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# **THE IMPACT OF SUSTAINABLE LOCAL FOOD STRATEGIES ON EGYPTIAN URBAN DEVELOPMENT PLANS**

A Thesis Submitted in Partial Fulfillment of the Requirements of the  
**Degree of Master of Science in Urban Planning and Design**

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## Abstract

Food security remains one of Egypt's fundamental challenges for development and human welfare. Egypt has suffered a series of shocks that declined its food and nutrition security over the years. A joint report between the WFP and CAPMAS in 2011, on the status of food security and poverty in Egypt highlighted an increase in food insecurity levels to reach 17.2% (13.7 million) of the Egyptian population and the numbers have been in continuous increase since then. Problems as poverty and food insecurity that are usually perceived as rural issues are becoming a rising concern for urban areas; with Greater Cairo Region having the largest population with poor access to food among other Egyptian governorates. This has contributed to an evident deterioration in the nutritional and health status of the Egyptian community; translated into heavy economic and social costs on the society at large, in what is known as "The Cost of Hunger". Cities are bound to food by their appetite. Yet, as urban dwellers, we take our food for granted. We are oblivious to what it takes for our urban food systems to function and the amount of resources needed to feed our cities. The complexity and low visibility of urban food systems have hindered addressing them in the same magnitude as other urban challenges. However, urban food systems are directly related to city's economic and social development and welfare of its citizens. The research aims to investigate the impact of integrating sustainable local food strategies in Egyptian urban development plans. Starting by viewing how the act of feeding cities has played a great role in shaping urban settlements; tracing the path of urban development through its relation to food systems. Followed by providing the main concepts and notions related to urban food systems; how food is viewed as a system and what constitutes an urban food system.

Reviewing the main social, economic and environmental drivers that triggered the decline of food insecurity levels in Egypt; shows that the way in which our cities are traditionally constructed has failed to keep in pace with its growing needs. Thus, new paradigms of thinking are needed to understand how food systems function and how they can be designed and monitored in a sustainable way. The devised method aims at rereading the city as an ecosystem; where flows of materials and energy cross; in what is known as 'Urban Metabolism'. Taking Cairo as a case study, an insight into the metabolism of its food system; can help us manage its complexity and contribute to its sustainable development. Six vital food system flows are identified: land, water, energy, goods, capital and employment. The research is to analyze the flows, in relation to the main activities that constitute an urban food system; production, processing, distribution, consumption and waste, using flow diagrams and spatial maps for mapping the flows and visualizing the system's transfers and their spatial consequences. Followed by a comprehensive analysis of the food system in terms of; the food system needs, resource use and environmental impacts, the food system's security; in terms of the food availability and access dimensions and the food system management; in terms of identifying the system's actors and policies; to provide pointers to the system's challenges and inefficiencies and look for potential synergies that could minimize its losses and maximize its returns.

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Eman AbouZiyan  
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## Abbreviations

AFES	Arab Fund for Economic and Social Development
CAPMAS	The Central Agency for Public Mobilization and Statistics
FAO	Food and Agriculture Organization of the United Nations
ECARD	Egyptian Company for Agricultural and Rural Development
EDA	Egyptian Agriculture Database
EFO	Egyptian Food Observatory
EITP	Egyptian international trade point
HLPE	The High Level Panel of Experts on Food Security and Nutrition
IABR	International Architecture Biennale Rotterdam
IDSC	The Egyptian Cabinet's Information and Decision Support Center
IFRC	International Federation of Red Cross and Red Crescent
IPCC	Intergovernmental Panel on Climate Change
MDGs	Millennium Development Goals
NSPO	National Service Projects Organization
OECD	Organization for Economic Co-operation and Development
RCREEE	Regional Center for Renewable Energy and Energy Efficiency
RUAF	Resource Centres on Urban Agriculture and Food Security
SDGs	Sustainable Development Goals
PBL	Netherlands Environmental Assessment Agency
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNSCN	United Nations System Standing Committee on Nutrition
WFP	World Food Programme

# 1

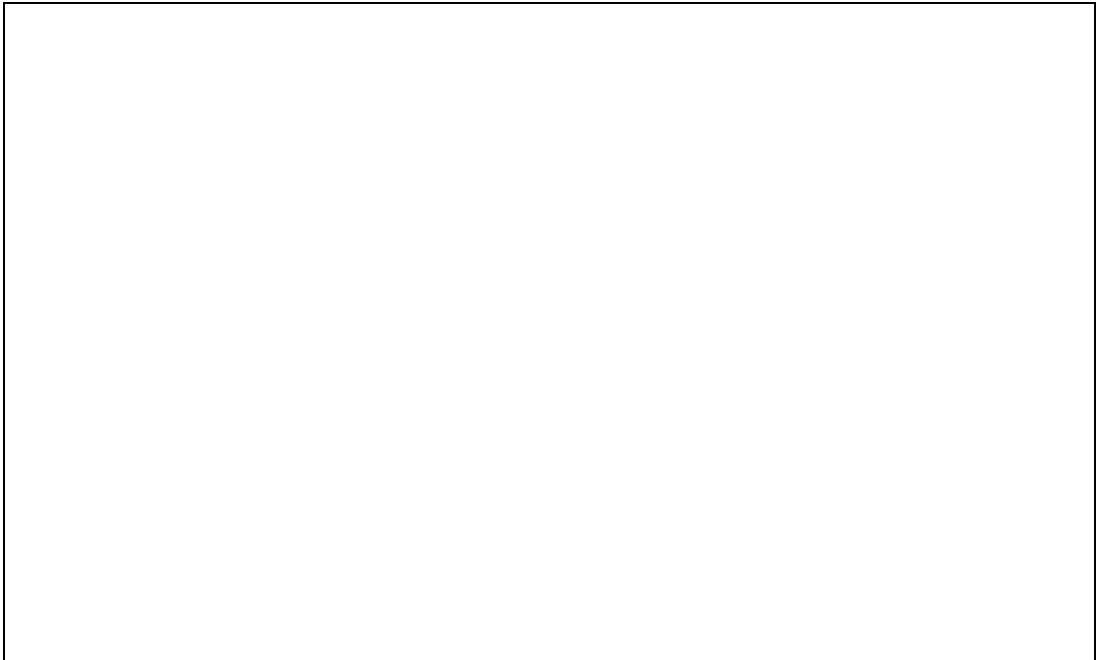
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## CHAPTER ONE: RESEARCH DESIGN & METHODOLOGY

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## 1.1 Introduction

Over the past years, Egypt suffered a series of shocks that triggered a decline in its food security trends, as shown in Figure 1.1. A joint report between CAPMAS and the WFP on the status of food security and poverty in Egypt” highlighted an increase in food insecurity levels to 17.2% in 2011 (13.7 million people) and the number is in continuous increase year after year. There is a significant relation between income poverty and poor access to food; poverty has driven an increase in household food insecurity. Poverty in urban areas has been rising faster than in rural areas; Greater Cairo Region accommodates the largest population with poor access to food; 3.5 million people (*CAPMAS, WFP, 2011*). Hence, problems as poverty and food insecurity, which are usually perceived as rural issues, are becoming a rising concern for urban areas as well.



**Figure 1.1 Food security trend (January-August 2011), Source: WFP, 2011**

In response to these cumulative shocks, households have adopted several severe coping strategies. The Information and Decision Support Centre and The Egyptian Food Observatory, notes that as their debt accumulates, poorer households are shifting away from borrowing money to reducing food consumption and dietary diversity. This contributes to a further deterioration in the nutritional and health status; leading to dietary health related problems as high stunting rates, anemia and obesity; highlighting the presence of a ‘Triple Burden of Malnutrition’ on Egypt (*CAPMAS, WFP, 2011*). The impacts are not only social, but economic as well; having long-term negative effects on the society’s education, health, labor and