

American University in Cairo

AUC Knowledge Fountain

Theses and Dissertations

Student Research

6-1-2014

Food Security: At what cost? Dietary and behavioural coping strategies of low-income households in Cairo and implications on children's food security

Radwa Saad

Follow this and additional works at: <https://fount.aucegypt.edu/etds>

Recommended Citation

APA Citation

Saad, R. (2014). *Food Security: At what cost? Dietary and behavioural coping strategies of low-income households in Cairo and implications on children's food security* [Master's Thesis, the American University in Cairo]. AUC Knowledge Fountain.

<https://fount.aucegypt.edu/etds/1095>

MLA Citation

Saad, Radwa. *Food Security: At what cost? Dietary and behavioural coping strategies of low-income households in Cairo and implications on children's food security*. 2014. American University in Cairo, Master's Thesis. *AUC Knowledge Fountain*.

<https://fount.aucegypt.edu/etds/1095>

This Master's Thesis is brought to you for free and open access by the Student Research at AUC Knowledge Fountain. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of AUC Knowledge Fountain. For more information, please contact thesisadmin@aucegypt.edu.

**The American University in Cairo
School of Global Affairs and Public Policy**

Food Security: At what cost?

Dietary and behavioural coping strategies of low-income households in Cairo and implications on children's food security

Thesis Submitted to the

Department of Public Policy and Administration

in partial fulfillment of the requirements for the degree of

Master of Public Administration

By

Radwa Saad

Spring 2014

DEDICATION

This thesis is dedicated to my parents who instilled in me a love of giving and continuously taught me to look first to the fulfillment of others' needs prior to my own. To my father, although in a better place, who has continued to inspire me to learn, push my limits and never abandon my pursuit of growth and my mother, who has supported me every step of the way in completing this study. And to my fiancé, to whom I owe endless thanks, whose love, support and encouragement during the ups and downs of my research and continuous positive reinforcement were vital to the success of this work.

ACKNOWLEDGEMENTS

First and foremost, I would like to express by deepest appreciation to my Supervisor Dr. Ghada Barsoum, whose continuous support, inspiration and confidence helped bring this study to life. A special thanks to Dr. Gihan Fouad, whose assistance and invaluable advice during the research process helped build the foundation of this work. I would like to also thank Dr. Aisha Saad, whose eye for detail and distinct perspective, added an essential component to the conceptualization of this study. Last but not least, I would like to thank Mrs. Soaad, Mrs. Sheffa and all the mothers I had the honor of working with in Manshiet Nasser. This research would not have been possible without your kindness, positivity and willingness to take part and make a difference in your communities.

ABSTRACT

The American University in Cairo

Food Security: At what cost?

Dietary and behavioral coping strategies of low-income households in Cairo and implications on children's food security

By: Radwa Mohamed Saad

Supervisor: Dr. Ghada Barsoum

This study explores the dietary and behavioural coping strategies employed by low-income households in urban poverty pockets of Greater Cairo in response to food price fluctuations. It investigates the impact of nutrition-related coping behaviours on the food security of households, focusing namely on children and youth. The study uses qualitative research in the form of in-depth interviews, focus group discussions and key informant interviews with mothers residing in one of the largest informal settlements of Cairo, to arrive at an in-depth analysis of the problem. The research reveals that low-income households employ poor coping strategies in response to high food prices that could potentially further their food insecurity and perpetuate the cycle of poverty within which they live. As will be discussed in this paper, replacing nutritious foods with cheaper alternatives, eliminating meals, rationing household consumption, and resorting to dangerous eating behaviours are among many of the detrimental coping strategies households were found to employ. The study concludes with policy recommendations and future courses of action to combat the progression of food insecurity among vulnerable households and prevent the further decline of nutritional statuses in response to increasing food prices.

Table of Contents

<i>LIST OF ACRONYMS</i>	<i>ix</i>
I. INTRODUCTION	1
<i>Problem Statement</i>	<i>4</i>
<i>Background and Socioeconomic Context</i>	<i>5</i>
<i>Food Prices and Food Security</i>	<i>13</i>
<i>Study Objectives</i>	<i>14</i>
II. METHODOLOGY	16
<i>Study Framework</i>	<i>16</i>
<i>Research Methods</i>	<i>17</i>
<i>Analysis</i>	<i>19</i>
<i>Sampling</i>	<i>19</i>
<i>Limitations of the Study</i>	<i>20</i>
<i>Reflections on the Research Process</i>	<i>21</i>
III. CONCEPTUAL FRAMEWORK	23
<i>UNICEF Malnutrition Framework</i>	<i>23</i>
<i>WFP Coping Strategies Index (CSI)</i>	<i>24</i>
<i>World Bank Coping Mechanisms</i>	<i>25</i>
IV. COPING STRATEGIES AMONG THE POOR: A REVIEW OF THE LITERATURE	27
<i>Current Dietary Trends</i>	<i>27</i>
<i>Country-Specific Studies</i>	<i>34</i>
<i>Study Contribution to the Literature</i>	<i>39</i>
V. COPING STRATEGIES AMONG THE POOR IN EGYPT: FOOD PRICES AND FOOD SECURITY	41
<i>Food Prices</i>	<i>41</i>
<i>Urban Areas</i>	<i>43</i>
<i>The Relationship between Food Prices and Food Security</i>	<i>48</i>
VI. QUALITATIVE RESEARCH FINDINGS	54
<i>Perceptions of Nutrition, Food Prices, and Food Security</i>	<i>54</i>
<i>Knowledge vs. Action</i>	<i>54</i>
<i>Perceptions of Food Price Increases</i>	<i>55</i>
<i>Food Price Inflation and Incomes</i>	<i>61</i>
<i>Hardships, Worries, and the Future</i>	<i>62</i>
<i>Food Consumption</i>	<i>63</i>
<i>Seeking Alternatives</i>	<i>63</i>
<i>Balance, Rationing and Budgets</i>	<i>67</i>
<i>Reduced Consumption and Elimination of Fruit and Raw Vegetables</i>	<i>72</i>
<i>Food Purchasing</i>	<i>75</i>
<i>Very Short-Term Planning</i>	<i>75</i>
<i>Sacrificing Quality</i>	<i>77</i>
<i>Dangerous Eating Behaviours</i>	<i>79</i>
<i>Diversification of Income Sources and Livelihoods</i>	<i>82</i>
<i>Safety Nets and Social Cohesion</i>	<i>85</i>
<i>Formal Means</i>	<i>85</i>
<i>Informal Means</i>	<i>88</i>

Culture and Shame	90
Reduction of Non-Essential Expenses and Non-Food Consumption	90
Gender and Family Life	92
Children and Youth	94
VII. CONCLUSIONS AND RECOMMENDATIONS	98
VIII. BIBLIOGRAPHY	105
IX. APPENDICES.....	112
<i>Arabic Interview Guide</i>	112
<i>English Interview Guide</i>	115
<i>Informed Consent Form</i>	117
<i>Institutional Review Board (IRB) Approval</i>	118

LIST OF FIGURES AND TABLES

Figure 1. Basic Commodity Prices (Dec 2011 - Oct 2013) _____	8
Figure 2: Basic Commodity Prices on a Quarterly Basis (Jan 2011 - Oct 2013) _____	8
Figure 3: Protein Prices (Dec 2011 - Oct 2013) _____	9
Figure 4: Protein Prices on a Quarterly Basis (Jan 2011 - Oct 2013) _____	9
Figure 5: Adapted Conceptual Framework _____	26
Figure 6. Food and Beverage Price Index _____	59

LIST OF ACRONYMS

ARC	Agricultural Research Center
CAMPAS	Central Agency for Public Mobilization and Statistics
EDHS	Egypt Demographic and Health Survey
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FBDG	Food-Based Dietary Guidelines
GNP	Gross National Product
HIECS	Household Income, Expenditure, and Consumption Survey
HDI	Human Development Index
ILO	International Labor Organization
IFPRI	International Food Policy Research Institute
IRIN	Integrated Regional Information Networks
MDG	Millennium Development Goal
MoHP	Ministry of Health and Population
NGO	Non-governmental Organization
NNI	National Nutrition Institute
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USD	United States Dollar
WB	World Bank
WFP	United Nations World Food Programme
WHO	World Health Organization

I. INTRODUCTION

According to the WFP (2013), Egyptian households have been exhibiting higher rates of income poverty and food insecurity, problems that can no longer afford to go unnoticed. This study aimed to achieve a thorough understanding of the experience of food insecurity in response to food crises and consequent food price increases in Egyptian households. In order to paint the full picture, one must look to the history of food insecurity and the many remedial measures and promises that have been made in response to the worldwide phenomenon. More than fifteen years ago, world leaders at the World Food Summit declared,

We pledge our political will and our common and national commitment to achieving food security for all... We consider it intolerable that more than 800 million people throughout the world, and particularly in developing countries, do not have enough food to meet their basic nutritional needs. This situation is unacceptable.

- World Leaders at the World Food Summit, FAO 1996

As people in the developing world continue to suffer from extreme rates of disparate poverty, hunger and malnutrition, one can argue that the international community has so far failed in achieving what it set out to achieve several years ago. Seventeen years after the establishment of the Special Programme for Food Security – an initiative launched to combat hunger and malnutrition through comprehensive national and regional programmes – and fifteen years following the World Food Summit, hosted by the Food and Agriculture Organization (FAO) and attended by the European Union (EU) and several United Nations (UN) agencies, where world leaders declared full commitment to achieving food security for all and reducing the number of undernourished people by 50

percent by 2015, as of 2010, the number of undernourished people has increased to nearly 1 billion (FAO, 2011). Entire households are still being stripped of their basic human right to food as a result of rampant poverty, poor government policies, and ineffective mitigation of risks that accompany global crises. Only when governments and development practitioners can ensure that all human beings, regardless of socioeconomic status, are granted this accessibility, can economic, social and political development be pursued and deemed truly effective. Nations must engage in good “food security governance”, which as defined by the FAO constitutes the network of formal and informal rules and processes through which decisions related to food security in a country are made, implemented and enforced, taking into account the interests of different societal actors (FAO, 2011).

The average Egyptian has been reported to spend more than 40 percent of his/her income on food and in 2011, 13.7 million Egyptians were still suffering from inaccessibility unaffordability or inadequacy of food (WFP, 2013). Scholars have found that households employ poor dietary coping strategies which have made way to a phenomenon Darnton-Hill & Cogill (2010) refer to as “the double burden of malnutrition”, whereby members of a population are increasingly at risk of obesity, diabetes and other non-communicable diseases while others continue to suffer from undernourishment and malnutrition. Weak public health systems, urbanization and shifting diets, lead to the simultaneous occurrence of both over-nutrition, defined by Barrett *et al.* (2012) as “overconsumption of specific nutrients ... [manifested] as overweight or obesity” and under-nutrition – defined by the UNICEF as the outcome of insufficient food intake and onset of infectious diseases (Kennedy, Nantel & Shetty,

2006). According to Egypt's 2012 Nutrition Landscape Report, the double burden of malnutrition has become increasingly apparent in Egypt as well. For these reasons, the issue of rising commodity prices is of critical importance to actors in the development arena.

As Mousseau (2009) asserts, food policies must begin to address “hunger at scale” by coming up with novel ways to solve the problem of food price volatility while urging states to play a more active role in ensuring widespread food security. Given the social unrest and conflicts that often emerge as a result of food and nutrition insecurity, as the world witnessed during the food crisis riots of 2007 and 2008, standing idle is no longer an option (FAO, 2011). This study aims to gain a deeper understanding of changes to children's health and nutrition in the face of food price fluctuations by addressing the problem of food insecurity among lower-income households in urban poverty pockets of Greater Cairo. The first chapter of this work, which began with the above introduction to the topic, subsequently discusses the problem this research addresses, then moves on to the background and socioeconomic context surrounding the problem in Egypt and concludes with the study's objectives. The second chapter covers food prices and food security, providing a brief overview of each variable and their relationship to each other. The third chapter outlines the methodology of the research and the fourth, discusses the conceptual framework – as informed by the UNICEF, the World Food Programme and the World Bank – used to analyze the collected data. Chapter five provides a review of the literature, identifying gaps in current scholarship and ways by which this study has attempted to at least address some of those gaps. Chapter six – findings and analysis – is divided into two sections, the first a desk review providing an overview of secondary data

on the topic and the second, a discussion of the results of the primary research, analyzing them in relation to previously discussed literature. The final chapter concludes and provides recommendations on future plans of action.

Problem Statement

Research carried out by the WFP in 2013 revealed that Egyptian households in the lowest income category were most vulnerable to food price shocks, given their high expenditure on basic food items, which accounted for more than 50 percent of their household spending. The 2012 Egypt Nutrition Landscape Analysis Report found that the major problems faced by youth and young adults are under- and over nutrition with 15 and 16 percent of young males and females, respectively, at risk of becoming overweight. Urban residence has exhibited a stronger association with higher rates of obesity (ibid.). The report found that households were food insecure as a result of low income, high food prices and poor dietary practices (Egypt Nutrition Landscape Report, 2012). The report also asserts that Egypt, like many other developing countries, suffers from the aforementioned double burden of malnutrition. Hawkes (2007) claims that over 10 percent of Egyptian households consist of both a stunted child and an overweight mother. Men and women living in urban areas were found to be at a higher risk of obesity than their rural counterparts (Egypt Nutrition Landscape Report, 2012). A joint report by the International Food Policy Research Institute (IFPRI) and the WFP asserts that child malnutrition has also grown in urban areas, with the 2011 Household Income, Expenditure and Consumption Survey (HIECS) reporting that 39 percent rate of stunted children reside in urban Upper Egypt (HIECS, 2013).

In order to gain a better understanding of the problem of growing food insecurity in Egyptian households, it is important to address the attitudes and behaviours that give rise to malnutrition and the reasons behind them. A special focus must be placed on households that have exhibited unprecedented rates of vulnerability in response to food price changes in the years after the global food crisis in order to come up with preventative measures to avoid further decline in food security. This study aimed to understand the coping strategies employed by Egyptian low-income households in response to food price fluctuations, making use of qualitative research techniques and focusing on Manshiet Nasser, one of Greater Cairo's urban poverty pockets (WFP, 2013). The study focuses on the period of time following the 2008 global food crisis, namely after the January 25 Revolution, looking at subjective experiences of food price changes and their impact on household coping to gain an in-depth understanding of the problem at hand.

Background and Socioeconomic Context

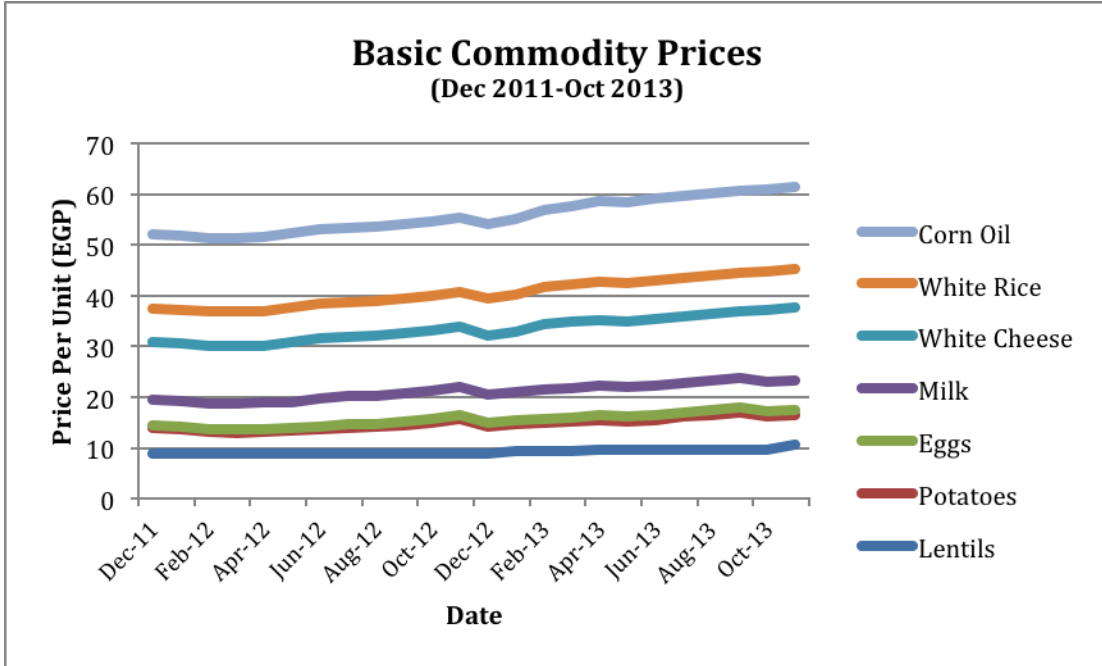
Considered one of the most populous countries in the world, according to 2013 data from Central Agency for Public Mobilization and Statistics (CAPMAS), Egypt's population is now estimated at 83,667,047 people, with informal sources citing numbers well over 90 million (CAPMAS, 2013). Of those, 57 percent live in rural areas and 43 percent in urban areas, while an approximate 11 percent of Egyptians live in Cairo. Egyptians 19 years of age and younger comprise more than 40 percent of the country's population (CAPMAS, 2013). Given the large number of youth in the country, problems that affect youth should be of prime importance to policy makers and development practitioners.

The political scene in Egypt became turbulent during and in the years following the January 25 Revolution. Starting in late January 2011, the country witnessed one of the largest popular movements known to Egypt's history. In a span of two weeks, anti-government activists staged unprecedented demonstrations across almost all governorates. On February 2011, President Hosni Mubarak resigned and handed power over to the Supreme Council of the Armed Forces which would lead a transition government for almost four months before widespread demonstrations called for its suspension. The Muslim Brotherhood's presidential candidate, Mohamed Morsi, was sworn into presidency in June 2012 and after issuing decrees to strip the judiciary of its powers, pushing for a constitution refuted by many and neglecting issues of public concern, he faced much public dissent. Government paralysis and inefficiency caused serious losses to the Egyptian currency and caused delays to a much-needed IMF loan (BBC, 2014).

As the world's largest wheat importer, Egypt's supply of imported food commodities such as wheat, faces high risk in the face of global price fluctuations (WFP, 2013). The sudden increases in food prices can be best exemplified by the Food and Agricultural Organization's (FAO) commodity price indices, which rose inclusively by 9 percent in 2006, 24 percent in 2007 and then soared by 51 percent in 2008 (Darnton-Hill & Cogill, 2010). The world has faced higher food and fuel prices since 2005 with the FAO price index of cereal having more than tripled between 2000 and 2008 (Brinkman *et al.*, 2010). Staples such as rice, corn, wheat, oil, and sugar increased by an average rate of 24 percent in 2007 with oil increasing by 87 percent, dairy by 58 percent, and rice by 46 percent (Christian, 2010), reaching five times its 2003 price. Additionally, beef and

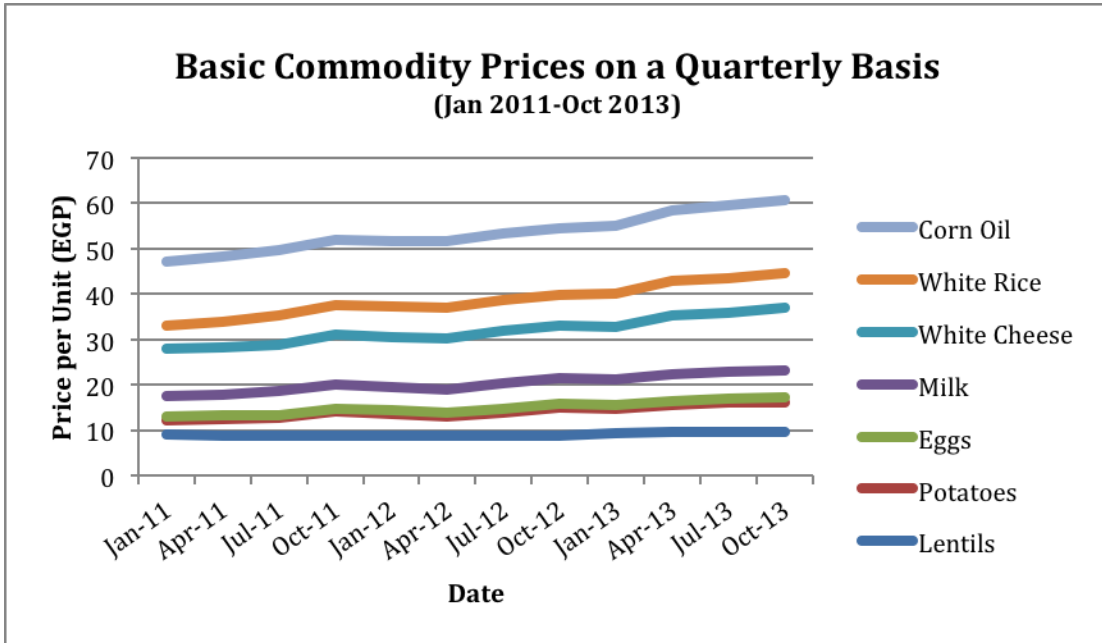
poultry prices were reported to have doubled (Cohen & Garrett, 2010). Egypt is a net food importer for more than half of its wheat and more than 20 percent of all food consumed by its population (FAO, 2011) and this, in addition to factors such as currency devaluation and economic crisis, has led to extreme vulnerability to international price fluctuations, with the World Bank placing Egypt among the most vulnerable countries (Ghoneim, 2012). After the January 25 Revolution, namely between July 2012 and July 2013, in addition to a weak political system, the Egyptian economy reached record lows with the Egyptian pound having depreciated by 10 percent, leading to an increase in local market prices despite relative stability in global markets (FAO, 2013).

Figure 1. Basic Commodity Prices in Egypt (Dec 2011 - Oct 2013)



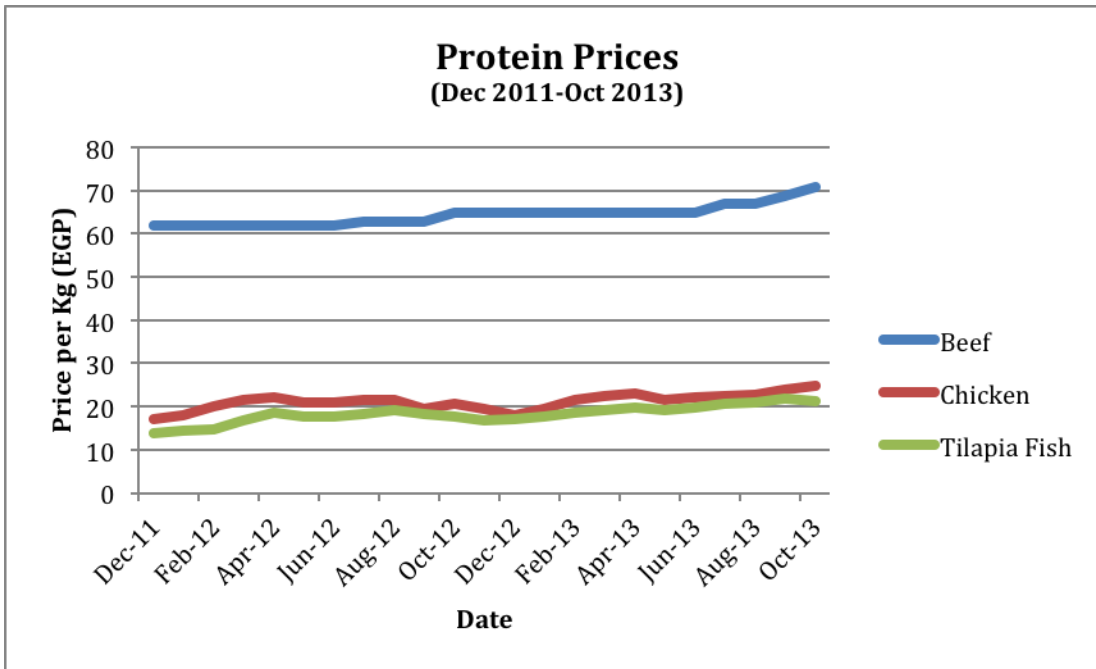
Source: Figure compiled by the author using CAPMAS data

Figure 2: Basic Commodity Prices on a Quarterly Basis in Egypt (Jan 2011 - Oct 2013)



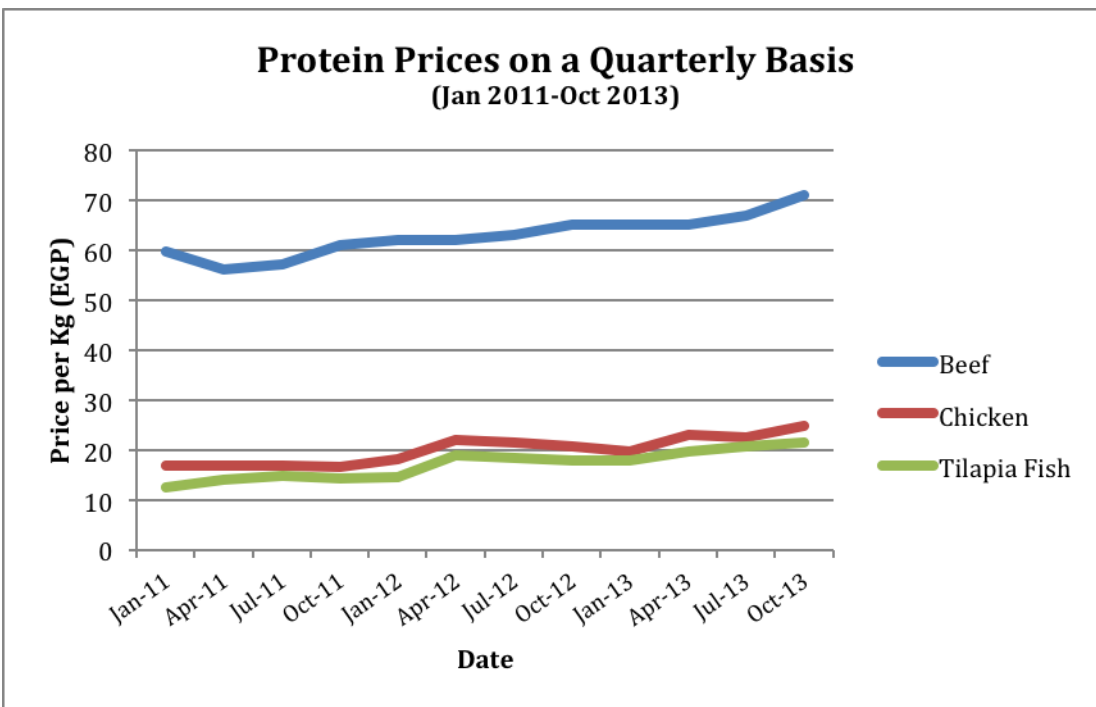
Source: Figure compiled by the author using CAPMAS data

Figure 3: Protein Prices in Egypt (Dec 2011 - Oct 2013)



Source: Figure compiled by the author using CAPMAS data

Figure 4: Protein Prices on a Quarterly Basis in Egypt (Jan 2011 - Oct 2013)



Source: Figure compiled by the author using CAPMAS data

According to the FAO Egypt Country Brief (2013), food prices in urban governorates increased more than in rural governorates. Coupled with an increase of almost 40 percent in poverty rates between 2009 and 2011, Egypt has witnessed a marked shift in the number of food-insecure people from rural to urban areas of Greater Cairo, with almost 3.5 million urban dwellers reported to be both poor and food insecure. In 2002, the number of people living in extreme poverty had decreased in relation to their 1993 values, yet the urban share of those within the extreme poverty category had increased from 19 to 25 percent with the number of urban poor increasing by an estimated 300 million (Cohen & Garrett, 2009). Consequently, as noted by the head of the World Food Programme, global food price increases represent a “silent tsunami of hunger” (Rodriguez-Takeuchi and Imai, 2013).

Egypt’s 2011 HIECS found that compared to 19.6 percent in 2005 and 21.6 percent in 2009, income poverty – defined by the World Bank as incomes below USD 1.25 per day – had risen to an unprecedented 25.2 percent in 2011. The 2013 HIECS reported a

rate of 26.3 percent. In Greater Cairo in particular, the poverty rate rose from 10 percent in 2011 to 18 percent in 2013. The rate of those who were both income poor and food insecure – a state which the World Health Organization (WHO) defines as either poor access to food, poorly use of it, or an inability to afford it – increased from 14 percent in 2009 to 17.2 percent in 2011 (IFPRI & WFP, 2013). Egyptians in low-income categories have been found to devote a larger portion of their household expenditure to food purchases and are thus inevitably more vulnerable to food price fluctuations (WFP, 2013). Households are now adopting Western-style diets, increasing their intake of refined carbohydrates, saturated fats, and sugars, which have all increased the risk of being overweight and developing chronic nutrition-related diseases (Egypt Nutrition Landscape Report, 2012). According to the WHO’s 2012 national STEPwise survey, implemented by the Ministry of Health and Population (MoHP) in collaboration with the Egypt WHO country office, an estimated two thirds of the Egyptian population (62 percent) are overweight and one third (31 percent) is obese (WHO, 2012). About 40 percent of the Egyptian population suffers from high blood pressure and 37 percent from high cholesterol (ibid.). In addition to widespread malnutrition and food insecurity, children are exhibiting increasingly substandard nutritional statuses (ibid.). Malnutrition in Egypt is on the rise with the rate of stunting in children under five found to be approximately 31 percent in 2008, up from 23 percent in 2005, which according to the WHO falls within the “high” range (Immenschuh, 2013). The 2008 Egyptian Demographic and Health Survey (EDHS) matched these findings, reporting that an estimated 29 percent of children under five were stunted and 14 percent were severely stunted. According to the WFP, “Stunting, reflecting chronic malnutrition is irreversible

and stops children [from] reaching their full physical and mental potential.” The proportion of children found to be wasted and underweight was higher than in either of the two earlier EDHS surveys (2000 and 2005).

In a 2011 study conducted by the WHO across nine governorates, over 50 percent of children less than five years of age were found to suffer from anemia, classified as a ‘severe public health problem’ by the WHO. Five 5 percent of young males aged 10-19 and 6 percent of young females were classified as overweight while 15 percent and 19 percent, respectively, were considered at risk of becoming overweight (EDHS, 2008). The proportion of both males and females classified as overweight and at risk of being overweight were higher among urban residents relative to rural ones (ibid.).

There are a large number of public and non-profit initiatives whose work aims to reduce food insecurity and malnutrition in Egyptian communities. However, many of these initiatives are either short-sighted or poorly targeted. In 2008, the Egyptian government attempted to remedy the negative impacts of rising food prices on poor households by expanding the food subsidy programme – bringing the total number of beneficiaries to 63 million (80 percent of the population at the time) – but poor targeting has led to leakage and left services inaccessible to some of the most vulnerable households (FAO, 2009). According to a 2013 report by IFPRI, although an estimated 70 percent of the population receives food ration cards, 19 percent of the most vulnerable Egyptians are excluded. Sabry (2010) argues that the rations are meant only to ensure that the poor receive enough calories, with little regard to actual nutritional value. The United Nations Food and Agriculture Organization (FAO) recently initiated a \$3 million project designed to improve food security and nutrition of Egyptian women and youth through

initiatives related to food production, education and capacity building. The initiative involves developing Junior Farmer Field and Life Schools and Community Model Gardens to grant women and youth the means to manage their own food production (UN News Service, 2012). The WFP has been operating in Egypt since 1968 and has thus far, provided well over 681 million USD in efforts to improve food security, nutritional status and grant opportunities to the population's most vulnerable factions, with a specific focus on assisting women and children.

Food Prices and Food Security

The Food Security Framework, as agreed upon by the Committee on World Food Security, defines food security as a state in which “all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life” (WFP, 2013). Food access is dependent upon two factors, food availability – either through market supply or self-production – and affordability (Bloem, Semba & Kraemer, 2010). However, it is important to note that as Darnton-Hill and Cogill (2010) argue, simply ensuring access to adequate amounts of food does not translate to optimal nutrition and sufficient intake of essential nutrients. Inadequate macronutrient intakes and unbalanced diets can be attributed to cultural malpractices and the higher costs of nutritious foods (Cavatorta and Pieroni, 2012). Darnton-Hill and Cogill (2010) claim that the international community's continued emphasis on increasing yields of staple foods is insufficient in solving the problems of food insecure nations. Nutrition is gaining importance as a key determinant of chronic disease and has serious implications on health throughout an individual's life.

The global food crisis that began in 2006 and continued until 2008 shifted policy-makers' agendas and incited interest in food policy formulation and implementation that would combat the negative consequences that ensued, in both developed and developing countries (Ghoneim, 2012). Those most powerfully hit by the crisis came from the most vulnerable households and as the United Nations Secretary General exclaimed in 2008, "The threat of hunger and malnutrition is growing." Dietary adjustments that occur as a result of changes to one's external environment – such as in the case of rising staple food prices – can influence present health and also determine an individual's chances of developing chronic illnesses later on in life (WHO & FAO, 2003). As Sabry (2010) asserts, lack of sufficient nutrition for children can impair their mental development and learning and hence further the inter-generational transmission of poverty.

Study Objectives

This study aims to investigate coping strategies employed by low-income households in Greater Cairo in response to rising food prices and their implications on children's food security, through a thorough investigation of the following:

1. The extent to which food prices in Egypt have changed over the past 5 years (2009-present),
2. How food prices influence the food choices, eating behaviours, and consumption patterns of households under review,
3. How these dietary coping strategies and modified eating behaviours affect the nutritional intake of children,

4. The changes in children's nutritional intake and their effects on the overall food security of Egyptian children in urban low-income households.

The study argues that lower-income households exercise poor coping strategies vis à vis rising food prices which leaves children at a heightened risk of food insecurity and malnutrition and as a result, a higher likelihood of suffering from the double burden of poverty.

II. METHODOLOGY

This study was guided by the frameworks and models used in a comprehensive research project carried out by the World Bank (WB) titled, “Living through Crises: How the Food, Fuel, and Financial Shocks Affect the Poor” (2012), which will be discussed in subsequent sections. Many of the research methods employed have also been borrowed from the WB studies on coping strategies of vulnerable groups in times of crises, through the use of qualitative research designs.

Study Framework

In the WFP’s 2013 report on the Status of Food Insecurity in Egypt, pockets of poverty in urban areas of Greater Cairo were found to exhibit very high rates of food insecurity, with rates comparable to those found in Assiut, the Egyptian governorate thought for years to be the most vulnerable to food insecurity (WFP, 2011). The households included in this study were recruited from Manshiet Nasser, an urban poverty pocket in Greater Cairo. Manshiet Nasser is considered to be one of Cairo’s largest informal settlements and has a population of an estimated 1 million people (Bahrinipour *et al.*, 2010). Urban poverty pockets of Greater Cairo have been found to suffer from an increasing number of income poor and food insecure people while all areas of Egypt have exhibited high rates of obesity and anemia, especially in children, with anemia in children found to increase with income poverty (WFP, 2013). All areas of Greater Cairo have also exhibited a gradual increase in food and other commodity prices since the 2011 revolution (CAPMAS, 2013).

Research Methods

A preliminary desk review of secondary research was carried out prior to any fieldwork, as will be discussed in Chapter Six of this paper. Once fieldwork commenced, participant observation was used to scan the neighborhoods in which the study was conducted and familiarize the researcher with the settings and local focal points through which the communities were reached, the Dwei'a family healthcare center, Sheikh Zayed Hospital – located in Manshiet Nasser – and Bedaya, a local NGO. Secondary research in the form of a desk review of previously conducted studies and surveys was carried out to map past and current trends in consumption patterns and dietary behaviours of Egyptian households. Secondary analysis is based mostly on data generated from the Household Income, Expenditure and Consumption Survey (HIECS), WFP Egyptian Food Observatory reports, and surveys carried out by the Egyptian National Nutrition Institute (NNI) and Agricultural Research Center (ARC).

The study aimed to gain a deeper understanding of food insecurity in urban areas of Greater Cairo through the use of qualitative research. Research consisted of 26 semi-structured open-ended interviews, two focus group discussions, all of which were carried out with mothers from low-income households residing either in Dwei'a or Manshiet Nasser, and three key informant interviews. One focus group discussion consisted of twelve women and took place at the Sheikh Zayed hospital and the second consisted of six mothers and took place at the family healthcare center. Key informants interviewed included an employee in the Social Services Department at Sheikh Zayed Hospital, the Cairo Governor's Policy Advisor on Informal Areas, and a co-founder of 'Bedaya', an NGO based in Manshiet Nasser. Almost all interviews and focus group discussions were

audiotaped, upon receiving approval from the study participants, to facilitate subsequent transcription. The Consultant of Pediatrics at the Egyptian National Nutrition Institute (NNI) as well as the Head of the Social Services Unit at Sheikh Zayed hospital assisted in the recruitment of mothers at the hospital and family healthcare center. The co-founder of the 'Bedaya' recruited women who were known to the NGO and made use of its services on a regular basis.

Qualitative research was used to gain a case-specific understanding of behavioural-based coping to food crises. The interview guide was created with the assistance of the Consultant of Pediatrics at the NNI who has dealt with similar households and topics in the past and was able to provide advice and guidance, in order to ascertain the appropriateness of questions. The Consultant of Pediatrics actively contributed to the research process and took part in one of the focus group discussions and select interviews to provide guidance when needed. When conducting the interviews and discussions, follow-up questions were asked whenever additional information or explanation was required to ensure that the information was clear and complete. Field notes were taken while and after interviews took place to ensure that initial thoughts and analyses were accounted for and later revisited. The mothers were provided with a verbal explanation of the study by both the Principle Investigator as well as staff from the healthcare center, hospital and NGO, prior to commencement of the interview, at which time they were given the opportunity to ask questions or opt out of the study. Mothers who agreed to take part signed an informed consent form. Approval from the Institutional Review Board (IRB) was granted prior to any data collection.

Analysis

A combination of open, axial, and selective coding was used (Strauss, 1987). Coding was used to allow for critical thinking and analysis during the process. Data was coded based on common linguistic indicators (open), similar underlying meanings or implications, which formed larger concepts (axial), and finally, themes – through analysis of the connections between the different concepts (selective) (Strauss, 1987). Once the qualitative research was analyzed, comparisons and contrasts were drawn, where possible, between trends found in other studies and the results obtained from the primary qualitative research.

Sampling

The study sample consisted of mothers from low-income households in urban areas of Greater Cairo. Following the qualitative tradition, the study used a non-probability purposive sample and sampling continued until data saturation was reached, the point at which no new information materialized. Data collection and data analysis were carried out simultaneously. At some points, snowball sampling was used to allow study participants to refer to others who were willing to participate. Each participant was given a complementary gift package consisting of picture booklets, stickers, and coloring pencils for children, as a gesture of thanks for taking part in the study.

The research generated evidence on mothers' perceptions and opinions of proper nutrition and current food price fluctuations in Egypt. It pursued a deeper understanding of household coping strategies in response to food price increases such as decreasing meal sizes, eliminating meals, replacing food groups, adopting purchasing or cooking methods that would not have regularly been used, or resorting to alternative sources of

income. The interviews also asked questions related to food purchasing habits (i.e. considerations and priorities when purchasing food for children), cooking methods and proportion of foods eaten outside the home – reliance on junk food and street vendors.

Limitations of the Study

The initial plan for this study was to conduct interviews in Kerdasa and Al-Waraq, two areas in Greater Cairo identified as newly emerged pockets of poverty by the WFP (2013). However, due to security and safety concerns, the study was instead carried out in Manshiet Nasser, an area also considered to be low-income and of similar socioeconomic profile as the originally intended target areas. Also, due to the currently turbulent political situation in Egypt, the interviews and focus group discussions were carried out in the Dwei'a Family Healthcare Center, Sheikh Zayed Hospital and Bedaya – an NGO located in Manshiet Nasser – to avoid any security issues. This could be considered a deficiency since the research could ultimately be neglecting mothers who reside farther away from the center, hospital, or NGO and those who do not make use of their services. The Head of the Social Affairs Department in Sheikh Zayed hospital was present during the two focus group discussions and ten out of the twenty-one interviews carried out in the hospital and family healthcare center. Participants may not have felt comfortable sharing certain information and this could have led them to withhold information important to the present study.

Reflections on the Research Process

I am aware that as a researcher, I am an active part of the research and to the respondents, represented a social reality that was quite different than their own, and this in itself could have influenced the direction of the research (see for example Marshall and Rossman, 2011). The data collection process revealed a great deal about the inhibitions of study participants and their personal worries and distresses as well as complex cultural obstacles that present themselves when carrying out research in Egypt. Upon arriving at the Sheikh Zayed Hospital, it became automatically clear that patients and employees viewed me as an outsider, gazing over with inquiry and interest. The Head of the Social Services Department took me around her office, introducing me to hospital staff as “Dr. Radwa, from the Ministry of Health”. When I asked why I had to be introduced in this way, she claimed that if I had been introduced simply as “Radwa from the American University in Cairo,” staff would have been reluctant to speak to me and would have wondered why a student was coming to study them. Staff greeted me with smiles, wide-eyed with fascination. I was met with very similar reactions at the Dwei’a Family Healthcare Center, where staff were extremely welcoming. It was obvious that the social worker was acquainted with almost all hospital and center staff and had managed to maintain positive relationships with all of them.

As I conducted the interviews, it became progressively more apparent that most mothers were seeking a channel through which to express themselves and their everyday stresses. While women would seem reluctant disclosing certain information or admitting difficulties in providing the right food for their children at the start of interviews, many

were showing more comfort in discussing their vulnerabilities, as the interview progressed. One mother began the interview asking, “This isn’t going to be on television or anything is it?” then later became fully engaged in the discussion, disclosing her worries about the inability to provide for her children. I connected with the mothers on a very personal level and found myself reacting not only mentally, but also emotionally to their responses. While some mothers cried, some laughed and others, more hesitant to explicitly express such emotions, conveyed their feelings non-verbally, through their eyes and facial expressions.

At the Dwei’a Family Healthcare Center, staff insisted on offering me tea and juice, and one of the days even brought me breakfast – after I had respectfully declined more than four offers – and sat around me to eat. As we sat around each other eating *foul* sandwiches, the staff discussed common eating behaviours and problems related to diet, with one of the social workers claiming that the main reason for poor diets was the lack of awareness in their community. At the Bedaya office, interested staff members asked questions about the study and suggested that nutrition awareness sessions be carried out with mothers who used their services, also arguing that lack of awareness was a major contributor to nutritional problems.

Despite difficulties that often accompany the research process, whether related to cultural tendencies, appearances, or general inhibitions, probing the lifestyles and day-to-day hardships of families living in alternate social realities presents a rich source of insight. This experience revealed that research goes beyond simply collecting data and presenting results in that it helps paint a clearer picture of reality and come up with viable

and culturally acceptable solutions to everyday hardships.

III. CONCEPTUAL FRAMEWORK

The conceptual framework of this study is informed by the UNICEF Malnutrition Framework, the WFP Coping Strategies Index and the World Bank Coping Mechanisms Framework used in the WB study on “Living through Crises”. The UNICEF Malnutrition Framework was developed in 1990 and is often used as a guide to assess and understand the causes of nutritional problems and identify remedial actions (UNICEF, 1998). The WFP Coping Strategies Index is built around a “behavioural approach” based on the understanding that there are common behavioural responses to food insecurity that are used to manage household food and dietary habits (Carletto et al., 2013). Research by the World Bank set out to investigate the ways by which people lived through, were impacted by and coped with the global crises as they unfolded from 2008 to 2011 and categorized them into behaviour-based, asset-based and assistance-based responses (Heltberg et al., 2012). The following sections will discuss each of the models and frameworks in depth and will conclude with an illustrative representation of the frameworks, combined and adapted, as they will be used in the present study.

UNICEF Malnutrition Framework

The UNICEF conceptual framework on the causes of childhood malnutrition is centered on the social determinants of nutrition, at the societal and household level. The structure of society and the processes within it are what dictate the resources that are made available to households and the ways by which they can be allocated. Basic societal

causes can include anything from the political, social and economic situation in the country to its effects on income, employment or lack thereof, and availability, accessibility, and price of foods. Basic causes make way to underlying causes, which affect communities and households. The knowledge level and attitudes of household members affect their choice of foods, access to food, and childcare practices. Household-level coping in response to external shocks can then determine the adequacy of dietary intake and probability of disease at the individual-level. This study is concerned with the relationship between basic causes, namely income poverty and food prices, the underlying causes, specifically household food insecurity and the risks that heterogeneous household coping mechanisms pose to children's nutrition.

WFP Coping Strategies Index (CSI)

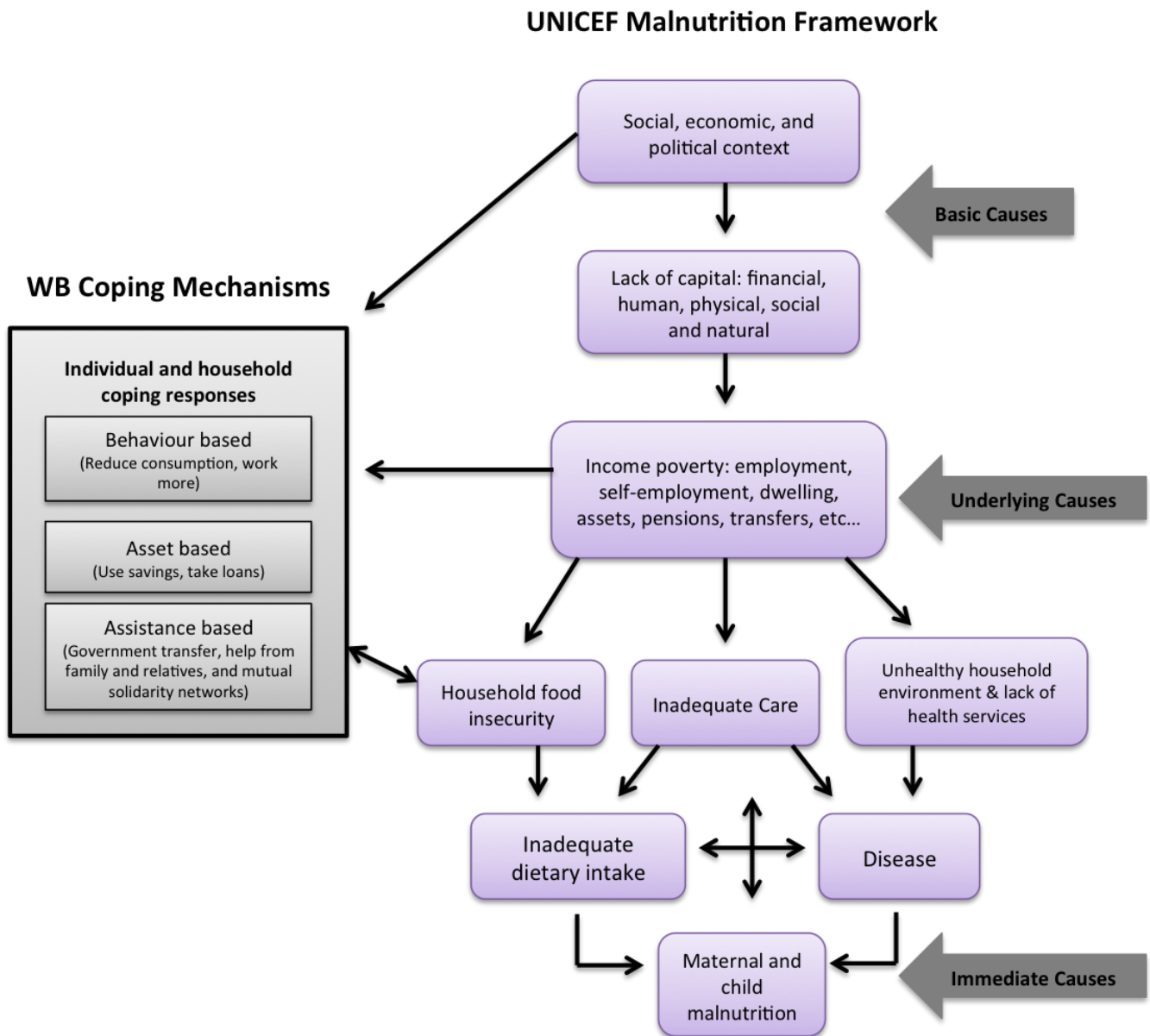
In investigating the different coping strategies, this study will refer to the model used in the World Food Programme's Coping Strategies Index (CSI), an indicator of household food insecurity. Although the CSI uses numeric scores and quantitative measures to assess the level of food insecurity in a household, this study will only draw on the qualitative aspects of the model (Maxwell and Caldwell, 2008). The model is based on the basic premise that when people do not have enough to eat, they employ various coping strategies or behavioural responses in order to limit the negative impacts of sudden shocks to their environments (*ibid.*). Maxwell and Caldwell (2008) report that previous assessments carried out using the CSI have presented four typical consumption coping strategies that households use when faced with food insecurity; Households may change their diets, resort to short-term income-enhancing strategies such as borrowing or purchasing on credit, reduce the number of people they have to feed, or ration food, by

either reducing portion size or number of meals or favoring certain household members over others (ibid.). The model assumes that the primary decision-maker in a household is usually a woman and claims that the more people have to “cope”, the less food secure they are considered (ibid.).

World Bank Coping Mechanisms

In order to classify and analyze the various coping mechanisms, this study will refer to the conceptual framework used in the World Bank’s *Living Through Crises* publication. The framework, which follows a similar progression as the UNICEF model, makes the distinction between three major categories of coping: behaviour-based – changes related to consumption and employment, asset-based – use of savings or loans, and assistance-based – resorting to family, friends, community solidarity networks or government transfer (Heltberg *et al.*, 2012).

Figure 5: Adapted Conceptual Framework



Source: Developed by the author based on the UNICEF Malnutrition and WB Coping Mechanisms Frameworks

IV. COPING STRATEGIES AMONG THE POOR: A REVIEW OF THE LITERATURE

This chapter provides an overview of current literature on behavioural coping strategies – whether food or non-food related – in times of crises as they relate to food security. The first section provides a general understanding of current dietary trends that have emerged as a result of food price increases. Trends and themes such as the double burden of malnutrition, the urbanization of poverty and food insecurity, common coping mechanisms, dangerous eating behaviours, intra-household distribution and livelihood diversification will be discussed. The second section covers country-specific examples, namely households in developing countries, coping strategies employed during food crises and what authors have argued in terms of their affect on household food security. The third and final section identifies gaps in the current literature and ways by which this study intends to address some of them. The comparison was made between developing countries with Human Development Indices comparable to Egypt, which as of 2013 had a Human Development Index (HDI) of 0.662 (Malik *et al.*, 2012). The HDI, used by the United Nations Development Programme (UNDP) combines three indices, life expectancy, education and income, to come up with a consolidated score for each country. Using the HDI allowed for parallel comparisons to be made in order to avoid misleading results.

Current Dietary Trends

Rising urbanization in the developing world has led to a conflicting relationship, one characterized by a shift toward high obesity rates and noncommunicable diseases in the midst of populations that still suffer from undernutrition and poverty-related diseases, what the world has come to know as the “double burden of malnutrition” (Popkin, 2000). Recent findings have shown that urban residence is correlated with a heightened risk of obesity (Galal, 2002) where obesity was twice as prevalent in urban areas in relation to rural areas of China and Indonesia and six times as prevalent in urban areas of the Congo (Popkin, 2000). According to a 2006 study examining the double burden of nutrition in six countries, urban populations are shifting from primarily plant-based diets to diets with greater intake of meat, dairy, animal fats and vegetable oils (Kennedy, Nantel & Shetty, 2006). Hawkes (2007) claims that the second most important global nutritional trend apparent from the 1980’s through to the 2000’s is the rise in the proportion and absolute number of people who are overweight or obese. Overweight and obesity are increasing in urban areas of many developing countries such as India, where one-fifth of all children in New Delhi have been reported to be either overweight or obese.

Households in lower-income countries are now able to afford a much larger proportion of energy from fat than they could in the past, even at a constant Gross National Product (GNP) (Popkin, 2003). In addition to rapid urbanization, dietary shifts were attributed to reduced prices, whereby authors have found that diets high in fat were much more affordable than they were 30 years before the study was conducted (Kennedy, Nantel & Shetty, 2006). As Drewnowski and Darmon (2005) found in a study of food price structure, sweet high-fat foods provide the most dietary energy at the lowest cost. Popkin (2003) argues that modern-day societies in developing countries have adopted

Western-style diets, characterized by high consumption of saturated fats, sugars, refined foods and low consumption of fiber. Rates of overweight in 2003 in developing countries such as Mexico, Egypt and South Africa were either equal to or greater than those in the United States.

Verpoorten *et al.*'s (2013) study on self-reported food insecurity of more than 50,000 people in 18 Sub-Saharan African countries between 2005 and 2008 revealed that although rural dwellers benefited from high food prices as a result of agricultural accessibility, urban dwellers were negatively impacted. This difference was especially strong for groups who were already severely food insecure, with a reported increase in food insecurity of 7.8 percent in urban areas in relation to a decrease of 9.2 percent in rural areas (*ibid.*). The findings were consistent with the majority of studies reporting that the food insecurity of urban households is more sensitive to food price fluctuations (*ibid.*). Brinkman *et al.* (2010) found that the larger the proportion of total expenditure spent on food, the greater the consequent effects of food price changes and in turn, the greater the importance of affordability on household consumption patterns and nutrition. The consequences of such changes are most felt by households in low-income, food-deficit countries where studies have found that a 50 percent rise in staple food prices translates to a 21 percent increase in total food expenditure (Darnton-Hill & Cogill, 2010). On the opposite side of the coin, data from the 2011 Gallup World Poll, a survey on self-reported food security in the developing world over the period 2005-2010, indicated that in spite of variation across countries, food insecurity decreased drastically from 2005 to 2008 (Verpoorten *et al.*, 2013). However, according to Verpoorten *et al.* (2013) a major limitation of the study was its use of aggregate data, providing only one

figure for each country in the sample, disregarding the distinction between urban and rural areas, for example. Headey and Fan (2008) concluded that the relationship between rising food prices and welfare depends on the number of vulnerable within a population and whether these groups are net buyers or sellers of food.

Although there have been emerging epidemics of diabetes, hypertension and coronary problems – all diet-related chronic illnesses – (Popkin, 2000) malnutrition among urban poor in developing countries dating back to the 1990's has increased their risk of infectious diseases such as diarrhoea and measles (Stephens, 2000). Past as well as recent studies are in agreement that problems such as hunger, malnutrition and poor nutritional status were further exacerbated in 2007 and 2008 as a result of high food prices (Brinkman *et al.*, 2010).

Authors argue that when faced with financial difficulties, households already considered to be food insecure have been found to employ nutritionally detrimental and sometimes dangerous coping strategies. Employing regression analysis using food consumption scores, Brinkman *et al.* (2010) found that with rising food prices, dietary diversity, quality and quantity of food decline, most notably in the poorest and most vulnerable areas. Households have been found to respond to food price increases by adopting rationing strategies and changing dietary habits, namely, purchasing cheaper calorie-dense but nutritionally inadequate foods and decreasing intake of certain food groups (WFP, 2013). Previous research has found that dietary quality and diversity are the first line of defense when external shocks present themselves. Diets begin to exhibit reduced diversity, decreased nutrient intakes and inequities in food distribution at the household-level (Darnton-Hill & Cogill, 2010). The most common behavioural responses

to rising food prices, as shown in the World Bank's study of seventeen countries, were reducing food quality and reducing the number of meals (Heltberg *et al.*, 2012).

Stamoulis *et al.* (2004) found that dietary changes included reduced intakes of complex carbohydrates and fibers – necessary for optimal digestion – and reduced fruit and vegetable intakes. Stamoulis *et al.* (2004) found that urban diets were higher in sugar and salt content and contained larger portions of meat products than rural diets. Vulnerable households often resorted to foods that would satisfy their hunger for longer periods of time with little or no regard to nutritional content, which can potentially increase their susceptibility to illness, exacerbate poor academic performance and lower productivity (Stamoulis *et al.*, 2004). In Bangladesh and Zambia, two countries characterized by severe food insecurity, study respondents frequently complained of weakness, dizziness and lack of energy (Heltberg *et al.*, 2012).

Darnton-Hill and Cogill (2010) found that although diets change drastically, staple food consumption often remains constant, with exceptional cases demonstrating greater consumption of staple foods. Groups most affected by decreased quality of diets were those with the highest nutritional requirements, including infants and children, pregnant and lactating women and chronically ill individuals (Brinkman *et al.*, 2010). In a number of the countries surveyed in the WB study titled *Living through the Crises*, youth were reported to be most vulnerable to food price fluctuations (Heltberg *et al.*, 2012). Additionally, female-headed households were found to be at greater risk in the face of food price increases since an even larger portion of their income is spent on food (Cohen & Garrett, 2010).

Although the façade of food security may exist at the household level, unequal distribution of food within the household can leave certain individuals severely malnourished (Cohen & Garrett, 2009). Authors have noted that mothers especially are at a greater risk of poor nutrition and food insecurity due to their tendency to often sacrifice food when it is scarce, with males – both young and old – consuming larger shares than females. In areas of East Asia, some adults reported skipping meals to allow for their children to eat (Heltberg *et al.*, 2012). Although sometimes both parents prioritized their children’s eating over their own, this prioritization was less common in families where men worked in physically demanding environments (*ibid.*).

Coping strategies discussed by authors did not only involve food-related mechanisms but also asset-based and assistance-based methods of coping. “Livelihood diversification” was especially prevalent among women and often involved low-return alternatives in efforts to deal with economic crises – what the authors refer to as the “gendered dimensions of crisis coping” (Heltberg *et al.*, 2012). The authors found that economic hardship coupled with rising food prices forced women to shift from non-paid domestic labor to regular work, most often in the informal sector. This caused them a great deal of stress since they often worked long hours away from their homes and left children under the supervision of older siblings (*ibid.*). Women in Bangladesh, for instance, began to gather and sell spoiled or rejected vegetables, a line of work that emerged in response to a rising demand from lower-middle-class customers who bought such vegetables as cheap alternatives to fresh produce (*ibid.*).

In light of increasing food prices in 2010, the World Health Organization’s Director General of Health expressed her concern, exclaiming, “The world already faces an

estimated 3.5 million deaths from malnutrition each year. Many more will die as a result of this crisis” (Christian, 2010). Economic crises are likely to decrease intakes of vitamin-A rich foods and thus increase the risk of vitamin A deficiency (ibid.), a problem already faced by many developing countries. Cohen and Garrett (2010) found that if income remains constant, a 50 percent increase in food prices leads to a reduction of 30 percent in iron intake, which poses serious threats to health and academic performance. A striking assertion by Bloem *et al.* (2010)– one that policy makers must seriously take into consideration – is that current food, fuel and financial crises have arguably and will most likely continue to undo a large share of the progress made in achieving the Millennium Development Goals (MDGs). In 2009, the WFP claimed that higher food prices would set back any progress made with the MDGs by *at least* seven years (Clapp & Cohen, 2009).

The World Bank study on Bangladesh revealed that social assistance was inadequate in comparison to people’s needs and was insufficient in meeting new demands that arose as a result of the financial and food crises (Heltberg *et al.*, 2012). Common to almost all of the countries were strategies such as reducing non-food consumption, working more, and seeking alternative sources of income. Loans represented a strong coping channel but the lenders were different depending on the country in question (ibid.). In their case study of Kazakhstan, Heltberg *et al.* (2012) found that in response to the economic and food crises that occurred in 2008, households coped by purchasing less food, buying products on credit or removing nonessential expenses such as new clothes. However, respondents claimed that the crises had strengthened social and community cohesion since households had to rely on each other (ibid.).

Helberg *et al.* (2012) argue that coping responses follow a trajectory, going first through an initial wave of coping – incurring debt or reducing the quality of food – and then through a second – selling assets or increased competition in the informal sector. So, if and when national economies start to recover, the poor are still in the second phase of coping, in response to the negative impacts incurred from the first (*ibid.*). Studying the poor’s response to crises revealed two important things: 1) social protection schemes are essential and 2) social assistance programs often suffer from low generosity, poor targeting, and in some instances, an inability to sustain pre-crisis initiatives (*ibid.*).

Country-Specific Studies

Country studies on the coping strategies of households show similar trends relating to the adoption of energy-dense foods and the elimination of nutritious foods and meat products accompanied by declines in nutritional status of vulnerable groups. In his study on the impact of food inflation on poverty across various areas of the Philippines, Fujii (2013) found that the “poorest of the poor” were hardest hit by food inflation. According to Fujii (2013), when food prices rise, substitution between food items was most difficult for the poor than it was for any other group since they were already consuming low, if not the lowest, quality food and therefore, had limited alternative options. In Cambodia, in response to a 100 percent increase in rice prices between 2007 and 2008, poor urban households were most negatively affected, with 12 percent of Cambodian households reported to be food insecure in 2008, most of which were urban female-headed households (Cohen & Garrett, 2010).

This trend is quite clear from analysis of data collected in Bangladesh between 1992 and 2000, where Bloem *et al.* (2003) found that when rice prices rose, rice

consumption remained constant but rates of underweight children increased. This phenomenon was attributed to the fact that a larger share of household expenditure was devoted to rice purchases while a lower share to non-rice commodities. This led to a negative impact on diet quality and diversity and thus had serious health implications. Data collected between 2000 and 2005 showed that Bangladeshi households that devoted higher expenditures to rice purchases as opposed to non-rice foods faced an increased risk of child stunting—low height-to-age ratio—and long-term caloric deficiency in mothers (Klotz *et al.*, 2010). In 2008, studies carried out in Dhaka, Bangladesh revealed that poor households eliminated one daily meal and almost completely eliminated the consumption of meat, fish and eggs in efforts to cope with higher food prices (Cohen & Garrett, 2010).

Similar to studies carried out in Bangladesh, Sari *et al.*'s analysis of data from Indonesian households reaffirmed the relationship between high food prices, increased expenditure on rice in relation to non-rice commodities and consequent decreases in dietary diversity followed by increased odds of child stunting and malnutrition (Bloem *et al.*, 2010). Alternate studies found that the economic crisis that occurred in Indonesia in the late 1990's was the cause of increased anemia in poor urban children and data collected later between 1999 and 2003 revealed that the risk of child stunting increased during this period due to higher expenditure on non-grain, animal-source foods (Keiss *et al.*, 2001) or as other studies have asserted, due to reduced consumption of “high quality foods” (Darnton-Hill & Cogill, 2010). Similarly, the currency devaluation in Congo in 1994 and the price hike in imported staple foods that ensued, led to increases in rates of

wasting – low weight-to-height ratio – among mothers and rates of low-birth weight infants and stunted children (Darnton-Hill & Cogill, 2010).

Studies have revealed that aside from seeking alternatives to higher priced foods, some households even resorted to eliminating certain foods or meals completely. Surveys carried out in parts of West Africa by Oxfam and Save the Children revealed that when food prices rose, 33 percent of respondents reduced the quantities of food they consumed and 22 percent reported eliminating full meals or removing high-priced foods, even if they happened to be more nutritious (Cohen & Garrett, 2009). In the World Bank's study on the effects of the economic crises on vulnerable workers in Cambodia, although all households claimed they were actively trying to meet their children's nutritional requirements, many households had completely eliminated fruit from their diets and replaced meat with pork fat (Heltberg *et al.*, 2012). A study conducted in Cambodia revealed that over 50 percent of respondents cut back on food consumption in response to food price increases (Cohen & Garrett, 2010).

The relationship between higher food prices – particularly of nutrient-dense foods – and household expenditure on food has been shown to play a major role in the coping strategies adopted by households. Consumption data from Guatemala City in 2008 found that a balanced diet consisting of all micronutrient requirements cost almost twice as much as a diet predominantly made up of staple foods and missing essential nutrients (Cohen & Garrett, 2010). According to von Braun (2008), the price of a corn tortilla-based diet consisting of key micronutrients is almost double the price of a non-nutritious tortilla and vegetable oil-based diet. Domestic and global shocks that led to a doubling of the price of wheat flour and other staple foods were found to pose serious threats to the

welfare of low-income Afghani households who have been reported to spend a large share of their household budgets on food (D'Souza and Jolliffe, 2013). As a result, 30 percent of the Afghani population falls short of their daily dietary requirements and approximately 60 percent of children suffer from chronic malnutrition.

Survey results from India in 2001 confirm the increasing prevalence of malnourished and undernourished households in urban areas (Stamoulis *et al.*, 2004). In Alem and Söderbom's (2011) study on the effects of the 2008 food price shock on urban households in Ethiopia, the authors found that increasing food prices was the most commonly referred to shock in the period 2004 to 2008 (94 percent), with 89 percent of respondents considering it to be the most instrumental shock. The authors found that poor urban households spent a larger share of their food budgets on cereals, which exhibited high rates of inflation and that the most commonly used coping strategy in the face of food price shocks was decreasing meal quantities (36 percent). The evidence showed that households headed by a casual worker and households with low assets constituted the most vulnerable to food price shocks.

Education was found to play no role in the coping strategies employed by such households (Alem & Söderbom, 2011). However, a study carried out in Colombia revealed that education plays an important role in how families cope with rising food prices (Rodriguez-Takeuchi and Imai, 2013). Families with heads of households that had higher educational levels were found to be less affected by price increases (Rodriguez-Takeuchi and Imai, 2013).

Literature on the topic has also shown that households sometimes even resort to dangerous behavioural coping strategies to food price hikes and financial shocks. The

increasing prevalence of overweight and obesity is part of the previously discussed double burden of malnutrition, whereby studies conducted in Brazil found that the prevalence of households with both overweight and underweight individuals was 11 percent (Popkin, 2000). Studies carried out in Guatemala have also revealed households that suffer from the double burden of malnutrition, whereby 16 percent of stunted children were found to have an overweight mother (Hawkes, 2007). Such trends can be attributed to dietary changes families adopt vis-à-vis food price fluctuations and food security challenges (ibid.).

Empirical evidence has shown that smaller and poorer households spend more on pre-cooked foods as a result of what seems to be an abandonment of traditional time-sensitive food preparation methods (Stamoulis *et al.*, 2004). Authors Cohen and Garrett (2009) also found that when food and cooking fuel costs rose, consumption of street foods increased since the prices of pre-cooked street foods were found to increase at slower rates. This trend poses additional health risks to consumers due to poor infrastructure, inadequate vendor hygiene and poor safety regulations, or lack thereof – characteristics common among food outlets in developing countries. Studies have found that one processed meal from a street vendor or retail outlet can constitute 75 percent of an individual's required salt intake (Stamoulis *et al.*, 2004). A survey carried out in Accra, Ghana revealed that households in the lowest income category consumed 31.4 percent of their caloric intake outside the home – more than any other category (ibid.). In response to the global food crisis in 2008, women in Yemen reported using and encouraging their husbands to use “*qat*”, a drug and oral stimulant believed to suppress the appetite (Heltberg *et al.*, 2012).

Study Contribution to the Literature

Most research on the relationship between rising food prices, household coping strategies, and food security was carried out during the global food crisis, between 2006 and 2009. However, recent trends have shown that food prices in Egypt have been gradually increasing since 2009 and have most recently exhibited shocking rates of change, namely after the January 25 Revolution. The limited research carried out in Egypt after the global food crisis has either focused primarily on rural areas or has been dominated by quantitative studies – ones which lead to sweeping expressive conclusions but are limited in their scope and thus fail to address the specificity and case-by-case nature of the topic.

As Garrett (2000) asserts, developing countries are not just going to “urbanize themselves out of poverty” but rather, experts and governments must shift their focus on food insecurity and malnutrition from rural to urban areas. As duly noted by the Food and Agriculture Organization (2011), “The nutritional well-being of a population is a reflection of [a] society’s social and economic performance.” Also, as experts from member states of the World Health Organization’s Eastern Mediterranean and FAO’s Near East Regions concluded at the FAO/WHO Technical Consultation on National Food-Based Dietary Guidelines (FBDG), nutrition is becoming one of the most significant modifiable determinants of chronic disease (2006). Dietary habits of different factions of a population must be regularly monitored and compared in order to formulate sound dietary guidelines and health and food policies (FAO/WHO, 2006). However, the Food and Agriculture Organization in 2009 reported that despite large investments in the food and agriculture sectors of developing countries, governments remain weak in their

capacities to monitor food security and nutritional status of the most vulnerable groups in society.

V. COPING STRATEGIES AMONG THE POOR IN EGYPT: FOOD PRICES AND FOOD SECURITY

The following chapter discusses the desk review, which examined secondary data sources focused predominantly on Egypt and the topics of food prices, urbanization and the relationship between food prices and food security. This section will also discuss previously conducted research in Egypt as it pertains to household food security in times of financial stress and food crises.

Food Prices

Data from the 2011 Egypt HIECS showed that 74.7 percent of households agreed that the most significant shock they had been subject to was a rise in food prices (WFP, 2013). Although the price hikes of the 2008 global food crisis were unlike any others seen before, most analysts do not believe that prices will return to pre-crisis levels between now and 2020 due to impacts of climate change and increasing demand for energy and cereals (Cohen & Garrett, 2010). The World Bank has also predicted that regardless of the extent to which food prices fluctuate, they will remain high until at least 2015. Studies have further shown that a 10 percent increase in food prices, could potentially push an additional 5.1 percent of the Egyptian population into poverty, 2.7 percent of which would be pushed into extreme poverty (WFP, 2013). Soaring food prices in 2008 during the global food crisis have already severely impacted the cost of the minimum food basket – up by 47 percent in the span of three years –, which increased the rates of extreme poverty at the national level by an average of 20 percent (FAO, 2009).

In addition to global strains on food prices, Brinkman *et al.* (2010) claim that international prices do not even translate into local prices on “a one-to-one basis” but rather, that local prices are also influenced by domestic conditions such as the percentage of imported food and government taxes or subsidies. In 2008, Egypt’s total subsidy bill exceeded public spending on education and health combined, yet factors such as geographical remoteness, poor targeting and unrealistic eligibility criteria, as in the case of the ration card system – where many illiterate poor do not possess the required national ID card – have led to suboptimal results. A survey carried out in 2008 reported that only 20 percent of highly vulnerable Egyptian households were benefiting from social assistance transfers (FAO, 2009). Cohen and Clapp (2009) argue that in developing countries especially, domestic prices have remained high despite stabilizing or even decreasing international prices of food staples. At the domestic level in Egypt, food inflation was found to have increased by 47 percent in the period between 2005 and 2008 in comparison to a 31 percent overall increase in the global Consumer Price Index (CPI) (Ghoneim, 2012).

Factors such as inflation, exchange rate depreciation or the removal of subsidies have all been found to contribute to the rise of food prices (Garrett, 2000). In 2008, it was reported that the import bills of low-income food-deficit countries rose by almost 40 percent (Darnton-Hill & Cogill, 2010). The FAO Country Brief on Egypt stated that most countries in North Africa are net cereal importers, which presents a serious concern when coupled with increasing food prices. Self-reported food insecurity was found to be much higher in response to food price increases in net food importing countries as opposed to net food exporting countries (Verpoorten *et al.*, 2013). As Rosen and Shapouri (2008)

discuss, the USDA Economic Research Service's Food Security Assessment model has identified the countries that are most vulnerable to increasing grain prices by using a combination of data on grain imports and daily caloric consumption. Egypt has been placed among the 70 most vulnerable low-income countries (Rosen and Shapouri, 2008).

Further evidence of such vulnerability is that high food and fuel prices that ensued as a result of the global food crisis in 2007 and 2008, remained high in Egypt and pushed even more Egyptians into poverty (WFP, 2013). According to the Status of Poverty and Food Security Report published in 2013 by the WFP, another rise in food prices came along in late 2010 and this in addition to declining economic performance dating back to the January 2011 revolution has led to an unwavering plateau in domestic incomes. Poor economic performance and stagnant incomes can together lead to poor health, a volatile workforce, and inadequate access to capital, all of which leave urban poor with insecure, temporary and informal employment opportunities (Frankenberger, Garrett & Downen, 2000).

Urban Areas

In the 2008 Inter-Agency Assessment Mission hosted by the Government of Egypt and under the umbrella of the FAO-led Initiative on Soaring Food Prices, officials urged for a special focus on rural areas of Upper Egypt, where the detrimental health impacts of food price increases and lack of employment were thought to be most prominent within these areas (FAO, 2009). According to a 2008 World Bank survey, households in Upper Egypt had the highest percentages of poverty, food insecurity and malnutrition (FAO, 2009).

However, what was once perceived as solely a rural issue of concern in Egypt, food security is becoming a pressing issue in urban areas as well. Although Assiut and Sohag

have almost always been the most *relatively* food insecure governorates, pockets of poverty in urban governorates and Lower Egypt have recently exhibited unprecedented rates of transient food insecurity, defined as a short-term or temporary inability to meet minimum food requirements (WFP, 2013).

The urbanization phenomenon has been apparent since the early 2000's and has continued until the present day. More and more people in the developing world are moving to urban areas and as Garrett (2000) asserts, by 2020, more than half of Africa and Asia's populations will live in urban areas. The urban population, which was around 2.9 billion in 2000, is forecasted to reach 4.9 billion by 2030 with most of the increase showing up in cities of developing countries (Stamoulis, Pingali & Shetty, 2004). In already highly urbanized regions such as Latin America, the geographic focal point of poverty has moved from the countryside to urban centers (Garrett, 2000). Argenti (2000) has argued that as urban expansion continues, the costs of transporting, supplying and distributing food will likely increase and in turn, increase the number of food insecure urban households. As Cohen and Garrett (2010) argue, "Rapid urbanization is pulling poverty into cities."

An estimated 43 percent of people in Lower Egypt and 25 percent in Greater Cairo have poor access to food (IFPRI & WFP, 2013). However, Greater Cairo was recently reported to have the highest absolute number of people with poor access to food (WFP, 2013). Hawkes (2007) argues that processes attributed to globalization may be encouraging the uneven development of dietary habits between high and low-income groups. Where more dynamic trade and marketplace policies allow higher-income groups to adopt healthier diets, lower-income groups will either continue to have insufficient

access to food or to transition towards “poor quality obesogenic diets” (Hawkes, 2007).

According to Hawkes (2007, p. 19),

Nutritional inequities are also social inequities: as the wealthier grow larger, the poorest of the poor still either lack food or, where energy availability is sufficient, consume monotonous diets low in micronutrients.

Urban poor are more dependent on food purchases and are hence more vulnerable to food price fluctuations since market purchases constitute a larger portion of their expenditures when compared to their rural counterparts who are most often net food producers (Darnton-Hill & Cogill, 2010). More than 97 percent of poor urban households in the world and 95 percent of those in Egypt are net food purchasers (Cohen & Garrett, 2010). Rising food prices further the vulnerability of poor households by reducing their already limited purchasing power. Those living in poverty have little opportunity to adapt in the midst of increasing prices and stagnant wages for unskilled and informal labour (von Braun, 2008). In addition to currently occupying a larger portion of policy-makers’ agendas, urbanization is a key driver in ensuring reliable food supplies for future generations since this phenomenon comes with increased demand for food among growing urban populations and in turn, increased need for rural production and development (FAO, 2011).

An estimated 20 percent of Egyptians in urban areas and 24 percent in rural areas are considered food insecure (Ghoneim, 2012). Current research carried out by the WFP (2013) reveals that food expenditure accounts for 40.6 percent of an average household’s expenditure and 51 percent of the expenditure of those from the lowest quintile, which deems this category the most vulnerable to food price shocks. Studies carried out by the International Food Policy Research Institute (IFPRI) on 20 developing countries showed

that extremely poor urban households devoted anywhere from 48 to 74 percent of their household budgets to food purchases. In the United States, on the other hand, low-income urban residents were found to devote around 12 percent of their household budgets to food (Cohen & Garrett 2009). Ali and Adams (1996) found that households from the poorest income quintile devote large shares of their household expenditure to cheap, calorie-dense foods such as cereals, subsidized flour, *baladi* bread and beans (Ramadan & Thomas, 2010). According to the 2010/2011 HIECS data, this trend is still clearly apparent today given that almost 35 percent of Egyptians suffer from poor dietary diversity, whereby a positive relationship between poverty and poor dietary diversity and an overreliance on cheaper, calorie-dense and nutritionally inadequate foods has been found (IFPRI & WFP, 2013).

Studies conducted by the WFP (2013) in Egypt reported that in the face of food price increases, 88 percent of poorer households purchased less expensive food, 72 percent reduced intake of meat, poultry and fish, and 41 percent decreased meal portions. Hussein *et al.*'s 1989 study of household dietary changes in response to increasing food prices – consisting of 350 households in Cairo, Assiut, and Beheira – showed that households mainly coped by purchasing less expensive foods and decreasing meat consumption (Hassan, Moussa & Ismail, 2006). Cohen and Garrett (2009) argue that urban consumers shift from root crops – subject to little international trade – to foods such as rice and wheat, which are common internationally traded commodities. As a result, urban poor are more vulnerable to global food price fluctuations.

Government budgets in developing countries have been recently under increased pressure which Brinkman *et al.* (2010) argue could lead to reduced expenditures on social

welfare programs and government services such as subsidization or heightened taxes on food and fuel. In Egypt, given the 74 percent consumption rate of subsidized bread by poor households, a removal of bread subsidies would have a detrimental impact on poverty rates and food security of dependent households (WFP, 2013). Import vulnerability coupled with depreciation, as in the case of Egypt, can have serious implications on local commodity supplies and in turn, commodity prices (IFPRI & WFP, 2013). Such pressures can lead to a removal or reduction of subsidies, a prospect that has already been discussed by the Egyptian government (IRIN, 2013). Removal of food subsidies would lead to an expenditure shift that could potentially push national poverty rates from approximately 25 to 34 percent (IFPRI & WFP, 2013). A study carried out by Ibrahim and Eid in 1996 predicted that if food subsidies were to be removed and free market prices applied, there would be a drastic reduction in the consumption of animal proteins, particularly among vulnerable groups (Hassan, Moussa & Ismail, 2006).

The first national food intake survey was carried out in six Egyptian governorates in 1981 by the Egyptian National Nutrition Institute (NNI) and repeated again in 2000. Results revealed that more than 50 percent of Egyptian households consumed a diet consisting primarily of wheat bread, sugar, ghee or butter, vegetable oil, milk and tea on a daily basis (Galal, 2002). Galal (2002) found that almost all households reported intakes that were in line with daily energy and nutritional requirements whereas more than half of the households exhibited dietary deficiencies in iron, calcium and vitamin A intakes. Comparing the data from the 1981 and 2000 surveys revealed an increase in meals eaten outside the home, especially for urban households. The comparison found that per capita caloric intake decreased from 3057 kcal in 1981 to 2460 kcal in 2000, consumption of

cereals and sugars decreased while consumption of meats and dairy products increased (Hassan, Moussa & Ismail, 2006). In comparing surveys carried out in 2000 and 2004, researchers found that mothers' energy intakes decreased along with all macro- and micronutrient intakes, particularly those derived from plant proteins, animal fats and calcium (ibid.).

Another food consumption survey conducted by the Agricultural Research Center (ARC) in 1994 across five Egyptian governorates, reported the highest fat intakes in Cairo and found obesity to be prevalent at the highest and lowest levels of the socioeconomic scale (Galal, 2002). Comparing surveys carried out by the ARC in 1994 and 2002, researchers found that mothers with inadequate intakes of several nutrients decreased but high rates of vitamins A and C and Calcium deficiencies still existed amongst mothers. Prevalence of anemia also remains high among vulnerable populations such as children and mothers (Hassan, Moussa & Ismail, 2006). Excess sugar intakes were much more apparent in rural than urban areas, and particularly prevalent in Upper Egypt. Almost 50 percent of the study respondents reported animal fat intakes higher than values recommended by the FAO/WHO (ibid.).

The Relationship between Food Prices and Food Security

Nearing the end of the global food crisis, the United Nations organized an inter-agency High Level Taskforce on the Global Food Security Crisis and issued a framework for policy action. However, most policy prescriptions were directed toward rural-based food production with very limited focus on directly preventing urban food insecurity and malnutrition (Cohen & Garrett, 2009). This narrow focus proved to be insufficient given Cohen and Garrett's (2009) finding that in 12 out of 18 low-income developing countries,

food insecurity was equally prevalent in both urban and rural areas, regardless of the fact that urban incomes were generally reported to be higher. Although urban incomes have been reported to be much higher than rural incomes, this finding has been reported to be largely characteristic of the formal sector (FAO, 2011).

High food prices have negatively affected the food budgets of the poor (Webb, 2010), whereby high inflation in commodity and fuel prices has resulted in reduced food access for a large number of households in the developing world, particularly urban poor (Bloem, Semba & Kraemer, 2010). Results from household surveys conducted in nine developing countries revealed that a 10 percent increase in staple food prices impacted the lowest 20 percent on the income distribution range in urban areas most negatively (Cohen & Garrett, 2009). As revealed by the WFP and IFPRI, “pockets of poverty and food insecurity” have begun to emerge in urban areas of developing countries (2013). According to Brinkman *et al.* (2010), groups most vulnerable to high food prices are those who spend a large share of their incomes on food, are net buyers of food – buy more than they sell – and make use of poor or inadequate coping strategies. Urban dwellers have been found to purchase most of their food rather than cultivating it firsthand due to limited agricultural opportunities which are more accessible to their rural counterparts and also to purchase only small quantities at a time – as opposed to bulk, which may be cheaper –so, their food security depends largely on whether they can afford to purchase food given their incomes and existing food prices (Garrett, 2000).

Although Egypt actually experienced positive economic growth during the global food crisis along with increased consumption and decreased rates of moderate poverty, those suffering from extreme poverty increased by almost 20 percent, with high food

prices cited as the most significant contributor to this increase (FAO, 2009). As argued by Cavatorta and Pieroni (2013), economic accessibility, if not the most important, is one of the most important aspects of food security. Inadequate financial resources and inflated food prices are two dimensions that can severely limit food access (ibid.).

The World Food Programme's (WFP) 2013 Report on the Status of Poverty and Food Security in Egypt found that most households which were both poor and food insecure had uneducated heads of households who were either unemployed or employed in the informal sector on a temporary or occasional basis. Sixty per cent of those reported to be poor in Egypt were working in the informal sector (HIECS, 2013). Although Garrett's (2005) study of five developing countries in Africa, Asia and Latin America showed that urban unemployment rates are 10 percent or less, jobs held by urban poor were often found to be casual, uncertain, low-paying or informal. According to Sabry (2010), most of the urban poor in Egypt work in the informal economy, depending mostly on insufficient daily wages and suffering from harsh working conditions (ibid.). Jobs in the informal sector in Egypt have been found to put employees at high risk of injury, with wives and children having to compensate for lost income if husbands are injured and no longer able to work (ibid.). Studies carried out between 2007 and 2008 revealed that the wages of informal sector workers were not increasing despite inflated and gradually increasing food prices (ibid.). Unpredictable sources of income, high food prices and poor subsidization techniques have all been shown to pose high risks to the food security of urban poor (ibid.).

Reducing dietary diversity, one of the main coping strategies utilized by poor households in times of stress, can have adverse effects on health and underweight,

stunting, and micronutrient deficiencies can hamper the development of children and led to lifelong complication (FAO, 2011). Growth in urban poverty and food insecurity (Garrett, 2000) coupled with inflated urban food prices – often 30 percent more than equivalents in rural areas – could pose very serious risks to household health and nutritional well-being (Argenti, 2000). Although studies have shown that rates of underweight have been reduced by more than 30 percent in Egypt, the rate of overweight children is increasing and stunting along with vitamin A and Iron deficiency as well as diabetes and coronary heart disease remain major public health concerns (Kennedy, Nantel & Shetty, 2006).

In addition to studies, which mentioned coping strategies that posed health risks to households in general, many focused on the risks faced by specific individuals within a family unit. Sabry (2010) goes so far as to argue that studies which use the household as a unit of analysis may be flawed in their assumption that equal sharing occurs within a household. In Sabry's (2010) study on the incidence of poverty in Greater Cairo's slum areas, household sharing was almost completely absent from many of the households interviewed, with an example showing a male head of household spending three pounds per day on cigarettes while his daughter has had to drop out of school due to an inability to pay the fees or another giving his wife 10 pounds from an earned 30 to buy food and other household expenses and spending the rest on his own leisure.

In the early 2000's, "nutrition transitions" – characterized by the consumption of fats, sweeteners, and calorie-dense and highly processed foods (Drewnowski & Popkin, 1997) – were often traced to the influence of media, food marketing campaigns and changes in the work-leisure balance (Popkin, 2000). Nutrition transitions are a result of

coping strategies often used in efforts to mitigate or minimize the negative effects of changes in a household's external environment (Darnton-Hill & Cogill, 2010). Cohen and Garrett (2009) claim that as food prices increase, households are more likely to adjust their consumption routines by reducing food expenditure through either eating less, eliminating certain food groups or even meals, or relying on diets lower in quality and diversity than their traditional diets. Nutrition transitions have recently been traced to poverty, urbanization and food price fluctuations, with joint reports released by the UN WFP and CAPMAS (2013) reporting that an estimated 17 percent of the Egyptian population was food insecure in 2011, compared to 14 percent in 2009.

Popkin (2000) found that changes in body composition have been exhibited in the transition from preindustrial agrarian attitudes to those associated with more industrial, urban ones. Diets have evolved to include more processed and packaged foods, which are higher in sodium, saturated fats and cholesterol (FAO, 2011). Poor urban households are more dependent on cheap, subsidized and calorie-dense food sources and acquire a lower share of their energy from other food groups essential for good health (Popkin, 2000). Clapp and Cohen (2009) also report that as food prices increase, poor consumers make dietary adjustments by replacing fruit, vegetables and animal sources of protein with high-energy staple foods. Urban households especially, have been found to consume higher amounts of saturated and total fat, sugar and less fibre (Garrett, 2000). Contrary to those findings, Ruel (2000) asserts that urban diets exhibit more dietary diversity through their inclusion of more nutrient-rich foods such as meat and milk and a larger variety of fruit and vegetables (as cited in Cohen & Garrett, 2009).

In light of suboptimal healthcare and health promotion systems needed to prevent and cope with external shocks and challenges in developing countries, the FAO (2011) has advocated for initial action in minimizing the “predisposition of infants and children to develop obesity and non-communicable diseases later in life.” The World Health Organization (WHO) found that child malnutrition rates increased in Burkina Faso, Mali, Niger and Senegal in 2008, apparently as a result of the global food crisis (Cohen & Garrett, 2009). The 2008 Egypt Demographic and Health Survey (EDHS) showed that the nutritional status of children has diminished, with the rate of stunting amongst children under five years of age moving from 23 percent in 2005 up to 29 percent in 2008 (FAO, 2009). Data from the HIECS showed that across the nine surveyed governorates, anemia amongst children aged 6 to 59 months had reached an alarming rate of 50.2 percent in 2011 (WFP, 2013).

VI. QUALITATIVE RESEARCH FINDINGS

Perceptions of Nutrition, Food Prices, and Food Security

Knowledge vs. Action

Respondents' perceptions and knowledge of proper nutrition and their actual dietary practices revealed a large discrepancy, one which most attributed to difficulties in purchasing the "right" food for their children. The discrepancy was clear from a question posed by one of the mothers: "Although tomatoes are healthy and we have to eat salad and all that, what do we do if tomatoes are expensive?" Mothers noted that if food was more affordable, they would be better able to purchase foods to meet their children's dietary requirements but many argued that their household incomes were insufficient. As one mother exclaimed, "If [food] was cheaper, kids would be healthy and we would feed them everything they need – milk, eggs, and vegetables too!" Although mothers agreed that foods such as milk, cheese, eggs, and fruit were essential foods in their children's diets, most felt they could no longer fulfill their children's basic requirements. Mothers admitted that their children needed adequate intakes of foods such as eggs and milk, referring to the importance of Calcium to their growth or the essential vitamins and minerals that can be found in foods such as spinach, zucchini, and green beans, but most were not able to afford purchasing such foods on a regular basis. Such difficulties can be insinuated from the following excerpts:

But if we buy cheese for two pounds, who from the kids will eat and who won't? How much cheese do I need to buy to feed them all? Definitely not two-pounds worth! (Woman from Dwei'a, March, 2014)

Food is expensive these days so there are things we can get and other things we can't. We can't buy everything, even nutritious foods that I know my children need. My wage isn't enough for household expenses, private lessons, school fees, and everything else. (Woman from Dwei'a, March, 2014)

Mothers believed that nutritious foods all fit into one category and were interchangeable, with many picking and choosing among foods they could afford rather than thinking of them as complementary. Women believed they were fulfilling their children's dietary requirements by feeding them eggs and cheese, even if they completely eliminated fruit and fish. According to WFP Food Observatory Reports released in 2012 and 2013, meat fish and poultry were rarely consumed by vulnerable households and eggs constituted the main source of animal protein in the diet (WFP, 2012/2013). Some mothers, on the other hand, believed that meat and chicken were essential for their children's growth while others completely discounted their importance, claiming, "Not everything is meat or chicken" or "...meat is not the most important thing. I can give them a cup of milk in the morning or eggs [instead]." As another exclaimed, "Meat is not everything and neither is chicken! The most important thing is for one to live well. Why can't we [eat] fish?"

Perceptions of Food Price Increases

The majority of mothers noticed a rise in food prices, with few claiming that prices of certain foods had recently, namely during the one or two months prior to the interviews – in January – shown uncharacteristic decreases. Mothers who noticed decreases in price claimed that it was still difficult to balance their food budgets since slight decreases in some food prices were accompanied by drastic increases in others. Some women argued that whereas food prices would fluctuate in the past, recent food price increases were stagnant and not showing any noticeable decreases. Most mothers agreed that food prices

had experienced sudden increases following the January 2011 revolution. According to an employed mother whose income did not exceed 300 pounds each month and who faced extreme hardship in buying food for her children, the prices of most foods had either doubled or tripled after the revolution. As another woman noted, “Before the revolution, people would complain, yes, they were tired, yes, and there was no work, yes, but there was still some stability”. One mother claimed that, “There are some foods we can’t even buy anymore” and another distraughtly added, “It’s come to the point where we can’t even balance between the basic things we need”. There was agreement among mothers that potatoes, tomatoes, eggs, milk, meat and chicken had all exhibited price increases. Families that were eating meat once or twice every month were now only guaranteed to eat meat during the Eid ul-Adha Feast, when meat was often distributed through charitable means. These findings are in line with the WFP Food Observatory Reports which showed that starting in 2013, vulnerable households were consuming fish, poultry and meat less than once a week on average (WFP Food Observatory, 2013).

Additionally, as a result of higher food prices, mothers were no longer able to resort to coping strategies they had developed and resorted to in response to previous food price increases. One mother who previously coped by using lentils as an alternative to other pricey foods, found that lentils, which went from four to eight pounds, were no longer a low-price alternative while another argued that the one pound she previously spent on *foul* (cooked beans) for her and her children was no longer enough to purchase *foul* for her alone.

Mothers faced heightened stress in meeting their family's dietary requirements while ensuring they did not exceed their budgets or daily allowances. One mother proclaimed,

Everyone lives with however much they have. I live with how much I have. Another woman may spend 30, 40 or 50 pounds each day... But I am living within my limits. (Woman from Manshiet Nasser, April, 2014)

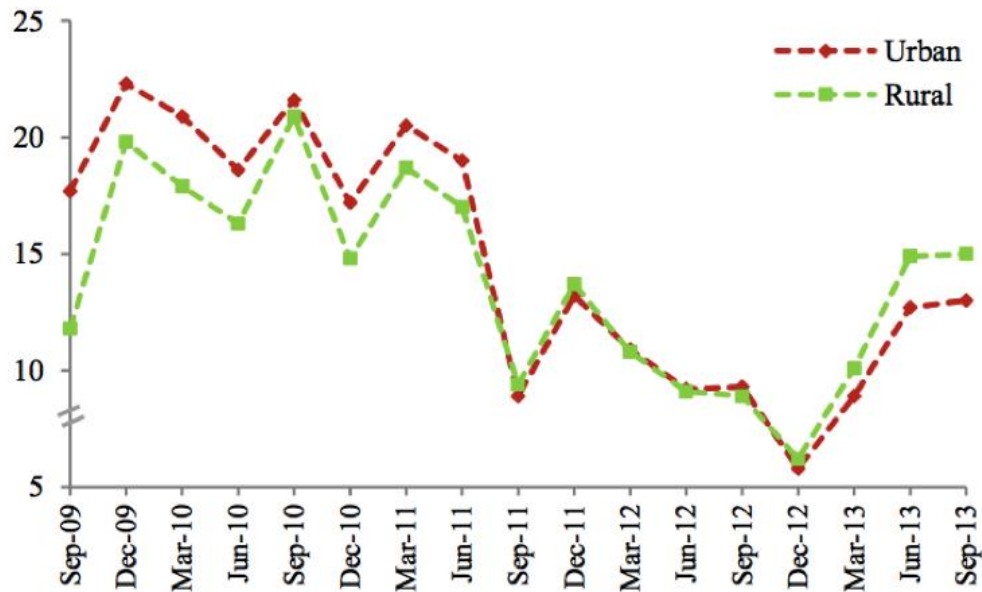
Almost all mothers claimed they were managing with however much money they had and were aware of their means and simply living within them. Some mothers, however, reported difficulty in managing their food budgets 'within their limits'. Some women claimed that their daily food allowances were not enough to allow them to buy specific foods they were used to buying on a regular basis and as a result, they had eliminated those foods completely or resorted to buying them only when they were cheaper. Where in the past mothers could go to the market with 10 pounds and purchase a relatively balanced meal for their families, they were now having to disregard the importance of balanced meals and stick to buying what they believed to be essential – most often tomatoes, potatoes, pasta, and rice. When asked how she plans to cope with higher food prices, one mother exclaimed,

What are we going to do? That's the question. Should we go beat up the vendors so that they can put the prices down? Even if I think to go to a market outside of Mansheya, how much will I pay on transportation? How will I carry the food? (Mother of five, Manshiet Nasser, April, 2014)

One mother even reported a noticeable difference between food prices in Manshiet Nasser in comparison to the countryside where her family lived. She claimed that food prices were much higher in urban centers and produce much lower in quality. Findings presented in the FAO Egypt Country Brief (2013), corroborate this claim,

asserting that food prices in urban governorates have increased more than in rural governorates.

Figure 6. Food and Beverage Price Index



Source: CAPMAS website.

The above figure shows the food price dispersion – in percentages – between urban and rural governorates. As the figure presents and as explained in the Egyptian Food Observatory (2013), where price dispersion was significantly lowered from September

2011 to December 2012, starting December 2012, the gap between the urban and rural prices for food began to re-widen.

Food Price Inflation and Incomes

Respondents believed that their household incomes were not increasing proportionately to the increases in food prices, if at all. According to a key informant who has worked in Manshiet Nasser for over twelve years, the average income ranges between 700 and 1200 Egyptian pounds. Upon being asked about how they intend to cope with rising food prices, one woman noted, “The amount of money doesn’t change but the prices do. What are we supposed to do?” while another responded, “Every day, things get more and more expensive and the incomes don’t go up”. This finding matched studies carried out between 2007 and 2008 which revealed that although food prices were increasing, wages of informal sector workers were not changing (Sabry, 2010). Mothers who reported that their husbands worked in the informal sector or on a casual day-to-day basis claimed that although they were able to meet their family’s food demands in the past, high food prices now hampered their abilities to purchase food for their families, given their insufficient and irregular incomes. Evidence has indeed shown that households headed by a casual worker are more vulnerable to food price shocks (Alem & Söderbom, 2011). Women whose husbands were working stable jobs or families where both the husband and wife were employed considered these blessings and claimed that if this were not the case, they would not have been able to manage their households’ consumption. Some mothers argued that having permanent formal jobs would cushion the blow of higher food prices, with one mother asking, “Why can’t people who are up from 6 am [every day] looking for work, be ensured a job?”

However, among these low-income women, even those who worked in the formal sector and had received raises and others who received pensions that had increased, claimed that the increases in wages and pensions were extremely disproportional to the rise in food prices – with many arguing that after workplace and government-regulated deductions, their wages had actually only increased symbolically. According to one nurse at the hospital,

They are increasing wages – by about 200 or 300 pounds. But then they go and increase food prices, so that wage increase doesn't [mean] anything. It's like it never happened. They add from the right and take from the left. (Woman from Dwei'a, March, 2014)

And when asked whether she thought wages were increasing at a similar rate to food prices, one mother stated,

The problem with public wages is that even if they are raised, they usually deduct certain things that you don't really understand. So, in the end, whatever they increase goes away as deductions. (Woman from Dwei'a, March, 2014)

Hardships, Worries, and the Future

Mothers expressed distress and concern with rising food prices, often worrying about coping and being able to provide for their children, whether now or as time progresses. As one mother effectively expressed, “Psychologically, I am tired because I feel like I can’t do it anymore.” Women expressed feeling like they were under pressure and that they were failing to meet their children’s needs. As one mother said, “But if you worry about every meal and what is missing and how to make up for it, you will probably end up not feeding them.” Many of the mothers claimed that the situation was out of their hands and when asked how they intend to respond should food prices continue to increase, most said they would pray and leave it to God. When asked how she intends to

cope with higher food prices, one woman asserted, “That is up to God. It’s not in my hands to calculate and organize. God gives others the power to help us poor people and improve our situations.” This symbolism of placing the problem on someone else’s shoulders was also clear with mothers who claimed that food prices would reportedly decrease once a new president was elected or that “they should just decrease food prices, it’s as simple as that”. Some women worried about the insecurity of their jobs and the consequences of losing them, as can be clearly deduced from one mother’s response:

Of course I worry about tomorrow. My income is 700 pounds (equivalent to US \$100 per month). It is very probable that I might not be able to work at any time and have to stay at home. I could have another baby and stay at home. In that case, there is no way his father’s income alone will be enough. My work here is not permanent so I could be asked to leave at any time. (Woman from Dwei’a, March, 2014)

Another woman expressed concern with rising food prices especially as it affected those in “[her] income group”,

But if the prices continue to rise, what are we supposed to do? It’s not easy and it won’t get easier, especially for our income group. Some people don’t feel it and it’s normal to them – whether prices go down or up doesn’t affect them. Anything that happens in the country affects us most and impacts our income.

Food Consumption

Seeking Alternatives

As one woman picturesquely put it,

Ever since January 25th, the situation has been messy. We eat and we convince ourselves that we are eating but it’s not really eating if you want the truth. (Woman from Dwei’a, March, 2014)

Most families have had to seek alternatives to their usual food purchases in efforts to cope with higher food prices. Mothers reported that their families eat meat or chicken once every two weeks or even once every month. Women were asked about the

alternative foods they have had to resort to in replacing foods they can no longer afford and many, for example, replaced meat with chicken and when their food budgets no longer allowed them to purchase chicken, resorted to chicken limbs – wings or feet – or chicken parts which are much cheaper alternatives to meat and chicken, with all mothers agreeing that they were a fraction of the price. As the month progresses and money for food gradually dwindles, mothers reported cooking meals predominantly made up of legumes, potatoes, or simple carbohydrates such as rice and pasta. The trend toward increased household dependence on cheap, subsidized and calorie-dense foods was evident in an early study by Popkin (2000) who found that poor urban households acquired a lower share of their energy from nutrient-dense foods. Additionally, foods that mothers believed to be essential and storage-worthy for difficult times were often energy-dense simple carbohydrates. As studies carried out in Bangladesh and Indonesia revealed, when commodity prices increased, rice consumption remained constant while non-rice consumption decreased and led to higher rates of malnutrition among children (Bloem *et al.*, 2003). Households often resort to simple carbohydrates such as rice, pasta and potatoes, based on a belief that such foods provide a quick way to satiate hunger and remain full for long periods of time. However, in the absence of essential micronutrients found in fruit and vegetables, children are at a higher risk of nutrition-related diseases.

As a result of an inability to purchase meat due to its high price, some mothers noted that there were certain foods they could no longer cook such as spinach since “the problem with spinach is that you can’t eat it without meat”. Cultural tendencies and dietary traditions did not allow them to make certain dishes – which may have otherwise been nutritious alternatives to meat – in the absence of meat.

One woman reported, “I buy chicken limbs instead of meat or chicken... We only buy meat once a month and we eat it that one day and that’s it.” One of the respondents fed her kids boiled sheep’s head and tongue as substitutes for meat, claiming that she would buy a tongue that was 3 kilos, divide it and place the portions in the freezer to take out and cook with tomatoes and onions. Tongue and sheep’s head are considered food for the poor and represent a low-cost alternative to meat. In line with the findings of the present study, in a study investigating the extent to which cost constraints impact the food choices of French women from low-income households, Darmon *et al.* (2006) found that women increased their intake of offal while decreasing that of meat. As another mother asserted,

I’ll go to the chicken seller and I’ll buy limbs or chicken wings, depending on my economic conditions. But at least I make the kid feel like they are eating some sort of meat. I could buy imported liver and cook it with some onions and peppers and that’s a meal right there. (Woman from Dwei’a, March, 2014)

However, chicken parts are much fattier than the flesh of the chicken and thus pose added risks when consumed in high quantities. A few women claimed that although chicken limbs were a much cheaper alternative to chicken or meat, they did not like eating them. One mother claimed that “limbs [are] full of skin and fat”. When asked how much cheaper chicken limbs were, another woman responded,

Yes, a lot! I think a kilo is for around 7 pounds [now]. So, if I get limbs and make a meal, it won’t cost me more than 20 pounds, total! Most people here cook chicken limbs but I stopped, to be honest. When I cook it, I just feel uncomfortable. I would rather eat old cheese than chicken limbs. (Woman from Manshiet Nasser, April, 2014)

Families also had to replace or even completely eliminate meat, poultry products and other foods which they were originally able to purchase, before inflation in food prices. Some mothers were forced to eliminate essential foods such as milk and eggs in

order to purchase other foods. As one mother asserted, “You’ll have to get at least 8 eggs – every kid gets two – just so they get full,” so purchasing eggs was not considered worth the trouble. Another mother explained,

There is a market here, for example, that sells pigeons and duck and that kind of stuff. I am always tempted to buy something from there but I just look at the things and then I continue to walk home. Before the revolution, I could get duck every now and then but now, if I want to get duck I need 100 or 120 pounds and it doesn’t even feed 2 people! (Woman from Manshiet Nasser, April, 2014)

Mothers cooked legumes such as lentils and beans on a regular basis in efforts to replace meat products. Some families went through periods when they would only be able to afford and eat one or two types of foods such as one family whose mother noted, “One time, my kids and I spent 10 days eating lentils. Some people had given us Ramadan bags and we had lentils left over from them. We only had lentils and old cheese to eat...” One mother even claimed that since lentils were now more expensive, she would add pasta to the lentil soup to make it heavier and to ensure that it would be enough to feed her entire family without having to buy more. Some mothers cooked *koshari* – a traditional Egyptian dish predominantly made up of simple carbohydrates – and *me’geza* – a mixture of rice, lentils and tomato sauce – in efforts to satiate their children’s hunger without having to buy meat or chicken. Mothers expressed dissatisfaction with having to feed their children meals made up almost completely, if not entirely, of legumes and simple carbohydrates. Most mothers associated proper nutrition and the fulfillment of their children’s dietary requirements with the consumption of meat and meat products.

The majority of mothers purchased either imported meat or liver and very few reported purchasing them fresh since imported meat products are often much cheaper than their fresh alternatives. Although some women argued that imported meat and liver

are not as nutritious or tasteful as their fresh alternatives, they were forced to buy them. According to one mother, “Imported liver doesn’t have any nutrients! It’s not like *baladi* (fresh) liver but [*baladi* liver] is for 70 pounds...”

Instead of using store-bought oil, rice, sugar and ghee, women purchased small re-packaged portions sold in plastic bags, often sold for one to two pounds. The trend of purchasing smaller sub-divided amounts – re-packaged and sold in cups or plastic bags – on a meal-to-meal basis, was prevalent in Sabry’s (2010) study, which she argues, actually led poor households to pay more for food.

One woman explained, “There [is] also the *loose* oil that you can buy for 2 pounds— just a little amount that you can use once,” and another responded, “You can also buy small bags of ghee for 1 pound.”

Balance, Rationing and Budgets

Women admitted that making balanced meals had become more difficult as a result of higher food prices. When asked whether she thinks about providing her kids with balanced meals, one mother responded, “Sometimes, yes, when we have enough money to make balanced meals but when there isn’t money, I get what I can and that’s all”. Most mothers tried to cope by designating one day every week or two weeks – usually Friday or Sunday – to cook meat or chicken and spending the remaining days eating foods such as *besara* (pureed beans), lentils, *foul* (cooked beans), eggs, pasta and cheese. As one mother asserted,

I try to stay within a certain budget— one day I will cook lentils, another I will cook besara, and another we will eat beans with tomatoes... That’s how I divide the week for my kids. We don’t cook big meals. (Widow from Dwei’a, March, 2014)

Mothers seldom put thought into cooking balanced meals and often resorted to meals consisting solely of fried potatoes and fried eggplants, pasta and boiled eggs or pasta and fried potatoes. An overreliance on carbohydrates was evident, with most women reporting consumption of large amounts of rice, pasta, potatoes, and bread. Some mothers argued that if they were to make meals consisting of vegetables and proteins on a regular basis, they would have to stop buying milk, eggs and cheese since their budgets would not be adequate. When mothers believed vegetables to be expensive, they would simply eliminate them, as is clear from the following mothers' comments:

I took out some pasta and eggs and I'm going to boil the eggs and feed them that. My sister-in-law just told me that the tomatoes are for 3.5 pounds [today] so I won't even get them tomatoes. (Woman from Manshiet Nasser, April, 2014)

I used to make the fried pasta and cut up some tomatoes and peppers on it but today, I told myself, 'You know what? I don't need to make it like that.' So, I am just going to fry it plain and boil some eggs on the side. What am I supposed to do? Life goes on... (Woman from Manshiet Nasser, April, 2014)

When asked what she cooked for her children the previous day, one mother exclaimed, "I made some fried potatoes and fried some eggplants next to them," while another stated, "Every other day other than Sunday, I fry them some potatoes or eggplants, we eat cheese or eggs, or anything like that..."

Mothers made clear efforts to ration their household's food intake and provide nutritious meals for their children through various methods. Some mothers juiced tomatoes and placed them in plastic bags in the freezer to use smaller amounts at a time instead of having to cut fresh tomatoes to put on a salad, for instance. One mother fried rice with tomatoes for her children to eat for dinner, claiming that she was trying to provide a nutritious and balanced meal. When asked if she was able to buy cheese and milk for her children, one mother stated, "Cheese, the kilo is for 10 pounds so I buy half a

kilo and I try to make it last for the whole week”. The use of rationing strategies has been previously discussed by Brinkman *et al.* (2010) who found that as food prices increased, households adopted rationing strategies such as purchasing cheaper calorie-dense but nutritionally inadequate foods and decreasing intake of certain food groups.

A number of mothers employed positive coping strategies, whether by purchasing large amounts of produce when they were able to find them at lower prices and storing them at home or by cutting up lettuce or arugula for their children to eat with dinner. However, a few mothers did not have refrigerators at home and reported difficulty in storing food. Many mothers tried to store dry foods such as pasta and rice or potatoes at home to have something to resort to when prices got high. As one mother reported, “I buy potatoes, tomatoes, and pasta and I keep them at home so that when I don’t have money, I can take them out and make [my children] some pasta with tomatoes,” and another said, “If I can’t get food that day, then I’ll find some potatoes at home that I can fry or mash up for my kids to eat.”

Mothers reported following either daily or weekly food budgets or sticking to a pre-determined allowance that they received from their husbands. In order to stay within their budgets, many mothers divided their purchases over several days. As one mother asserted, “What if I don’t have money to buy a weeks-worth of food? For me, today, for example, I will buy one kilogram of tomatoes, and tomorrow I will buy one kilogram of potatoes...” As one woman comically put it,

I go [to the market] every day. I can’t go once a week. I’ve never really understood when people say ‘I get food for the whole week’. Where will I get money to get food for the entire week? If I need tomatoes, I’ll go just to get half a kilo or a kilo of tomatoes. What are we to do? We don’t have extra... (Woman from Manshiet Nasser, April, 2014)

Women who planned what they intended to cook one or two days before, would buy each component on a different day. As one mother asserted,

Let's say I am going home from work and today I buy tomatoes and potatoes, I will leave the eggplants and cucumbers to buy tomorrow. I don't need to get everything at once. My income does not allow me to buy everything together... [So], I divide it over a number of days so that I don't go over my [daily] allowance.

Both mothers who had ration cards and those who did not, rationed their purchases, whether by limiting their family's use to only the rations they received in the case of the former or by setting a monthly limit, which they tried not to exceed in the case of the latter. One mother exclaimed,

I use one bottle [of oil] a month because I try not to fry too much of our food. I mean, I buy the bottle of oil for 7 pounds! So, will I keep buying one after the other? No, I don't have a ration card so I have to be careful how much I use. Every few days, if I want to fry some potatoes for my son, I can do that but other than that, I try not to use it very much.

Mothers were purchasing smaller quantities of food, namely produce, in order to stay within their budgets. Where mothers were previously purchasing a kilogram or two kilograms' worth of produce, they were now purchasing 500 and 250 grams – enough to feed their families for one or two days. One mother claimed that in order to stay within her 10-pound daily allowance, she would buy ½ kilograms of everything and nearing the end of the month, when the allowance had decreased slightly, she would instead purchase ¼ kilograms of anything she needed. One mother put off purchasing rations through the public ration card system since that would leave her with no money to buy food for the rest of the week.

Most mothers had a 10 to 20 pound allowance for food each day. Money left over from one day would be carried over to the next and so on. Mothers depended on what their husbands could give them that day so, if one of their husband's was only able to

give them 10 pounds, they would have to manage to buy food with that much. If the food they needed to purchase exceeded their daily allowances, many mothers would avoid purchasing it altogether. One mother exclaimed,

Yesterday, because I missed the oven [where subsidized bread is sold at designated times during the day], I had to buy bread for 5 pounds. What will I do? [Today] instead of spending my allowance of 15 pounds on food, I will only have 10 because the 5 pounds that was supposed to be for today was spent yesterday.

A mother of five, whose daily allowance for food was 20 pounds, reported that she would intentionally only purchase and cook meat on Fridays or Saturdays, days her children were off from school, since the money she would regularly put towards their allowances could instead be put towards food for the household.

One woman went so far as to state, “Sometimes [my] kids don’t go to school if they don’t have an allowance to take in their hands. I swear, sometimes I don’t send them to school.” When their children were off from school, women would make use of their usual daily allowances and daily school expenses to put instead toward purchasing milk and other essential foods.

According to respondents, foods sold at their local supermarkets or fruit and vegetable stands were usually more expensive than at the central market, which required that they take transportation. Many women avoided the transportation and went instead to nearby sellers, since when calculated on a daily basis, transportation would exceed the one or two additional pounds they would be spending at their local vendors. This finding is also in line with Sabry’s (2010) study, which found that since the poor are often dependent on daily incomes, they cannot afford to take transportation to the central market and are therefore forced to purchase food from the street vendors near their homes. In her study on the incidence of poverty in Greater Cairo through an examination

of Cairo's *ashwa'iyyat* (informal settlements), Sabry (2010) asserts that residents of informal settlements often find themselves purchasing food from poor street vendors who buy their supplies from intermediaries and therefore at higher prices than the primary supplier (Sabry, 2010). Hence, they sell their products at higher rates. As one of the key informants also noted, the central market in Manshiet Nasser has a vast array of produce but the problem is not in the availability of food but rather in the quality and price of food and household-level purchasing habits. A few mothers who were in the habit of storing food for the week often visited the central market on Sundays and sacrificed the transportation costs in exchange for reduced food prices. In this case, many argued that the pay off was worth the trouble. Even mothers who tried to go to the market only once a week now needed to go more than once, as the following mother's response suggests:

I usually go to the market twice a week for this exact reason. If I find that prices are good, I'll buy all the food for the week in one visit but if it's expensive, I'll buy things to last us two or three days then I'll go to the market again.

Women who had extended family in the countryside went so far as to ask them to bring produce and other foods when they came to visit. One woman would ask her sister to bring foods such as zucchini and black-eyed peas with her from the countryside and she would store it in her fridge for months, using small amounts out each time.

Reduced Consumption and Elimination of Fruit and Raw Vegetables

Fruit had almost completely been eliminated from most families' diets and if not eliminated, families would buy the most affordable fruit at the time, whether oranges, mandarins or bananas. Families prioritized all other foods over fruit and only bought fruit when they had money left over after purchasing essential food items such as tomatoes, potatoes, cucumbers, oil, rice and pasta. Such findings matched studies by Stamoulis *et*

al. (2004), which revealed that in efforts to cope with higher food prices, families reduced intakes of complex carbohydrates and fibres, such as those found in fruit and essential for proper digestion. Also, in their study on the effects of the economic crises on vulnerable workers in Cambodia, Heltberg *et al.*, (2012) found that many households had completely eliminated fruit from their diets. Generally, respondents' diets seemed to be very limited in dietary diversity. This finding is corroborated by WFP Food Observatory Reports released from 2012 onwards, which revealed that the most commonly consumed commodities among vulnerable households were potatoes, onions, salt, sugar, oil, beans, subsidized *baladi* bread, and tomatoes.

These findings are contrary to Ruel's (2000) argument that urban diets exhibit more dietary diversity through their inclusion of more nutrient-rich foods such as meat and milk and a larger variety of fruit. The households included in this study exhibited very minimal dietary diversity, heavily depending on the limited number of foods they could still afford and purchase in sufficient quantities. Mothers who had more than three children, expressed concern in purchasing large amounts of certain foods, particularly fruit, for their families. One mother asserted,

When you just think to buy some oranges, you have to get two or three kilos. And that's the cheapest thing too! If you put two kilos at the door when you walk in to the house and go to the kitchen to do something, you come out and they're gone! You yell at one of them and say, 'How many did you take?' and he says 'I only took two' and another tells you, 'I only took three!' Then it's all gone... (Woman from Manshiet Nasser, April 2014)

Many mothers laughed at just the thought of purchasing apples, with one jokingly exclaiming,

Apples! No, I'd be lying! You want me to get a kilo of apples for 10 or 20 pounds? Who will I give it to? Should I just make them sniff it or should I hide it as if I never bought it and then I can eat it alone? (Mother of five, Manshiet Nasser, April 2014)

Some mothers were replacing fruit with fruit juices since one bottle was for 1.25 pounds which they believed to be much more affordable than purchasing a kilo of fruit. In an evaluative study on the effects of fruit juice consumption on children's growth, Dennison *et al.* (1997) found that consumption of 12 ounces – approximately 1.5 cups – or more of fruit juice per day among young children was associated with short stature and obesity.

Some families were eliminating meals and reducing portion sizes in order to cope with higher food prices. As one mother put it, “Soon, we will only be eating one meal a day”. Mothers reported that although they were able to feed their children three meals a day before the revolution, they were now struggling to feed them two meals a day. Some reported telling their children to eat plain cheese when they came home from school just so they could wait until dinner and to allow mothers to avoid cooking an additional meal. Coincidentally, the most common behavioural responses to rising food prices, as shown in the World Bank's study, were reducing food quality and the number of meals (Heltberg *et al.*, 2012). Mothers who now found eggs too expensive reported purchasing one instead of two eggs and using ghee to fry it, a method one mother claimed made it “more nutritious and filling”. Some mothers reported using ghee instead of oil to avoid using large amounts of oil since only a small amount of ghee could be used to cook. Some mothers reported reducing portion sizes as they began to finish their monthly food allowance. One mother noted,

If [my children] tell me they really want to eat something then I get it but I get a smaller amount. Even if it's a really small amount, each of them will take a piece and they will be satisfied. You don't eliminate something completely and you don't make too much of it either. (Woman from Manshiet Nasser, April, 2014)

Food Purchasing

Very Short-Term Planning

Most mothers employed coping strategies that looked only to fulfill their short-term needs and desires with very little regard for how they would be able to manage on the long-term. The uncertainty and vulnerability that poor households face as a result of shocks to their external environments such as inflated food prices and insecure income channels, force them to live on a day-to-day basis and discount the future, a phenomenon Wood (2003) refers to as the “Faustian bargain”. According to Wood (2003), “[any] strategic preparation for the future [is] continuously postponed for survival and security in the present.” When asked how often they are able to purchase meat, mothers said they would buy meat at the beginning of the month or as soon as they got paid. Mothers go to the market to buy food whenever they have money in their hands. As one mother noted, “We’ll buy the big things at the beginning of the month when we have the money and the rest of the month, we’ll just figure it out.” Even during occasions such as Ramadan, most mothers cooked a big meal consisting of meat on the first day of the month and resorted to simple carbohydrates and legumes for the remainder of the month. Mothers often went to the market every day or every two days to buy food for their families, according to the meal they were planning to make on that particular day, while very few reported going once a week, for instance, and storing food at home. They believed that purchasing produce on a daily basis would soften the blow of high prices since they would only buy small amounts each day, taking only small amounts out of their daily food budgets. Brinkman (2010) also found that poor households residing in urban areas resorted to purchasing small quantities of food at a time. Mothers tried to avoid the prospect of

wasting food or having food thrown out since now that food prices were higher, this signified a bigger loss to their households than it may have in the past. Some mothers argued that if they were to purchase larger amounts of produce, they would no longer be able to purchase any other food. When asked how she intends to cope as prices continue to increase, one woman captured this notion impeccably:

I don't like thinking about tomorrow. I just focus on today. If I was to think about today and tomorrow, I would get sick. I just pray that God helps us tomorrow like he has helped us today. (Woman from Dwei'a, March, 2014)

And another woman stated,

Today, for example, if I have 50 pounds and I really want to eat meat, I will buy meat and then hope that God blesses us tomorrow. I am not guaranteed tomorrow so I get what I want to eat today – 'esref ma fe elgeib, ya'teek ma fe elgheib'¹. (Woman from Manshiet Nasser, April, 2014)

Families often exercised unsustainable food budgeting and usually spent their largest food budgets once a week when some would even have their extended families over for dinner while for the remainder of the week, some mothers had to resort to borrowing money for food. A few mothers had to walk home from the market or avoid taking transportation to work the next morning after having gone over their daily budgets buying food for their families. Mothers were unable to purchase larger amounts to store at home and seldom thought to save money when it was in excess but rather bought foods they could not regularly afford, as a way of treating their families. According to one woman,

In the past, we were able to store things such as potatoes, tomatoes, and onions. Now, we can't do that. Before prices were, you know – not like now! Now I'll buy exactly as much as we need for that day so half a kilo of onions if I have money, one kilo. Then I have to wait a couple of days until I have money again to buy another kilo. (Woman from Dwei'a, March, 2014)

¹An Arabic proverb which translates to “Spend [what is in your pocket] and God will send [what is unseen]”

One woman claimed that they only eat meat on Sundays but said that she had eaten meat the previous day – a Saturday – so when asked why that was so, she responded, “Yes, God was extra kind with us this week. My son, the garbage collector, gave me 30 pounds to buy the rations. But I had already bought [them] so we bought some meat.”

Other women argued that they were no longer able to save money after food prices increased following the January 2011 revolution, stating, “You can’t save up anymore, not like before. Before, I used to have money left from my food allowance by the end of the month that I would be able to save but now, nothing is left.”

Sacrificing Quality

Mothers reported purchasing lower-quality produce or re-packaged foods in efforts to curb household food expenses. Women purchased food from the market at the end of the day when prices were reduced and the ‘cream of the crop’ had already been picked out. Many women admitted that this produce was lower in freshness and quality – with some even claiming that produce sold at the beginning of the day was more nutritious – yet still purchased it since they could no longer afford the alternative. As one woman declared, “We get the food that our money can buy. We have no other choice. So for example, we buy the soft tomatoes or the small potatoes – what our money can buy.” As Cohen and Garrett (2009) found, as food prices increase, households are more likely to adjust their consumption routines by reducing food expenditure through various methods, the most common of which is to rely on diets lower in quality and diversity than their traditional diets. Food bought from the market at the end of the day was described as

“old”, “wilted”, or “spoiled” but women could often purchase it for a fraction of the original price. Purchasing wilted or spoiled produce at reduced prices, often required that mothers visit the market in the afternoon when the fresh produce had already been picked out. As one mother interestingly noted,

You know, eggplants for example, the fresh kilo is sold for 1.5 pounds and the older, more wilted kilo is for 1 pound. It's also a better choice because wilted eggplants take up less oil when they are fried. So they save money and oil! (Woman from Dwei'a, March, 2014)

Many claimed that this was an alternative to completely eliminating a certain fruit or vegetable – they would rather “cut out the spoiled parts”. When asked whether she thought it was healthy for her children to eat lower-quality foods, one woman answered, “It’s not like our stomachs get inspected.” As one mother asserted,

Even if I wanted to get white cheese, for example, it used to be 12 pounds but now it's 20 pounds so I won't lie to you, I can't get it. I try to go at the end of the day so I can get it for 5 pounds but it's not like the fresh one that comes out in the morning. The good pieces are taken in the morning but the ones I get are smaller and not as fresh, you know... If I didn't save from here and there, I wouldn't be able to live. (Woman from Manshiet Nasser, April, 2014)

Instead of purchasing full portions of oil, rice, sugar, and ghee, families resorted to purchasing foods repackaged and sold in smaller quantities. Mothers claimed that these small plastic bags of food could be found at any supermarket and when asked about how safe they were, many responded by saying they had no other choice and that the repackaged foods had the same characteristics as those sold in their original packaging. However, some mothers avoided purchasing re-packaged foods, claiming that they were unclean. According to one woman,

To be honest, I don't like the loose kind. I bought [oil] once in a plastic bag and when I got home it was hard and it looked like ghee. I just feel like there is something wrong with it. (Woman from Manshiet Nasser, April, 2014)

Dangerous Eating Behaviours

Families reported consuming large amounts of potatoes, with many mothers claiming that potatoes were just a simple and affordable alternative to the nutrient-rich foods they could not afford. When unable to buy foods due to high prices, one woman reported that she would usually make eggs with tomatoes and cook fried potatoes or pasta to eat on the side. Another woman claimed,

If I don't have money, I have to make changes. I mean, sometimes when I go to the market, I'll buy 4 kilos of potatoes only and tell myself, 'let it be potatoes this week!' laughs I leave them at home and we eat from them for two or three days. I fry [my children] some potatoes and they eat. (Woman from Manshiet Nasser, April, 2014)

Popkin (2003) argues that modern-day societies in developing countries have adopted Western-style diets, consuming larger amounts of saturated fats, sugars, refined foods and lower amounts of fiber. Similar to Clapp and Cohen's (2009) findings, as food prices increased, poor households made dietary adjustments by replacing fruit and animal sources of protein with high-energy staple foods. In this case, mothers were transitioning to diets predominantly made up of carbohydrates and fats. Depending on whether it was the beginning or the end of the month, mothers would either replace meat with liver or potatoes, with potatoes constituting the common alternative as the month came to an end. This is clear from one woman's response when asked what foods she substitutes for meat: "I'll get liver or I'll make fried potatoes. It depends on our situation at the time," and another who responded, "We fry some potatoes or cook some *koshari* or pasta." Some women even fried potatoes at home for their children in order to stop them from eating junk food or from buying food from outside home.

In Halton *et al.*'s (2006) study on the relation between potato consumption and the risk of type 2 diabetes in women, potato and French fry consumption was found to have a positive association with type 2 diabetes. The risk of developing type 2 diabetes was more probable when potatoes were used to replace whole-grain high-fiber products. In a 12-year study carried out by the nutrition department at Harvard School of Public Health, researchers found that consuming an additional serving of potatoes led to long-term weight gain in study participants (Willett, 2001). According to Willett (2001), potatoes increase blood sugar and consequently insulin levels at more rapid rates and to more elevated levels than pure table sugar.

Some mothers reported reusing frying oil and as one woman admitted, "Although they always say only use frying oil once or twice, I don't follow that. I don't change it so often because I am always worried that it will finish before the month is over." Some mothers even reported purchasing "lightly-used" oil, with one claiming, "I get it sometimes but only for liver" and another responding, "It's against our will, what should we do?" Recent research has shown that reusing frying oil causes the release of specific aldehydes, which results from the degradation of fatty acids in the oil (Guillén and Uriarte, 2012). These substances are believed to be toxic and associated with neurodegenerative diseases and certain types of cancer. The aldehydes remain in the oil after it has been exposed to prolonged heating and are soaked up by the foods cooked in it the second time around (*ibid.*).

Many mothers were eliminating salad from their children's diets, claiming that their household incomes were no longer sufficient to purchase different kinds of vegetables all at once. Families were buying one or two types of vegetables at a time.

Most mothers had even started replacing salad and vegetables at meals with pickles. All mothers claimed that pickles were a cheaper alternative to vegetables. Mothers claimed that one pound's worth of pickles could feed an entire family and sometimes for more than just one meal. As one mother noted, "Salad is more expensive. Tomatoes are for 4 pounds alone... So I buy pickles for 1 pound and they eat from them twice or three times," and when asked whether her children eat salad, another mother exclaimed, "We [eat] pickles. Tomatoes are expensive! I'd rather get pickles for 1 pound and we eat that next to the food." One could argue that this finding is in line with Stamoulis *et al.*'s (2004) results, which revealed that urban diets were higher in salt content than rural diets. The high salt content of pickles poses a serious risk to the health of families, especially children. A study carried out in 2012 found that higher consumption of sodium was related to high blood pressure, with overweight and obese participants suffering a greater risk (Yang *et al.*, 2012). Also, according to similar studies, children and youth are shaped by early dietary exposure and tend to present a lower affinity to salt when they are unexposed or consuming less of it (Stein *et al.*, 2011).

Others were coping by purchasing spoiled vegetables – sometimes verging on dangerous – or broken eggs, as the following excerpt demonstrates:

What are the alternatives? It's difficult. Eggs for example... Lately, my kids have been asking for eggs so what do I do? I buy broken eggs – eggs that have been cracked from the cart are sold cheaper. (Woman from Dwei'a, March, 2014)

In 1992, Agriculture and Agri-Food Canada conducted a risk assessment to investigate the risks that cracked eggs pose to human health. This assessment revealed that cracked eggs are three to ninety-three times as likely as eggs with intact shells to lead to Salmonella infections (Todd, 1996). The argument posited that when eggs are cracked,

subsequent storage under unsafe or improper conditions provides an environment conducive to the growth and replication of Salmonella bacteria (ibid.).

One mother tried to purchase vegetables at the end of the day when they were more affordable and admitted to purchasing potatoes with green spots because they were cheaper. When asked about the difference between fresh potatoes and those sold at the end of the day, she stated, “Potatoes that are left over could have some green coloring or anything like that.” According to Draper *et al.*, (1994), potatoes that have turned green or exhibit green spotting produce an alkaloid called solanin, which is bitter in taste and can be poisonous if consumed in large quantities. Studies have advised to avoid consuming potatoes with excessive green spotting (ibid.). Clayton (2014) asserts that the level of solanin in green potatoes increases with light exposure and that the substance causes digestive irritability and sometimes even vomiting or diarrhea.

Diversification of Income Sources and Livelihoods

Many women reported that their husbands had a hard time finding work and claimed this was the reason they had to start working. Out of twelve women in a focus group discussion, eight had unemployed husbands and four had husbands employed informally. One woman whose husband was employed at a café and received his wage every Friday claimed that if her husband happened to stay home sick from work on a Friday, he would not get paid until the following week and they would need to live on *foul*, *falafel*, eggs and cheese until the following Friday. This finding was in line with the WFP’s Report on the Status of Poverty and Food Security in Egypt (2012) which revealed most households that were both poor and food insecure had uneducated heads of households who were either unemployed or employed informally and on a temporary

basis. According to one of the key informants interviewed, most men in Manshiet Nasser work on an irregular and temporary basis, most often in factories or for construction companies.

Women had to also start working to make up for lost income when husbands left work due to injury or illness. One man who worked at a shoe factory had to stop working as a result of a workplace accident and another had to stop after a heart operation. Their wives were forced to take cleaning jobs at the hospital. As Sabry (2010) asserted, urban poor working in the informal economy in Egypt had insufficient wages and suffered from harsh working conditions, often putting workers at high risk of injury. Even women whose husbands were employed argued that they now needed to work since the allowances their husbands provided them were too low to cover all their food and household expenses. Additional sources of income were needed. WFP Food Observatory Reports from 2012 and 2013 all revealed that vulnerable households were facing increasing difficulty in meeting their monthly household expenses, with the percentage of vulnerable households going up from 66.3 per cent in January 2012 to 88.9 per cent in March 2013 claiming their incomes were insufficient in meeting their household needs.

From the women who were not working, some helped their husbands with their work at home such as one that noted, “I help my husband in his work from home. I help him make school backpacks. It’s just a small business”. If not helping their husbands with their work, some women even had their own home businesses, whether making sebah (Islamic beads) – 33 pieces for 1.25 pounds –, selling cooked termes (lupine) and cooked hummus (common Egyptian snacks) or even walking other women’s children to and from the neighborhood daycare center – receiving 30 pounds per child each month. In Heltberg

et al.'s (2012) discussion on the 'gendered dimensions of crisis coping', women were apparently resorting to low-return income generation activities to improve their living situations, as demonstrated from the responses of the present study's participants. The husband of the woman who made Sebah worked on a daily basis and thus had an irregular and unreliable income. The woman argued, "I am improving my income. Isn't that better than working outside home? One woman discussed the hardships involved in sewing leather cases for gas tanks:

We buy leather and sew cases for gas tanks. A kilo of leather is for 15, 25 or 60 piasters, depending on the day. We would get that every day and make them. The only problem is that the factory where we buy the leather is far so we had to carry it on our backs for a long distance. Every week, I could earn around 20 or 30 pounds. Sometimes I would get four big bags of leather and come out with a very little [number of] cases and I'd get 10 or 15 pounds. What should I do? (Woman from Manshiet Nasser, April, 2014)

Carrying heavy loads for long distances poses a serious risk to the women's health, especially if done on a daily basis. Another explained why she had started work,

Well, what should I do? I buy what I can... I don't want to reach my hand out to someone. What made me start working? I didn't used to work. But when I realized that I was borrowing money that I couldn't pay back, I had to start working. (Woman from Dwei'a, March, 2014)

Mothers also had to resort to cleaning houses, staircases or carpets as a way to earn money in the evenings, after work hours. Some men had to take up additional employment, with some women claiming that their husbands had jobs in the day and in the evenings, would go work at factories or at ovens on the weekends. One woman noted, "At least now I can raise my kids and have my eye on them while I'm working." Another woman who worked as a security attendant at the hospital expressed concern over increasing food prices, stating,

I'll have to look for another job, next to this one. I might get a little tired and [my son] will get tired too but what else will I do? He will probably not spend as much time with me but I want to create a good environment for him to live and grow in. (Woman from Dwei'a, March, 2014)

Some women had husbands who did not allow them to work, no matter how difficult they believed their situations to be. Men refused to send their wives to work so that they could stay home to take care of the children or out of concern for their safety. As one exclaimed, "I am worried but what am I supposed to do? My husband forbids me from working. I am able to buy them some foods now but I don't know what will happen later."

Safety Nets and Social Cohesion

Formal Means

Most mothers were enrolled in the government-subsidized ration card system and received oil, sugar, rice, pasta and tea. Data from the Ministry of Supply and Internal Trade revealed that a total of 66.7 million Egyptians hold ration cards (Egyptian Food Observatory, 2013). According to the Egyptian Food Observatory Report (2013), a food monitoring and evaluation report released on a quarterly basis, as of December 2013, 83.6% of vulnerable households had ration cards. The majority of mothers reported having to buy more oil, pasta and rice before they reached the end of the month. However, mothers reported that rice provided through the ration system was often broken or full of rocks and while most took it anyway because it was much cheaper than rice bought regularly, some opted out and purchased rice from their local supermarkets instead. Women who refused to buy the sub-par rice rations would buy smaller amounts of rice from regular vendors, making sure to pay the same amount they would have paid

on the rations. The Food Observatory Reports released in 2013 all revealed that the most commonly reported reason preventing households from purchasing their rations was shortage of commodities at the local ration vendors, with 89% of vulnerable households citing this reason in June 2013 and 88% in December 2013 (WFP Food Observatory Report, 2013). The second most commonly referred to reason was poor quality of rations (ibid.).

Some mothers applied to the ration card system and were told that they were not eligible although, as they claimed, other women whose husbands were working and who were much better off were considered eligible. The mothers' concerns with the ration card system matched findings by FAO revealing that factors such as poor targeting and unrealistic eligibility criteria lead to ineffectiveness in achieving the initiative's expected results (FAO, 2009). The study reported that many families who were seriously in need of assistance to cushion against rising food prices were not receiving the government-sponsored social assistance transfers (FAO, 2009). As one mother exclaimed,

I went to apply with my papers to a worker – like us – who said that I am not eligible because I have a room that I live in with my kids. So will this room feed me and help me live my life? After this, I was shocked and I stopped applying. (Widow from Dwei'a, March, 2014)

The process of making a ration card was considered to be long and tedious. Women claimed that it would cost them 150 to 250 pounds to have an employee speed up the process and finish their papers. In the WFP's 2008 Vulnerability Analysis and Review of the Food Subsidy Program in Egypt, the most commonly cited reason for not having a ration card among vulnerable households was that they could not register, although they were aware of the system and had tried to register. In her study on food subsidy reform in Egypt, Omar (2012) found that families faced difficulties in trying to separate individuals

from their cards and add them to their spouses' cards or simply in trying to add dependents. The author claimed this could be explained as an attempt to limit subsidies and exclude people from the system. In light of current discussions about limiting the reach of the current subsidy system, as previously discussed, such speculations have merit (ibid.).

As a way of making money in a short period of time, some women would sell their rations and buy small re-packaged portions of rice, sugar and oil. According to one woman,

If I need money, I sell [our rations]. Then I buy for us in small amounts so ¼ kilo of rice or ¼ kilo of sugar. Sometimes I need money urgently so I have to do that and then if we need [more], I get ¼ of a kilo. (Woman from Manshiet Nasser, April, 2014)

One woman sold her five bags of sugar since she did not need them in order to earn the money she need to buy her other rations:

You know, I just sold my five bags of sugar for 20 pounds so I can get my own rations. I'll add a few pounds to that and get my rations. The rations are even more expensive now! It went up by two pounds last month. (Woman from Manshiet Nasser, April, 2014)

Such findings reinforce recommendations put forth by the WFP (2008) to introduce commodities essential for the improvement of nutritional statuses, of children in particular, and reduce or completely eliminate subsidies on items such as tea and sugar. Women reported purchasing rations from other families who sold their extras. Women with additional unneeded rations would make stands in their local areas to sell them at prices slightly less than local prices. As Heltberg *et al.*, (2012) found from their study of poor urban households in Bangladesh, women were finding novel ways of earning additional income to help them cope with food crises, through selling spoiled vegetables

for instance. Just like women selling spoiled vegetables catered to a newly emerged market of women who needed to buy cheaper produce, women in this study were selling their rations to other women who could not afford to purchase additional rice, pasta and oil at their regular retail prices.

Women claimed that ration costs had even increased, with a number of women claiming that they had been asked to pay three pounds more in buying their rations that month. As Cohen and Garrett (2009) argued, foods such as rice and wheat are common internationally traded commodities and are thus more vulnerable to global food price fluctuations than root crops, for instance. This vulnerability is projected on those who are most dependent on such foods, which according to the study at hand, are poor urban households who have made rations an essential part of their diets.

Other formal means of assistance came from mosques or charities that distributed food bags during occasions such as Ramadan or Eid or on a monthly basis to needy families they had record of. Also, distribution of meals at local NGOs or mosques during Ramadan was considered by women to be one of the most helpful mechanisms, with some women claiming they barely had to cook food at home during those months.

Informal Means

Social cohesion in the areas under question was found to be very strong with most mothers using collective lending groups to either buy food or save up to buy non-food items. Most mothers used collective lending to save up marriage expenses, purchase clothes for their children – often during Eid – or to be able to buy more food, namely meat during Ramadan. Some women joined collective lending groups, making payments

of one or two pounds each day, to collect a total of seven to fourteen pounds by the end of the week.

Women often received *moosem* (occasional food shipments) from their families in the countryside during special occasions, such as Ramadan or upon giving birth. Families provided support to each other as a means of coping with higher food prices, by either sharing food or lending food in times of need. One mother stated,

We spend the first week having breakfast with my mother-in-law so our allowance is one – we stay with her and my husband buys the food and then we go back up to our apartment for the rest of the month. (Woman from Dwei'a, March, 2014)

One woman's mother-in-law had designated one day each week where she would have them over for dinner. Many mothers claimed that coping with higher food prices was easier during Ramadan when others would invite them over for dinner regularly. Many women borrowed money from family members, neighbors and work colleagues to pay for food or make payments to collective lending groups. Women who were able to repay borrowed money, would pay it at the beginning of the following month but others had a hard time repaying money, in which case lenders would often forgive them. One woman who was raising her daughter's two children after her daughter had gotten divorced and remarried, claimed,

I borrow money from my neighbor. If I need 20 pounds, for example, I'll ask her for them and pay her back on Sunday. I couldn't pay the rent for 3 years and the landlord filed a suit to have me kicked out... But kind people in the area and my neighbors collected money from here and there and they helped me. I've been in this area for 40 years so people know my situation and they know how much money I have and how much I need so they try to help as much as they can. (Woman from Manshiet Nasser, April, 2014)

WFP Food Observatory Reports released on a quarterly basis in 2012 and 2013 all reported that the most common coping strategy to rising food prices among vulnerable households was borrowing money or food (WFP Food Observatory Reports, 2012/2013).

Culture and Shame

Despite families' reliance on informal safety nets to cope with higher food prices, many mothers still expressed a great deal of shame at the thought of borrowing money to buy food, regardless of how difficult their situations were. Many claimed that they “would rather live within [their] means than have to reach [a] hand out and ask for money to buy food” or that they “would rather eat only bread than have to borrow money”. When asked whether she borrows money for food, one mother responded,

I don't borrow money for food. I don't like doing that – even if [my children] are going to die of hunger. I don't borrow. Their father is alive... Why would I borrow money? No... No, I don't borrow money. Besides, how will I pay it back? It'll all come back down on me.

Women were worried they would not be able to repay borrowed money and did not want to feel confined or ashamed. Families tried to live within their means, even skimping on meals, in order to avoid anyone coming to their homes and asking them to pay up. One woman claimed,

I try to never borrow money unless I really need it. I am living within my limits. If I go borrow from someone I can't pay it back, what do I do? I don't want anyone to make a scene of my in the street. I don't like this. If I have one pound in my pocket, I live with it. (Woman from Manshiet Nasser, April, 2014)

Reduction of Non-Essential Expenses and Non-Food Consumption

Families needed to reduce non-food consumption and limit certain purchases such as clothes. Most women reported to either take clothes from other people, force their

children to make do with clothes that they had from previous years or wear their sibling's clothing. When asked if she had used money from a non-food budget in order to buy food, one mother responded, "Yes, of course. There is what's important and there is what's more important" and another said, "Yes... Moms usually get their kids two changes of clothes but I just get one for the school season and one for Eid. They have the one from last year too." Mothers had to differentiate between the basic necessities, which they needed to buy, and things that were not as necessary, as demonstrated in the following response,

There are priorities, you know. There are things – winter clothes, for example – that I can't buy. So you make do with what you have from before. The basic things you need to live you have to get, whereas there are other things that you can live without so you don't get them. (Woman from Dwei'a, March, 2014)

Families that were used to purchasing new clothes for their kids during Eid or at the beginning of the school year, were now reporting that they were unable to do so in order to meet their basic household needs. One mother claimed, "If a kid needs clothes, for example, it's not as easy as it was before." A study conducted in Kazakhstan by Heltberg *et al.*, (2012) also revealed that the negative impacts of the economic and food crises of 2008 had forced households to either resort to purchasing products on credit or removing nonessential expenses such as new clothes altogether.

When asked how she manages to buy food if and when her employment earnings run out before the end of the month now that food prices were higher, one mother responded, "I take from the allowance that I had put aside for the rent or something like that and then [my husband] adds to it later if he can." Women whose husbands worked irregular jobs had to manage their budgets according to their husbands' earnings so, if there was money, they could buy food and non-essential items such as clothing but if

money was limited, they had to eliminate non-food expenses. As one mother noted, “Sometimes I could even walk from home to work just so I can save the money I spend on transportation.”

Gender and Family Life

Intra-household distribution of food was not equal among different members of the family. Families often gave their children priority at meal times, with husbands next and mothers last. As one mother jokingly added, “The mothers are forgotten”. Some women claimed that their husbands took food first and that they had to ensure their children were getting their share. Very few families exhibited equal food distribution at home. Some parents had to neglect their own dietary needs in order to meet their children’s. Sabry (2010) argued that using the household as a unit of analysis was flawed in its assumption that equal sharing occurs within a household. The researcher found that household sharing was almost completely absent from poverty-stricken households in Egypt (ibid.). In response to a question about the effects of rising food prices on her children’s health, one woman responded,

I am worried about that. I don’t want to neglect their health so I always make sure they eat first... I am not as important as they are. You know, sometimes I feel weak and tired but they are my priority right now. (Woman from Dwei’a, March, 2014)

While discussing the increasing price of milk, one woman asserted, “I am forced to just make them milk and my husband and I aren’t important.” As another woman put it, “We can eat anything as long as the kids are happy.”

Some families, on the other hand, made sure that everyone at home was eating the same food and that nothing ‘special’ was cooked for the kids. According to one woman,

We have a system at home... Everyone eats the same thing. I don't cook anything special for any of my kids. We all eat the same meal. They have to get used to the fact that this is what I can get so this is what they will eat. And if they don't like it, they don't need to eat. They can eat some cheese from the fridge. (Woman from Dwei'a, March, 2014)

Some mothers claimed they did not want to put added pressure on their husbands by asking them to buy 'special' foods for their children since they were already working so hard to make ends meet. A few mothers would cook what their husbands wanted claiming that they came home exhausted and needed to eat, putting very little consideration into their children's dietary requirements. Similar to what Heltberg *et al.* (2012) found, although sometimes both parents prioritized their children's eating over their own, this prioritization was less common in families where men worked in physically demanding environments.

Mothers with more than three children had a harder time providing nutritious food for them and ensuring that all their dietary needs were being met. A mother of three discussed not wanting to have any more children and asserted that even when her husband asked, she would say, "No, I am done! It will already be hard enough to send these three to school and buy them all the things they need."

Some mothers had husbands who either lived with them or lived with their other wives but did not pay for their children's expenses and in a few cases, did not even ask about them. One woman, whose husband was too old and frail to work, had started working at the hospital to provide for her children and was also required to cover her husband's hashish expenses. Women who were left to pay most of the household expenses or left alone to care for children faced serious difficulty in meeting their children's dietary requirements, especially in the face of higher food prices. As Cohen

and Garrett (2010) assert, female-headed households were found to be at greater risk vis à vis food price increases.

Children and Youth

When asked about their children's health as a result of dietary changes they were forced to make in response to escalating food prices, women expressed concern over how 'weak', 'thin' or 'frail' their children had gotten. According to one key informant employed in the Social Services Department in Sheikh Zayed Hospital, the most frequently presented ailments for children involve mothers claiming that their kids are weak, "that they are not growing" or that they are not walking and teething at appropriate times. Children come in frequently with diarrhea or *tofayleyat* – parasitic infestation that can result from poor dietary practices and hygiene. Similarly, in Bangladesh and Zambia, respondents of a study on coping strategies in times of crises, frequently complained of weakness, dizziness and lack of energy (Heltberg *et al.*, 2012). One woman argued that her children were 'victims' of high food prices, claiming, "It's not the good life that kids are supposed to live – [the life that allows them] to want something and be able to find it". Mothers also complained that their children had acquired very weak appetites. As one woman stated, "My son has a very weak appetite... He doesn't even eat bread," and another responded, "My daughter also has a weak appetite and she doesn't eat at all. The doctors said she has extreme deficiencies." Mothers reported that doctors' visits revealed that children were indeed suffering from weakness and iron as well as calcium deficiencies. According to Pettit *et al.* (2011), when iron stores reach extremely low levels in the body, anemia ensues. The most common symptoms of anemia are fatigue, weakness, dizziness, and loss of appetite (*ibid.*) – symptoms most mothers complained

their children were presenting. One woman's daughter was diagnosed with osteoporosis and had to have an operation to adjust her bone growth. Many mothers reported that their children were anemic and that their teeth were weak and often grew back irregularly. One mother exclaimed,

My youngest son lost all his baby teeth and the new teeth don't even want to come out. My daughter also, when she eats something hard she starts crying because her teeth are so weak, they hurt her. (Woman from Dwei'a, March, 2014)

Mothers reports were corroborated by findings from Burkina Faso, Mali, Niger and Senegal, which showed that children's malnutrition rates increased in 2008, as a result of the global food crisis (Cohen & Garrett, 2009)

Mothers had a hard time purchasing milk on a regular basis and often claimed that if they were to purchase the amounts of milk that their children needed, they would have to stop purchasing other foods. As one mother asserted, "In order for me to go get a kilogram of milk for my kids, then I have to realize that I won't be getting them any food for the entire week, to be honest." Mothers always expressed it as a trade-off: "Should I pay the rent or buy them milk and meat?" Milk and dairy products were almost absent from many children's diets. Women who bought milk for their children, purchased small amounts and tried to make it last for several days by making it with tea or watering it down. Some mothers eliminated food products such as yoghurt or eggs almost completely, claiming that if they were to buy enough for all of their kids, they would exceed their daily food budgets. One woman argued,

Yoghurt, after it was 1 pounds is now 1.5 pounds. I can't buy for one of my kids and not the other. And if I buy for one kid, the other days 'what about me?' Even the eldest says 'what about me?' (Woman from Dwei'a, March, 2014)

Women admitted that they were often unable to fulfill their children's demands to cook chicken or meat fillet next to other foods and instead tried to meet demands they could manage such as making pasta and fried potatoes together. As long as their children were happy, feeding them unbalanced meals did not seem to cause them very much concern. Mothers claimed that their children would get sick of eating lentils or *foul* for several days so, they would try to make them something they liked in between such as fried potatoes. Simply cooking meals that would make them happy and satisfy their hunger poses serious long-term health risks since as Darnton-Hill and Cogill (2010) argue, simply ensuring access to adequate amounts of food does not translate to optimal nutrition and sufficient intake of recommended nutrients.

When children asked for yoghurt or fruit, their moms would have to tell them that they could not afford it. Women whose husbands had unstable jobs had a hard time providing their children with milk, yoghurt, cheese or eggs regularly since they had to wait until their husbands had been paid. One woman said,

If my son tells me 'I want to drink milk', I will tell him I don't have any but he is only four years old and he doesn't understand. Whose door will I knock on to borrow 10 pounds to buy some milk? So we just wait until his dad has money so we can get milk. But of course, he spends a big part of his wage on his cigarettes. (Woman from Dwei'a, March, 2014)

However, a few mothers exercised positive coping by sometimes cutting up lettuce, arugula or tomatoes for their children to eat with their meals.

Some children started working to add to their households' incomes. One mother had her children help her in sewing leather cases for cooking gas tanks as an additional source of income. Children were also working small jobs or doing minor tasks around the

neighborhood during their school breaks. Another woman began to cry during an interview as she was talking about her thirteen-year old son,

*I had him work but – **pause** – he would come home and tell me this part hurts me (points to chest). Even if he just carries a bag or something light, he tells me it hurts him. (Woman from Dwei'a, March, 2014)*

As this respondent demonstrates, high food prices and poor coping strategies not only put children at risk of malnutrition but also work-related illness and injury. Abdel Raouf *et al.*, (2011) found that although a law passed in 1996 prohibits the employment of children under 14, in 2010, approximately 12 percent of the labor force in Egypt was made up of children compared to seven percent in 2009. According to the International Labor Organization (ILO), seven to twenty-one percent of children aged 5-14 are involved in some type of child labor in Egypt (2012). When children were asked the reasons for working, the most common response was to contribute to their household incomes (*ibid.*). Approximately half of the sampled children reported exposure to dust and fumes at the workplace while slightly less than half reported extreme exhaustion and physical exertion. Twenty percent of sampled working children in Abdel Raouf *et al.*'s (2011) study reported either verbal or physical abuse on the job – a cause for serious concern.

VII. CONCLUSIONS AND RECOMMENDATIONS

As Heltberg *et al.* (2012) argue, qualitative monitoring of how people respond to crises helps to bring light to a broader range of impacts. It accounts for the psychological stress that may be inflicted on households and individuals, changing family and community relationships and the value of community solidarity. Monitoring dietary changes that households make in response to crises is key in the formulation of national food and nutrition interventions and policies. This paper started out by introducing the issue of food insecurity in Egypt namely as it pertains to low-income households in Greater Cairo and the coping strategies they have had to employ as a result of rising food prices. A review of the literature revealed that developing countries are suffering from the double burden of poverty, whereby families exhibit both under- and over-nutrition. Poverty is becoming an urban issue and bringing food insecurity along with it and rates of food insecurity are rising more in urban than in rural areas. Food prices have been found to adversely affect Egyptian households, forcing them to employ unsustainable or unhealthy coping strategies. Focus group discussions and semi-structured interviews with mothers and interviews with key informants were carried out to gain a deeper understanding of coping mechanisms and the influence they have on children's nutrition. An amalgamated conceptual framework informed by the UNICEF Malnutrition Framework, the WFP Coping Strategies Index and the World Bank Coping Mechanisms Framework used in the WB study on "Living through Crises" was used to make sense of the collected data. In the section on findings, mothers' perceptions of nutrition, food

prices and food security were first discussed and then, coping strategies were divided into five categories – consumption, purchasing, diversification of income sources and livelihoods, reduction of non-essential expenses and nonfood consumption, gender and family life, and finally, children and youth. In efforts to manage their families' food consumption in response to food price increases, mothers began to seek alternatives to foods such as meat and chicken, replacing them with chicken limbs and parts or imported liver. Mothers looked less to balance and more to satiation and fulfillment and rationed their purchases of foods that exceeded their food budgets. Women resorted to eliminating certain foods such as fruit and meat products, reducing meal sizes or eliminating full meals. Food purchasing followed a very short-term planning process, with mothers often purchasing food at the beginning of the month as soon as they got paid or treating their children to foods they could not regularly buy as soon as they had money in their hands. Women sacrificed quality by sometimes purchasing spoiled fruit and vegetables or cracked eggs. Families also revealed dangerous eating behaviours including the purchase of used oil, greening potatoes or replacing fresh salad with pickles – the cheaper alternative. Both men and women had to resort to alternative sources of income, taking up additional jobs or doing simple jobs at home. Formal and informal safety nets were of prime importance in coping with higher food prices. Most women had ration cards, although some would sell unwanted rations such as sugar, and many borrowed money to buy food or used collective lending schemes to buy non-food items. Women reported reducing non-food expenses, such as clothing and transportation, in efforts to cope with higher food prices. Intra-household distribution of food was found to be unequal, with mothers getting the last share. Although mothers most often neglected their own dietary

needs to feed their kids, children were still not receiving their daily nutritional requirements due to reduced milk, egg, meat and chicken and fruit intakes. Findings like those presented in the present paper can be used as guidelines for targeting and formulating aid in response to food price shocks.

According to the FAO (2006), nutrition programmes established prior to 1992 were ad hoc and lacked direction. In response to these deficiencies, Egypt attempted to restructure nutrition initiatives in 1994 by establishing a high-level inter-ministerial committee consisting of the Ministries of Agriculture, Health, Planning, Information, Supply, and Education (FAO, 2006). The committee was put in charge of developing the Egyptian National Strategy for Nutrition which consists of nine policy areas – controlling micronutrient deficiencies, improving household food security, providing for the nutritionally vulnerable, and incorporating nutrition objectives in development policies and programmes, among others (Egypt Landscape Report, 2012). Unfortunately, the strategy has yet to deliver many of its predetermined objectives, with the Egypt 2012 Landscape Report calling for its review to involve all stakeholders, improve coordination and communication, and ensure alignment with other food security initiatives (*ibid.*). It is important that food security is put on the agendas of all ministries, not just members of the inter-ministerial committee. There must be more improved coordination among nutrition stakeholders to ensure that problems are dealt with efficiently and effectively.

Echoing the recommendations of previous work, this study puts forth the following recommendations to improve food governance in the face of rising food prices and avoid putting the food security of low-income households at further risk:

1. Clear and visible prioritization of nutrition in the goals of the Ministry of Health,

This will help ensure that nutrition-related issues receive the resources and funds they require.

2. Encouraging the inter-ministerial committee and other stakeholders to play a more significant role in the design and implementation of food policies,

Cooperation between different stakeholders and members of the inter-ministerial committee must be strengthened to ensure that tangible results are achieved in terms of improving the food security of low-income households and cushioning them against external shocks. Instead of depending on international agencies such as the WFP and the WB to initiate and develop nutrition intervention strategies, Egyptian public, private and nonprofit organizations must also play a more prominent role and take ownership for interventions that aim to improve the food security of their citizens. As Clapp and Cohen (2009) assert, “States should not rely on international relief ... to meet the basic needs of their people but rather should take all relevant measures to meet people’s ongoing needs and protect them against shocks.”

3. Tailoring food governance responses to households’ specific needs and national food security trends,

Responses must account for changing dietary habits and eating behaviours and household responses to food crises in the design of food security interventions. Food monitoring initiatives, similar to the present study, should be used to inform such interventions. Food governance responses must not only take into account supply and demand aspects of the

food crisis (Clapp and Cohen, 2009) by offering band aid solutions such as reducing subsidies one day or expanding them the other but rather by.

Protection schemes aimed at cushioning against future crises should focus heavily on urban responses, accounting for emerging evidence on the increased prevalence of food insecurity and income poverty in these areas.

4. Raising awareness on how best to cope with food crises and rising food prices,

All three key informants interviewed echoed the need for more nutrition-related initiatives that aim to raise awareness and better equip households in coping with food crises. Interventions should be targeted towards mothers who are often the main food purchasers and should raise their awareness on ways to cope with high food prices while still meeting their children's dietary requirements and ensuring they receive their recommended essential nutrients.

5. Subsidizing nutrient-dense foods which poor households are unable to purchase as a result of food prices increases,

The research has demonstrated that low-income households value the ration card system and put the purchase of rations above all other purchases. If the ration system were to include more nutritious and balanced food baskets, families and children in particular, would be ensured their required nutrients.

6. The government should play a stronger role in empowering women to make use of informal social safety nets and build more cohesive communities,

As in the case of Peru, women in low-income neighborhoods began to cook and serve meals at a portion of the cost of preparing them at home (Cohen and Garrett, 2009). This was considered a valuable coping mechanism especially since women made use of donated commodities (ibid.). Governments should encourage such initiatives and assist in enhancing their nutritional viability by providing more channels for vitamin and mineral fortification or micronutrient supplementation aimed at children and youth. As von Braun (2008) nicely puts it, “The end of the food crisis should be measured not primarily by declines in food prices, but by the provision of adequate healthy food for all.”

7. Using positive deviance to relay positive coping strategies to neighboring households,

Berggren and Wray (2002) claim that in most communities, there are vulnerable households that exhibit uncommon positive behaviours and as a result, experience better health statuses than households from the same community who share similar socioeconomic status. The idea of positive deviance stems from the belief that the positive health-related behaviours found in local households can provide insight to develop culturally appropriate health and nutrition interventions. This method was used in the 1990’s and authors have cited its success in improving the nutritional statuses of children in a number of developing countries such as Vietnam (Sternin *et al.*, 1999).

As Alem and Soderbom (2012) recommend, policy makers should aim to reduce the vulnerability of households to higher food prices before the fact. Preventive measures such as more secure employment, conditional cash transfers or educational or awareness-building initiatives centered on proper coping mechanisms should be put into place.

Coordination among different stakeholders and prioritization of nutrition goals on the Ministry of Health's agenda are paramount.

The problem of food insecurity has major implications on broader social policy in Egypt. Social cleavages are further intensified in the context of economic crises and external shocks. Social policy is concerned with all that relates to human existence and citizens' active participation and engagement in society. Providing people with the most basic of needs, food, is inarguably one of the main pillars in ensuring citizens can actively participate in their communities. In efforts to achieve this, social policy in Egypt should aim to stop the spread of poverty – one of the main determinants of food insecurity – first and foremost. Gaining a deeper understanding of the social determinants of malnutrition and how people respond to crises can lead to the development of preventative interventions and the design of social policies that best accommodate the needs of vulnerable groups. Empowering and building the capacities of local communities and raising awareness on how best to cope with crises should be priorities on policy-makers' agendas.

VIII. BIBLIOGRAPHY

Abdel Raouf, N., Abdel Aziz, N., Hassan, N., & Samir, R. (2011). *Child Labor in Egypt* (Master's thesis). Retrieved May 8, 2014, from <http://www.feps.edu.eg/en/departments/statistics/academicprograms/graduate/2011/13.pdf>

Alem, Y., & Söderbom, M. (2011). Household-Level Consumption in Urban Ethiopia: The Effects of a Large Food Price Shock. *World Development*, 40 (1), 146-162.

Argenti, O. (2000). Feeding the Cities: Food Supply and Distribution. *International Food Policy Research Institute*, 3 (5).

Bahrinipour, M., Holtkotte, A., & Bauerfeld, B. (2010). Improving the Living Conditions of the Poor in Manshiet Nasser. *GIZ*.

Barrett, C. B., Binder, A., & Steets, J. (Eds.). (2012). *Uniting on food assistance: The case for transatlantic cooperation*. Routledge.

BBC. (2014, January 14). *Egypt Profile*. Retrieved February 3, 2014, from BBC News: <http://www.bbc.co.uk/news/world-africa-13315719>

Berggren W.L., & Wray J.D. (2002). Positive deviant behavior and nutrition education. *Food and Nutrition Bulletin*, 23, 9-10.

Beydoun, M., & Wang, Y. (2008). How do socio-economic status, perceived economic barriers and nutritional benefits affect quality of dietary intake among US adults? *European Journal of Clinical Nutrition*, 62, 303-313.

Bloem, M. W., Semba, R. D., & Kraemer, K. (2010). The Impact of Climate Change, the Economic Crisis, and the Increase in the Food Prices on Malnutrition. *Journal of Nutrition*, 140, 132S-135S.

Braun, J. v. (2008). *Food and Financial Crises: Implications for Agriculture and the Poor*. International Food Policy Research Institute. Maputo: IFPRI.

Brinkman, H.-J., Pee, S. d., Sanogo, I., Subran, L., & Bloem, M. W. (2010). High Food Prices and the Global Financial Crisis Have Reduced Access to Nutritious Food and Worsened Nutritional Status and Health . *The Journal of Nutrition*, 140, 153S-161S.

CAPMAS. (2011). *Household Income, Expenditure and Consumption Survey*.

CAPMAS. (2013). *Household Income, Expenditure and Consumption Survey*.

- Carletto, C., Zezza, A., & Banerjee, R. (2013). Towards better measurement of household food security: Harmonizing indicators and the role of household surveys. *Global Food Security*, 2, 30-40.
- Cavatorta, E., & Pieroni, L. (2013). Background risk of food insecurity and insurance behaviour: Evidence from the West Bank. *Food Policy*, 43, 278-290.
- Centre for International Governance Innovation. (2009). *Global Food Crisis: Governance Challenges and Opportunities*. (J. Clapp, & M. J. Cohen, Eds.) Canada: Wilfrid Laurier University Press.
- Centre for International Governance Innovation. (2009). *Global Food Crisis: Governance Challenges and Opportunities*. (J. Clapp, & M. J. Cohen, Eds.) Canada: Wilfrid Laurier University Press.
- Christian, P. (2010). Impact of the Economic Crisis and Increase in Food Prices on Child Mortality: Exploring Nutritional Pathways . *The Journal of Nutrition*, 140, 177S-181S.
- Clayton, L. (2014). Green Potatoes: Causes and Concerns. *University of Alaska Fairbanks*.
- Cohen, M. J., & Garrett, J. L. (2010). The Food Price Crisis and Urban Food (In)security. *Environment and Urbanization*, 22 (2), 467-482.
- Cohen, M. J., & Garrett, J. (2009, August). The Food Price Crisis and Urban Food (In)security. *IIEED and UNFPA* .
- Darmon, N., Ferguson, E. L., & Briend, A. (2006, April). Impact of a Cost Constraint on Nutritionally Adequate Food Choices for French Women: An Analysis by Linear Programming. *Journal of Nutrition Education and Behavior*, 38(2), 82-90.
- Darnton-Hill, I., & Cogill, B. (2010). Maternal and Young Child Nutrition Adversely Affected by External Shocks Such As Increasing Global Food Prices . *The Journal of Nutrition*, 140, 162S-169S.
- Degen, G. (2010, June). *UNICEF Mali: Rising food prices in Mali escalate undernutrition amongst children*. Retrieved November 16, 2013, from UNICEF: http://www.unicef.org/infobycountry/mali_53811.html
- Dennison, B. A., Rockwell, H. L., & Baker, S. L. (1997). Excess fruit juice consumption by preschool-aged children is associated with short stature and obesity. *Pediatrics*, 99(1), 15-22.
- Djebbari, H. (2003). *Nutrition and Income: Evidence from an Experiment in a Developing Country*. The University of Maryland, Maryland.
- Draper, M. A., Secor, G. A., & Lamey, H. A. (1994, November). Management of Potato Diseases in the Home Garden. *orth Dakota State University Agriculture and University Extension*.
- D'Souza, A., & Jolliffe, D. (2013). Conflict, food price shocks, and food insecurity: The experience of Afghan households. *Food Policy*, 42, 32-47.

- Drewnowski, A., & Darmon, N. (2005). Food Choices and Diet Costs: an Economic Analysis. *The Journal of Nutrition*, 135, 900-904.
- FAO. (2011). Good food security governance: the crucial premise to the twin-track approach. *Background paper for F.A.O workshop*. Rome.
- FAO. (2009). Initiative on Soaring Food Prices. *Mission Findings and Recommendations: Inter-Agency Assessment Mission* (p. 26). Cairo: FAO.
- FAOSTAT. (2009). *Egypt*. Retrieved February 3, 2014, from FAOSTAT: http://faostat.fao.org/CountryProfiles/Country_Profile/Direct.aspx?lang=en&area=59
- Food and Agriculture Organization of the United Nations. (2006). Assessment of the double burden of malnutrition in six case study countries . In F. a. Organization, *The double burden of malnutrition: Case studies from six developing countries*. Rome: FAO.
- Food and Agriculture Organization of the United Nations. (2011). *FAO in the 21st Century: Ensuring Food Security in a Changing World*. Rome: Office of Knowledge Exchange, Research and Extension.
- Gutner, T. (1999). *The Political Economy of Food Subsidy Reform in Egypt*. International Food Policy Research Institute, Food Consumption and Nutrition Division, Washington.
- Galal, O. M. (2002). The nutrition transition in Egypt: obesity, undernutrition and the food consumption context . *Public Health Nutrition*, 5 (1A), 141-148.
- Garrett, J. L. (2000, August). Achieving Urban Food and Nutrition Security in the Developing World. *International Food Policy Research Institute* .
- Garrett, J. (2005). Living Life: Overlooked Aspects of Urban Unemployment. In U. Kracht, & M. Schulz (Eds.), *Food and Nutrition Security in the Process of Globalization and Urbanization* (pp. 512-529). Munster, Germany: Lit Publisher.
- Gilland, B. (2006). Population, Nutrition and Agriculture. *Population and Environment*, 28 (1), 1-16.
- Ghoneim, A. F. (2012). *The Political Economy of Food Price Policy in Egypt* . Cairo University, Faculty of Economics and Political Science. Cairo: UNU-WIDER.
- Guillén, M. D., & Uriarte, P. S. (2012, April). Aldehydes contained in edible oils of a very different nature after prolonged heating at frying temperature: Presence of toxic oxygenated α , β unsaturated aldehydes. *Food Chemistry*, 131(3), 915-926.
- Hawkes, C. (2007). *Globalization, Food and Nutrition Transitions*. WHO Commission on Social Determinants of Health. Ottawa: Globalization and Health Knowledge Network.
- Hassan, H., Moussa, W., & Ismail, I. (2006). The double burden of malnutrition: Case studies from six developing countries. In F. a. Organization, *Assessment of dietary changes and their*

health implications in countries facing the double burden of malnutrition: Egypt, 1980 to 2005. Rome: FAO.

Heltberg, R., Hossain, N., & Reva, A. (2012). *Living through Crises: How the Food, Fuel, and Financial Shocks Affect the Poor.* Washington, USA: World Bank.

IFPRI, WFP, Cairo University. (2013). *Tackling Egypt's Rising Food Insecurity in a Time of Transition.* Cairo: International Food Policy Research Institute.

ILO. (2012, December). Combating Worst Forms of Child Labour by Reinforcing Policy Response and Promoting Sustainable Livelihoods and Educational Opportunities in Egypt. *International Labor Organization.* Retrieved May 4, 2014, from <http://www.ilo.org/public/english/region/afpro/cairo/projects/cwclp.htm>.

Immenschuh, S. (2013). *PRESS RELEASE: Food Security and Nutritional Status in Egypt Worsening Amidst Economic Challenges.* IFPRI & WFP, Cairo.

IRIN. (2013, May 14). *Briefing: Egypt rethinks its subsidy system for the poor.* Retrieved April 10, 2014, from IRIN: <http://www.irinnews.org/fr/report/98031/briefing-egypt-rethinks-its-subsidy-system-for-the-poor>

Keith P West, J., & Mehra, S. (2010). Vitamin A Intake and Status in Populations Facing Economic Stress . *The Journal of Nutrition, 140,* 201S-207S.

Malik, K *et al.* (2013). *Human Development Report 2013.* New York, NY: United Nations Development Programme. Retrieved May 13, 2014, from http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf

Marshall, Catherine and Gretchen B. Rossman. 2011. *Designing Qualitative Research.* Fifth Edition. Newbury Park, Calif. : Sage Publications

Maxwell, D., & Caldwell, R. (2008, January). *The Coping Strategies Index: Field Methods Manual . 2.* Cooperative for Assistance and Relief Everywhere, Inc. (CARE).

Mougeot, L. J. (2000). The Hidden Significance of Urban Agriculture. *International Food Policy Research Institute, 3* (6).

MOHP, NNI, UNICEF, Ain Shams University, and South African MRC. (2012). *Egypt Nutrition: Landscape Analysis Report 2012.*

Omar, D. A. (2012). *Food subsidy reform: case of Egypt* (Master's thesis). Retrieved May 1, 2014, from <https://dar.aucegypt.edu/handle/10526/3211>

Pettit, K., Rowley, J., & Brown, N. (2011). Iron Deficiency. *Paediatrics and Child Health, 21*(8).

Pinstrup-Andersen, P. (1985). Food Prices and the Poor in Developing Countries. *European Review of Agricultural Economics, 12* (1).

Popkin, B. M. (2000). Urbanization and the Nutrition Transition. *International Food Policy Research Institute*, 3 (7).

Ramadan, R., & Thomas, A. (2010, June). Impacts of Rising Food Prices on the Egyptian Households' Welfare.

Rodriguez-Takeuchi, L., & Imai, K. S. (2013). Food price surges and poverty in urban Colombia: New evidence from household survey data. *Food Policy*, 43, 227-236.

Rosen, S., & Shapouri, S. (2008). Rising Food Prices Intensify Food Insecurity in Developing Countries. *USDA Economic Research Service Amber Waves*, 6 (1), 16-21.

Sabry, S. (2010). How poverty is underestimated in Greater Cairo. *Environment & Urbanization*, 22 (2), 523-541.

Schnepf, R. D. (1992). *Nutritional Status of Rwandan Households: Survey Evidence on the Role of Household Consumption Behavior*. Cornell University, Food and Nutrition Policy Program, Washington.

Smith, D. W. (1998). Urban Food Systems and the Poor in Developing Countries. *Transactions of the Institute of British Geographers*, 23 (2), 207-219.

Stamoulis, K. G., Pingali, P., & Shetty, P. (2004). Emerging Challenges for Food and Nutrition Policy in Developing Countries. *Journal of Agricultural and Development Economics*, 1 (2), 154-167.

Stein, L. J., Cowart, B. J., & Beauchamp, G. K. (2011). The development of salty taste acceptance is related to dietary experience in human infants: a prospective study. *American Journal of Clinical Nutrition*, 95(1).

Sternin M, Sternin J, Marsh D. (1999). Scaling up a poverty alleviation and nutrition program in Vietnam. In: *Marchione T. Scaling up, scaling down: capacities for overcoming malnutrition in developing countries*. Amsterdam: Gordon and Breach.

Strauss, A. L. (1987). *Qualitative Analysis for Social Scientists* (Vol. 1). New York, New York, USA: Cambridge University Press.

The State of the World's Children 1998: Focus on Nutrition (1998). *UNICEF*. Retrieved April 12, 2014, from <http://www.unicef.org/sowc98/silent4.htm>

Thorne-Lyman, A. L., Valpiani, N., Sun, K., Semba, R. D., Klotz, C. L., Kraemer, K., et al. (2010). Household Dietary Diversity and Food Expenditures Are Closely Linked in Rural Bangladesh, Increasing the Risk of Malnutrition Due to the Financial Crisis. *The Journal of Nutrition*, 140, 182S-188S.

Todd, E. C. (1996). Risk assessment of use of cracked eggs in Canada. *International Journal of Food Microbiology*, 30, 125-143.

Torlesse, H., Kiess, L., & Bloem, M. W. (2003). Association of household rice expenditure with child nutritional status indicates a role for macroeconomic food policy in combating malnutrition. *Journal of Nutrition*, 133, 1320-1325.

UN News Centre. (2012, June 18). *UN agency launches project to boost food security and nutrition in Egypt* . Retrieved February 4, 2014, from UN News Centre: <http://www.un.org/apps/news/story.asp/www.iaea.org/html/www.unicef.org/html/story.asp?NewsID=42263&Cr=food+security&Cr1#.Uvdz985o2P0>

United Nations System: Standing Committee on Nutrition. (2008). *The Impact of High Food Prices on Maternal and Child Nutrition*. Rome.

Verpoorten, M., Arora, A., Stoop, N., & Swinnen, J. (2013). Self-reported food insecurity in Africa during the food price crisis. *Food Policy*, 39, 51-63.

Webb, P. (2010). Medium- to Long-Run Implications of High Food Prices for Global Nutrition. *The Journal of Nutrition*, 140, 143S-147S.

WFP. (2008, October). *Vulnerability Analysis and Review of the Food Subsidy Program in Egypt*.

WFP. (2011). *Annual Evaluation Report 2010*. Rome.

WFP. (2011). *Secondary data analysis of the food security situation in Egypt* . World Food Programme - Regional Bureau for the Middle East, Central Asia and Eastern Europe , Cairo.

WFP. (2013). *Egyptian Food Observatory: Food Monitoring and Evaluation System*. Cairo: The Egyptian Cabinet Information and Decision Support Center (IDSC).

WFP. (2013). *The Cost of Hunger - Implications of Child Undernutrition on the Social and Economic Development of Egypt*. Cairo: The Egyptian Cabinet Information and Decision Support Center.

WFP. (2013). *The Status of Poverty and Food Security in Egypt: Analysis and Policy Recommendations*. Cairo.

WHO. (1983). *Measuring Change in Nutritional Status - Guidelines for Assessing the Nutritional Impact of Supplementary Feeding Programmes for Vulnerable Groups*.

WHO Regional Office for the Eastern Mediterranean, FAO Regional Office for the Near East. (2006). *FAO/WHO Technical Consultation on National Food-based Dietary Guidelines*. (p. 74). Cairo: FAO/WHO.

WHO. (2012, December 20). *Results of the National STEPwise Survey Released*. Retrieved February 2, 2014, from World Health Organization: Regional Office for the Eastern Mediterranean: <http://www.emro.who.int/pdf/egy/egypt-events/ncd-launch-dec-12.pdf>

Willett, W. C. (2001). *Eat, Drink, and Be Healthy*. New York, NY: Simon and Schuster Source.

Wood, G. (2003). Staying secure, staying poor: the 'Faustian bargain'. *World Development*, 31 (3), 455-471.

Yang, Q. *et al.*, (2012). What We Eat in America, National Health and Nutrition Examination Survey, 2009–2010. *Pediatrics*, 130, 611-619.

IX. APPENDICES

Arabic Interview Guide

الجامعة الأمريكية بالقاهرة



المقدمة

الإسم:

السن:

المؤهل:

مكان الإقامة:

ما هو عدد أفراد عائلتك؟

من يتولى الإنفاق علي الأسرة؟ و ما مصدر دخله؟

مدى معرفة الأمهات لقواعد التغذية الصحية لأولادهم للحفاظ علي صحتهم العامة:

١. عندك كام طفل؟ عندهم كام سنة؟

٢. ما هي أهم الأطعمة و العادات الغذائية المطلوبه لأطفالك في هذه السن؟

٣. هل تعتقدي أن هناك أطعمة ضرورية لنمو أطفالك و مساعدتهم في التركيز في الدراسة؟

٤. ما هي المواد الغذائية المهمة بالنسبة لأطفالك؟

٥. ما هي المخاطر الطبية و الصحية التي يتعرض لها الأطفال في حالة عدم توفر هذه المواد الغذائية؟

٦. ماذا تفعلين لضمان تناول أطفالك الطعام و العناصر الغذائية المطلوبة لنموهم و صحتهم؟

٧. ما هو الأمر الذي يشعرك بالقلق علي النظام الغذائي الخاص بأطفالك و لماذا؟

عادات الشراء و وضع ميزانية أظعام للأسرة:

٨. من أين تشتريين الطعام لأسرتك؟

٩. متى تشتريين الطعام لأسرتك؟ هل تتبعين قائمة حينما تشتريين الطام لأطفالك؟ ما هي الأطعمة الأساسية التي تشترينها دائماً؟

١٠. اوصفيلي زيارتك النمطية ألي البقالة أو السوق و كل كام يوم.

١١. هل تضعي ميزانية لمشترياتك؟ ما هي؟

١٢. هل تتذكرين كم كنت تصرف على الأكل كل أسبوع قبل الثورة؟ كم تصرفين على الأكل لأسرتك الآن؟ في رأيك، إلى أي

مدى تغيرت أسعار السلعة الغذائية من وقت الثورة إلى الوقت الحالي؟

١٣. إلى أي مدى تتبعين ميزانيتك؟ ماذا تفعلين إذا وجدت أن الأطعمة الأساسية تتجاوز ميزانيتك؟

إرتفاع أسعار المواد الغذائية:

١٤. ما رأيك في أسعار المواد الغذائية الحالية؟

١٥. هل لاحظت أي تغييرات في أسعار المواد الغذائية في السنوات الخمس الماضية؟ و بعد الثورة؟

١٦. في رأيك، ما هي أسباب إرتفاع أسعار المواد الغذائية؟

١٧. هل تعتقد أن هذه الأسباب مبررة؟ في رأيك الشخصي، هل تعتقد أن أسعار الأكل ترتفع بشكل متناسب مع الدخل؟

رد فعل الأسر ذوي الدخل المنخفض على إرتفاع أسعار المواد الغذائية، تحديد الأولويات، و تغييرات سلوكيات الأكل و أنماط الإستهلاك:

١٨. كيف تحددين أولوياتك عندما تشتريين المواد الغذائية لعائلتك؟ هل تأخذين أسعار المواد الغذائية في إعتبارك عندما تشتريين الطعام لأسرتك؟

١٩. كيف تتعاملون مع التغييرات في ميزانية الأكل و سلوكيات أسرتك الغذائية نتيجة للتغيرات في أسعار المواد الغذائية على مدى الخمس سنوات الماضية؟

٢٠. هل أنت و أسرتك قادرين علي مواجهة هذه التغيرات أم تواجهون المصاعب؟

٢١. ما هي الصعوبات، إن وجدت، التي قابلتك عند شراء المواد الغذائية لعائلتك بعد الثورة؟

٢٢. هل تغير دخل العاملين في أسرتك في الفترة الزمنية بعد الثورة؟

٢٣. هل اضطرتي أن تغيري شيء في عملك أو دخلك نتيجة لإرتفاع أسعار المواد الغذائية؟

٢٤. هل لجأت إلي مصادر بديلة للدخل؟

٢٥. هل لجأت إلي أفراد المجتمع أو الأقارب أو أي وسيلة أخرى للتعامل مع إرتفاع أسعار المواد الغذائية؟

٢٦. هل قمت بتغيير أنواع الأكل التي تشتريها لعائلتك نتيجة لتغيرات الأسعار؟ في رأيك، هل هذا يسبب مشكلة لصحة أولادك؟

٢٧. هل تغيرت عادات شراء المواد الغذائية الخاص بك أو الأماكن التي تشتريين الطعام منها نتيجة لإرتفاع الأسعار؟

٢٨. هل تغيرت أساليب الطبخ أو سلوكيات الأكل نتيجة لتغير الأسعار؟

• هل تغير عدد الوجبات اليومية؟

• هل تغير حجم الوجبات أو تكوينها؟ وكيف؟

٢٩. هل أضيفت أو استبعدت أكالات أو مواد غذائية معينة بسبب إرتفاع أسعارها؟

٣٠. هل قللت الأنفاق علي السلع غير الغذائية من أجل شراء المواد الغذائية الأساسية لعائلتك؟

٣١. من من أفراد عائلتك تعتقد أن أكثر عرضة للخطر من نقص التغذية نتيجة لإرتفاع أسعار المواد الغذائية؟

٣٢. هل أولادك على علم بهذه التغييرات و ما هو رد فعلهم؟

٣٣. هل لاحظت أي تغييرات في صحة أولادك أو أجسادهم نتيجة التغييرات التي قمت بها في وجباتهم و سلوكيتهم الغذائية؟

التعامل مع إرتفاع أسعار المواد الغذائية و إستراتيجيات المواجهة

٣٤. ما هي الخطوات الأولية التي تأخذها كى تتجاوزي الأسعار المرتفعة و تضخم ميزانية الأكل الخاصة بالمنزل؟

٣٥. توقعات العلماء تشير إلى أن أسعار المواد الغذائية سوف تستمر في الإرتفاع حتى ٢٠١٥ على الأقل. كيف ستتعاملين أنت و أسرتك مع إستمرار الإرتفاع في المواد الغذائية؟ هل هذا يسبب مشكلة لأسرتك على المدى البعيد؟

٣٦. هل تعتقدين أن إرتفاع الأسعار سوف يمثل خطرا ما على صحة أولادك؟ لماذا و كيف ستواجهون هذه المخاطر؟

English Interview Guide



Name:

Age:

Education Level:

Area of Residence:

Household Size:

Knowledge & Perceptions of Children's Optimal Nutrition and Dietary Requirements:

1. How many children do you have? What are their ages?
2. What foods and dietary habits do you think are most important for your children at this age?
3. Do you think there are particular foods that are essential for optimal growth and academic performance?
4. What nutrients are the most important for children?
5. What medical or health conditions are children at risk of as a result of deficiencies in these nutrients?
6. What do you do to ensure your children are eating well and staying healthy?
7. Do you ever worry about your diet or your children's diets? If so, why or when?

Purchasing Habits, Household Expenditure and Food Budgeting:

8. Where do you purchase your groceries?
9. How often do you shop for groceries? Is there a list of essential foods that you have to purchase every time? What foods are considered essential basic needs?
 - a. Describe to me your typical visit to the grocery store or market?
10. Do you set a budget for your purchases? If so, what is it?
11. Do you remember how much you used to spend every week on groceries five years ago? How much do you spend now?
12. How strictly do you follow your budget? What if the basic essential foods exceed your predetermined budget?

Perceptions of Food Price Changes:

13. What is your opinion on current food prices?
14. Have you noticed any changes in food prices recently?
 - a. In the last five years?
 - b. After the revolution?
15. Why do you believe food prices change?
16. Are the reasons justified? Do you think prices are changing steadily and proportionally to income for example?

Response to Food Price Changes, Prioritization, and Altered Dietary Behaviors:

17. How do you prioritize when you buy food for your family? Where does food price fall in your list of priorities?
18. How has your food expenditure and designated budget changed as a result of food price changes over the last 5 years?
19. Financially, how do you deal with changes to your food budget? Are you able to cope or do you face hardships?
20. Have you changed the types of food you purchase for your family as a result of price changes?
21. Have you changed cooking methods or eating behaviours as a result?
 - a. Has meal frequency changed?
 - b. Has meal size changed?
 - c. Has the composition of meals been altered in any way? If so, how?
 - d. Have certain foods been added or eliminated? If so, which foods?
22. Have you had to replace certain foods or specific brands that you used to purchase as a result of price changes? How so?
23. Are your children aware of these changes? How do they react to them?
24. Have you noticed any changes in your children's health or physical appearance as a result of the changes you have made in their diets?

Coping Strategies:

25. What are the initial steps you take when food prices exceed your predetermined budget?
26. The WB has predicted that food prices will continue to increase until at least 2015. How do you intend to cope with increasing food prices? Have you considered this? Does constitute a serious issue to you and your family members?
27. Do you believe rising food prices pose a risk to your children's health and well-being? Why or why not? If so, how will you deal with this risk? Does it worry you?



استمارة موافقة مسبقة للمشاركة في دراسة بحثية

عنوان البحث: دراسة عن تأثير أسعار المواد الغذائية على أنماط الاستهلاك و العادات الغذائية للأسر المنخفضة الدخل في المناطق الحضرية في القاهرة الكبرى و آثار ذلك على تغذية الأطفال وصحتهم

الباحث الرئيسي: رضوى محمد سعد- طالبة دراسات عليا
البريد الإلكتروني: rsaad63@aucegypt.edu
الهاتف: 01273411114

انت مدعو للمشاركة في دراسة بحثية عن الخلل في الأمن الغذائي نظراً لتقلب أسعار المواد الغذائية بين الأسر المنخفضة الدخل.

هدف الدراسة هو الحصول على فكرة أكثر وضوحاً عن العلاقة بين الدخل و الإنفاق على الغذاء و العادات الغذائية من أجل توصيات أكثر فعالية في السياسة الصحية.

نتائج البحث ستنتشر فمجلة علمية أو سنلقى في مؤتمر إذا حازت على القبول و ستنتشر كرسالة ماجستير في الجامعة الأمريكية بالقاهرة.

المدة المتوقعة للمشاركة في هذا البحث تتراوح من ساعة إلى ساعة و نصف لكل مقابله.

اجراءات الدراسة تشمل على مقابلات مع أمهات أطفال في المرحلة الدراسية الاولى التي سوف تشمل أسئلة حول الإستهلاك، و عادات الأكل و آراء المشاركين على أسعار المواد الغذائية.

المخاطر المتوقعة من المشاركة في هذه الدراسة -- لا يوجد مخاطر.

الاستفادة المتوقعة من المشاركة في البحث: حصول الأمهات على مجلد يتكون من كتب الأطفال و أنشطة ترفيهية لأطفالهم و على المدى الطويل سيساهم البحث في وضع خطط تساعد على تحقيق الأمن الغذائي في ظل إرتفاع أسعار المواد الغذائية.

السرية واحترام الخصوصية: المعلومات التي سوفتدلى بها في هذا البحث ستحفظ بطريقة سرية و آمنة في جهاز الكمبيوتر الخاص بالباحث.

" أي أسئلة متعلقة بهذه الدراسة أو حقوق المشاركين فيها أو عند حدوث أي اصابات ناتجة عن هذه المشاركة يجب ان توجه الى رضوى سعد - ٠١٢٧٣٤١١١١٤

ان المشاركة في هذه الدراسة ما هي الا عمل تطوعي، حيث أن الامتناع عن المشاركة لايتضمن أي عقوبات أو فقدان أي مزايا تحق لك. ويمكنك أيضا التوقف عن المشاركة في أي وقت من دون عقوبة أو فقدان لهذه المزايا.

الامضاء:

اسم المشارك :

التاريخ :/...../.....

Institutional Review Board (IRB) Approval

This is to inform you that I reviewed your revised research proposal entitled “

,” and determined that it required consultation with the IRB under the "expedited" heading. As you are aware, the members of the IRB suggested certain revisions to the original proposal, but your new version addresses these concerns successfully. The revised proposal used appropriate procedures to minimize risks to human subjects and that adequate provision was made for confidentiality and data anonymity of participants in any published record. I believe you will also make adequate provision for obtaining informed consent of the participants.

Please note that IRB approval does not automatically ensure approval by CAPMAS, an Egyptian government agency responsible for approving some types of off-campus research. CAPMAS issues are handled at AUC by the office of the University Counsellor, Dr. Amr Salama. The IRB is not in a position to offer any opinion on CAPMAS issues, and takes no responsibility for obtaining CAPMAS approval.

This approval is valid for only one year. In case you have not finished data collection within a year, you need to apply for an extension.

AAA egypt

