. 93-6) suggests, government deficit expanded due to the increased international cost of post-2008 food crisis. Nevertheless, as this section will show, the neoliberal reforms had shifted the burden away from the state to the Egyptian working class because of the problems associated with ballooning costs of food

¹³⁹ This fact may not readily be on the minds of Egyptian farmers. In one interview, when asked about the potential risk of climate change, the participant did not give much thought to the potential problems that may rise with agricultural work even though another interviewee had explained the problem of hot weather in farming operations.

provisioning. The increasing costs of food, along with the protests against authoritarianism had been one of the main reasons for the overthrow of Mubarak. Post-Arab Spring Egypt has been a continuation of neoliberal reforms (Bond, 2001), shifting from the blunt weapon of full-scale abolishment of food subsidies to more targeted approaches (Salevurakis & Abdel-Haleim, 2008, pp. 41-2). Despite this shift, the costs of the Egyptian food subsidy program remain high. Major international development and financial institutions such as the World Bank, USAID, and the IMF had set up conditionalities in order to implement the macro-economic reforms (Ahmed, Bouis, Gutner, & Löfgren, 2001, pp. 10-2), but were ultimately limited in the 1990s because of the reluctance of the state due to concerns of social instability. However, reforms have begun following the Egyptian revolution of 2011, with a preference towards targeted programs through cash transfers.

Egypt's food subsidy program has been critiqued in three ways: the nutritional problems of distorting the market and encouraging consumption of bread, the fiscal problems of the state, and the distortion of the free market in food production. First, the food subsidy program is critiqued due to it encouraging the over-consumption of carbohydrates. In a study on the food subsidy program, IFPRI (2016) argues that the problems of the food subsidy programme relate to nutrition and the market distortions that promote an over-consumption of bread due to its relative low cost compared to other food commodities. As they argue, "...Egypt's large and long-standing food subsidy system has contributed to sustaining and even aggravating both nutritional challenges" (IFPRI 2016, p. 4), due to the encouragement of bread consumption.¹⁴⁰ According to their argument,

¹⁴⁰ Therefore, they see a closing gap in terms of obesity between those in the poorest and the richest quintile, suggesting that, while income does matter for access to food, the food subsidy programme is problematic for all income quintiles.

while recognizing the wider structural economic problems facing the Egyptian state, food subsidies have created policy distortions which give rise to malnutrition due to depreciating the real costs of bread and therefore encouraging the consumption of excessive carbohydrates. These nutritional challenges, obesity and undernutrition, arise due to ‘untargeted’ food subsidies, and food subsidies that distort food prices and encourage ‘cheap bread:’

...these correlations point to a nutritional situation where calorie rich foods are readily and cheaply available, which encourages overconsumption of these foods; where a large share of the population cannot afford or does not prefer a diversified diet dense in micronutrient-rich foods (such as meat, fish, dairy products, pulses, vegetables, and fruits); and where individual health conditions compromise optimal nutritional outcomes (IFPRI 2016, p. 22).

Evidence for this lay was that higher income populations consumed a disproportionate amount of their nutritional intake in bread (see next section). From this, they argue that, similar to the critique of current generalized energy subsidies being ‘untargeted’ and being captured by affluent sectors of the Egyptian population, food subsidies should instead be ‘targeted,’ and to lessening the burden on the government budget.

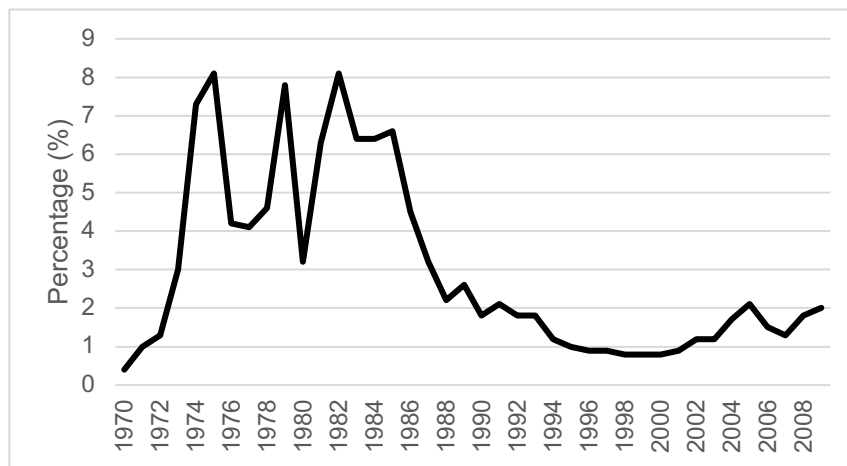
The relative share of the food subsidy programme of the total state budget has decreased as less food goods are covered, and it remains relatively lower than the pre-reform period, but has seen a recent rise due to increases. There may be some truth in nutritional problems arising from an over dependency on carbohydrates, but the general trend has been to dismantle public control of food in general. The consequences of this decrease has been the de-regulation of other diverse and more healthy food options.¹⁴¹

¹⁴¹ This has occurred for a number of reasons which Ahmed et al. (2002, pp.7-10) document.

For example, many food items were removed from the program during the reform period, such as maize, rice (removed in 1992), tea, lentils, chicken, fish (removed in 1991/92) and meat (removed in 1990/01) (Ahmed, Bouis, Gutner, & Löfgren, 2002 p. 9). What remains as of 2017 are four subsidized food items 'ash baladi [common bread] and flour, edible oils, and sugar; the fiscal share of the state budget for food subsidies has declined from 15% for twenty commodities in 1980 to 6% to 4 food items in 1997 (Woertz, 2017). Moreover, a cash-transfer program is replacing the program to help the most vulnerable. Yet in general, the trend has been to remove beneficiaries.

The reduction of the food subsidy program coincided with an absolute reduction in its total costs and share of the GDP. In recent years however, there has been a continued rise in the expenditure on the food subsidy out of necessity, with an increase of 17.4% from the first quarter of 2014/2015 and 2015/2016 (USDA, 2016). From the time of the Arab Spring to 2016/2017, the cost of the food subsidy program has increased. Figure 8-2 shows the percentage of Food subsidies as a % of GDP and the annual fiscal expenditures allocated by the GASC for the food subsidy program from when the start of the neoliberal cuts to food began respectively.

Figure 8-2 Food Subsidies as a % of GDP

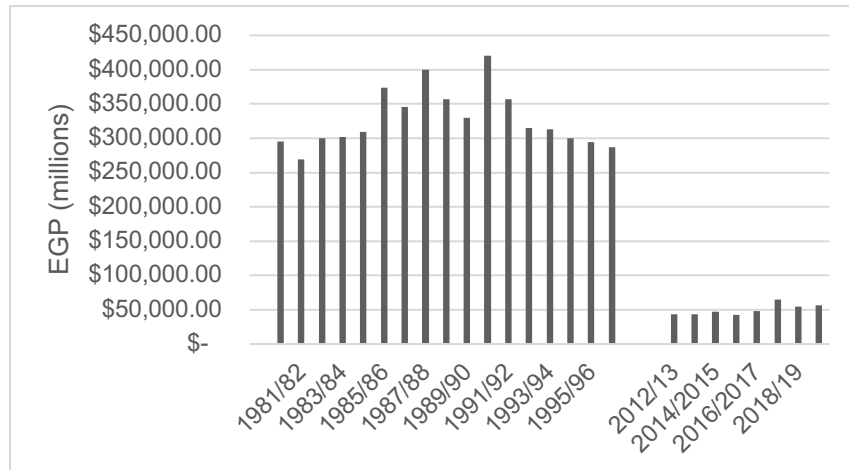


Source: Calculations by Abdalla & al-Shawarby (2018); Akhtar et al. (2010).

While food items were removed from the programs and the total relative costs of food has decreased, there has nevertheless been a recent rise of the real costs. Figure 8-3 shows the rise of costs in the food subsidy programs. There was a 30% increase from 2012/2013 2019/20 (expected) in the food subsidy program costs due to the price increases associated in the international market and currency devaluation. According to the USDA (2019), the government budget for 2018/2019 has allocated 86 billion (4.8 billion USD) for the food subsidy program, with about half of that budget - 42 billion EGP (2.35 billion USD) – allocated towards bread. For wheat and bread production, the government relies on a mixture of the international and domestic market to procure its wheat.¹⁴²

Figure 8-3 Total Food Subsidies in Real Prices (Currency standardized at 2015 rates)

¹⁴² Many in the government have complained over fraud in the procurement prices, where traders and farmers import cheaper bread and sell back to the government, pocketing the rest as a profit. There had been some protests over the government reducing the amount of procurement prices linked to this form of patron-clientelism (USDA 2017).



Source: LE Nominal Price numbers of 1980-1997 from Ahmed et. al (2002, p. 8); and various issues from USDA-FAS reports. *Data for 1998-2004 missing. GDP deflator (2015=100)

The food subsidy programme had slowly been cut. In 2008, the World Bank calculates that “...the rising cost of [the] Egyptian food subsidies can be attributed to increased international commodity prices... exchange rate depreciation... increased numbers and/or quantities of subsidized food items; and coverage expansion of ration cards” (Akhtar et al., 2010, p. 2). The food subsidy cost was about 0.1% of GDP in 1974 to 1.8% of the GDP in 2008 (Akhtar et al., 2010, p. 5; Khedr et al., 1996, p. 58). At the same time, from the 1980s to the mid 1990s, the real cost of the food subsidy programme had declined from a high of 34,435 million EGP in 1981/82, consisting of about 13% of the total government expenditure to a low of 7,866 million EGP in 1994/95, about 3.5% of the total government expenditure on food. Since the mid-2000s, the cost of the food subsidy program has seen an increase. By 2014/2015, the cost of the food subsidy program was 39.4 billion EGP (about 5 billion in USD) (USDA FAS, 2016, p. 5). In 2016, farmer groups put political pressure to continue to receive a high price of wheat compared to international prices. While international prices for a metric ton of wheat was around under 200 USD, the Egyptian government was purchasing wheat from farmers at about 357 USD per ton.

According to the USDA-FAS, this has led to arbitrage, where traders buy wheat at cheap prices internationally and sell high to the state (USDA-FAS, 2016, p. 3).

A number of qualitative features of the dismantling of the food subsidy program impact the use-value of food accessibility. First, and previously mentioned, was the removal of subsidies for specific key foods. Bread and cooking oil have seen a gradual increase from the 1980s onward, while the price of 'other' had decreased, reflecting the general decrease of other subsidized food items (such as meat and fish and other commodities). Even after many of the commodities above had been defunded, the food subsidy program continued to be a pillar of society-state-market relations, and this created a new dimension in neoliberal governance that reflects what Rodrik (2004) calls the 'Augmented Washington Consensus'. In attempting to shift Egyptians away from the food subsidy program, a new smart card system was introduced. In 2017, the SMART card program was introduced, providing just a small cash allotment for the cardholder, who can purchase 40 food products. Instituting this SMART card program was part of a loan agreement with the IMF for 4.8 billion USD (USDA-FAS, 2013).

A second feature was decreasing eligibility to the food subsidy program. As of 2019, the USDA-FAS report writes that Egypt is continuing with reviewing and pushing people off government support. They write that there are a number of Egyptians who are slowly being removed from the program:

The Egyptian food-subsidy system is dropping beneficiaries that have children enrolled in international schools, whose educational fees exceed EGP 30,000 (\$1,725), and or whose electricity consumption exceeds 650 kilowatts per annum. Dropped from the system are also Egyptians that own a 2014-19 model year motor vehicles and or whose mobile phone bills exceed EGP 800 (\$46) per month. Removed from the subsidy system are also agricultural landowners whose holdings exceed ten feddans (~4.2 hectares).

The implementation of this program is in line with the state's goal to push people off the program and to completely stop the subsidy of flour (USDA-FAS, 2016). These policies, while attempting to shield themselves from the criticism of being a form of austerity, are transforming the subsidy program to one that, through 'targeted' subsidies', promotes market-based mechanisms to achieve food security. The overall implications of these targeted subsidies are the dismantling of the public control of food production. There had been a number of protests in both Lower and Upper Egypt in 2017.

A third affecting use-value of food accessibility are the hidden costs to health associated with the deteriorating quality of foods eaten over the long-scale of the neoliberal reforms, or the portions of food given out. While the portion of the food subsidy program has been increasing for baladi bread, the quality of the bread was lessened through adulteration of the wheat flour. Starting in 1996-1997, the Egyptian state began to cut flour into a composite, leading to an overall decrease in its nutritional content. The composite mix was at first, 80% wheat and 20% maize in order to offset the cost of increasing wheat prices (USDA, 1997).¹⁴³ In 2013, this composite mix was comprised of about 65% domestic wheat and 25% imported wheat, and 10% maize (USDA, 2013). In some cases, the Egyptian state had to resort to importing grain of inferior quality. Eventually, this decision was reversed by the Ministry of Supply and Internal Trade due to concerns over food and nutritional quality (USDA 2013). Moreover, the weight of bread itself was reduced (Salevurakis & Abdel-Haleim, 2008, p. 44). More recently, there has been a further push to promote maize as a substitute for wheat, encouraging the consumption of staple food items of Latin and Central America (Al Jazeera English, 2016).

¹⁴³ There are also reports that there has been a diversification of consumption diets from an over-reliance on bread to other carbohydrate sources such as potatoes and rice (USDA, 2000).

While diets are in constant flux and cannot be universalized, attempting to shift diets in this way does not solve the original distributive questions associated with capital accumulation and food insecurity.

In summary, the crisis of Infitah included a dismantling of the food subsidy program while constraining the ability of the state to provision cheap food for its population. The legacy of the food subsidy programme had always been a dependence on cheap food imports, as a result of a geopolitical strategy by the US to simultaneously support its own agricultural sector, and to leverage support internationally against the rise of communist movement; this has been a key strategy of the 'sustainability' of the American food circuit of production and its global reach of influence (Mitchell, 2002, pp. 235-6; Patel, 2013). The dialectic of import and export food provisioning of this nature will be detailed in the next chapter.

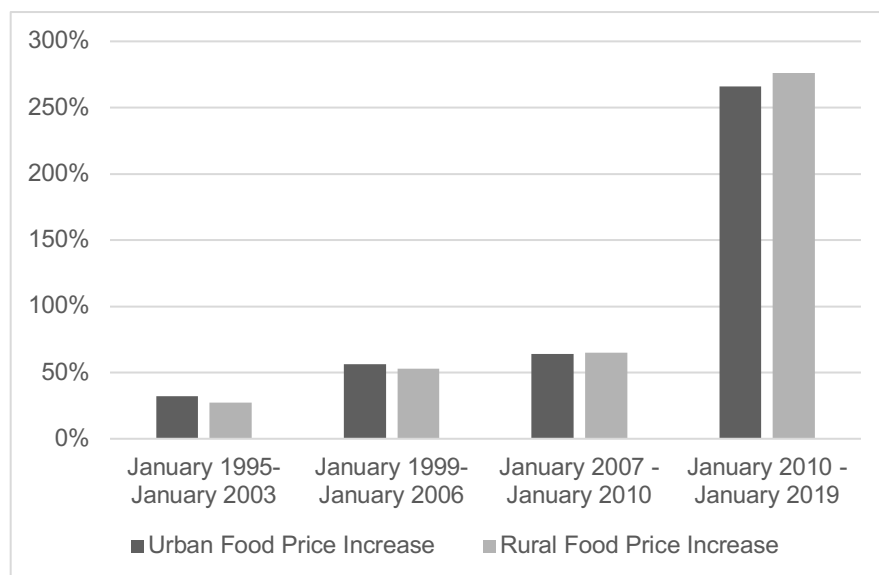
8.4 Food Inflation, Wage Stagnation, and Unemployment

The social conditions of the SAPs have seen a general rise of food goods in the Egyptian market. This section will show that as the devaluation of the Egyptian currency caused food price inflation with no concomitant increases in wages to keep up with these price increases. Not only have food prices almost doubled across the board since the 1990s, but there is a severe crisis in unemployment and in living conditions.¹⁴⁴ Wages have stagnated, unemployment has increased, especially among youth, and there remains a large segment of informalized labour, comprised of those who were made landless and who have settled in the outskirts of major Egyptian cities.

¹⁴⁴ See also WFP (2013).

Geographically, access to food differs in urban and rural contexts. In urban areas, food is accessed through local food markets, while in the rural context it is accessed through a mix of self-provisioning, the local market, and home preparation of bread and other food goods.¹⁴⁵ In the market, food prices has generally been increasing for both urban and rural locations in Egypt. Figure 8-4 displays the increase of commodity prices from January 1995 to January 2019 for both urban and rural areas.

Figure 8-4 Consumer Price Index Increase for Food, Rural and Urban Egypt (% change)



Source: CAPMAS Monthly Bulletin of indices for consumer prices, 2000 to 2019.

Followed by a general increase of food prices are increases in other expenses, namely rent. The food subsidy program general decline was in the context of increased costs of living. From 2000 to 2008, the cost of rent increased about 86.4% (ILO, 2019). The collapse of public housing starting with the abolishment of tenant rights and other rent controls under Sadat in the 1970s, and under Mubarak, increased the cost of living in both

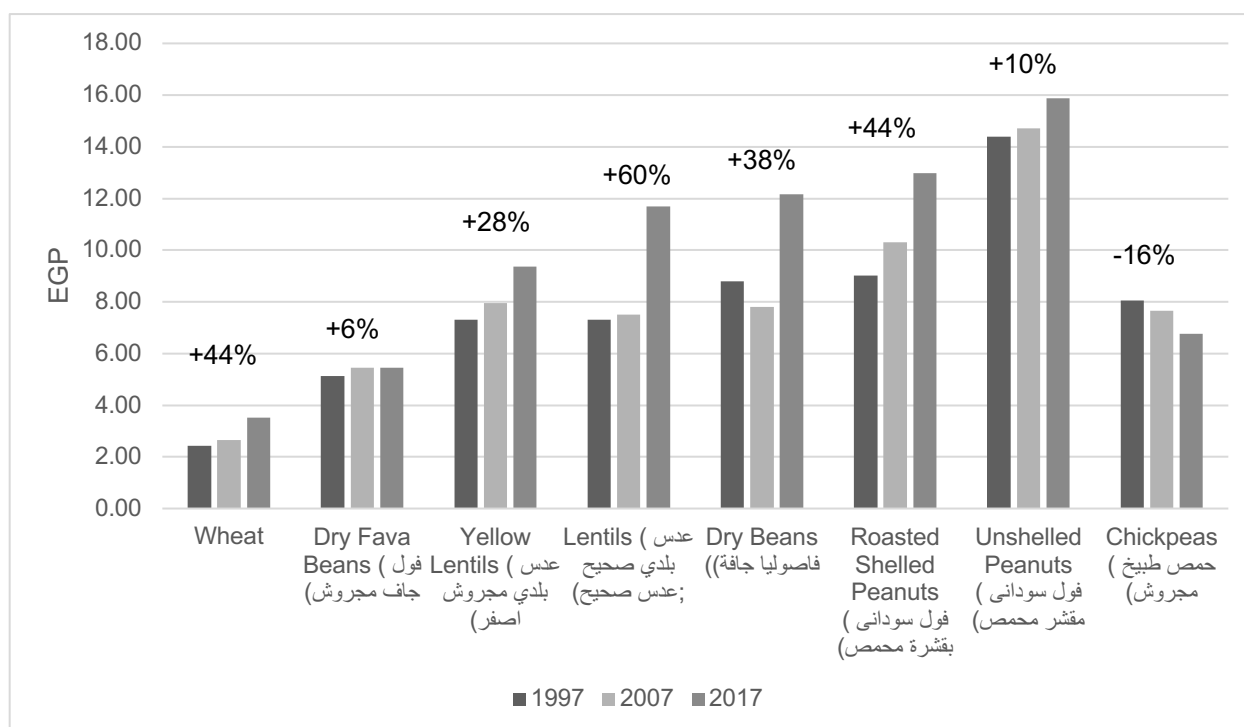
¹⁴⁵ Mitchell (2002) writes how bread making by the labour of women in the family is a key element of self-provisioning of food.

urban and rural areas (Joya 2013, pp. 169-73). Public sector housing construction between 1982 and 2002 had increased only 28% while private construction expanded by 72% (el-Batran, 2004; Joya 2013, p. 229). While public housing declined, speculative investment in housing led to agricultural land being paved over (Mitchell 1999). One interviewee pointed out that agricultural and food production in their local area declined due to the purchase of agricultural land, leaving semi-built low-rise buildings that are uninhabited. The increasing migration out of rural areas due to the dispossession and dismantling of the public agrarian sector led to increased food insecurity in quasi-urban, informal 'slum' settlements (Davis 2005; IFPRI 2015, pp. 29-30; Mikati 2010).

Urban populations access food through grocery stores, supermarkets, 'hypermarkets' (i.e. department stores), small convenient stores, and small-scale food vendors on streets. According to a USDA-FAS (2019) food retail report, supermarket and hypermarkets have grown to control 26% of total sales, with about 3,913 outlets, while smaller grocery stores control 74% of total sales, about 113,724 outlets. The difference in weight and number suggest that the growth of these new supermarkets focus heavily on high-value imported grocery foods, while the smaller grocers remain specialized in low-value food items. In terms of the *quality* of food, there has been a growth in access to food through convenient store aisles and vendors selling processed foods. With the transformation of the Egyptian diet, and the growth of processed foods, the Egyptian population generally has had to reduce its consumption of nutritionally rich foods and increase its consumption of processed foods and sugary drinks (Dixon, 2013, pp, 224; 239; 242). As indicated in Figure 9-5, the increased dependency on the imports of sugar and edible oil/vegetable oils suggests the major portion of caloric intakes comes from high caloric but nutritionally vacant foods.

This increase in the consumption of processed foods is likely due to the general increase of domestic retail food prices and the general decline of wages. Since 2016, Egypt has attempted to discourage the importation of processed foods in order to avoid the high price increases and has instead set up capital investment for domestic food processing. The following four figures show the food price increase in Egyptian Pounds (ghineh) from 1997 to 2017, and the corresponding price increase from 1997 to 2017. These food prices were collected from a variety of published issues by CAPMAS in Arabic. Food provisioning in rural areas is mixed. For example, small family farms set aside plots of land for their own self-provisioning, and many rely on local food markets. While there is not enough data found in the CAPMAS published documents to accurately calculate the price differentials between urban and rural foods, there is still some indication that food prices in rural areas have also increased at near the same intensity as in urban markets. Figure 8-5 shows the increase in prices of wheat and other important beans and pulses such as lentils, beans, chickpeas, and peanuts. As important sources of protein and fibre and as relatively cheaper sources of protein compared to meat, increase in prices of these products undermines food security.

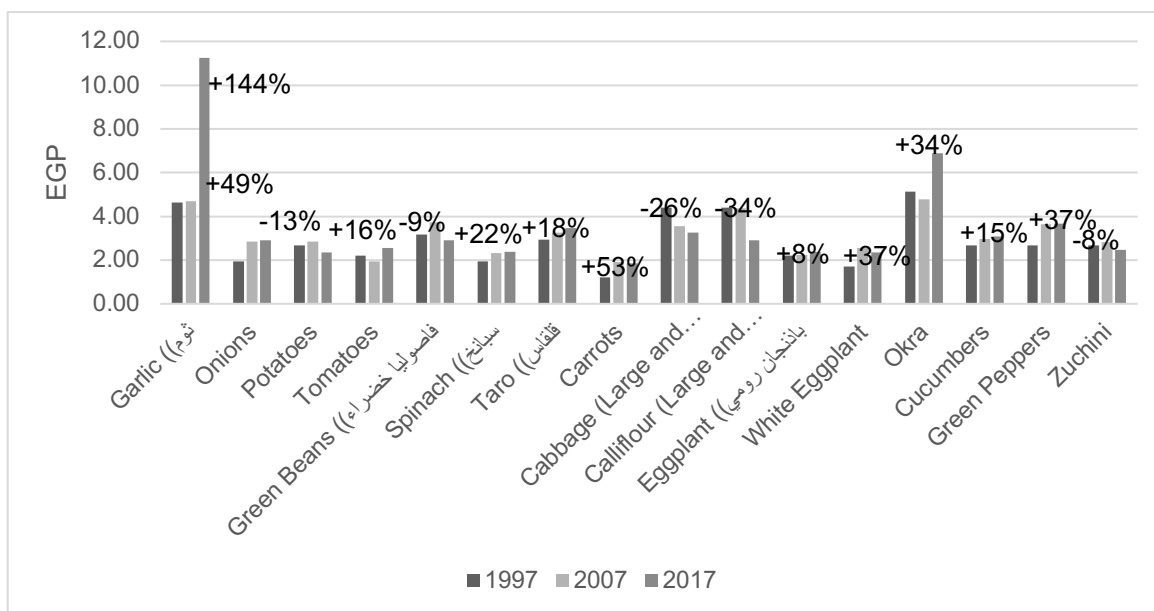
Figure 8-5 Cereal and Pulses Food Prices in Urban Egypt, 2010 Local Currency Prices, 1997-2017



Source: CAPMAS, various issues, and calculated by author.

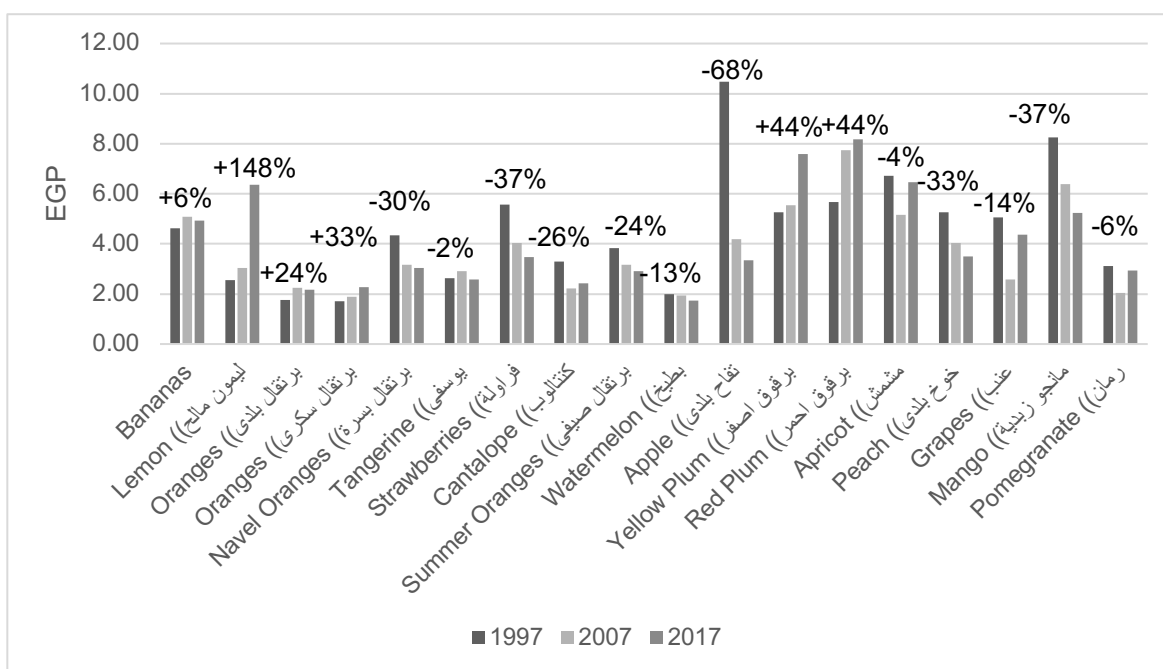
Similarly, Figure 8-6 and Figure 8-7 show the price increases for vegetable and fruits in urban Egypt. Food items such as tomatoes, spinach, okra, cucumbers and peppers are important sources of fibre and vitamins and increases in their prices make access to nutrient rich foods difficult for consumers. Similarly, the price of fruits in local urban markets has also seen an uneven increase, most likely due to the overproduction of fruits, reflecting the dynamics of catering fruits (see Figure 8-7).

Figure 8-6 Vegetable Food Prices in Urban Egypt, 2010 Local Currency Prices, 1997-2017



Source: CAPMAS.

Figure 8-7 Fruit Prices in Urban Egypt, 2010 Local Currency Prices, 1997-2017

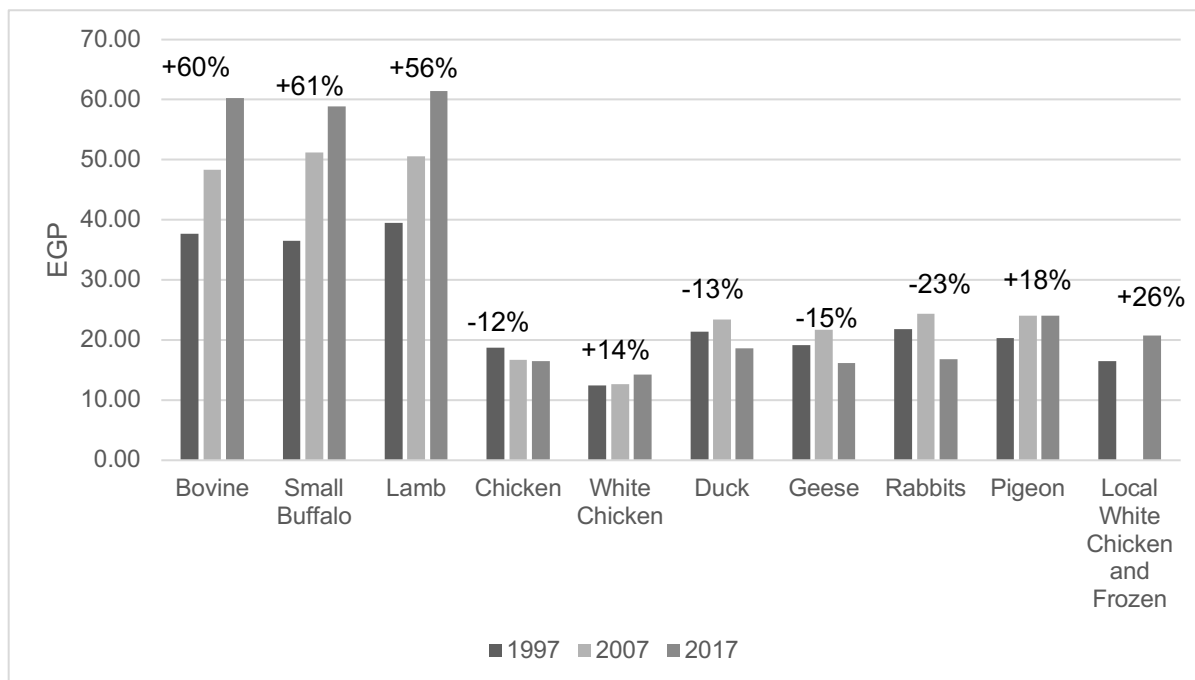


Source: CAPMAS.

Lastly, the prices for meat have also increased in urban areas, as displayed in Figure 8-8, making it difficult for Egyptians to access important sources of protein and iron. Imports of frozen beef from Brazil have grown, for example, as it is much more competitively priced

than Egyptian beef, thus transforming local diets towards imported foods. In Egypt, it costs a producer 5813.7 USD per tonne of cattle, compared to almost about half that in Brazil, where it costs, 2783.4 USD per tonne (for the year 2016 FAOSTAT, 2019).¹⁴⁶

Figure 8-8 Meat Prices in Urban Egypt, 2010 Local Currency Prices, 1997-2017



Source: CAPMAS.

The devaluation of the Egyptian currency throughout the neoliberal period led to increased costs of food relative to average income levels, without any associative gains in the quality of employment. Table 8-1 shows the increase in costs of various food items based on average wages per month from 1997 to 2017. Except for most fruit items and chickpeas, the price of food has increased substantially. Moreover, this increase has impacted women more as they earn less average income than men.

¹⁴⁶ Some companies and officials involved in the imports of Brazilian beef into Egypt was subject to a crackdown due to corruption in beef exports to Egypt. Brazilian authorities suspended 33 officials, 3 meat plants were closed down, and 18 other exporting facilities were investigated (Egypt Independent, 2017).

Table 8-1 The increase in costs of various food items based on average wages per month in real terms (1997-2017)

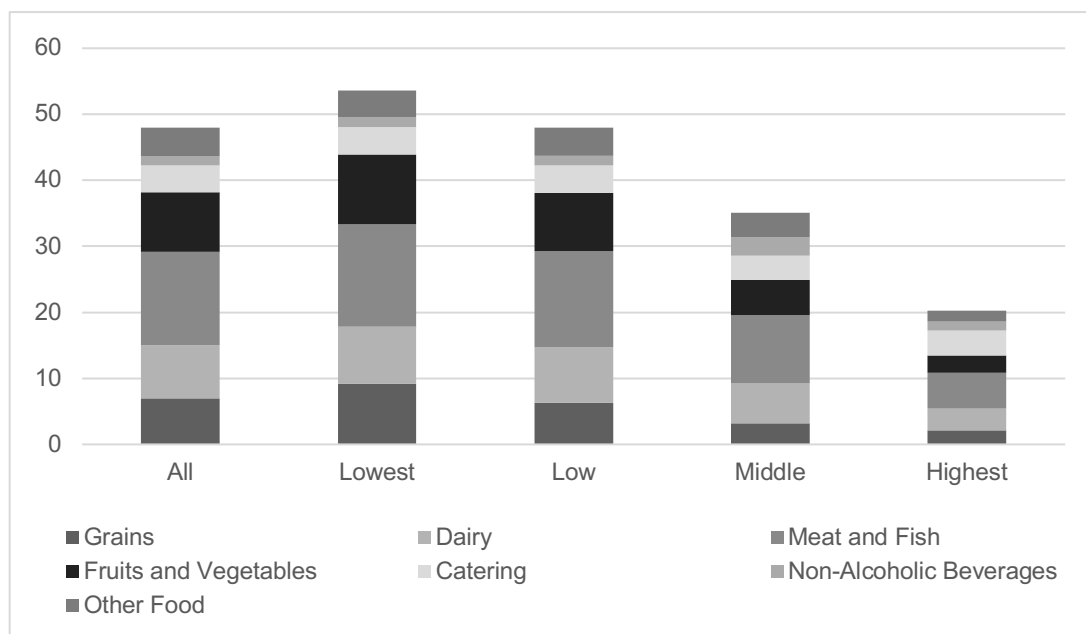
	Total Workforce	Male Workforce	Female Workforce
Cereals and Beans			
Wheat	+49%	+46%	+50%
Dry Beans	+10%	+8%	+11%
Yellow Lentils	+32%	+30%	+33%
Lentils	+65%	+62%	+66%
Dry Beans	+43%	+41%	+44%
Roasted Shelled Peanuts	+49%	+46%	+50%
Unshelled Peanuts	+14%	+12%	+15%
Chickpeas	-13%	-15%	-13%
Vegetables			
Garlic	+151%	+147%	+153%
Onions	+54%	+51%	+55%
Potatoes	-10%	-11%	-9%
Tomatoes	+20%	+18%	+21%
Green Beans	-5%	-7%	-5%
Spinach	+26%	+24%	+27%
Taro	+22%	+20%	+23%
Carrots	+58%	+55%	+59%
Cabbage	-23%	-25%	-23%
Cauliflower	-32%	-33%	-31%
Eggplants	+12%	+10%	+13%
White Eggplants	+42%	+39%	+43%
Okra	+39%	+37%	+40%
Cucumbers	+19%	+16%	+19%
Green Peppers	+42%	+39%	+43%
Zucchini	-5%	-7%	-4%
Fruits			
Bananas	+10%	+8%	+11%
Lemons	+156%	+152%	+158%
Country Oranges	+29%	+26%	+29%
Sugar Oranges	+37%	+35%	+38%
Navel Oranges	-28%	-29%	-27%
Tangerines	+1%	-1%	+2%
Strawberries	-35%	-36%	-35%
Cantaloupe Melons	-23%	-25%	-23%

Summer Oranges	-21%	-22%	-21%
Watermelons	-10%	-12%	-9%
Apples	-67%	-68%	-67%
Yellow Plums	+49%	+46%	-50%
Red Plums	+49%	+46%	+50%
Apricots	0%	0%	-2%
Peaches	-31%	-32%	-31%
Grapes	-11%	-12%	-10%
Mangos	-34%	-36%	-34%
Pomegranates	-3%	-5%	-2%
Meat			
Bovine	+66%	+63%	+67%
Small Buffalo	+67%	+64%	+68%
Lamb	+61%	+58%	+62%
Chicken	-9%	-11%	-8%
White Chicken	+18%	+16%	+19%
Duck	-10%	-12%	-9%
Geese	-13%	-14%	-12%
Rabbits	-20%	-21%	-19%
Pigeons	+22%	+20%	+23%
Local White Frozen Chicken	+31%	+28%	+32%

Source: CAPMAS yearly bulletins on consumer food prices in Arabic, and ILO for wages.

The average Egyptian spends approximately half of their income on food, with meat, dairy, fruits and vegetables comprising the majority of this share (at about 30 percent of their entire income) (see Figure 8-9). The lowest income earners in Egypt spend over half of their income on food.

Figure 8-9 Percentage of Income Spent on Food Products Based on Quintile Income Groups (Differentiated by PPP\$), Egypt 2010



Source: World Bank.¹⁴⁷

IFPRI (2015) argues that in the context of increasing poverty in Egypt, increases in caloric intake across population sections occurs mainly through reliance on cheap food sources such as bread, sugar and edible oils in the form of highly processed foods. CAPMAS had recently reported that the average proportion spent of income on food has decreased, from a high of 49% in 2010 (see figure above), to a low of 34% in 2015. This does not necessarily mean an increase in food affordability. Egyptians are choosing cheaper sources of caloric energy and shifting diets away from more nutritious high-end products; for example, they are cutting down on the amount of meat they consume in favour of cheaper and more nutritionally empty carbohydrates. As of 2019, there has been a decline in the price of beef, poultry, and fish due to the lack of consumer demand (Egypt Independent, 2019). Citing the World Food Programme (2011, 2013), IFPRI (2015, pp.

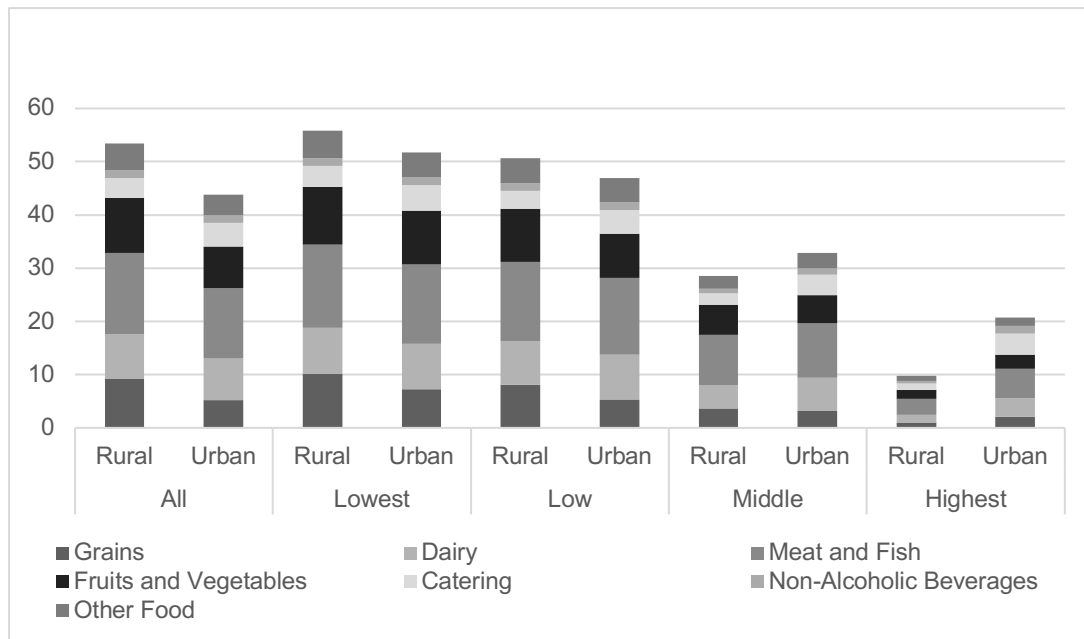
¹⁴⁷ Data calculated in presentable format by author. Data standardized and categorized by the World Bank by calculating the PPP. Lowest is below 2.97\$ per capita per day. Low is between 2.97-8.44 per capita per day. Middle is between 8.44-23.03 per capita per day. Higher is above 23.03\$ per capita per day.

45-6) noted that 88.4% and 81.6% of poor and non-poor households begin eating less expensive *and* less desirable foods, 72.4% and 67.4% rely on less meat and fish, and 41.7% and 43.8% reduce their meal portions. This continues the trend in decreased consumption from the height of the international crisis of 2008; the USDA FAS report at the height of the global food crisis that:

In 2007, meat consumption is forecast to decline as the short supply of locally produced meat has driven up prices. The average per capita consumption of red meat is estimated at 8.5 kg/year, which is quite low compared to consumption levels in other countries. The low consumption is mainly due to limited local production combined with low income. Egyptians prefer beef to other types of meat including poultry and lamb. They also prefer fresh over frozen beef (USDA, 2008, p. 5).

Poverty, and the food insecurity it engenders, take geographical forms; food access varies between rural and urban areas, and Upper and Lower Egypt. Food inaccessibility is more severe in Upper than in Lower Egypt, even though the GINI coefficient suggests lesser income inequality (IFPRI, 2015). Figure 8-10 shows the breakdown of food expenditure by food groups based on quintile groups and income but for geographical locations. The highest income earners spend relatively very little on food goods, spending about a tenth of their income on all food items. Consumers in urban areas spend about two tenths. However, the lowest earners in the rural areas for the lowest and low spend over half their income on their food needs.

Figure 8-10 Percentage of Total Income Spent on Food Product Groups, Segmented by Quintile Income Groups (PPP\$), and Geographical Locations, Egypt 2010



Source: World Bank.¹⁴⁸

Income levels determine food accessibility and the inequality and wealth and income. Table 8-2 shows the distribution of population based on percentage group. The lowest income group accounts for nearly 60% of the entire Egyptian population, with most of the poor residing in the rural areas. New hybrid 'urban' spaces emerged on the outskirts of urban areas where people are living in spaces of absolute poverty and environmental hazards. Figure 8-11 displays the income share held by the population divided in quintile income groups (as a percentage) from 1990 to 2015. Accordingly, the income levels of the top 20% almost exceed the bottom 80% and have slightly increased. Said (2015, pp. 54-55) documents the stagnation of public sector jobs since the neoliberal reforms; public

¹⁴⁸ Data standardized and categorized by the World Bank in their Global Consumption Database based on global income distribution data and calculating the PPP. Accordingly, they categorize it as the following based on their calculation notes: Lowest is below 2.97\$ per capita per day (bottom half of global distribution). Low is between 2.97-8.44 per capita per day (51-75th percentiles). Middle is between 8.44-23.03 per capita per day (76-90 percentiles). Higher is above 23.03\$ per capita per day (91% and above percentiles). It is important to keep in mind that the distinction between rural and urban in Egypt in official statistical practices must be taken with caution, as the lines dividing rural and urban in Egypt is not sharp due to the rise of informal housing on the outskirts of urban areas.

sector income levels declined in the 1990s. The amount of people considered to be in low wage work has increased; from 2006 to 2012, there was an overall increase of low wage workers, from 39% to 46% (p. 55). These levels of inequality are exasperated when coupled with unemployment levels. As a proportion of the total workforce, the unemployment percentage of Egyptians in the 15-24 age group has dramatically increased from 24.4% in 2000 to 32.6% in 2018. For Egyptians over 25, unemployment levels have also increased from 4.6% in 2000 to 7.4% (ILOSTAT, 2019).

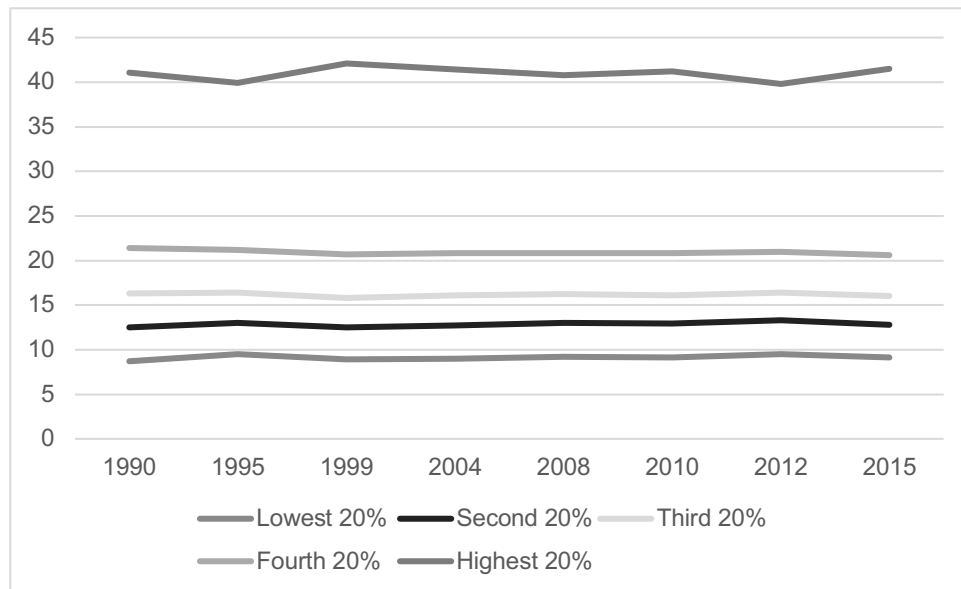
Table 8-2 Population of Egypt Distributed by Income Group (2010)

	National		Rural		Urban	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Lowest	48,024,356	59.2%	34,006,341	41.92%	14,018,015	17.28%
Low	30,406,325	37.5%	11,777,887	14.52%	18,628,438	22.96%
Middle	2,459,998	3.0%	142,696	0.18%	2,317,302	2.86%
Highest	230,397	0.3%	7,886	0.01%	222,511	0.27%
TOTAL	81,121,077		45,934,810		35,186,267	

Source: Data from World Bank Global Consumption Database. See footnote 148.

Figure 8-11 shows the income share held by the population divided in quintile income groups (as a percentage) from 1990 to 2015. Accordingly, the income levels of the top 20% almost exceed the bottom 80% and have slightly increased. Said (2015, pp. 54-55) documents the stagnation of public sector jobs since the neoliberal reforms; public sector income levels declined in the 1990s. The amount of people considered to be in low wage work has increased; from 2006 to 2012, there was an overall increase of low wage workers, from 39% to 46% (p. 55). These levels of inequality are exasperated when coupled with unemployment levels. As a proportion of the total workforce, the unemployment percentage of Egyptians in the 15-24 age group has dramatically increased from 24.4% in 2000 to 32.6% in 2018. For Egyptians over 25, unemployment levels have also increased from 4.6% in 2000 to 7.4% (ILOSTAT, 2019).

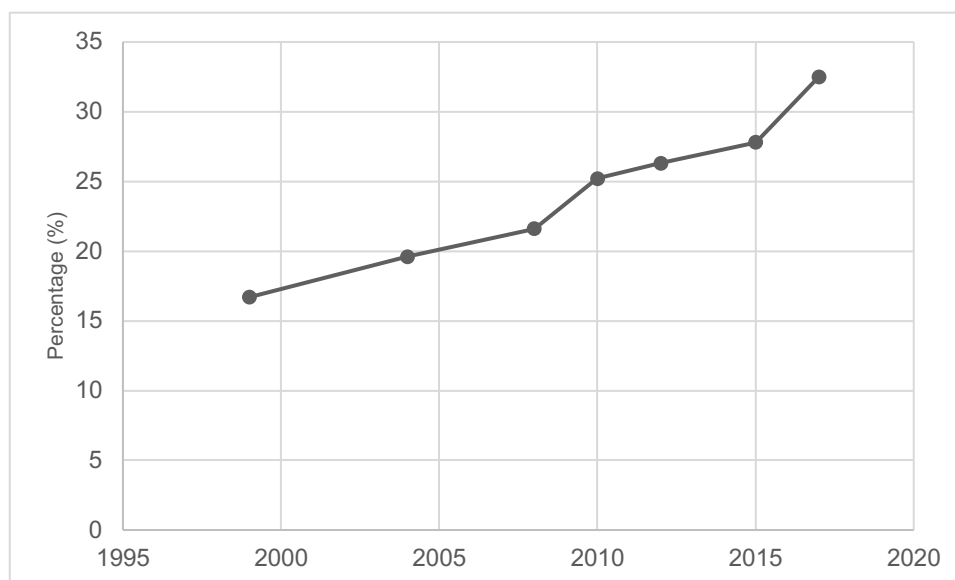
Figure 8-11 Income Share by Quintile Income Groups, as a Percentage, 1990-2015



Source: World Bank Development Research Group.

The percentage of those living under the poverty line has increased by over half from 1999 to 2017, from 16.7% to 32.5% of the total population (see Figure 8-12).

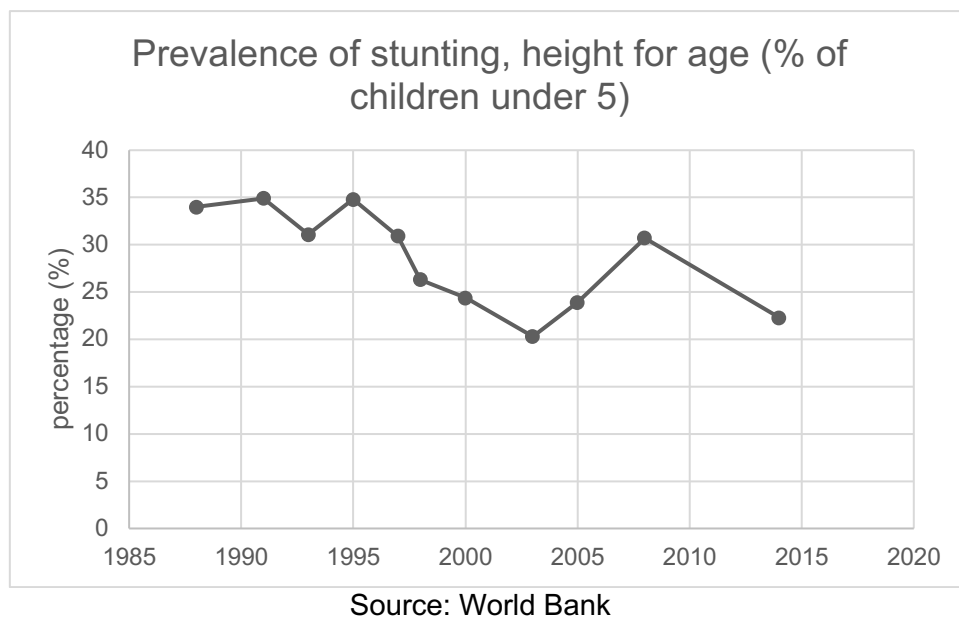
Figure 8-12 Poverty Headcount Ratio at National Poverty Line, Percentage of Population, 1999-2017



Source: World Bank

In Egypt, the percentage of children under five who are stunted as a result of malnutrition had increased during the early 2000s and leading up to 2008. Figure 8-13 shows the percentage of children under five who are considered stunted. While there was a general decline from 1995 to 2013, there has been nevertheless been periods of increases. As Sharaf & Rashad (2016) and others argue, child malnutrition is a general indicator of the state of food insecurity; with Egypt having the highest levels of child malnutrition in the MENA, the general state of food insecurity in Egypt is extremely dire.

Figure 8-13 Percentage of Stunting, Height for age, as a Percentage of Children Under Five, 1988-2014



8.5 Conclusion

This chapter contextualized the dismantling of the food subsidy program amid the social and economic context of neoliberal development. Part of the wider austerity programs of structural adjustment programs, Egypt had been compelled to embark on dismantling its

food subsidy program through. A number of macro-economic reforms, such as floating the currency, reducing the state budget towards subsidies (food and energy), and increasing the dependence on the market for attaining food needs. Instead of seeing a decline in prices of food in order to fulfil demand, the Egyptian case shows how neoliberal reforms has increased the costs to attain even basic food needs. While much of the literature explains the growing food deficit due to demand-side reasons, such as increased population and increased demand for food goods such as meat, I argue that food needs cannot be pegged to income levels but on human need. The next chapter will outline the second generative mechanism of food insecurity in the market: the growing dependence on food imports and the expansion of export-oriented production.

9 Capitalist Food Insecurity in Neoliberal Egypt II: The Transformation of the Agrarian Sector

9.1 Introduction

This chapter will demonstrate the second mechanism of declining food insecurity and the re-articulation of the Egyptian agrarian sector towards the world market. While the first generative mechanism revolved largely around the decline of state expenditure on food subsidies, the second mechanism compounds the problem because it articulates the agrarian sector towards export-oriented production with a resultant stagnation of growth for production in the domestic market. Egypt's position as a net-food import dependent nation with a stagnating domestic agricultural sector, makes it structurally incapable of fulfilling its food needs through export-oriented production (Amin, 2002, p. 158; Bush, 1999, 2002, 2014). This has been part of larger neoliberal reforms that included growth of state divestment, privatization, and the growth of Public-Private Partnerships (PPPs) (Ayubi 1996; Yunis, 1996). The structural adjustment programs surrounding the neoliberal reforms in the agrarian sector had been deemed to be a mixed case, with successful decline in state spending but without corresponding growth in employment in the private sector (FAO, 2017; Zaki 2001). The dismantling of the public agricultural sector and the introduction of privatized and semi-privatized industries and services were undertaken to gear agricultural production to exports. High-value food items had also further entrenched the problems associated with the world trade of food under capitalist accumulation (Bush, 2014). Moreover, this general development of agrarian productive relations has expanded, what Otero, Pechlaner, and Gürçan (2013) describe, using Trotsky's 'unequal and combined development,' describe as an international food regime based on the

unequal power of the advanced capitalist states' to export highly capitalized basic food stuffs when compared to developing countries' export of luxury food items. In what can be termed the dialectic of import and export dependence, I will show how the privatization and the market-reforms in the agrarian sector created an economic system that concentrates wealth while simultaneously undermining both a) Egypt's national food security (in terms of the ability to attain a positive terms of trade in international trade) and b) the national government's ability to gear production to human food needs.

This chapter will articulate the Egyptian experience along the lines of a value-form approach, helping to explain the dialectic of import and export in the agrarian sector and the food provisioning system.¹⁴⁹ As established in the conceptual chapters, these mechanisms are tied to the global concentration of wealth that results from the general law of capital accumulation. First, changes towards the agrarian sector show how the dispossession and concentration of agricultural land is geared towards export markets, rather than for food needs of the general populace. Second, I will show how the agrarian sector has declined because it was precisely due to articulating food production in the market had put local food access at a disadvantage. This reflects in the declining terms of trade of Egypt's agrarian sector.

¹⁴⁹ See Harvey's (2005a) discussion on the class politics of neoliberalism. The structural adjustment programs signalled a transfer of wealth so a way to restructure the global crisis of capitalism in the 1970s. At the international scale, I argue that there is a transfer of wealth in that immediate needs of humans are secondary to the needs of the market.

9.2 The Mechanisms of Food Insecurity: The Agrarian Sector

As section 8.2 articulated, economic crisis in Egypt due to the crisis of ‘Third-way’ developmentism, the failure of Keynesian reforms and the general macro-economic changes that paved the way for systemic and generalized food insecurity under the neoliberal period. This has impacted macro-economic ability to produce enough food items. Instead of expanding Egypt’s employment opportunities and the growth that would allow Egypt to establish a ‘food secure’ position in the international market, the neoliberal reforms had instead led to a stagnating domestic agricultural sector incapable of fulfilling its food needs through export-oriented production (Amin 2002, p. 158). Therefore, one can see that there is simultaneously a relatively ‘undeveloped’ agrarian sector in line with a more modern and capital-intensive agricultural market based on export-oriented agriculture (Dixon, 2013, pp. 26-7; FAO, 2017, p. 33-4; Hanieh, 2013, 2019).

In a recent country report, the IMF argues for the importance of attracting FDI, expanding public-private partnerships (PPPs) and maintaining fiscal responsibility in order to maintain a balanced budget and to tether the growth of expenditures. In a country report the IMF writes that:

Fiscal vulnerabilities are Egypt’s main macroeconomic risk. Gross public debt remains high by emerging market standards and fiscal financing requirements have averaged around 25 percent of GDP in recent years. If the current stimulus is not unwound, sustained high fiscal deficits could add to inflation, curtail the scope for future countercyclical fiscal policy, increase rollover risks, and put upward pressure on financing costs and the real exchange rate (IMF, 2010, p. 20).¹⁵⁰

¹⁵⁰ Bond (2011, p. 483) writes that the IMF praised Mubarak’s government as late as 2010, before the Egyptian Revolution of 2011, due to Egypt’s “...prudent macroeconomic policies [creating] space needed to respond to the global financial crisis, and the supportive fiscal and monetary policies”.

These fiscal vulnerabilities are to be avoided by dismantling key market-distortions, such as food subsidies articulated and to articulate agrarian production externally. The embeddedness in the regional and world market has entrenched this unevenness in the development of agrarian production. Since the economic reforms, Egypt had signed onto a number of bilateral and multi-lateral trade agreements. This period saw the relative liberalization of international trade, with the signing of regional trade agreements. Table 9-1 lists a number of bilateral and multilateral trade agreements that Egypt has signed on to as a member.

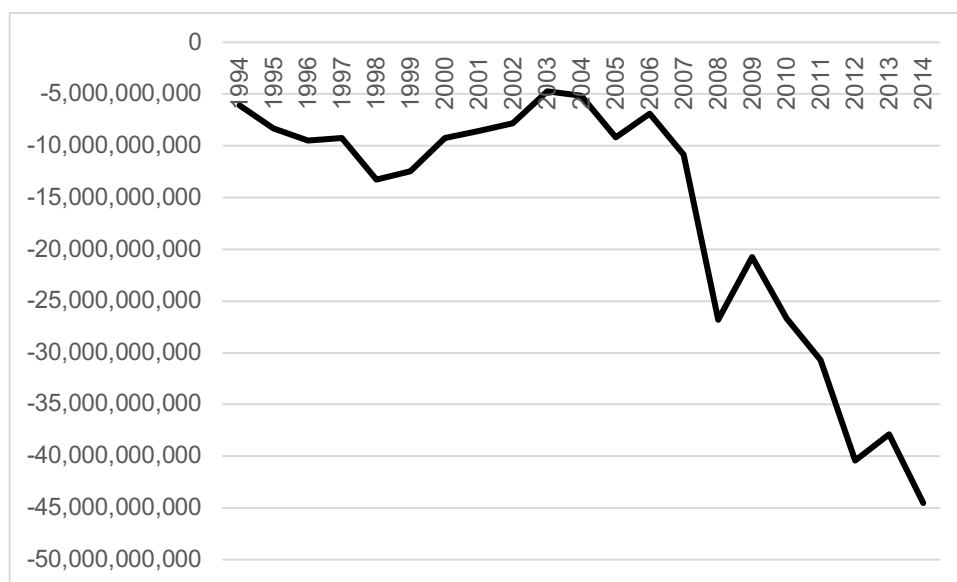
Table 9-1 Bilateral and Multilateral Trade Agreements

Bilateral	Libya (1991); China and Russia (1995); Jordan (1999); Lebanon (1999); Morocco (1999); Tunisia (1999); European Union (2001/2004, 2010 amendment for agriculture)
Multilateral	The General Agreement on Tariffs and Trade (GATT); The General Agreement on Trade in Services (GATS); European Union-Egypt Free Trade Agreement; Free Trade Agreement with EFTA States; Turkey-Egypt Free Trade Agreement; Greater Arab Free Trade Area Agreement (1997); Agadir Free Trade Agreement (signed 2004, into effect 2007); Egyptian-European Mediterranean Partnership Agreement; The Common Market for Eastern and Southern Africa; Pan Arab Free Trade Area (PAFTA)

Source: export.gov. <https://www.export.gov/article?id=Egypt-Trade-Agreements>

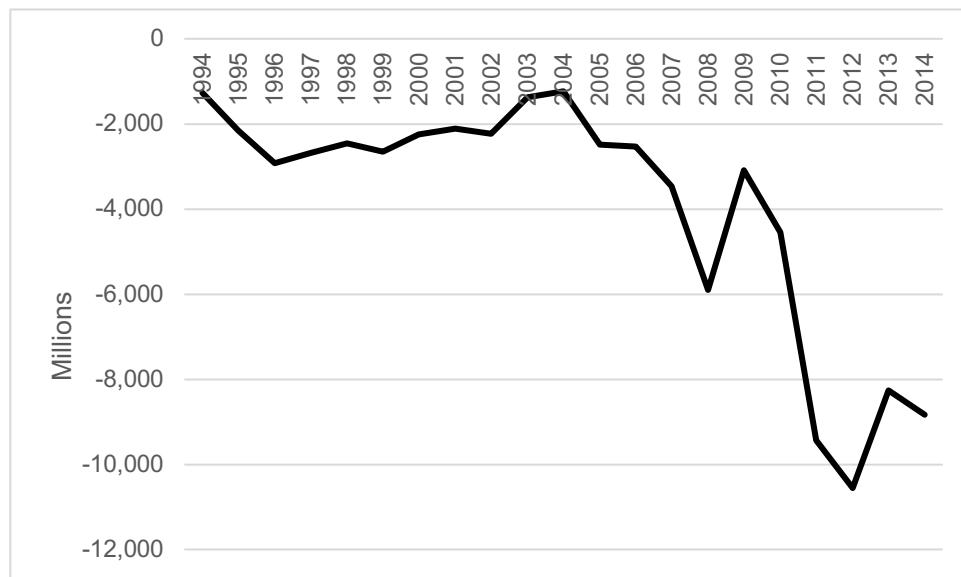
In the push to embed Egypt's economy towards the world market, the export-oriented nature of Egyptian agriculture through horticultural and fruit production is supposed to achieve a balance of payments. However, while the government had implemented fiscal policies in line with the IFI recommendations, there still remains a food gap. Instead of seeing a growth of foreign currency due to the export of goods, there has been further trade imbalances, as the figures above show. Indeed, Bush (1999, p. 29-30) writes that Egyptian economic reforms during the structural adjustment period in the 1980s and 1990s had not been as successful as claimed by the IMF, World Bank or the Government of Egypt. Both Figure 9-1 and Figure 9-2 show how Egypt has seen both a decline in its terms of trade for the entire productive sector, and a decline in the terms of trade for agricultural services.

Figure 9-1 Terms of Trade - Balance of all Trade in the Productive Sector



Source: United Nations Comtrade Database.

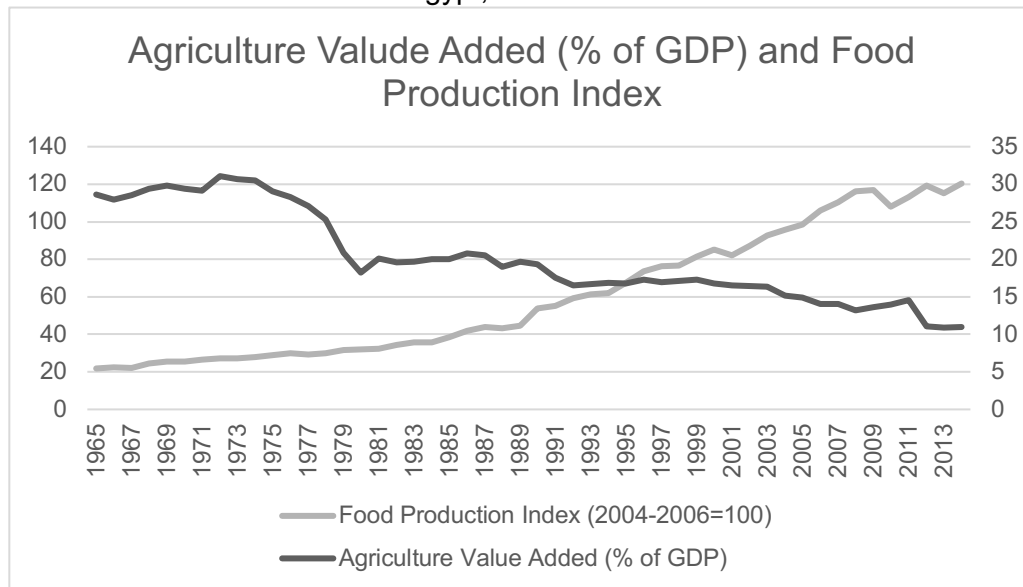
Figure 9-2 Terms of Trade - Total of All Agricultural Products



Source: United Nations COMTRADE Database.

In the context of this import-export dependence, Egypt's agrarian sector has been put into a position of uneven wealth transfers of commodity goods. Amin (2002, p. 158) argues that we must be skeptical of the various official accounts of the growth of Egyptian agriculture because even with suggestions of growth within the industry, it does not necessarily equalize into absolute and relative growth within the market in relation to social indicators such as unemployment and stagnating wages discussed in section 8.4. Figure 9-3 shows a contradictory movement in the overall economic character of the Egyptian agricultural sector: while food production has been increasing overall, the overall value-added of agriculture as a percentage of GDP has been stagnating and declining.

Figure 9-3 Agriculture Value Added as a Percentage of GDP and Food Production Index in Egypt, 1965-2013



Source: World Bank.

The macro-economic reforms stagnated due to the increased costs of production, leaving growth for the domestic market to be slow compared to growth for higher-end value added food commodities. The result of these two processes undermined food accessibility because the dismantling of the food subsidy program came with a greater burden on Egypt's terms of trade internationally that emerged from the neoliberal restructuring of the agrarian sector. The outcome of such a process was a dual dependence on imports on food staples for its population and the export of horticultural and fruit items for Gulf and European markets (Hanieh 2017, p. 130).¹⁵¹

9.3 The Dual Nature of Capitalist Food Provisioning: Expansion and Stagnation

There are two major features of the transformation of the agrarian sector with the *Infitah* reforms: Egypt became a net food importer while simultaneously allocating its

¹⁵¹ The emergence of this regime of food provisioning comes at the market-logic of comparative advantage through trade, and neo-Malthusian approaches to understanding food security and food self-sufficiency.

productive resources for the production of export-oriented crops. The first feature was the reversal of the Nasserist land reforms that had themselves reversed the long century of dispossession of land (Bush, 1999, pp. 29-30, 2002, 2014; Saad, 2002). While these land reforms had inherent problems linked to the regulation of capitalism by the state and the inability to transcend class relations in control of land, the reversal of the Nasserist reforms led to an impoverishing situation in the rural areas, where land became more concentrated. The second feature has been the growing dependence on the international market as an outlet for exporting food due to the decline of domestic spending, and the dependence on food imports. This represents the uneven and combined form of development that I articulate to be the case in Egypt.

9.3.1 The Deregulation of Land Tenure

The neoliberal reforms described above came during a transitional period in the context of the deregulation of land tenure. Saad (2002) and the Land Centre for Human Rights in Cairo (multiple years), among others, document the abolishment of land rights instituted by state guarantees introduced with Law 96 in 1992; the introduction of this law was beset with violent dispossession, similar to the processes documented by Marx of primitive accumulation and the role of the state in legislating land seizures. The marketization of land in Egypt is carried out through the ‘normal’ processes of capital accumulation and the concentration of productive wealth. Moreover, as Ayeb (2002) points out, these problems are also linked to the potential marketization of hydraulic resources, writing that “any attempt to make the peasant pay for irrigation water will in all likelihood ignite reactions which might have serious social and political repercussions” (p. 81). The land

reforms that began with Law 96 in 1992 and that concluded in 1997 created social problems linked to food insecurity. Many farmers in Nasserist Egypt that were once guaranteed a stable arrangement due to rent ceilings and other tenant rights such as inheritance (Joya, 2013, p. 272) were placed in a vulnerable position as a result of the introduction of market relations and land speculation. Mitchell (2002, p. 275) argues that the rise of a private market in land replaced agriculture with urban and suburban real estate speculation (Mitchell, 1999). During field work, an interviewee stressed how the speculation on land through the construction of buildings had diverted land away from agriculture, thereby leading to scattered plots of lands that broke up agricultural lands into smaller segments; farmland in their area decrease as many speculators sought to buy land, construct buildings, and hold onto these buildings with the goal of realizing speculative value. This meant a decrease of land meant to grow food. As a result, there would be less lands geared towards the production of produce and other food items for the local market.

The change in land holdings reflect a decrease to food security in a number of ways. First, access to land had been a pivotal feature of food security in the rural areas; historically, it has been cheaper to grow food for self-subsistence along with cash crops to avoid the higher costs of local markets. Sadowski (1991) suggests that approximately two *feddan* was required to grow enough food for subsistence use, and Mitchell argues that farmers with access to land typically produce their own food with the help of family labour, and specifically with the help of domestic female labour in bread baking and food preparation.¹⁵² Many small-scale farmers having lost access to their livelihoods and

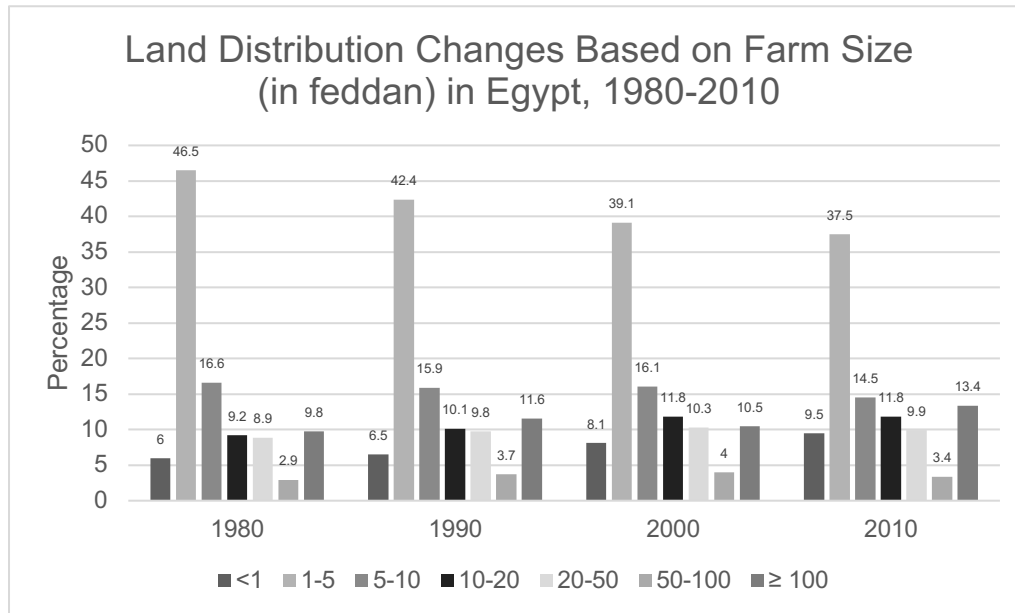
¹⁵² Moreover, Mitchell writes that even following the reforms, crops intended for household remained pivotal (about two-thirds) for household production (Mitchell, 2002, p. 270).

having become entrenched in the commodification of their labour power offset the crisis of the loss of land by moving into either wage employment on another farm, or had to leave the agrarian sector and find employment in informal and hybrid urban-rural services and small-scale work. A second consequence has been a number of distress sales of various livestock in order to pay for immediate bills and higher rent prices. With the increase of rent prices through the deregulation of the land market, many farmers' income had decreased substantially; they lost access to their livestock due to distress sales to pay off debt, and they had not been compensated with new reclaimed lands that were promised by the government (Land Centre for Human Rights, 2000). The changing land relations were not only founded on the economic difficulty to replace their capital after the agrarian reforms (see next section), but on extra-economic force, with forced dispossession and forced relocation from rented lands (Land Centre for Human Rights Cairo, 2002; Saad, 2002). Any social safety net or reforms that were promised to farmers in practice went to large-scale agricultural operation; Newly reclaimed lands were allocated towards large-scale operations that mostly catered towards livestock production (Dixon, 2013) and large-scale fruit production. These newly reclaimed lands were primarily allocated to investor companies that have the capital and the time in order to plan and establish a new enterprise which would take a number of years, for example to establish an orange plantation or a large-scale livestock facility (see also FAO, 2017, p. 28).

The evidence for the loss of land of small and medium sized farmers can be found in the trajectory of land concentration and centralization, and the changing nature of the new lands that are being brought into agrarian production. Consolidated data shows that there is a trend of increasing land concentration and dwindling access to land by small-

scale farmers. Figure 9-4 shows statistics compiled by Egypt's Ministry of Agriculture and Land Reclamation (MALR) that show changes in access to land based on different land-size holdings based on percentage of total land.

Figure 9-4 Land Distribution Changes Based on Farm Size (in feddan) in Egypt, 1980-2010



Source: FAO (2017, p. 11) based on compiled data from Ministry of Agriculture and Land Reclamation.

While land inequality hasn't reached levels comparable to the colonial period, there has been a noticeable shift in the distribution of land for small-scale farmers, and a re-occurring growth of larger scale farms. Accordingly, the number of small-scale farmers with less than 1 feddan increased from a share of 32.3% in 1979-80 to 48.3% in the decade of 1999-2010, with their average holding size of feddan decreasing from 0.503 to 0.431. The number of small-scale farmers with 1-4 feddan decreased from a share of 57.8% in 1979-80 to 43.5% in the decade of 1999-2010, with their average holding size decreasing from 2.160 to 1.893 during the same time period. On the other hand, the number of large-scale farms has increased its concentrated its share. After the reforms in

1990s, poultry and egg production declined and entire farming operations went out of business due to the import of cheaper chicken, and only large scale producers were able survive due to their greater control of input production (Mitchell, 2002, p. 260-1). While the percentage of landholdings for 50-99 and 100+ feddan has not moved much, its share in the overall percentage of area ownership has still increased. Table 9-2 shows the percentage of both landholding units and area based on farm size. From 1979-90 to the decade of 1999-2010, the concentration of farmland of the largest farms has increased from 9.8% to 13.4% of all land for 100+ and 2.9% to 3.4% for farms between 50-99 feddans.

Table 9-2 Percentage of Landholding and Area of Land by Farm Size (in feddan), 2000, and 2009-2010

Farm Size	Percentage of Landholding		Area	
	2000	2009-2010	2000	2009-2010
<1	58.5%	48.3%	16.4%	9.5%
1-4	31.4%	43.5%	30.8%	37.5%
5-9	4.3%	5.2%	10.4%	14.5%
10-19	2.8%	2.0%	9.7%	11.8%
20-49	1.4%	0.8%	9.4%	9.9%
50-99	0.9%	0.1%	6.4%	3.4%
100+	0.7%	0.1%	8.6%	13.4%

Source: Data collected from FAO (2017, p. 92-93), based on compiled data from Ministry of Agriculture and Land Reclamation, consolidated agricultural census various issues. Numbers for 2000 compiled from Ibrahim & Ibrahim, (2003, p. 117).

After the reversal of Nasserist reforms, land reforms only benefitted ultra-rich landowners, helping the middle and rich farm owners, and hurt small-scale farmers, landless and dispossessed workers. The number of those considered landless agrarian workers also increased during this period. In about two decades, from 1989 to 2010, the number of landless increased substantially from 565,223 to 964, 863, an increase of 71%. The

informalization of labour takes the geographic forms of a variety of slum-like semi and quasi- urban dwellings, where informal labour prospects define and condemn the majority of those who have been kicked out of their farming operations (Davis, 2005).

The deregulation and marketization of land and the subsequent expansion of high-end valued agrarian crops precipitated a re-articulation of value relations in land but not some sort of radical change. The social consequences of the neoliberal reforms had diminished food security compared to the Nasserist period. However, small farming in Egypt before these reforms was not without the class foundations of concentrating wealth, accumulation, and political control of the co-operatives. While the dirigiste reforms had offset social crises through setting artificial prices in state budgets (that could not be maintained), they could not completely offset the growth of capital, that had at first flooded the market with cheap food through 'food dumping' practices, and that continues to expand practices that devalue both labour and nature to maintain imperialist rule. Moreover, formal land ownership does not necessarily mean the farmer is outside of the definition of proletariat. Levins & Lewontin (2007) argue that land ownership does not necessarily mean independence from the market and the self-exploitation of labour under contract farming. While farmers grew food under their control and under the dictates of state management and authority, they were still under the dictates of wealth accumulation that overtime saw employment in agriculture decline.¹⁵³ This form of agrarian production was under the dictates of state-owned capitalist enterprises that planned and monitored what crops were grown and at what prices. In the Egyptian case, Sadowski (1991)

¹⁵³ Laibman (2017) writes that capitalism is not a stable system and is beset by its own crises requires non-capitalist spaces and conditions that allow the working class to temporarily 'escape' the pains associated with capital accumulation and loss of autonomy. It nevertheless undermines the conditions of this balance due to the contradictory nature of capitalist growth.

suggests that many landless workers were in a better position to receive more wages than being tied to the land as they were able to migrate and receive a better income and take advantage of attaining remittances from working across the region, a form of arbitrage that would have net more income than farming under the public agrarian system may have paid out. Small-scale farming under regimes in the Nasserist period representing the agrarian cooperatives in somehow implementing democratic control of the workplace must be problematized. This problematization should also apply to linking small-scale farming to food security per se. The Keynesian reforms initiative by Nasser did not dispel the generative mechanisms that arise from national and international capitalist production and competition. Similar to reforms in Nasser's period, small-scale farmers may have had the ability to satisfy their food consumption needs by allocating plots of food for their own subsistence, yet they are nevertheless encumbered with self-exploitation arising out of generalized production for the market that comes with greater concentration of wealth. As Dyer (1997, p. 146) suggests, there is an inverse relationship between farm size and farm productivity generally in the case of Egypt, but this increased productivity does not necessarily mean a universal efficiency of small-scale labour compared to large scale farmers; rather, small farmers must exploit themselves, or exploit hired labour more so, having to do so under compulsion in order to utilize and make every piece of resource under their control viable. Dyer (1997, p. 146) in his study on farm productivity and farm size argues that:

The Egyptian evidence supports the hypothesis that in the static context, the inverse relationship is not the product of superior efficiency on the part of small farms nor is it due to better quality land on the small farms, but arises from the desperate struggle of poor peasants for survival on below-subsistence plots of land in relatively backward agriculture, and the matrix of exploitative relations within which they operate. Redistribution of land on

the basis on the inverse relationship argument therefore, far from alleviating poverty and creating employment opportunities, will only deepen and perpetuate extreme levels of exploitation and poverty.

Egypt's goal to create stable property arrangements ultimately failed as it had to contend with the political economic crises described above. The Nasserist land reforms, farmers were guaranteed a stable arrangement, but many farmers tied to the land were still limited due to the 'urban biases' of developmentalist projects.

9.3.2 The Agrarian sector, Maldevelopment, and the Dialectic of Import and Export Dependence

The neoliberal reforms also reversed a number of the Keynesian and Dirigiste reforms arising out the Nasserist period. These reforms privatized state-owned enterprises (SOEs) within the agrarian sector and sought to open up the Egyptian food market to regional markets in the Gulf (Hanieh 2019). Simultaneously, the Egyptian state is now more dependent on international imports for supplying the Egyptian food market with food goods. The dialectic of export and import dependence has created trade balance issues for the state, prompting Egypt to take measures to deal with food shortages that occurred during the 2008 food crisis, such as by banning rice exports, issuing tenders for more rice imports from international sources (USDA-FAS, 2009), and by recent moves to relocate food processing facilities domestically rather than depend on international imports of expensive food items (USDA-FAS 2018). The neoclassical position of comparative advantage promoted by IFIs and various neoclassical economists failed to address food insecurity arising out of the unevenness of capitalist development. While Sadowski (1991, pp. 315-6) and Sfakianakis (2002, pp. 58-9) argue that 'crony capitalism' is a more useful

analogy for understanding the failures of productivity and development, countering the neoclassical interpretation that the market will necessarily bring about productivity gains, I argue that while cronyism is an issue, this is a contingent aspect that is more-so tied to the value-relations of capitalist development. I argue that export-oriented production under the capitalist form has failed to satisfy the food needs of Egyptians because of an imbalance of trade and the concentration of productive wealth within Egypt and between nation-states. The consequences of the re-allocation of land towards export production, and the growth of value-added commodity production that cannot be purchased by the majority of Egyptians (such as high-quality food products and meats), are now defining characteristics of Egyptian food provisioning.

The dialectic of import and export dependence comes with the formal adoptions of trade agreements emerging out of the Uruguay round in 1994. The Egyptian government in the spirit of structural adjustments committed to the principles and practices of expanding imports and exports through liberalizing trade, protecting intellectual property rights, and devaluing its currency (Ahmed & Abdel Ghaffar, 2006, pp. 4, 12). Currency devaluation is a key feature of feature of imperialistic practices identified by Patnaik & Patnaik (2017). Since the 1990s, Egypt has signed a number of bilateral and multilateral trade agreements (see Table 9-1), some of which encourage the growth of commodity exports and import dependence through lowering tariff and non-tariff barriers. For example, the Association Agreement with the European Union signed in 2001/2004, sees Egypt exporting specific fruit items while importing processed foods. While the bulk of trade with the EU is in extractive material (such as energy, mining and chemical materials, and textiles/clothing), the spirit of the EU-Egypt trade amended in 2010 allowed for the liberalization in trade for 90% of agricultural products (European Commission, 2019).

More regionally, the Pan Arab Free Trade Area (PAFTA) and Agadir Free Trade Agreement work to flatten structural trade differences between countries (Egypt, Jordan, Morocco, and Tunisia with Palestine and Lebanon signing at later dates). Moreover, the deregulation of finance has seen an influx of foreign capital into the food sector, as seen above, that seeks to produce food for export markets in the Gulf.

The trade agreements are also in the context of the overproduction of commodities and increasing competition amongst different world powers in order to find outlets for the realization of profit. Just as the Dirigiste regime had depended on cheap grains to sustain the food subsidy program, Egypt has been compelled to import more cheap food, thereby putting out of business domestic industries. One of the major complaints of US trade representatives to Egypt is their non-scientific basis in applying non-tariff barriers to beef, poultry imports, and other non-food items such as cotton. USDA-FAS reports studying the feasibility of marketable items across the world for US industry sees the Egyptian food market as an important outlet for US exports and for satisfying domestic food security in the market. They write how that there is a crisis of availability of cheap sources of meat-based protein in Egypt's domestic meat market and that unnecessary trade barriers based on the nature and quality of meat becomes a hinderance for importing food. They write that due to non-tariff barriers, 'non-scientific' bans of poultry *parts*, and beef treated with synthetic animal growth hormones hinder the ability for the Egyptian state to allocate cheap sources of protein in the mass market. They write that, in the case of beef, imports from the United States are banned due to the Egyptian importing authority's:

...zero tolerance level for synthetic animal growth promotants (synthetic hormones) in foodstuffs of animal origin. The new regulations are not science based and not based on risk assessment as there is no scientific

evidence that, in abundance with Codex MRLs, residues of synthetic hormones in beef present a health risk for consumers (Export.gov, 2018).

In the case for poultry products, they write:

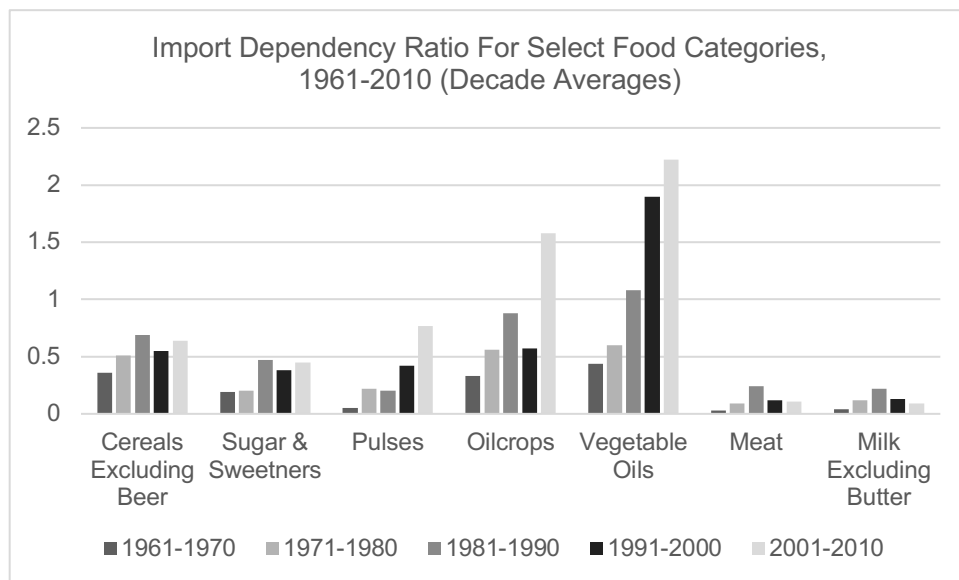
In 2005, Egypt banned the import of whole frozen poultry, parts and offal. In 2006, the ban was eased by restricting imports to whole frozen poultry, but continues to ban poultry parts and offal... Opposition from domestic poultry producers blocks the import of more affordable, high quality U.S. poultry parts. As a result of the high cost of beef and beef products, lower- and middle-income Egyptians turn to poultry as an alternative protein source. Demand for poultry products outpaces supply, driving up prices beyond the reach of many lower-income consumers. The Foreign Agricultural Service (FAS) Cairo estimates the impact of the poultry ban on trade at approximately USD 100 million (Export.gov, 2018).

While there is resistance to these specific imports, the general tendency has been to remove as many tariff and non-tariff barriers as possible to the importation of cheap food items, even if the states temporarily block imports. Moreover, the ERSAP reforms outlined above came with social consequences. Korayem (1997, p. 21) shows that the ERSAP programme that liberalized trade rates with the intent of increasing exports increased the price of imported items, such as food (such as wheat and flour), energy, and other imported capital; the increase in the price of the latter in particular increased costs in food production, thereby increasing the price of food. This, along with the devaluation of the Egyptian Pound, impacts the balance of payments,¹⁵⁴ decreasing public debt and offloading it to private debt and rising costs of production and consumable goods, and increasing the ratio of interest payment to GDP while simultaneously lowering the ratio of public expenditure to GDP (Abdel-Khalek, 1992, p. 32, 35-36).

¹⁵⁴ Further to this, this created problems for Egypt as a 'food-deficit' economy because its prioritized exchange reforms (e.g. in removing barriers and floating the currency).

These dynamics led to the expansion of export markets by highly capitalized productive units, with production for the domestic market stagnating. The above discussion is evidence that the SAPs had re-structured Egypt's food provisioning system towards import dependence. Figure 9-5 displays the changes in import dependency for Egypt for select food groups as decade averages from 1961 to 2010.

Figure 9-5 Import Dependency Ratio for Select Food Groups in Egypt, 1961-2010 (Decade Averages)



Source: FAOSTAT.

Food imports from a number of states, such as wheat from the Baltics and Russia (a switch, due to the high price of American wheat), and the European Union continue to dominate. The total terms of trade of Egypt with the world has shown a staggering decline since the neoliberal reforms. The growth of Egypt's food production also comes with a declining term of trade as a sector and as an economy. Since the SAPs, the terms of trade balance for the entire productive sector and for the food sector has declined due to the increased need to import food. Figure 9-1, and Figure 9-2, and Figure 9-12 show the total

terms of trade balance for the entire productive sector and the balance for agricultural products.

According to USDA-FAS (2019, p. 4-6), the top 5 importers of processed consumer foods¹⁵⁵ control 61% of the imported market. Egypt implemented policies in 2016 to discourage the import of processed foods in order to aid the domestic food sector by encouraging the imports of raw food ingredients. Yet food imports are seen as more desirable than locally produced foods. Nevertheless, many Egyptians continue to rely on domestic food production; in 2017, the total consumer sales were 22.1 billion USD, while imports only account for 2.6 billion.

The decline in the share of agriculture to Egypt's GDP, the increased food production from 1965 to 2013, and the increasing negative balance in the terms of trade for Egypt's productive sector and the food sector are a result of the uneven dynamics of capitalist development and wealth transfer discussed in the political-economic conceptual chapters. The consolidation and concentration of land during the land reforms of 1996 occurred in the context of liberalizing trade and the dismantling of the price support systems for agricultural inputs that had helped smaller-farmers (Goletti, 1996), and the implementation of a free market in land that fueled speculative behavior in land. This has led to the increased prices of farming inputs, and a decrease in the land available for domestic production.

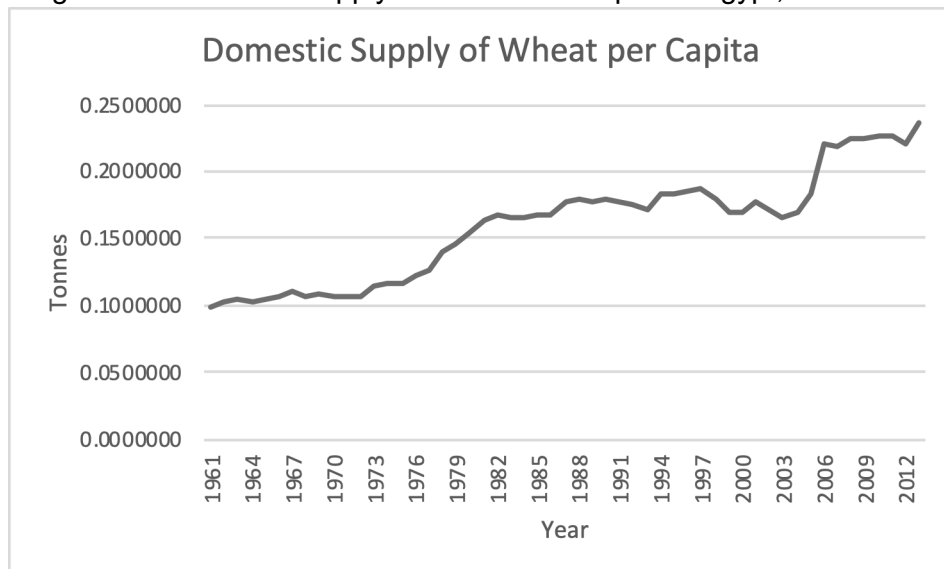
While Egypt has oriented production for export, the market has not been able to satisfy domestic demand for food goods even though much of the domestic market depends on the majority of food grown in Egypt. USDA-FAS report that Frozen imported

¹⁵⁵ Brazil (27%), USA (11%), New Zealand (9%), Kenya (8%), and India (6%).

Beef (meat and livers), frozen mackerel, butter, milk, and cheese have low to non-existent domestic production capacity to satisfy the growing domestic food needs (pp. 6-8).

The changing land pattern in wheat and maize is an important indicator as to the stagnation and decline of the domestic food market to fulfil the human food needs. In this vein, a common critique from the productivist approach is that wheat production in Egypt is inefficient to grow because of the natural and ecological limits to wheat production (such as in its usage of water). Domestic wheat production has not stagnated but actually increased substantially. This increase has come about with the increased production of value-added products that are not affordable for the Egyptian population, *and* that has extreme limits to the purchasing power of the average Egyptian. Productivist accounts tend to blame food deficits on demand-side and naturalistic and geographical approaches to food production limits. Figure 9-6 shows that the domestic supply of wheat per capita (production plus imports) has been increasing.

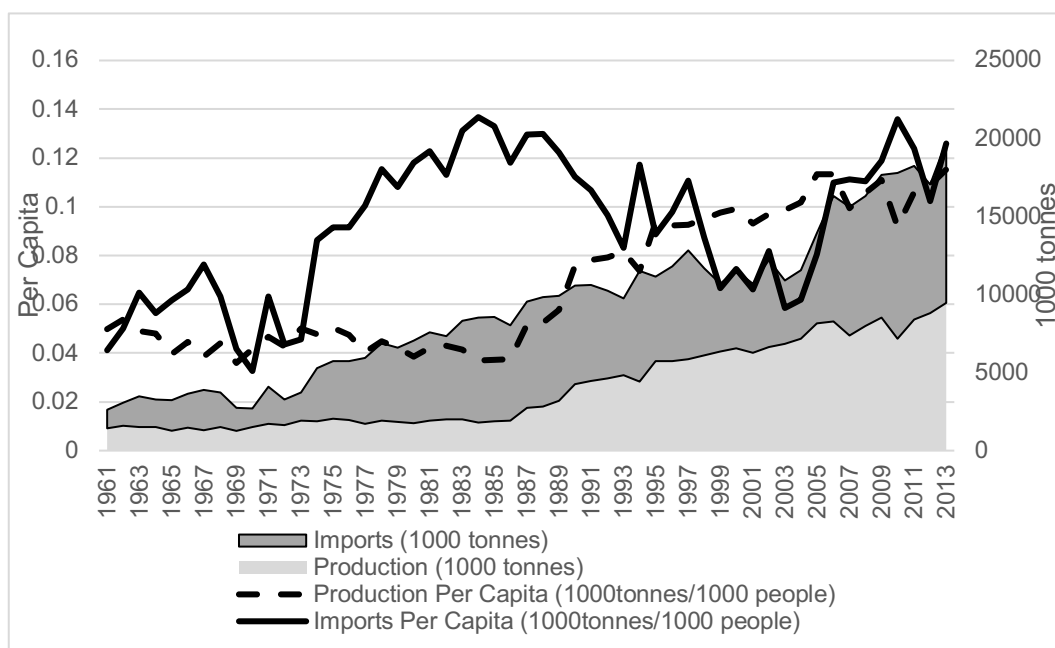
Figure 9-6 Domestic Supply of Wheat Per Capita in Egypt, 1961-2013



Source: FAOSTAT.

This supply of wheat per capita has been increasing, surpassing both population growth and consumption of wheat. The Egyptian state continues to procure wheat from Egyptian farmers in order to supply food for the domestic market (USDA, 2013). Figure 9-7 shows the that the ratio between the production and importation of wheat has been steadily increasing in tandem.

Figure 9-7 Production and Imports of Wheat in Egypt, 1961-2013



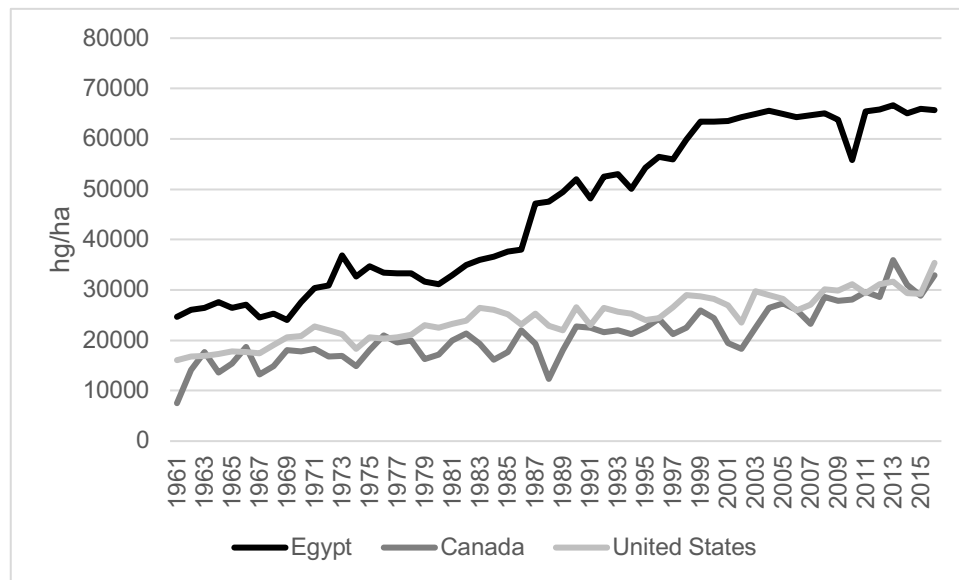
Source: FAOSTAT Food Balance Sheets.

A common critique has been that Egypt should not grow wheat because of its limited land availability, and instead should take advantage of its natural comparative advantage in high-valued export crops. Baroudi (1993, p. 66) argues that

Egypt does not possess a comparative advantage in the production of wheat, because both cotton and horticultural crops yield greater returns (at international prices) than wheat. The drive to expand wheat production, especially in the 1960s and 1970s-even at the expense of more traditional export items-therefore, could not be justified on economic grounds. The drive for increased wheat production was clearly based on an elusive quest for food self-sufficiency.

Yet even with the growth of exports, Egyptian farmers have been able to grow enough wheat for domestic consumption. Egypt continues to have higher yields compared to the other advanced grain-producing countries such as Canada and the United States (see Figure 9-8).

Figure 9-8 Wheat Yields in Egypt, Canada, and the United States, 1961 to 2016

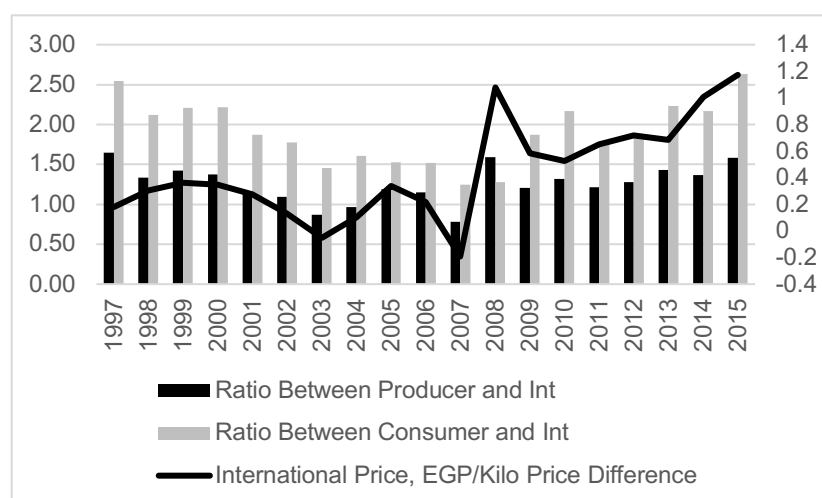


Source: FAOSTAT

Yet while it may appear that Egypt has been increasing food production, and has greater yields, the social forms of valuation on the international market has forced a decline in food availability in the country. Egypt's ability to feed itself has stagnated because of the production of commodities for exchange rather than for use-value. Most of the increase in wheat production has been attributed to productivity increases, even though imports still account for half of the domestic supply. The 1990s and 2000s saw increases of about 138% and 40% respectively, with import increases declining in the 1990s and slightly increasing in the 2000s. Mitchell (2000, p. 263) argues that these trends can be explained by a combination of both the introduction of HYV seeds coming from government

research, and farmers having hid their harvest and used the wheat to produce flour and bread for their own reproduction;¹⁵⁶ Ireton (2013, p. 30-32) suggests that the increase in wheat production is attributed to small to middle sized farmers, and not larger farms, calculating that the contribution to domestic wheat supplies are from small and medium sized farms (2-10 feddan). Based on the figure above, the gradual decline of these farms has hurt the domestic provisioning of Egyptian-grown wheat. While the government continues to offer incentives for growing wheat, the general tendency for farms to become highly specialized for the sake of high-value export-crops, such as for horticultural exports, has increased the state's fiscal pressure to provision wheat from the international market. As Figure 9-9 shows, the price ratio of wheat between domestic producer costs and the international market decreased over the years from 1997 to when the international food crisis began in 2007, after which began a steady increase.

Figure 9-9 Price Ratio of Wheat for Producer and Consumers Costs to the International Price, 1997-2015 Egypt



Source: FAOSTAT and CAPMAS. Ratios on the Left Axis and International Price Difference on Right Axis.

¹⁵⁶ This was to avoid selling at government-set procured prices due to the relatively low price

The increase of producer prices compared to the international cost of wheat is becoming relatively expensive for domestic production compared to international prices. This is an indication that domestic production is becoming more expensive for the state to procure. Moreover, the line in the graph above denotes the price difference between what Egypt paid to its farmers and the actual average price of food. Since Egypt procures wheat at a set price domestically, the price paid to producers is different from the actual food prices. On the other hand, the ratio between consumer prices and international prices has been increasing once again since the 2008 international food crisis, leading to increased market prices. There has been an increase of costs in wheat production by 316% while the retail costs of wheat to the consumer have increased 347% in the same time period.

While much of the critical literature on livestock production and growing meat production rightly criticizes the diversion of grains for their production (Mitchell 2000, p. 215), thus increasing both its price and ecological damage, in this case Egypt was not importing wheat-as-feedstock in order to export processed meat.¹⁵⁷ US trade reports insist that food security can be achieved in Egypt through the importation of beef and poultry parts from the United States in order to cheapen the goods available; the high price of domestic beef and the shortage of domestic chicken supply are reasons for this. Therefore, there is a simultaneous shortage of affordable meat for the Egyptian population at large, with a decline in their ability to provision meat at the national level. This shortage is amplified by the diversion of wheat and maize for livestock production, with its increased land usage towards the production of meat. Both wheat and maize are being used as

¹⁵⁷ The statistics available on livestock production and internal consumption is difficult to find. Mitchell (2001) has suggested that much of the livestock being produced is sold at high end hypermarkets, export markets, and tourist resorts.

feed. While it is difficult to source statistics on livestock production and internal consumption, Mitchell (2002) has suggested that much of the livestock being produced is sold at high end hypermarkets, export-markets, and tourist resorts. Before the deregulation and de-nationalization and state planning in agricultural production, it was illegal to utilize wheat as a livestock feed (USDA, 1995, 1996, 1997, 1998). However, since deregulation, wheat farmers and traders are free to sell to the highest bidder. Table 9-3 displays how wheat is being used more for feed than food.

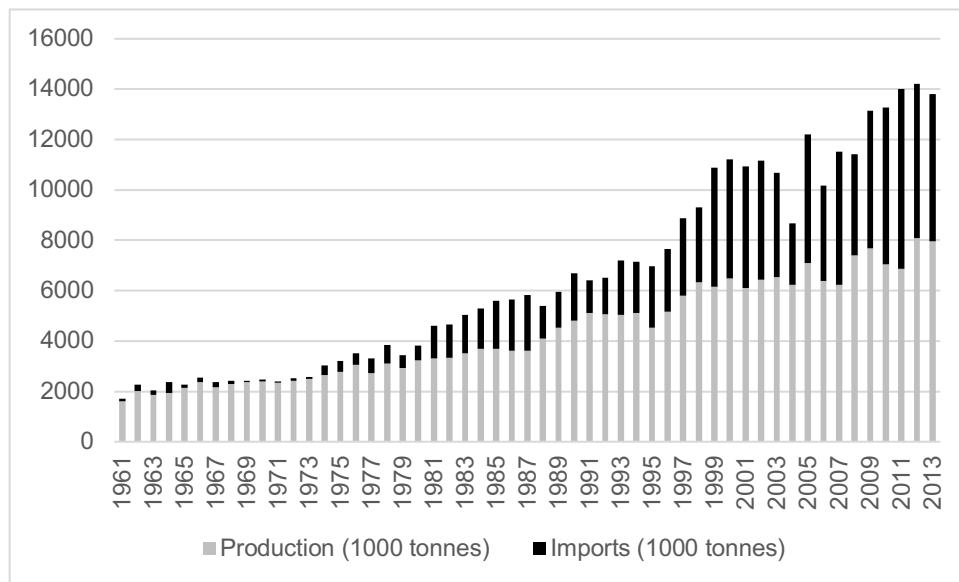
Table 9-3 Wheat Utilization in Egypt, Decade Averages, 1970-2009

	Feed % Share	Growth from previous decade	Food % Share	Growth from previous decade
1970s	9%		83%	
1980s	7%	-14%	86%	3%
1990s	10%	31%	82%	-4%
2000s	17%	74%	73%	-12%

Source: FAOSTAT. Calculations by author.

Relatedly, Egypt depends on imports for its feed. Maize of two kinds has also been used for the production of livestock: yellow corn for feed and white corn mainly for food (USDA, 1997). Maize imports, production and feed use have increased. There has been an increase in absolute usage of corn, primarily through the increase of imports, and the growth has been for the production of livestock (such as for the growing poultry industry). Figure 9-10 shows the production and imports of Maize.

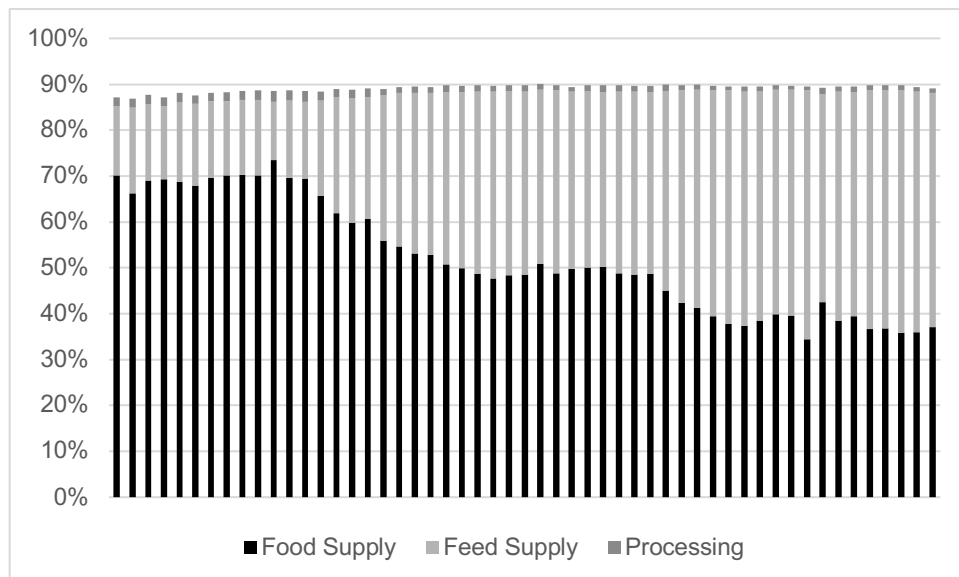
Figure 9-10 Maize Production and Imports in Egypt, 1961-2013



Source: FAOSTAT.

We can see that the increased usage for maize has made Egypt dependent on food imports. Figure 9-11 shows the utilization of maize in Egypt for the purposes of feed production.

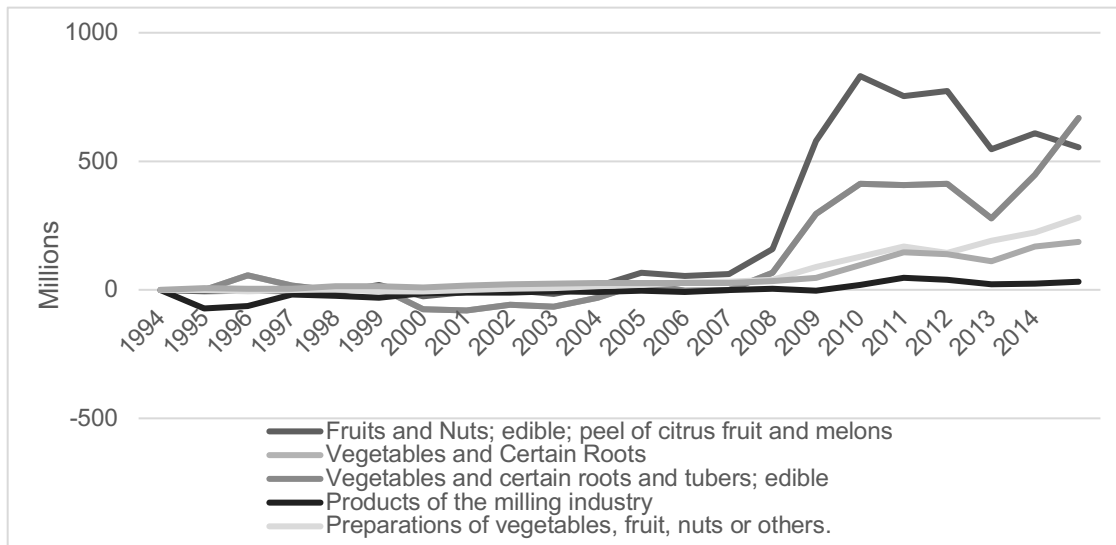
Figure 9-11 The Utilization of Maize in Egypt, 1961-2013



Source: FAOSTAT.

The development of Egypt's export market also relies on state assistance, such as in the promotion of private capital in domestic and export markets, the introduction and expansion of newly reclaimed land, and infrastructural developments that aid producers to gain access to export markets. The growth of export markets came attached with the neoliberal land reforms that saw the conversion of the newly reclaimed desert lands for the expansion of agricultural production (IFPRI, 2016, p. 20). Figure 9-12 and Figure 9-13 show the extent and growth of Egypt's export-oriented production.

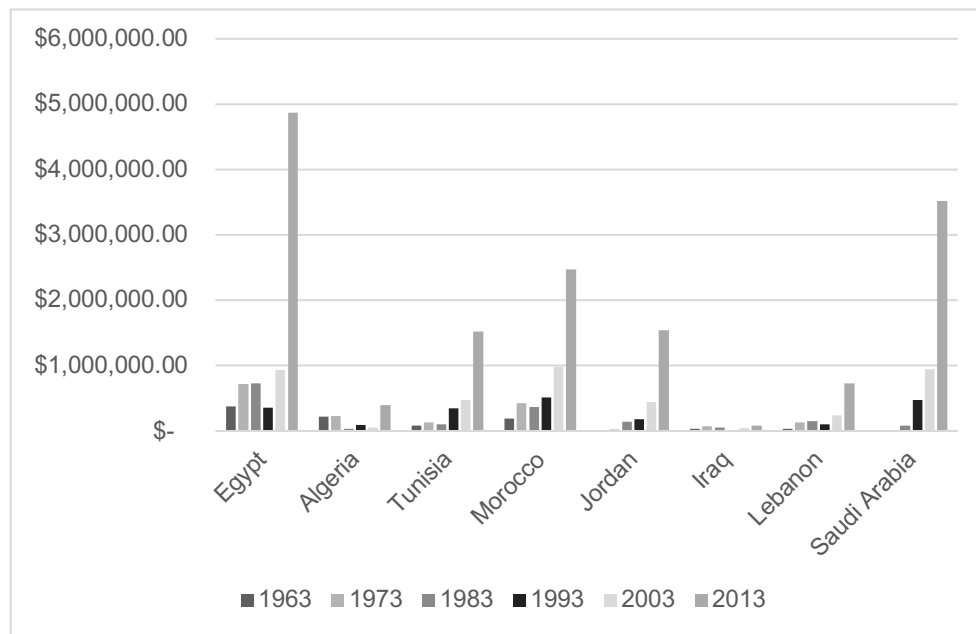
Figure 9-12 Egypt's Terms of Trade - Surpluses from Select Agricultural Products



Source: United Nations COMTRADE Database.

Due to the above, this decline of the agrarian sector comes at a time when there have been impressive jumps in Egypt's agricultural exports between the years of 2003 and 2013. It comes out of necessity within what Harvey (2017) calls 'the rationality of an irrational system'. Figure 9-13 shows the value of agricultural exports for select MENA Countries. Comparatively, Egypt has seen the largest absolute and relative growth of agricultural exports.

Figure 9-13 Value of Agricultural Exports for Select MENA Countries, 1963-2013



Source: FAOSTAT

The production of export-oriented crops was historically limited to large landowners who did not have to fully dedicate their land to grow the procured crops and who had the ability to allocate lands to the production of non-controlled products, such as horticultural ones. A number of development initiatives and research by private sector research groups aim to expand export-oriented production in a variety of ways. One policy document identifies 42 clear initiatives in the creation of a so-called efficient agri-business structure in Egypt, including the following: reform of agricultural cooperatives; development of agricultural intellectual property rights (e.g. for seeds); encouragement of state initiatives to create policies for the consolidation of land into more manageable large scale units; and the utilization of government subsidies of key sectors to aid the private sector (through Public-Private Partnerships) (IMC Egypt 2008, pp. 171-5). Similar to this, there are projects underway to connect small farmers to online markets and other portals to access knowledge and help in gaining access to export markets. This is to encourage access and

create opportunities for small farmers to export markets so they can sell to high valued horticultural commodity chains. The various free-trade agreements listed above have allowed for a relatively freer movement of agricultural commodities. One concrete example is through investment programmes by international and regional developmental programs to research and study of the Egyptian agricultural productive potential for agribusiness and export-oriented growth. Since Egypt continues to be made up of small-scale farmers and access to regional and international trade is limited, many small farmers have trouble gaining a bigger share in the overall commodity circuit, or they are involved in contract farming (Dixon, 2020). Part of this push is to setup the infrastructure and commodity chains to link small-scale farmers and sellers through web applications and mobile user-interfaces. One such initiatives creates a platform to centralizes knowledge on farming practices of specific inputs, and on the attainment of different certifications for export (KEF Website). This program would help aid small farmers to access various market channels, such as ‘Buy/Sell Offers,’ spot deals, supply agreements and contract farming (KEF, 2019, pp. 6-7).¹⁵⁸

At a macro-economic level, there has been a greater expansion of export oriented production. Table 9-4 and Table 9-5 show the change and volume of Egypt’s export industry for the top 10 export commodities for Egypt for 2003 and 2013. Most noticeable was the expansion of oranges, fruits, vegetables, and milk.

Table 9-4 Top 10 Agricultural Commodity Exports of Egypt, 2003

Commodity	Production (1000 tonnes)	Exports (1000 tonnes)	Exports Percentage
------------------	-------------------------------------	----------------------------------	-------------------------------

¹⁵⁸ According to a Presentation for IFPRI by the foundation’s work, there were 871 buy and sell offers in 2017, 110 offers for input suppliers (KEF, 2019, pg. 13).

Rice (Milled Equivalent)	4120	571	14%
Onions	686	320	47%
Potatoes and products	2039	301	15%
Oranges, Mandarines	2380	170	7%
Vegetables, Other	7964	135	2%
Fruits, Other	1359	126	9%
Sugar (Raw Equivalent)	1565	73	5%
Milk - Excluding Butter	5255	52	1%
Tomatoes and products	7140	39	1%
Wheat and products	6845	30	0%

Source: FAO Food Balance Sheets - <http://www.fao.org/faostat/en/#data/FBS>. Last Accessed: January 28, 2017 Note: Sorted by the country's top exports.

Table 9-5 Top 10 Agricultural Commodity Exports of Egypt, 2013

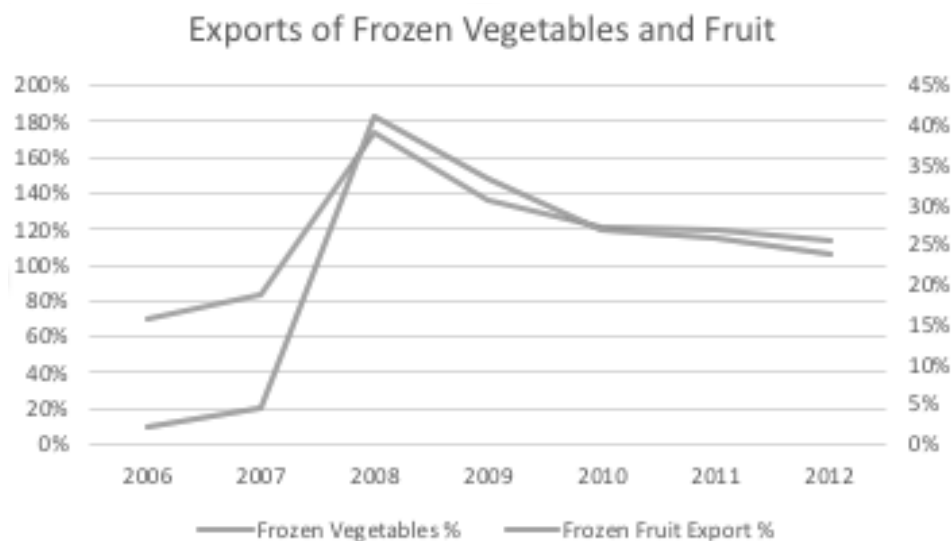
Commodity	Production (1000 tonnes)	Exports (1000 tonnes)	Exports Percentage
Oranges, Mandarines	3792	1156	30%
Milk – Excluding Butter	5551	571	10%
Potatoes and products	4265	527	12%
Fruits, Other	2117	466	22%
Vegetables, Other	8209	361	4%
Rice (Milled Equivalent)	3818	333	9%
Onions	1903	330	17%
Sugar (Raw Equivalent)	2085	301	14%
Wheat and products	9460	191	2%
Tomatoes and products	8291	114	1%

Source: FAO Food Balance Sheets - <http://www.fao.org/faostat/en/#data/FBS> Last Accessed: January 28, 2017. Note: Sorted by the country's top exports.

Except for rice, there was an expansion in absolute terms of all of these commodity groups. Rice has not increased due to the government's restriction of its exports during the international food crisis, yet it had eased export restrictions at times after domestic supplies had stabilized. The terms of trade in agricultural production is based on the expansion of basic food imports and an expansion of export-oriented fruits. Table 9-7 displays the expansion of land dedicated to citrus and other fruits production from 2000 to 2016.

The terms of trade of the horticulture industry has been expanding as a result of the investment of various domestic and international capital. Figure 9-14 displays the expansion of frozen vegetables and fruit exports, showing the expansion of exports of food items for other markets. This figure shows a general trade surplus. These exports are primarily geared towards Gulf countries and the European Union.

Figure 9-14 Export Percentage of Overall Production of Frozen Vegetables and Frozen Fruit, 2006-2012



Source: BMI Egypt Food and Drink Reports, Various Issues

The terms of trade in total agricultural products, however, has seen a dramatic decline. First, as Figure 9-2 displayed above, the Egyptian terms of trade in all agricultural products has been in a deficit from a mere 2 billion in 1994 to high of 10 billion. The deficit in the agricultural sector is reflected in the total economy (see Figure 9-1).

The expansion of exports has stagnated the production of use-values meant for human needs for the local national market. The growth of production in horticultural items geared for export comes with the continued dependence on imported food items for the consumer market. Table 9-6 demonstrates the growing dependence on food imports by illustrating the changing trade imbalances of food groups ranging from meat, dairy, cereals, to other items integral to processed foods.

Table 9-6 Trade Balance of Specific Food Groups, 1998 and 2008 in US Dollars

	1998	2008
Meat and Edible Meat Offal	-218,856,311	-606,796,564
Dairy produce; birds' eggs; natural honey; edible	-147,225,913	-123,171,629

products of animal origin, not elsewhere specified or included		
Products of animal origin, not elsewhere specified or included	+1183432	-24,661,988
Cereals	-1,068,535,120	-2,914,499,712
Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder	-63,420,618	-502,094,795
Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	-532,066,774	-1,300,191,400
Meat, fish, or crustaceans, mollusc, or other aquatic invertebrates, preparations thereof	-54,958,105	-121,597,986
Sugars and sugar confectionery	-195,945,996	-448,469,471
Cocoa and cocoa preparations	-4,324,871	-19,337,630
Residues and waste from the food industries; prepared animal fodder	-259,948,204	-169,043,659

Source: United Nations Comtrade Database.

As with the diversion of wheat and corn for the production of value-added products that are only attainable with a higher purchasing power, the expansion of export led dependence has led to a diversion of land meant for local food needs production. One indicator of the orientation of national agricultural productivity to the expansion of export-led production of food is the proportion of land dedicated towards the top export crops. As Table 9-7 illustrates, the amount of land dedicated towards orange and tangerine/mandarins production has increased 55% and 28% respectively from the years

2000 and 2016. Land dedicated to growing grapes, another important export commodity, has increased 25%.

Table 9-7 Expansion of Citrus and Other Fruits, 2000 to 2016

	2000	2009	2016	Growth from 2000-20016	Share of Total Agricultural Land (2009)
Oranges	87,704 ha	98,519 ha	136, 015 ha	55%	2.67%
Tangerines, mandarins, etc.	35,000ha	40,000ha	44,824 ha	28%	1.1%
Grapes	59,765ha	63,958ha	74,873ha	25%	1.7%

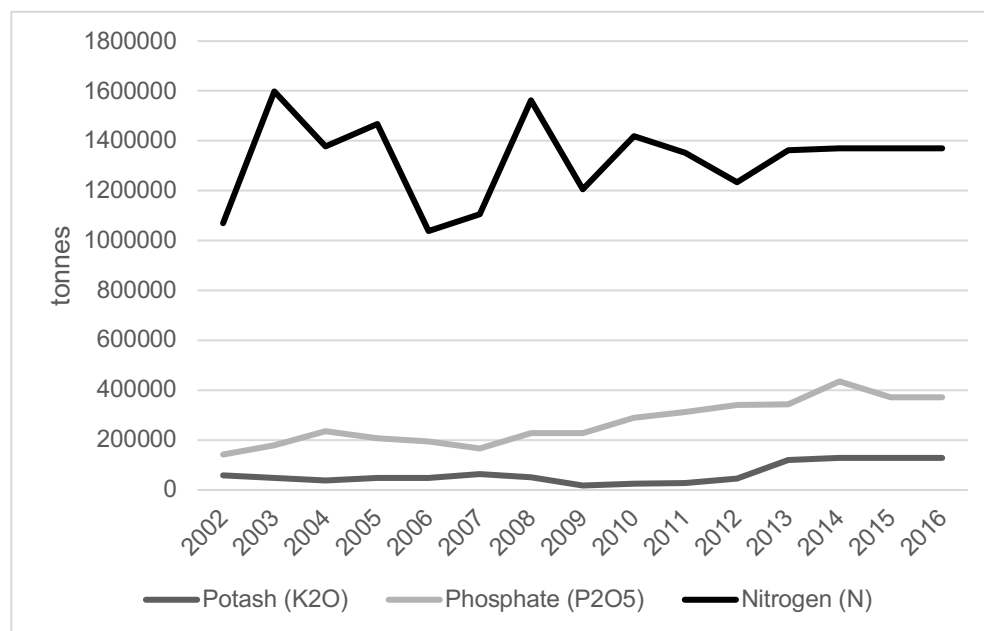
Source: FAOSTAT.

What Egypt grows is exceedingly controlled by the emerging private sector in export agribusiness. Food production has increased but production based on the profit-motive has exasperated the inequalities associated with the stagnation of the domestic Egyptian economy and its system of food provisioning. Dixon (2013) argues that the local domestic market, in the form of convenience stores and hypermarkets, is seeing the growth of processed foods.

The transformation of Egyptian land for exports is occurring also as a result of the structural changes to the productive character of agricultural production for the domestic market. With the deregulation of land tenure and the abolishment of rent ceilings came the growing costs of production (in seeds, machinery, and capital investment into land). Goletti (1996) calculates that the costs of inputs from the deregulation of sales has increased due to the introduction of market-pricing in the allocation of fertilizers; subsidies to offset the costs from PBDAC, the primary credit bank for farmers, have also decreased (Goletti, 1996). Four variables suggest the stagnation of the development of domestic

agriculture: the replacement of labour with machinery, the encouragement of the concentration and centralization of capital, the move towards the marketization of commodities for export-markets, and the direction of land towards non-agricultural sectors such as speculation in construction and the real estate market (Mitchell, 1999). The costs of production have increased the general cost of entry into agricultural production. Since the structural reforms and the dismantling of the Egyptian energy and input public sector companies, costs of production in the agrarian sector has increased. Accordingly, PBDAC dropped the amount of subsidized fertilizers to farmers from 183 million EGP in 1988/90 to 33 million EGP in 1992/93 (Goletti, 1996, p. 168-9).

Figure 9-15 Fertilizer Use of Potash, Phosphate and Nitrogen in Egypt, 2002-2016

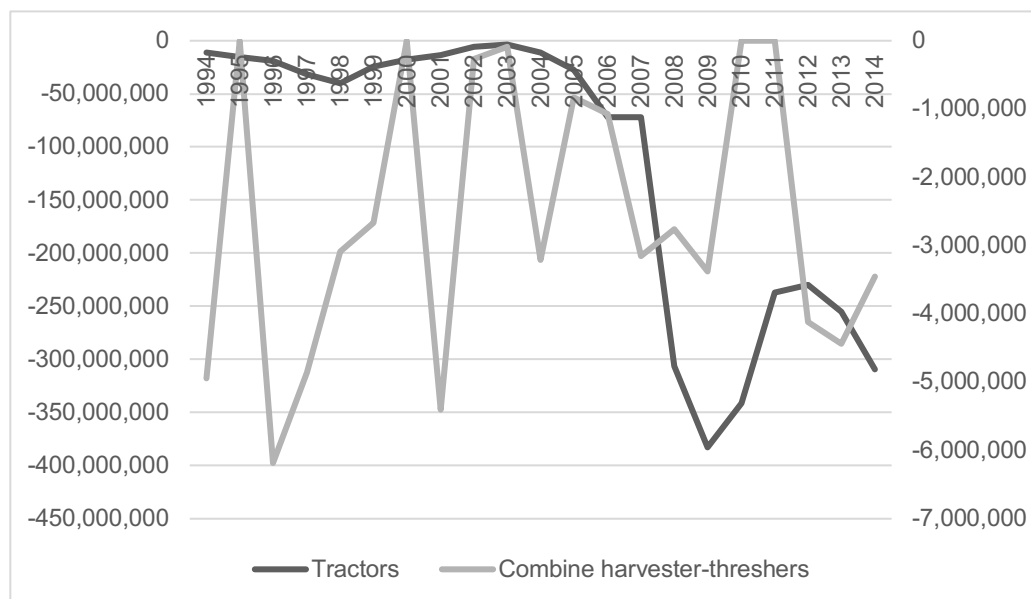


Source: FAOSTAT.

Part of the process of 'peasantry differentiation' and the consolidation and centralization of land is the expansion of capital and productivity in primary agricultural production. Economic agents able to afford and invest in agricultural machinery are the larger scale

farmers who can afford international market prices. The post-reform period shifted away from subsidized and provisioned inputs by the state below market prices (FAO, 2018, p. 67). Small-scale farmers face growing costs in production due to market prices. According to the United Nations Commtrade database, the terms of trade for agricultural machinery, such as tractors or combine harvester-threshers, have seen a massive increase, with Egypt seeing a massive deficit in the terms of trade for high value added capital imports of machinery required to continue agrarian production (see Figure 9-16). From 1994 to 2014, Egypt's terms of trade as a result of the import of tractors and combine harvester-threshers was in record deficits. The terms of trade for tractors suffered from a deficit of about 11 million in 1994 to 309 million in 2014.

Figure 9-16 Terms of Trade for Agricultural Machinery

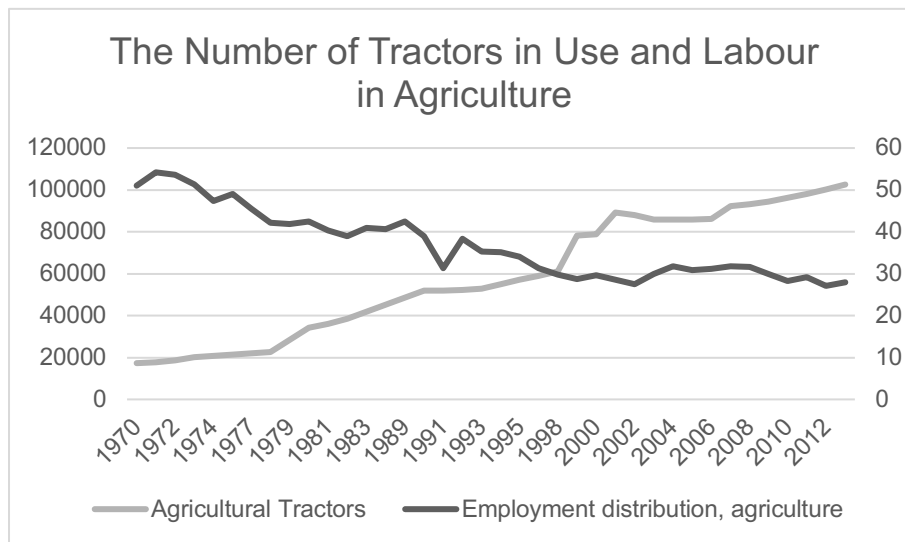


Source: UN Commtrade.

This deficit in the terms of trade, coupled with the greater concentration of land indicates that the overall makeup of agricultural productivity is being dominated by increasing costs of capital (Land Center for Human Rights, 2003). Figure 9-17 shows the share of labour

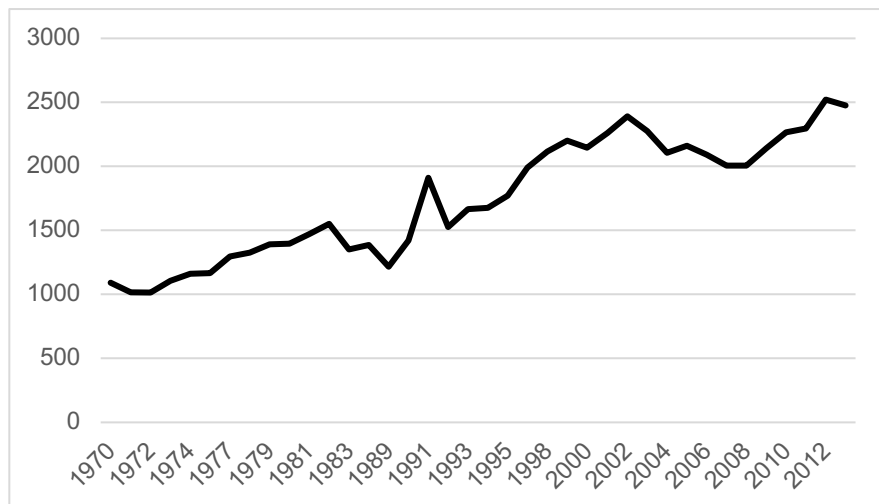
and the use of agricultural tractors from the 1970s to 2012; there is a clear indication that labour is being replaced by the use of machinery. The increasing productivity of agriculture per unit hour can be represented by the value added per worker that Figure 9-18 demonstrates.

Figure 9-17 Share of Labour in Agriculture and the Use of Tractors, Egypt 1970 to 2012



Source: ILO (for employment distribution into agriculture, right axis) and FAOSTAT (for machinery, left axis).

Figure 9-18 Value Added Per Worker, constant 2005 US Dollars, Egypt, 1970-2012



Source: FAOSTAT.

As Table 9-8 illustrates, farms with access to international and regional markets receive a greater share for the product they grow compared to farmers restricted to the local market. Under the dominance of market relations, exporters attain a greater share of the entire commodity circuit than farmers. Hanieh's (2013, pp. 88-9) own calculations also confirms this, in his calculation of the ratio of agricultural export value to value at farm gate; the ratio from jumps from 51 (1991-1994) to 169 (2009). In the table below, I calculate the ratio between farm gate prices and export prices of specific food items destined towards the market. The table below shows that the large price difference between the domestic farm-gate prices (prices to pay off the costs of capital and labour) and export prices indicate that it is more profitable to grow food for export than in the local market.

Table 9-8 Farm Gate and Export Prices of Select Agricultural Products in Egypt, 2013

Agricultural Product	Farm Gate Prices (USD per tonne)	Export Price (USD per tonne)	Ratio
Apples	457.3	1500	3.28
Tomatoes	208.6	809.2	3.88
Oranges	183.5	444	2.42
Grapes	446.3	2080.2	4.66
Garlic	222.3	1286.8	5.79
Beans, Green	347.6	1537.33	4.43
Beans, Dry	776.2	1753.8	2.26

Source: FAOSTAT, Calculated by Author.

This section argued that two transformations occurred in the state's management of food provisioning: the dismantling of the food subsidy program which increased the costs of food in the local markets, and the transformation of the agrarian sector which created an asymmetrical dialectic of import-dependent and export-oriented production. In this transformation, export-oriented production increased, shifting production towards horticultural items. Moreover, the increasing production of livestock for sale in private

markets also increased. In both cases, this increase has led to greater negative consequences for food security. The next section will detail some of the social conditions impacted by food insecurity.

9.4 The Development of the Agri-food Sector in Egypt

The section will briefly comment the trajectory the agri-food sectors development in the context of stagnating wages and the concentration of production for the sake of high-end food commodities that we saw in section 8.4. While production for the sake of exports has been increasing, the increasing power of international and regional capital has also been increasing since the deregulation of the agricultural market in both agricultural productive sites and in terms of processing and sales. Dixon (2014) writes on development and changing character of Egyptian agribusiness alongside the growth of land grabs in the financialization of capital in Egypt, and Hanieh (2013, 2018) writes how the regionalization of finance has increased its linkages into the Egyptian agribusiness sector across the region and linked to investments from the GCC.¹⁵⁹ Specific to the domestic food market, the growth of these companies are themselves facing limits within the domestic Egyptian market due to the stagnation of wages discussed in the previous section. Moreover, some of the companies listed are seeking to entrench themselves into the regional markets, with greater exports to the gulf states. Table 9-9 summarizes some of the agro-food companies. This table is not an exhaustive account and is rather supposed to illustrate the simultaneous growth of financial conglomerates in the food processing industries since the early 1990s and expanding since the 2000s.

¹⁵⁹ See Dixon (2014, p. 238) sample of mergers and acquisitions in the corporate-food system, and Hanieh (2013, pp. 91-3; 2018, pp. 136-8) for a greater list of agribusinesses associated with these financial linkages across a number of food sectors.

Table 9-9 Summary of Various Companies Operating in the Food and Drink Sector in Egypt

Company	Owner or Makeup of Capital	Sales and/or Net Profit	Dominance of Domestic Market	Other
Cairo Poultry Company	Kuwait; Americana Group	Net Profit After Tax <u>2013</u> : approx. 233 million EGP <u>2015</u> : approx. 237 million EGP <u>2017</u> : approx. 240 million EGP Revenue in 2018: approx.. 574 million EGP.	Chicken Production; Freezer Trucks; Feed Production; Retail Outlets	Throughout its operations it had been a major supplier to major food chains
Makro Cash & Carry Egypt LLC	Germany; Metro AG		Food Outlets	No longer in operation
Almarai (acquired 2010; formerly Beyti)	Saudi Arabia; Almarai and Pepsico; International Dairy and Juice (Egypt) Limited, subsidiary of Almarai	<u>Total Sales Revenue (across Geographical Space)</u> <u>2016</u> : 14, 339 million SAR <u>2017</u> : 13,936 million SAR <u>2018</u> : 13, 723 million SAR	Dairy Products (Yogurt, Milk, and Cream); Fruit Juices; Poultry; Baked goods	Egypt accounts for 0.7 billion SAR in sales, about 5.1% of total sales. The vast majority of sales are located in Saudi Arabia, accounting for 67% of total sales.
Agthia Group Egypt LLC	United Arab Emirates; owned by Agthia	<u>Net Revenue (across their different activities)</u> <u>2017</u> : 201 AED Million	Processing and Sales of Tomato Paste; Chili Paste; Fruit Concentrate;	They are also a major player in agribusiness, with about half of their

			Frozen Vegetables	operating, involved in the production and processing of wheat (371 million AED) and animal feed (540 million AED)
Manfoods	Mansour Group Egyptian	-	Franchises of McDonalds (over 90 stores); Metro and Metro Mini;	The Mansour Group owns the distribution rights of a number of products, such as Red Bull, Bon Jorno Café, amongst others
Juhayna Food Industries (SAE)	Juhayna Group 75% Egyptian, 25% Saudi	Net Sales <u>2009-2015</u> <u>Sales:</u> 2009: approx. 1.6 billion EGP 2010: aprox. 1.86 billion EGP 2011: approx. 2.24 billion EGP 2.24bn – 4.23 bn EGP <u>2016:</u> approx. 5 billion EGP <u>2017:</u> approx. 6 billion EGP 2018: approx. 7 billion	Dairy (Plain and flavoured Milk, Yogurts) Juices Concentrates in juice manufacturing	Other companies under this group are Tiba for Trading and Distribution Al Enmaa for Agriculture Development & Livestock ARJU (51% control) El Marwa Food Industries El Masreya for Dairy Products. 4000+ employees

Al-Ahram Beverages Co.	Privatized in 1997, Heineken purchase 97.8% in 2003 (2009 Q2); with 280 million investment in 2002 to acquire)	Alcohol Revenues :1 billion USD	Alcohol and Non-Alcoholic Drinks, Export and Domestic Market	10,000 acres of grapes Barley 100% sourced locally
Nestle Egypt	Switzerland	Bottles Water (Pure Life 15% of market share) Total Sales in Middle East in 2014: 2.4 billion USD	Water	Approx. 1500 employees in 2008; 11,000 employees across the Middle East; 18 factories in the Region
AJWA Food Industries	Saudi Arabia and Egypt		Food Processing, Edible oils, frozen fruits and vegetables, baked goods like bread	Approx. 950 employees and 2 factories

Source: Compiled data listed from various Issues of BMI's Egypt Food and Drink Report (2009-2016); Company Accounting Reports and their websites; Hanieh (2013, 2018); different news articles; Egyptian Stock Exchange (<https://www.egx.com.eg/en/ListedStocks.aspx>).

The power and concentration of these food industries indicate their control of the domestic market. Cairo Poultry Company (CPC) reports on their website for example that they "... account for 95% of Egypt's retail freezing capacity and a healthy share of chilled and frozen chicken sales nationwide" (Cairo Poultry Company, 'Our Strategy', 2019). While the company had seen a massive fall in revenue from 2008 to 2012 due to the various political and economic crisis beset at the time, and due to the dumping of cheap chicken imports which the government had stopped, the company saw rebounds in their revenue

and profits, as well as a furthering of their acquisitions of various auxiliary industries, such as investments in the Egyptian Company for Starch and Glucose (Arab Finance, 2019). Another popular brand, Beyti's has operations that are in the Dairy Industry (Yogurt, Milk and different creams) and Juices. The owners of Almarai, previously Beyti, are primarily producing goods for the Saudi market. The Agthia group are owned by Agthia, United Arab Emirates based, and focuses on food processing ingredients (such as tomato paste), fruit concentrates, and frozen vegetables. They are also involved in other agri-business such as the production of wheat and animal feed. The Mansour group, an Egyptian based financial grouping company that has investments across various sectors, control all the franchises of McDonalds Egypt, along with a variety of supermarkets and convenience stores (Metro and Metro-mini). They also control distribution rights of high-end imported goods. The Juhayna Group control a number of various food commodities, such as milk, yogurt, and juices. This group first setup in Egypt in the 1980s is currently comprised of 75% Egyptian and 25% Saudi investments, and they control a large share of the domestic Egyptian food market. They also have operations that are jointly operated with other transnational corporations, such as in their cheese and related products operations, where, along with Arla Foods (Denmark based), they have expanded their revenues from 105 million EGP in 2016 to 165 million EGP in 2017 (Juhayna Food Industries, 2018, p. 30). In their annual reports, they argue for the importance of expanding their export markets, especially due to their analysis that high inflation and the lowering of consumer demand due to the devaluation of the Egyptian pound will force them in high-end food markets and other export markets.

Within the context of sustainability of the agri-food sector, a few of these companies write in their annual reports that the decimation of the Egyptian domestic market puts them

at a structural limitation for their investments. Some of the major firms in the food outlets have divested and are no longer in operation, such as Makro Cash & Carry. The CPC writes that while the domestic market is facing issues surrounding “...high inflation, currency devaluation, rising costs of inputs, and a dynamic political environment”, they nevertheless see their export operations to be the most profitable. (CPC, ‘Company Outlook, 2019). Moreover, these companies are also trying to gear their commodities towards high end sector of the food markets, such as in healthy foods marketing with juices, selling products to the tourism sector which has become volatile throughout the recent years. The Egyptian government itself seeks to capture markets in high-end value markets. In 2016, the Egyptian government is attempting to relocate food processing in the country by discouraging produced foods and encouraging the imports of ingredients for further processing (USDA, 2019).¹⁶⁰ However, the articulation of trade and the growth of processing does not tackling some of the issues of wage stagnation.

9.5 Conclusion

This chapter analyzed the intensification of capital accumulation and wealth transfer within the food provisioning system. As opposed to productivist and neo-Malthusian approaches to Egyptian food insecurity, I stress the importance of situating international capitalist crises in the core of an analysis of the *Infitah* reforms and the expansion and encouragement of export-led agricultural production, and their impacts on national food security. Agricultural production in Egypt has been growing, but in a way that concentrates wealth into fewer hands and that has geared production not for local food needs but for

¹⁶⁰ Indeed, in terms of juicing industries, since 2011, there has been a growth of importing capital machinery; in 2015 and 2016 alone, Egypt had imported about 10.5 million USD (UN-COMTRADE, 2019).

export. The resulting dynamic has led to a dismantling of food subsidy programme that has worked to maintain stable access to food. Moving away from Third-Worldist Keynesian state-society relations, the reforms under the neoliberal period has defined Egypt's position in its ability to procure food in an environment where food prices has been increasing internationally. Food import dependence coupled with a negative term of trade since the dismantling of the public agrarian system is exasperating food insecurity.

Summarizing the last two chapters, a number of features need to be highlighted. First is the transformation of the domestic market in relation to the international market. Egypt is being reduced to a mere exporter of high-value horticultural food items to the Gulf and European states, while simultaneously depending on food imports for provisioning of food needs. The deregulation of land rents, the abolishment of ownership caps and the increase of government sales of agricultural companies has created an agricultural sectors' whose growth is solely dependent on exports. Moreover, as Dixon (2013) has argued, there has been a transformation of diets that are unhealthy and leading to a variety of health issues. Lastly, the dependence of Egyptians on a faltering food subsidy programme shows just how much the worker in Egypt is being squeezed for surplus value, even though food price increases have occurred. Secondly, the food subsidy programme in Egypt has slowly been downsized, despite the increasing costs of running such a system in the era of high food prices internationally. While there have been recently moves to increase items in the food subsidy programme, the general trend of food price increases have not been enough to counter the generalized stagnation of economic conditions in the food sector.

10 Conclusion

10.1 Introduction

This dissertation has been an examination of food insecurity arising out of the crisis tendencies of capital accumulation at the international and national scales. This dissertation is divided into two major parts. The first part is a conceptual and theoretical discussion of human needs and the development of capitalist food provisioning, and the development of a value-form analysis of food insecurity arising from Marx's *Capital Volume I and III*. The second part is a historical and empirical review and examination of food insecurity in light of the international food crisis of 2008 and food insecurity in Egypt during the colonial period and neoliberal periods. I argue that the international food crisis of 2008 as an 'event' and the structural food insecurity in Egypt reflects the ability to grow food but blocks the universal satisfaction of food needs because of the underlying structures of the world market that continues to place limits on states to fully satisfy the food needs of its population.

Utilizing a dialectical and historical materialist approach to understanding capitalism, this dissertation has worked to identify the contradictions involved in human needs expansion in light of the question of food insecurity. In this approach, I argue that capitalism creates the possibilities for the expansion of productivity as well as of human needs beyond natural needs yet is tied to and undermined by the structural limits arising out of its contradictions (Harvey 2014). This dissertation is an effort to systematize Marx's value-form analysis to contextualize the general trajectory of capitalist crisis within the realm of food insecurity, as both a concrete manifestation and a surface appearance of the deeper structures and generative mechanisms that bring about crisis and food

insecurity (see Das 2013). In this regard, the *capitalist* form of developing human needs simultaneously produces both absolute and relative immiseration because the market is defined by a wide set of food products (expensive products versus cheaper ones) and different sectors (luxury foods versus basic food goods). In both cases, food insecurity occurs because the capitalist market creates differential access to food goods, in terms of their quantitative and qualitative dimensions, and across international scale. Because of stagnating incomes and increasing forms of wealth transfer through comparative advantage, food accessibility, reflects the level of production, and consumption is therefore 'uneven and combined.'

Food insecurity arises out of the contradictory motions of international value accumulation and concentration, and it does not arise out of naturalistic or universal tendencies found in a *universal* nature but rather out of *social relations* in human needs provisioning. Contradiction strikes at the heart of how productivity and social wealth is distributed.¹⁶¹ Capitalism is a social system which depends on cheap food in order to increase the rate of exploitation. Capitalism is also a system that limits itself due to the growing concentration of wealth producing assets, such as agrarian inputs (land, machinery, inputs, et cetera), and because it shifts food provisioning towards markets. While mainstream approaches stress the importance of labour-saving technologies that emerge out of capitalist accumulation to increase productivity, it does so in a limiting fashion that expands the level of uneven development, rather than closes the gap. The 'civilizing' logic so characteristic of colonialism and development interventions is

¹⁶¹ As Harvey (2014, p.7) and De Angelis (2007, pp. 34-8) argue, the distinction between capitalism as the entirety of human social relations (including social oppression along the lines of ethnicity, race, gender *and* class) and *capital* as the telos of production is an distinction to make in order to see the function of food in capitalism.

countered in this dissertation by the Marxist dialectic of the labour-capital relation: that is to say, labour has 'produced' the world in an inverted image, reflecting the growing weight and control of production as perturbed by the social relations that concentrate productive wealth in a privatized form. Were production to be geared for human needs as opposed to profit and capital needs, the positive features of capitalist production, such as the socialization of production and the development of technology, could be harnessed to this end, and the turbulent social conditions that lead to poverty and the use of the productive forces for socio-ecologically destructive ways could be removed.

10.2 Summary of Dissertation

This dissertation's main contribution is to re-articulate a historical materialist approach to food insecurity in light of the existing literature associated with neoliberal development at the international scale more generally and the national scale specifically to Egypt. While this dissertation focused on Egypt as a case study, the method outlined in this dissertation can be applied to all nation-states that increasingly articulates their ability to provision food on the world market. In doing so, this dissertation had to sort through just how capitalist food provisioning is unevenly formed. Conceptually and theoretically, the main contributions of this dissertation are to develop a set of heuristic tools to not only examine the trajectory of capitalist food insecurity in light of historic gains in agrarian productivity, but to examine a wide set of facets of capitalist food insecurity. In doing so, I pair an examination of socio-ontological formation of needs, a critique of capitalist food provisioning by way of a political economy of international food crisis, and an examination of the causes and consequences of food insecurity in Egypt in light of the international food crisis of 2008 and in its connection to food insecurity during the colonial

and neoliberal periods. While capitalism has been instrumental in socializing production costs through the efficiency of the markets, it has done so far from the idyllic notions of worker and farmer productivity, moving labour out of inefficient production and into new sectors, and the creation of new needs; rather, capitalism increases its productivity and exploitation by way of a) exploiting labour and growing the productive capability of society, albeit in one that concentrates productive wealth, b) over-using non-human natures, depending on fertilizer and energy inputs rather than improving the quality of land over time, and c) undermining the use-values needed for survival through sector-wide adulteration. In establishing a historical materialist approach to food insecurity, I review the literature in these different three strands of literature and re-articulate its framework in an extended approach that develops a historical materialist approach to human needs, the development of a value-form analysis, and national and international crisis of food provisioning.

What follows is a summary of this dissertation's main contributions. In Chapter 2, I identified a number of explanations for food insecurity and crisis. These explanations, categorized into discrete approaches, are (1) the Malthusian and Productivist approach, (2) the entitlements approach arising out of Amartya Sen's work on capabilities and entitlements, (3) the Wealth Transfer approach and (4) the food regimes approach. In this chapter, I address the literature through the process of immanent critique and explanatory critique. I extracted important conceptual points that explain food insecurity of each approach and sought to show, through the process of conceptual negation, their ability to explain both the cause and solutions to stopping food insecurity. Some of the limits to the first approach is the problematic universalization of food crisis and food insecurity, and the problematic tendency of the second approach to separate social relations of

production from economic and supra-economic entitlements. The third and fourth approaches anchor their conceptualization of food crisis accurately in the crisis tendencies of capitalist accumulation, yet both approaches have a tendency to separate the differentiated social positions from a total analysis of class society between capital and labour. As will be discussed in the next section, the implications of these positions could be promotion of regulatory regimes, similar to the dirigiste regimes, that are ultimately limited due to the various dynamics outlined in the crisis tendencies of capitalism.

In Chapters 3 and 4, I rearticulate Marx's dialectical and historical materialist critique of capitalism to examine both the normative conception of changing human needs to food, and to understand the uneven character of food productivity and the social limits that results from it. In these two chapters, I argue that human needs are dialectically universal/natural, and social/concrete and are in constant change. In Chapter 3, I reviewed and established how a materialist understanding of food needs must be articulated in a normative fashion to capture both the dynamics of capital accumulation and the satisfaction of needs. I sought to elevate the place of food in an understanding of the distinction between natural and social needs. Rather than taking a position on whether capitalism is a system that develops needs and access to needs, and gives rise to forms of relative immiseration, or whether capitalism rests on the development of absolute immiseration of the working class (Lebowitz 2003; Patnaik & Patnaik, 2017), I argue for a dialectical approach to needs that sees these two conceptions in constant development and change based on the uneven dynamics of capital accumulation.¹⁶² As Mandel (1990,

¹⁶² The increasing concentration of the productive wealth on the internet is an example of this dynamic, where the development of software comes with the simultaneous dismantling of the internet as a place for the commons. In a similar industry, the control of labour for the sake of rent collection by seed, input, and

pp.69-3) comments on Marx's theory of wages and immiseration, absolute immiseration occurs during the various swings of capitalist growth and crisis, with those thrown out of the labour process the victims of the general accumulation of capital and its crisis tendencies. I also argue that a dialectical and historical-materialist reading of the nature-society relation is fruitful for a normative understanding of food production and consumption within social analysis. In line with Sayer's (2007) normative reading of needs with social scientific research, I argue that such a materialist reading is essential as a foundation of the critique of social structures that deny access to the means of production and, more critically, to the use-values, including food, necessary for survival. The development of social forms involves both universally bound and socially specific 'separation' in the metabolic interchange with nature (see Byron 2016; Laibman, 2008; Kovel 2003, p. 79). In this separation, the forces of production develop and expand human needs. However, this separation is also laden with the mark of class society that makes the quality and quantity of needs, such as food, differentiated based on class.

In the second part of reconstructing a historical materialist approach to food, Chapter 4 reconstructs Marx's conceptualization of capital accumulation, crisis, and the generative mechanisms from a value-form approach. While capital accumulation is a system built on growth, it is simultaneously a system in which labour is constantly being devalued, thereby leading to a variety of social issues such as un- and under-employment, the replacement of labour by capital investments (such as in the agrarian sector), and the general social immiseration that occurs due to productivity expansion. Moreover, I demonstrate that a value-form approach to food insecurity stresses two things. First, the

biotech. companies hinders the development of science for the sake of friendly ecological agricultural practices.

realm of production and exchange are linked to each other in order to explain the entire contradictory development of capitalist food provisioning and crisis, and second, the contradictory development of capitalist food provisioning finds its expression at the international scale. A value-form analysis illuminates that the expansion of capitalist agrarian production articulates nature and labour, and nation-states towards food provisioning on the local market in order to realize profits. Yet in doing so, the unevenness of capitalist development takes a concrete form, causing a number of problems at the international scale, such as the growing concentration of private wealth accumulation, the unproductive role of fictitious capital, the tendency to gear all agrarian wealth producing assets (such as nature) to the regional and world market, and the entire socio-ecological contradictions that emerge from this. This in turn creates limits for the nation-state to provision food because of the growing and uneven relationship based on the power of capital.

The unevenness and the precarious dependence on the world market for a number of nation-states In Chapters 5 through 9, I undertake a review and articulation of neoliberal agrarian development, the international food and financial crisis of 2008, and the Egyptian food crises throughout the 19th and 20th centuries during of Egypt's integration into the international market. Chapters 5 and 6 contextualize the development of capitalist agrarian development utilizing the critical realist distinction between real, generative mechanisms, and 'event' in order to distinguish the causes and the impacts of capitalist development. In Chapter 5, I review the emergence of a neoliberal form of food provisioning, in which there has been a growth on a number of 'developing' states to depend on the world market for their food needs in staple goods. This dependence and the 'signal crisis' of the 2008 food crisis reflects the problems of this form of development.

The historic dependence on 'cheap food' imports has begun to recede which, instead of re-articulating domestic food needs for local markets, has instead forced an expansion of export-oriented growth. Chapter 6 illustrated that the expansion of capitalist production of food needs is beset by the concentration of wealth and the unequal access to food. Moving along with the growing productivity of food, there was a growing concentration of wealth producing assets for the sake of export-oriented production. The problems of inequality in wealth and income is not only expressed at the international scale between advanced capitalist states and 'Global South' countries that were appended to the world market through structural adjustment programs, but also within. I showed how the generality of capitalist development had also impacted food accessibility in advanced agrarian states, suggesting that capitalism's expansion of growth also causes food insecurity there.

Chapters 7 to 9 sought to review and detail the development of capitalism in Egypt from the 19th century to the current period. Chapter 7 reviewed the impacts of food insecurity with the incorporation of Egypt into the world market. This was a period of prolonged food insecurity through a variety of ways: the allocation of land for export of cash crops like cotton, the experiences of the ability for labour to provision adequate food. The unmitigated features of capitalist development had become so extreme, with a growing concentration of land for the sake of export-oriented production that a number of these structural features were instrumental in spurring a variety of protests that were nationalist (for example, against British and French administration). This period and the period during the World Wars had led to food shortages that became instrumental for the post-colonial government to implement and expand a number of food provisioning programs. Within the context of the geopolitical post-war period, the rise of Third-Way Socialist governments across developing states allowed social manoeuvring in its

articulation of capital relations. In Egypt, through the food subsidy program and public sector control of the agrarian sector, there was a relative degree of food security compared to the emerging neoliberal period. Chapters 8 and 9 reviews and contextualizes the limits of public sector provisioning. The neoliberal period in Egypt was a reversal of some of the social contract pacts that had ensured a relative level of food security. Both the dismantling of the agrarian sector and the slow reduction of the food subsidy program contributed to increasing food insecurity. Chapter 8 shows the causes and social consequences of the dismantling of the food subsidy program and the general trajectory of the ability for Egyptians to access food in the free market. Lastly, Chapter 9 reviewed the causes and outcomes of the agrarian sector's dismantling, which has increased the burden on the state to import food while also restructuring food production for the sake of export. The social consequences amount to a form of dispossession through anti-labour and anti-tenant legislation, the economic stagnation of the domestic farming sector, and the consolidation and concentration of land. Moreover, this chapter showed the limits to the structural limits to domestic growth, suggesting that much of these operations are not sustainable due to the decline in employment opportunities, reflecting that food has increased in costs past the level of inflation.

10.3 The Fruition of Capitalist Crisis and the Crisis of Human Flourishing

This dissertation makes a number of arguments that meet at a certain point of trajectory; namely, a question remains as to how utilize a normative value-form approach developed in this dissertation to chart out a future of food provisioning beyond the contradictions of capitalism and the limits of capital accumulation. This question highlights important facets such as the normative place of food in socio-economic and ecological development, of

the nature of international relations between capitalist states that develop unevenly, and of the character and reproduction and maintenance of the international food provisioning system. In this regard, food studies have diverged on roughly two major axes throughout the development of analyzing international agrarian food provisioning (Akram-Lodhi, 2013, p. 156). Mainstream approaches to food security stress the important development of agrarian production and increased world trade in order to achieve food security while on the other hand a number of civil society actors involved in food movements and the academic literature have stressed the importance of negating typical approaches to food security and substituting them with calls for food sovereignty. I argue that the latter literature and the development of a food sovereignty approach offers a ground to critique capitalist food provisioning and agrarian development but also is itself limited due to the totality of capitalist social relations to create the world in an inverted, alienated, image.

As argued in Chapter 2, this approach sees the supply of a quantitative amount of food relying on growing technical production as an indicator of supplying the world with a growing amount of food. This would be established by the most efficient allocation of labour and resources internationally: if a country is more efficient than another in production of a given commodity, due to either natural or technological advantage, they are to specialize in that specific commodity, avoiding production that is geographically inefficient, and will thereby attain the foreign currency to purchase other needs in the market. The argument goes that a country should increase their reliance on *food imports* by way of also relying on food exports. On the other hand, many in the Global South nevertheless sees an inherent structural and one-sided food import dependence. As this dissertation has stressed, the mainstream food security approach is based on Malthusian

and neo-Malthusian principles that cannot adequately explain why people go food insecure in a world of plenty.

The food sovereignty approach has been argued to counter the neoliberal logic of organizing the food system. Started with the call by 'La Vía Campesina' and the Landless Peasant Movement (MST) in Brazil, it has since developed an important and sizeable critique of large-scale agricultural production. This approach has number of goals and features of the food sovereignty movement that Bello (2009, pp. 136-7) lists in his analysis of food insecurity. They are the following and are largely agreed upon by left and progressive approaches to food insecurity. Bello lists:

1. *Domestic* self-sufficiency in food needs;
2. Production and consumption dictated by domestic needs, not international trade;
3. Food production geared towards the flourishing of producers and consumers, not private business;
4. The production of 'whole foods,' rather than highly processed 'junk' foods;
5. A re-articulation of the relations between urban and rural, farmer and industry as to spread out the production of wealth;
6. Land reforms;
7. Protectionist measures to protect domestic farmer markets;
8. Industrial agriculture to be discouraged; and to
9. Encourage traditional agricultural production in tandem with environmental goals.

There are three major vantage points from which I will conclude this discussion on the potential of food sovereignty to counter the neoliberal development fueled by the capitalist logic of 'accumulation for accumulation's sake'. First, the food sovereignty approach stresses the important place of food in society, but it is still unclear how food sovereignty develops a socio-ecological understanding of human needs development. Second, the food sovereignty approach stresses the problematic linkages to the world market and for nation-states to take political and economic independence but is itself limited because of

the historical limits of dirigiste states to fully delink themselves from the international dynamics of production. Third, the food sovereignty approach has stressed the importance of local socio-ecological relationships to disconnected from the value-form relations and measurements of capitalist development in production, yet, and similar to the first critique, are conceptual gaps concerning the universalizing of food and agrarian production. A brief discussion on these three points follows below.

With respect to the first point, the food sovereignty approach puts special emphasis on the place of food in society. From production all the way down to consumption, this approach criticizes the view that food is just one commodity among many in the marketplace and that people require merely the satisfaction of their caloric and nutritional physiological needs. Opposed to the productivist account, the food sovereignty approach sees food as local, heterogenous, culturally sensible and specific to local conditions, tastes and livelihoods. In this vein, the food sovereignty approach stresses that food is universal but always contingent to the concrete. Culture, social production and labour should be defined in ways that do not lower the status of food production. The treadmill of production characteristic of capitalist agriculture should be negated, and production should instead emphasize a labour-nature relationship that gives meaning to food. The growth of health and ecological issues associated with processed foods, from field to factory to consumer, is a hidden cost of capitalist development which the food sovereignty movements seeks to negate. While taking different forms, the power of capital in the more advanced capitalist states dictate the character of production, and the many issues surrounding food sovereignty are 'dents' to the system in its totality. Therefore, the food sovereignty critique is in tandem with the general critique I make in Chapter 3 of the capitalist abstraction of food.

A number of concerns arise, however, with respect to the food sovereignty's generalization of food as a human need. As mentioned in Chapters 3 and 4, Marx criticizes the political economists for universalizing the socio-ecological metabolism between humans and nature. Accordingly, (food) needs change and are in constant flux. Diets change, and the social division of labour expands as the productive forces expand. Therefore, while it is important to maintain the ontological position of food, the variable character of food should be abstracted from the generality of political economic analysis and the critique of capitalism. Marx critiqued the classical political economists for treating human needs as natural, and therefore celebrates the development of human needs as necessary improvements in the human condition. While food is an important physiological need, it is embedded within the context of growing human social-ecological production, and not on food or agrarian farming per se. To avoid a reductionist approach to needs provisioning, it would be problematic to focus on food needs of peasants, farmers and urban populations in general. Putting it more concretely, what is the difference between food sovereignty, and sovereignties of housing, clothing et cetera? While there is nothing suggesting that proponents of the food sovereignty approach would disagree with the application of their critique and solutions to other commodity sectors, it does force us to concentrate the problem of generalized commodity production based on the capital-labour relation. This dissertation, while critiquing the productivist approach to expanding the market, nevertheless holds onto the point that the growing form of 'industry' does not necessarily have to be equated with the *capitalist* form of industrial growth.

With respect to the second point, the food sovereignty approach sees the international structures of capitalist accumulation as incapable of creating a pro-poor farmer socio-economic relationship that maintains domestic production in the Global

South. As we saw, the position of food-import dependent countries causes them to suffer due to the transformation of their agrarian sectors towards the dialectic of import and export differences. The food sovereignty approach seeks to displace the market dynamics in favour of small-scale food production in its many forms (small-scale family farms and operations, labour intensive as opposed to capital intensive practices, and the treatment of food as a common good). According to the critique of capitalist agriculture posed by food sovereignty, there is something inherently blinding in capital accumulation that makes the organization of production indifferent to social and ecological consequences.

However, there are limits to food sovereignty based on the political development of capitalism nationally and internationally. First, is that the international scale is the grounds for international capital to capitulate local industries and regions to articulate imports and exports on the world market, and second is the disarticulation of class politics within a country's sector. It is clear that food sovereignty is reacting to, among other things, the increasing frequency of land concentration in the agrarian sector (see Table 6-1 & Table 9-2 for the growing loss of economic power for small-scale farmers internationally and in Egypt respectively). However, in what ways does the national-scalar politics of pro-food reform and Keynesian reforms actually disconnect from the totality of capitalist social relations. Bernstein (2014, p. 1044) argues that food sovereignty via the peasant way ignores the totality of capitalist and extra-capitalist social relations and cannot break out of the "relentless micro-capitalism" of small-scale producers who must compete against each other. As we saw in the Egyptian case study, it had adopted social provisioning programs similar to what food sovereignty advocates. Egypt's food provisioning was dependent on these cheap flows of grains under the PL480 program that allowed the US to dispose of its excess grain in order to gain geopolitical advantages in the Middle East

and North Africa. This strategy of food dumping, along with the strategy of increasing production through the 'Green Revolution,' and now through biotechnology continues to this day, as highly processed foods as a form of adulterated foods have continued to *devalue* suitable food and artificially cheapen expensive food. As in another example, Venezuela had attempted to create food self-sufficiency through the use of oil sales on the international market to create a popular basis for achieving social goals (Schiavoni, & Camacaro, 2010). This form of development worked to spread wealth from oil sales across the rural and semi-urban slum regions; yet Venezuela is nevertheless experiencing limits similar to what occurred in Egypt. The redistributive politics found within international capitalist social formations and imperialism are limited, not necessarily due to public provisioning but due to the value-form. As Altieri & Monzote (2012) point to, Cuba's food provisioning system was able to re-orient itself towards domestic food production, reducing its need for food imports. Even with crippling sanctions, Cuba's agrarian system, building on the wealth from nature rather than synthetic pesticides, has been recognized for enabling bee colony growth, an essential pillar for food growth (The Economist, 2018).

The third and last point raised by the food sovereignty approach is applicable to the ecological question. As pointed out in section 2.2.3, the socio-ecological question configures into the geopolitics of food provisioning and wealth transfer across ontological spaces, such as between human and non-human nature, as well as geographical (across spatial places). Just as in the first point above, the food sovereignty approach stresses the importance of articulating value as natural wealth and not just as the efficient allocation of resources. Whether in the forms of biodiverse plant species, diverse landscapes where the farm is a microcosm of an entire ecosystem, and diverse farming practices and actors, the food sovereignty approach argues that any true sustainable system must be dictated

outside of the market valuations of nature. Ecological friendly ways of farming have recently begun to proliferate amongst proponents of organic and sustainable farming. Proponents argue that sustainable farming practices, such as no-till cultivation, permaculture (permanent agriculture), agro-ecology, and in general, biodiverse agriculture, cannot flourish due to the market's favouring of faster and cheaper harvest and planting frequencies. Therefore, capitalist competition is at its kernel only as productive as the free gifts of nature allow it. However important as these technical and socio-ecological articulation of the labour process may be, gaps arising in the first point reflect here. First, what is the ontological basis defining the socio-ecological relation, and why would the critique be based on scale? That is to say, is the international world market and any technical or natural comparative advantage inherently based on wealth transfer amongst nation states? Can there be forms of international trade that allow for an international division of labour in which wealth of nature and labour are shared collectively and globally? Moreover, the link of small-scale farmers to producing food has to be contextualized in the critique of capitalist social relations to create social immiseration rather than on being released from the dictates of production. As Smith argued in his production of nature thesis, there is a problem in conflating particular relations to nature with universal relations. The relation to nature is in constant change and based on the provisioning of human needs. Therefore, is there something inherently problematic with reducing labour time in food production through capital investments and other technical changes to food provisioning, releasing peasants and small-scale farming from the dictates of labouring? Therefore, there is an indirect critique of the romanticization of small-scale farming, with the provisioning of food that can occur simultaneously with the release of necessary labour in order to create our needs. Just as Marx and Hegel argued

that human flourishing arises out of the realm of freedom, and not the realm of necessity, I argue that productivity increases in agrarian development can release labour. As Marx (1999, p. 959) writes in *Capital Volume III*:

Freedom, in this sphere, can consist only in this, that socialised man [sic], the associated producers, govern the human metabolism with nature in a rational way, bringing it under their collective control instead of being dominated by it as a blind power; accomplishing it with the least expenditure of energy and in conditions most worthy and appropriate for their human nature.

The question then becomes under what social control, under what conditions, and on how to gear the development of the productive forces that develop in capitalism for social and individual needs, irrespective of nationality. In other words, there is nothing fundamentally wrong with engineering landscapes, plants, crops, et cetera to lessen the burden of labour. Food processing can take the form of the production of adulterated foods, but it can also take the form of ecologically friendly production, such as replacing livestock production to stop intensive and ethical farming techniques, moving away from mono crop production, and allowing labour to have food-based activities that are in the realm of freedom, and not under the dictates of private accumulation of capital.¹⁶³

10.4 Future Research

This dissertation has primarily been an exploration and heuristic examination of food insecurity under the impulses of capitalist social relations capitalism. In establishing a historical and dialectical approach to food insecurity from a value-form analysis, I was able to articulate and review the empirical case studies of the international food crisis and of

¹⁶³ Small-scale farming is a difficult profession to continue in because of its long work hours, physically demanding work, the constant need to be overlooking farming operations, and the general conditions small-farmers face.

Egyptian food insecurity. In accomplishing this, immanent and explanatory critique, there are a number of directions in which this research can be expanded upon from multiple vantage points and based on the various contributions of this dissertation to the literature, such as social theory of food needs, a political economy of capitalist crisis and agrarian change, and on empirical research based at the international and national scales. Further theoretical and empirical research would be required to continue expanding a historical materialist critique of capitalist food provisioning in Egypt.

First, this dissertation could be expanded to understand in greater detail the adulteration of food in Egypt and elsewhere and how the food subsidy program has transformed to account for the stagnant growth in Egyptian wages. In the context of the growth of capital accumulation and food imports, the limits faced by the nation-state and the stagnation of production for human needs, future research, using both qualitative methods - such as interviews with food vendors and random sampling of individuals shopping at various food outlets - and quantitative methods - such as those utilized in Chapter 7 - could examine the growth in the availability of and the quality of specific foods in light of both international market linkages and national planning. Some of the questions underlying this inquiry might include the following: a) what are the most common food items consumers purchase? b) what concrete factors shape the availability of these food items and consumers' decisions to purchase them? c) what are Egyptians' perceptions of their changing food intake? and d) what are the terms of trade and how has the state attempted to direct Egyptians off the food subsidy program? These are important questions to pursue in the future due to the re-emergence since 2014 of government actions to remove the food subsidy program and given the limits the state faces. Moreover, with the Egyptian government's goal to relocate and develop a domestic food processing

sector, future research could further discuss whether this can actually achieve a growth of cheap food availability in the local market, or would it be forced to develop oriented towards exports. This can be research on the growth of agribusiness development occurring in Egypt; qualitative fieldwork in the new food processing industries in Egypt could help illuminate the labour conditions in the agricultural and food provisioning sector.

Second, this research could be expanded to analyze the value relations of capitalist development in the region at large. Given the focus on this dissertation on the changing productive relationships in the food vis-à-vis the international context, how do other Arab states in the Middle East and North Africa, such as Lebanon, Palestine (including Palestinians in refugee camps in other countries), Sudan, Jordan, Algeria and Tunisia, and across other regions begin to manage some of the similar problems facing Egypt. Many of these countries have had recent and historical protests against the rising price of food. Therefore, future research would be a comparative study on some of the similarities and differences in the economic and political factors facing these countries. This could involve a comparison of their respective domestic policies, how their productive capabilities are being geared towards further growth in exports, and the general economic conditions that are leading to high food inflation, higher debt, and growing external pressure to transform the domestic industry, and the devaluation of the national currencies. For example, a recent report by McKinsey & Co commissioned by the Lebanese government, concluded that the soaring balance of payments is unsustainable, and advised Lebanon to, among other actions, grow high value crops, such as avocado trees, and to legalize its black market in cannabis production, in order to attain foreign

currency (Middle East Eye 2019).¹⁶⁴ With a growing stagnation of the Lebanese government, a crisis in the balance of payments, and the growing dependence on the world market for food imports, will a comparative advantage and articulating agrarian sector towards regional and international be enough to lift it out of its economic crises?

Third, and at the international level, a world geographic study on the socio-ecological conditions of food production, labour, and trade could help illuminate the changing trading relationships in the agrarian sector based on growing concern over climate change. A recent report by the Intergovernmental Panel on Climate Change (IPCC) warned that baseline projections of current agricultural production suggest an unsustainable and dangerous path that will force hunger and famine on people in the Global South (IPCC, 2019). Largely triggered due to an overproduction of meat and the dependence on energy intensive agrarian production, the threat of climate change is becoming a real burden for food importing states. A future project could research comparatively current government policies towards their national agricultural programs and the role of capital accumulation in placing *real* limits to any sustainable organization and planning of natural (agrarian) wealth. In line with the exploitation of labour that sees agricultural production concentrated into smaller, yet larger capital units, future research can investigate how any sustainable agricultural production would require both international planning and co-operation, a form of planning that Marx articulated in *Capital*; production for use-values and human and non-human (ecological) needs can only be satisfied through democratic planning. This research would be important, especially with the growth of stagnating international production for food needs, the growing threat of trade wars, and the potential for greater

¹⁶⁴ As of writing this, Lebanon itself has now faced a crisis, attempting to implement austerity politics due to the balance of payments, which has seen popular resistance.

military conflict. Under a system with democracy in the workplace, international co-operation becomes a precondition, and the only way to avoid greater inequality, unemployment, and hunger that will arise with the ecological contradictions of climate change.

11 Appendices

11.1 Methodology and Data Collection

This dissertation utilizes both qualitative methods, conceptual development, social critique, content analysis and some fieldwork, and quantitative methods, primarily statistical analysis (see Sayer, 1992; Flowerdew & Martin, 2005). Qualitatively, much of my contribution comes from the examination and synthesis of the literature on food insecurity, the construction of a historical materialist and value-form approach to human needs and capitalist food crises, and a general theoretically inspired examination of the empirical case study of the international financial crisis of 2008 and the Egyptian experience. My qualitative contribution is informed by the critical realist method of explanatory and immanent critique, where I re-construct the major approaches to explanations of food insecurity and link them to their limits. Moreover, I utilize the critical realist method to organize outcomes and experiences of food insecurity at the international and national scale in their generative mechanisms and their relational deeper structures (see chapter 1 diagram). I undertook content analysis of a variety of documents from international and national development agencies linking national food insecurity and economic crises (from the World Bank, OECD, IMF, and FAO), annual shareholder reports (for a number of companies internationally and specific to Egypt), sector business reports (such as Egypt Food & Drink Quarterly Reports and IMC Modernization Centre), state reports, and reports from organizations critical of market-based approaches. This review allowed me to grasp some of the major popular explanations and the limits to these explanations, and to expand an understanding of food insecurity through a value-form approach that I constructed in Chapters 3 and 4.

The majority of the quantitative data in this dissertation is gathered from databases from a variety of national/governmental and international institutions. The databases utilized in this dissertation are:

- Food and Agriculture Organization of the United Nations' FAOSTAT Database - <http://www.fao.org/faostat/en/#home>
- United Nations COMTRADE Database - <https://comtrade.un.org/>
- International Labour Organization - <https://www.ilo.org/global/statistics-and-databases/lang--en/index.htm>
- World Bank:
 - Commodity Markets - <https://www.worldbank.org/en/research/commodity-markets>
 - Databank - <https://data.worldbank.org/>
 - Global Consumption Database - <http://datatopics.worldbank.org/consumption/>
- United States Department of Agriculture Economic Research Service - <https://www.ers.usda.gov/data-products/>
- United States Department of Agriculture Foreign Agricultural Service - <https://www.fas.usda.gov/data>
- United States Department of Agriculture Food and Nutrition Service - <https://www.fns.usda.gov>
- Central Agency for Public Mobilization and Statistics – Various Issues in Arabic

I also utilized other databases and secondary sources to find supplementary data needed for calculations. In the utilization of statistical data on food production, consumption, distribution and exchange, there must be care taken in its interpretation, as much of the information is derived from national public agency reporting, practices, and interpretations. In many ways, cross-checking for accuracy is difficult as many of these databases rely on each other, and the accuracy of the data in these databases depends on the reliability of the original reporting. For example, as Mitchell (2000, p. 263) points out, some of the statistics regarding wheat production are difficult to decipher as yield and production outputs may not have been fully accountable in statistics gathering practices, and which makes it difficult to tell how much of the increases were due to HYV seeds. Nevertheless,

there are some important benefits to utilizing this data, even if limited in its possible inaccuracy. Since this dissertation's main contribution is the construction of a value-form approach, utilizing these statistics allowed room for me to find limits to 'mainstream' explanations, and therefore using the same datasets to come to different conclusions.

The data and content analysis are also aided by limited fieldwork I conducted. The proposal for this dissertation rested on the assumption that fieldwork would not necessarily be a major component of my research (such as an ethnographic study of changing food practices of specific places). I did conduct some fieldwork which aided me in contextualizing my study on food insecurity in Egypt. The collection of data from fieldwork in Egypt was a minor part of my dissertation due to instability and the general uncertainty associated with doing research there. Data and interpretations arising from these interviews will be utilized in places that will aid in my discussions. Some of the interviews were conducted online or by telephone, and in-person, using semi-structured interviews in both English and Arabic (sometimes with the aid of an interpreter). The respondents range from development workers to farmers. The questions were asked to get a general understanding as to how these participants approach the question of food provisioning depending on their expertise and experiences. These interviews helped me synthesize conceptual themes from the literature. The questions asked depended on the participants, ranging from understanding the global nature of the food crisis of 2008, policies related to agrarian development generally and specific to the case study in Egypt, some of the barriers and limits to agrarian development, and more empirical observations that on changes to agrarian development, policies, and landscape. Other general questions such as what food is grown, the barriers to growing and marketing food, and

some of the changes to the agrarian labour and land market allowed me to contextualize the uneven and combined form of growth in food production.

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