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Household Resilience Against Food Insecurity in Areas of Protracted Conflicts: A Libyan Study

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Declaration

I declare that this research is completely my own work. This thesis submitted for the Degree of Doctor of Philosophy at Nottingham Trent University. It has not been submitted before for any university or degrees.

(Signature of candidate)

Day: 19/12/2019

Abstract

Recent estimates provided by UN institutions indicate that over 820 million people are currently suffering from food insecurity worldwide. Conflict has been widely identified as one of the key causes of such persistent and high level of global food insecurity, particularly in the Middle East and North African (MENA) region, including Libya. It is, therefore, important to know how to overcome this problem. Recently, 'resilience-building' has been identified by many development institutions around the world as a strategy to improve food security in conflict-affected areas. However, little was empirically known what makes households resilient against food insecurity in areas of protracted conflicts. In this thesis, I explored this question based on research in Libya.

Drawing on a range of literature, especially the Sustainable Livelihoods literature, I developed an analytical framework. In this framework, resilience was defined as the ability of a household to maintain an appropriate level of food consumption (access) during conflict times. It was proposed that this ability to be resilient would depend on nine factors: exposure-sensitivity to conflicts, five types of assets (natural capital, physical capital, financial capital, human capital and social capital), coping strategies, access to basic services (ABS), and social safety nets (SSN).

A mixed-methods approach was used in the research. Data were collected through two phases – a qualitative phase and a quantitative phase. The purpose of the qualitative phase was to understand the contexts in Libya, including the nature of the conflicts and its effects on household food security; the nature of assets important in Libyan context; the strategies households used to cope with conflicts and food insecurity; and the nature of the ABS and SSNs relevant to Libya. For this, data were gathered through 55 semi-structured interviews as well as field observations and conversations. The data were analysed qualitatively using the NVivo software.

The findings from the qualitative phase were then fed into the design of the quantitive part of the research. In the quantitative phase, survey data were collected from a sample of 320 households. A structured questionnaire was used in data collection. The questionnaire data were analysed using the software SPSS versions 25 and 26. Food security was measured

using the Food Consumption Score (FCS) and the Household Food InsecurityAccess Scale (HFIAS). Index scores were created for both FCS and HFIAS according to the guideline in the literature. For the nine explanatory variables, index scores were also created using descriptive statistics and Principal Component Analysis. To determine the effects of these nine explanatory variables on food insecurity resilience, binary logistics regression analyses were performed.

Results from both the qualitative and quantitative phase confirmed a significant decline in households' food security during conflict times, compared to the pre-conflict times. The result of the qualitative phase suggested that all the factors in the proposed analytical framework were important for household food security. However, quantitative analyses showed that only social capital at time t (pre-conflict) had a statistically significant positive effect on resilience against food insecurity during the major conflict in 2011 (time t+1). To analyse resilience in time t+2, two logistic models were created – effects of the nine explanatory variables that households possessed in time t, and time t+1. The results of the first model indicated that household natural capital in time t had a significant positive effect on resilience in time t+2. The result of the second model indicated that household resilience in time t+2 was significantly affected by three variables – natural capital, financial capital and social capital in time t+1. Most of these significant effects were, however, found in the models in which food security was measured as FCSs.

The main conclusion of this research is that assets play important roles in household food security resilience. The findings also lead to the conclusion that the type of assets that can affect household resilience also depends on which conflict time is taken into analysis and how the variable "food (in)security" is measured. These suggest that, for resilience building in areas of protracted conflict, it is important to identify which assets are important. Development agencies and institutions should then focus on protecting and improving those assets. It is also important for developing agencies to use appropriate tools for assessing and monitoring "food (in)security", since the results may be different based on which tools are used.

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I must start thanking my supervisors, ***Dr M. Mofakkarul Islam*** and ***Dr Imad El-Anis***. I am very grateful for the opportunity to allow this research to started and to work with them on this PhD project until the end. I had struggled to set my targets in the first year when I started, but with the support from my supervisors, I have overcome all difficulties. Director of studies ***Dr M. Mofakkarul Islam*** was very kind to provide all his guidance that I needed to complete this thesis.

My supervisors' rich experience, valuable comments and feedback on the drafts chapters have made my research more interesting and challenging for me. Hence, I am very thankful for their patience, motivation, and all advice and encouragement to be able to complete this project.

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My sincere gratitude should go to my ***wife*** and my ***family*** in Libya (especially my ***mother*** and my ***father***) for their understanding of my absence during my study as well as for their continuous encouragement.

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ACRONYMS

Aljamiaat	Government local association for food display in Libya
Bazin	Main traditional food dish in the west part of Libya
DFID	Department for International Development
FAO	Food and Agricultural Organization of the United Nations
FCS	Food Consumption Score
FIVIMS	Food Insecurity and Vulnerability Information and Mapping Systems
FO	Food Officials
Ftat	Main traditional food dish in most parts of Libya
HFIAS	Household Food Insecurity Access Scale
HH	Household
HHs	Households
IFAD	International Fund for Agricultural Development
IFPRI	InternationalFood Policy Research Institute
IPCC	The Intergovernmental Panel on Climate Change
Mahallah	Small community or township, inhabited by a few thousands of citizens
MENA	Middle East and North Africa
MJL	Ministry of Justice Libya
NGOs	Non-government organisations
RIMA	Resilience Index Measurement and Analysis
UN	United Nations
UNESCO	United Nations Education, Scientific and Cultural Organisation
USAID	United States Department for International Development
WFP	World Food Programme

Chapter One

Introduction

1.1 Overview

This chapter introduces the thesis by describing food insecurity as a persistent challenge in the world, as well as exploring the link between food insecurity and conflict. Furthermore, it defines conflict and food security based on the data obtained from the literature illustrating what factors influence the relationship between conflict and food insecurity. Additionally, a comprehensive review of the literature on linkages between food security and conflict is provided, focusing on issues that have a causal interpretation. Then, the knowledge gaps which this research will support with new data collection are identified and an explanation given of how this research seeks to fill the academic gaps and support policymaking by describing resilience-building as a strategy to solve food insecurity in the conflict context. The subsequent sections contain a statement of the aims and objectives and an outline of the structure of this thesis.

1.2 Global Food Insecurity – A Persistent Challenge

Food insecurity continues to remain one of the key contemporary developmental challenges in the world (FAO et al. 2019). A recent estimate provided by World Hunger Organisation (2019) of the United Nations report indicates that the number of hungry people rose to 821.6 million in 2018 from 785 million in 2015 (Table 1.1), corresponding to about one in every nine people in the world (FAO et al. 2019).

Table 1.1. Numbers of Undernourishment in the world 2005-2018 (million).

Regions and locations	*Number of undernourished (millions)*			
	2015	**2016**	**2017**	**2018**
AFRICA	217.9	234.6	248.6	256.1
Northern Africa	15.5	16.1	16.5	17.0
Sub-Saharan Africa	202.4	218.5	232.1	239.1
Eastern Africa	119.3	126.9	129.8	133.1
Middle Africa	37.9	41.1	43.2	44.6
Southern Africa	5	5.5	5.4	5.3
Western Africa	40.3	45	53.7	56.1
ASIA	518.7	512.3	512.4	513.9
Central Asia	3.8	3.8	4	4.1
Eastern Asia	138.1	137.8	138.1	137.0
South-eastern Asia	61.9	61.9	61.1	60.6
Southern Asia	286.1	278.3	276.4	278.5
Western Asia	28.8	30.5	32.7	33.7
Western Asia and Northern Africa	44.3	46.6	49.2	50.6
LATIN AMERICA AND CARIBBEAN	39.1	40.4	41.7	42.5
Caribbean	7.7	7.6	7.7	7.8
Latin America	31.5	32.9	34	34.7
Central America	10.9	10.6	10.7	11
South America	20.6	22.2	23.2	23.7
OCEANIA	2.3	2.4	2.5	2.6
WORLD TOTAL	785.4	796.5	811.7	821.6

Source: FAO et al. 2019; World Hunger Org 2019.

Table 1.1 confirms the massive challenge posed by achieving the Zero Hunger target by 2030. The situation is most shocking in Africa, where since 2015 the number of undernourishment has increased in almost all regions. In conflict-affected countries, particularly sub-Saharan Africa (SSA), the number of hungry people increased by 36.7 million between 2015 and 2018 alone – this is a remarkably rapid increase compared with countries which are not exposed to conflicts. The situation worsens in most areas of Africa, while Asia seems to be slowing down significantly.

World Hunger (2019) report declared about 151 million children aged under five suffer from malnutrition and that they are too short for their age. About 79 per cent of stunted children live in countries affected by violent conflict. In Asia, almost one in 10 children who are under five has low weight for their height, compared to just one in 100 in Latin America and the Caribbean (Global hunger UN report 2019). Furthermore, the reports include some other important statistics, as follows:

- About 821.6 million or one in every nine people are hungry
- About 150.8 million children under five are affected by stunting (low height-for-age)
- About 50.5 million children under five are affected by wasting (low weight-for-height)
- About 38.3 million children under five are overweight (high weight-for-height)
- About 32.8% of women of reproductive age are affected by anaemia
- About 672 million adults are obese

Many factors have mostly driven these trends, including exposure to conflicts and extreme weather events, currently affecting several countries in Africa and Asia. Food insecurity has been on the rise over the past three years, returning to levels from a decade ago (FAO 2018a; UN 2019).

Several reasons for this persistence of food insecurity and hunger in the world have been identified. The key ones include: poverty, climate change, natural disasters, conflicts, population growth, economic slowdown, and political issues (Sen 1981; Misselhorn 2005; Alinovi and Romano 2009; Leichenko 2011: World Bank 2010; Fan et al. 2014; FAO 2015; Charlton 2016; FAO et al. 2019). In addition, the annual UN reports (FAO et al. 2017, 2018) found that conflict and climate extremes, such as rainfall patterns floods and droughts, are the key drivers behind the rise in food insecurity together with economic slowdowns. This thesis provides a focus on the problem of conflicts.

1.3 Food Insecurity and Conflict [1]

Although it is widely recognised that food insecurity is a complex problem that may arise from a plethora of factors, in recent times, 'conflict' has been identified as a key driver (Holleman et al. 2017). This includes political and armed conflicts, as well as civil and tribal conflicts (Oba 1992; Brinkman and Hendrix 2010; Justino 2013; Brück et al. 2019; Ujunwa et al. 2019). According to the state of food security and nutrition in the world report provided by FAO et al. (2017), conflict was one of the key reasons for the recent increase in global food insecurity from 785.4 million in 2015 to 821.6 million in 2018.

According to some literature, conflict affects food-insecure and less-developed countries more than food-secure and more developed countries (Marchione 1996; Bora et al. 2011; Brinkman and Hendrix 2011; Hendrix and Brinkman 2013; Woertz 2014; Tranchant et al. 2019). For instance, almost 1.5 billion people nowadays live in states facing conflict and food insecurity. About 239 million in Sub-Saharan Africa (SSA) are undernourished, mostly due to armed conflicts and natural disasters (World Hunger Org 2019; FAO et al. 2019). Additionally, people in developing countries, including North Africa and the Middle East (MENA), have been suffering from food insecurity in the last few years as a result of armed or civil conflicts (Goodhand 2003; Gleick 2014; Ujunwa et al. 2019). Since 2011, there are about 52 million hungry people in the North Africa region, 33.9 million of them in conflict countries; unfortunately, about 21.1 per cent of children under five are affected by stunting or short-for-age height. Furthermore, 8.7 per cent of children under five are affected by low-for-height weight (UN 2019; FAO et al. 2019).

Protracted conflict in some of the countries in the MENA region is hindering efforts to reduce the number of hunger in the region by 2030, according to a United Nations report published on 21 September 2017.

There is a growing body of attempts which examines food insecurity as an underlying

[1] A part of this section has been taken from a paper of mine that has been accepted for publication in the journal Development in Practice.

cause of armed conflict. Luckham et al. (2001) stated that policies should be first based on understanding the contexts of particular conflicts and their causes and should recognise both variations between various contexts in how conflicts affect different regions and nations. Much of the existing evidence demonstrates the effect of conflicts creating food insecurity and causing poverty, inequality, deaths, displacement and migration (Figure 1.1). There is a level of agreement that long-term conflict is likely to lead to deep-seated poverty (Brinkman and Hendrix 2011; Goodhand 2003; Cramer 2005). However, these fundamental realities need to be factored into conflict-resolution, peace-building, development policy and post-conflict reconstruction, in order for them to succeed. This thesis argues that more empirical data and analytics of food insecurity created by conflicts are needed.

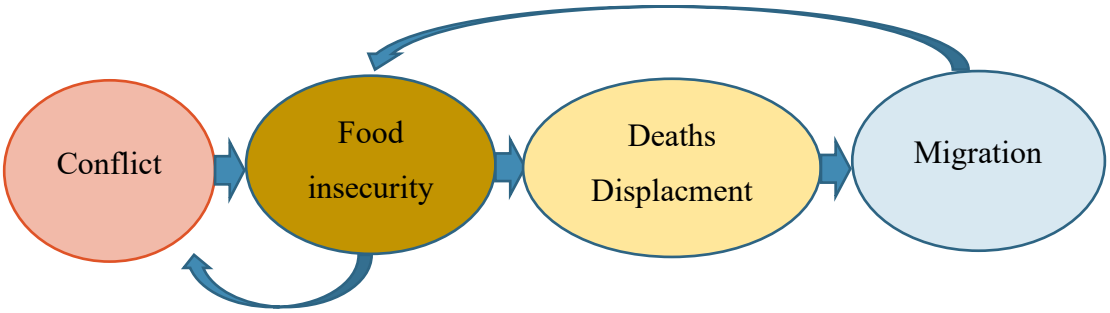

Figure 1.1 The vicious cycle of conflict.

Source: Derived from the ideas of Brinkman and Hendrix (2011); FAO and IFPRI (2017)

The UN Food and Agriculture Organization (FAO) and the International Food Policy Research Institute (IFPRI) report in a joint brief (2017) that such circumstances are causing instability, clarifying how conflict leads to food insecurity displacement and migration and how this might lead to more conflict and more food insecurity. Unpacking the links between food insecurity and conflict supports in dealing with both; it is important to break the vicious cycle, especially in ongoing conflict areas (World Bank 2010; Martin and Stojetz. 2019). Food aid is the standard instrument used to limit immediate food insecurity in conflict-affected countries. However, food aid cannot help provide everything with a better context for resolving other issues of social discontent (Godfray et al. 2010). For example, food aid will not assist in a better transition to longer-term stability and security; food aid can exacerbate conflicts in some situations and is regularly used poorly. It can also worsen some of the roots lead to social discontent.

Food insecurity, in turn, may foment and perpetuate armed conflicts (Brinkman and Hendrix 2011; WFP 2017). Previous studies found that poor nutrition is linked with a higher probability of armed conflicts (Misselhorn 2005; Andersen and Shimokawa 2008). Countries with lower per capita food intake are more likely to experience armed conflict, which negatively affects their levels of wellbeing (Brinkman and Hendrix 2011). Some other studies established that conflicts are usually linked to natural resources, where some countries that are rich in natural resources, such as oil, gas, diamonds and gold, were most plagued by conflict in the past 20 years and commodity-rich countries characterised by widespread food insecurity, such as Libya, Angola, DRC, Sierra Leone and Papua New Guinea (Lean 2012; Walsh 2018).

Previous studies found macro-level factors that made countries more prone to face armed conflict. For example, Fearon (2007) stated that large populations with low per capita income are correlated with civil war, whereas ethnic and religious diversity does not make countries more susceptible to conflict (Marks 2016). Thus, the shortage of food has been the source of many recent and past conflicts. Food insecurity has been a factor cause conflicts.

Moreover, there are many reasons why food insecurity may lead to conflicts. This can be due to food price increases and volatility, grievances from hunger, the availability of valuable commodities for rebel funding, weak governance performance, ill-defined political regimes, a disproportionately high rate of young people in the population, slow or stunted economic growth, and high inequality among groups (Walton and Seddon 1994; World Bank 2010; Brinkman and Hendrix 2011; Bohstedt 2014; Hendrix and Haggard 2015; Bates and Block 2017).

For example, throughout history, higher food prices have triggered violent riots (Bohstedt 2014). The sharp increases in food prices observed throughout the world led to protests and rioting in the 1970s and 1980s (Walton and Seddon 1994; Brinkman and Hendrix 2011). It is observed that food price volatility tends to raise the risk of civil unrest or worsen conflict (World Bank 2010). The cause of the violence was found to be higher in low-income and lower government performance countries (Von et al. 2008). Recent research also found that higher food prices and poor living conditions in developing countries contributed to protests and riots (Hendrix and

Haggard 2015). In a more recent study, Ujunwa and others (2019) found that armed conflict was a significant predictor of food insecurity in West Africa.

Several previous studies suggest some solutions for policymakers to consider as they attempt to solve food insecurity created by conflict. First, donors and humanitarian aid need to deliver equitable food assistance to vulnerable people. Furthermore, it is important to monitor the effect of global rising prices of developing countries' vital agricultural exports. It is essential to consider how monetary exchange rates and marketing policy bodies are influencing smallholder livelihoods. In addition, the food security framework should focus on the human wellbeing of vulnerable and poor people, providing all essential complete to the needs-based approach. Finally, the food security framework should focus on the social welfare of poor and vulnerable people, providing an essential accompaniment to the needs-based approach (Devereux and Sussex 2000; Messer and Cohen 2007; Stringer 2009; FAO 2015; FAO 2017; Mitchell et al. 2015; Kah 2017).

In much of the literature, conflicts are widely understood to be intimately connected with poverty creating countries more susceptible to armed conflict and civil war, leading to weak governance service and poor economic situation, thus raising the risk of conflict relapse (Goodhand 2003).

Most of the empirical studies agreed on the significant role of government policies to maintain equitable and peaceful outcome, with lessons that should be taken from Africa. While many developing countries have now grown their economies and developed solid institutions, still, most MENA countries such as Yemen, Libya, Iraq, Syria, and Tunisia are suffering from these types of conflicts for a long period of time (e.g. Lagi et al. 2011; Stivachtis 2019). These countries also remain dependent on resource exports. The remaining question is, how can these problems be addressed? There is a shortage of data on food insecurity created by conflicts. Furthermore, there is a lack of how exposure to conflict can be identified in the literature. Hence, this study tries to investigate the effects of conflict on household food security and resilience by determining the degree of conflict from a household level.

1.4 Conflict and Food Insecurity in Libya[2]

The onset of the ongoing Libyan conflict could be traced back to the anti-Gaddafi protests which started on 17 February 2011, arguably, inspired by the uprising called the *Arab Spring* in neighbouring countries, such as Tunisia and Egypt (Salih 2013; Paoletti 2011).

El-Anis and Hamed. (2013, p. 75) established that the Arab Spring as the revolutions taking place across the Middle East North Africa region (MENA) which has remarkably changed the political and economic situations of the MENA region. Protracted civil conflict in Libya along with the high levels of destruction and death, as well as the international intervention, is more likely to hamper the establishment of democracy (El-Anis and Hamed 2013).

In Libya for example, the protesters demanded Colonel Muammar Gaddafi to give up power and leave the country. The protests turned into armed conflict when Colonel Gaddafi used armed forces to break up the revolution, leading successively to the intervention by the UN Security Council and NATO forces attacking Qaddafi's forces (Gaub 2013; Kuperman 2013). The war led to the death of Gaddafi in October 2011 and of thousands of other people (Kristensen and Mortensen 2013).

An election was held in 2012, with the General National Congress (GNC) based in Tripoli, taking over power (Sawani 2012; St John 2017). Following internal disputes and political fragmentation within the GNC, as well as discontent among various opponents of the GNC, another election was held in 2014 that brought the House of Representative's government, known also as the "Tobruk Parliament", to power (Pargeter 2014; Fitzgerald 2016). Then, an interim government was formed from the parliament of Tobruk in the Al-Bayda city located in eastern Libya (Al-Bayda is the seat of the former Libyan king Idris). This, however, did not resolve the conflicts, with both factions – including the Tobruk government which is strongest in the East of Libya and the Tripoli government strongest in the West of Libya – began fighting each

[2] A part of this section has been taken from a paper of mine that has been accepted for publication in the journal Development in Practice.

other to gain control over territory and Libyan oil reserves.

Recently clashes have taken place in territory surrounding Tripoli between the Tripoli government and the Libya National Army, formed by marshal Khalifa Haftar in East Libya (Pettersson and Wallensteen 2015).

Since 2011, Libya has suffered from conflicts, including tribal conflicts and terrorism (Bennett 2019). In some areas, the conflicts have been brief while in some other areas they have lasted for prolonged periods (Lagi et al. 2011; World Bank 2011; Maystadt et al. 2014; WFP 2016). Since 2011, more than three million people have been affected across Libya by the crisis. It is reported that these conflicts have severe impacts on food security in Libya (WFP 2016; WFP 2018).

Exposure to armed conflict has multiple implications for household and civilian people (Harbom and Wallensteen 2007). Furthermore, armed conflicts can destroy local infrastructure making it progressively difficult for households to access food (LNN 2017). The present study is particularly salient in light of the many ongoing current conflicts in Libya. It examines the impacts of exposure to conflicts on household food security and resilience outcomes.

The understanding of the effects of conflict over time is still incomplete. Evidence from Libya suggests that households exposed to conflict are more likely to face long-term food insecurity and deprivation than those who were not exposed to conflict.

However, there is no empirical evidence on Libya regarding food security and conflict, with very limited data available in the UN organisations, such as FAO and WFP, about Libya. As Martin and Stojetz (2019) explained in their research on food security and conflict, there are specific cases that are missing data, including Libya which is a severely conflict-affected country and they exclude Libya because they do not have any data or timeline to measure food security relative to changes in the intensity of its conflicts.

1.5 Resilience Building as a Strategy to Resolve Food Insecurity in the Conflict Context

Increasingly, governments and development institutions around the world are proposing “resilience-building” as a strategy to improve food security in conflict-affected developing countries (Barrett and Headey 2014; Breisinger et al. 2014; Ciani and Romano 2014; Fan et al. 2014; Dhraief et al. 2019).

According to IFPRI (2019), resilience-building means:

> *“…helping individuals, households, communities, and countries prepare for, mitigate, cope with, and recover from shocks—so that they can not only bounce back but even become better off…”* (IFPRI 2019, resilience topic)

Resilience is a rich and complex concept that contains a core of dynamic actions that describe the nature of vulnerability as it affects the developing world. (Von et al. 2013; Béné et al. 2016). Recent studies on resilience-building have discussed solutions to address food insecurity. For example, Constas and Barrett (2013) define resilience as the capacity over time of an individual or household to avoid poverty (food insecurity) when they face various stressors or shocks. If the capacity of the household or individual remains stable over time, then the unit is called "resilient”, and if not, then it is called non-resilient.

Empirical studies found that protracted crises reduce resilience in the context of food security. Thus, to build resilience some principle intervention strategies must be taken into account: strengthening and rebuilding local institutions, strengthening the diversity of traditional support networks as well as reinforcing local knowledge and the ability to adapt and reorganise. (Aron 2002; Pingali et al. 2005; Miller et al. 2010; Breisinger et al. 2014; Calderone et al. 2014; Fan et al. 2014; Hellin et al. 2018; Brück et al. 2019; Martin and Stojetz 2019).

These alarming signs of increasing food insecurity are clear warnings that there is considerable effort to be done to improve food security, the heads of the UN Food and Agriculture Organization (FAO), the International Fund for Agricultural Development (IFAD), the World Food Programme (WFP) and WHO warned in their joint foreword

to the report:

> *"…if we are to achieve a world without hunger and malnutrition in all its forms by 2030, it is imperative that we accelerate and scale up actions to strengthen the resilience-building and adaptive capacity of food systems and people's livelihoods in response to conflicts and climate extremes…"* the leaders said (FAO et al. 2018, p. vi).

Conflict-affected countries require peace in order to achieve food security outlooks. Development assistance is also needed, including aid to agriculture and more employment, which can prevent conflict if it promotes equity. Then the attempts to reach the MDGs can succeed.

1.6 Problem Statement

Global food insecurity continues to remain one of the critical developmental challenges in the current era (FAO et al. 2019). According to the latest revision of the UN population expectation, the world's population will possibly increase to over nine billion (Barnosky et al. 2016; Engelman 2016; Michalopoulos et al. 2019). The majority of these people are predicted to be from developing countries where there will be an increasing demand for food, and most of their food comes from overseas (Nelson et al. 2010; FAO 2015; McDonald 2015; Stringer 2016).

Conflict is a major factor for food insecurity, including armed or political conflicts, disputes, wars, terrorism and violations (Brinkman and Hendrix 2011; FAO 2018a).

Conflicts cause food insecurity, displacement, economic loss and more unemployment and agricultural production, as well as reduce people's accessibility to food and thereby increase local food prices. They also reduce food availability by negatively affecting agricultural production through the destruction of agricultural assets (Chamarbagwala and Morán 2011; Pack et al. 2014; NOC 2017).

Conflicts and food insecurity need to be analysed in terms of the causes, dynamics, and consequences of international and local conflicts and for policymaking concerning

early warning (Wencker et al. 2015).

Much research has been done to solve household food insecurity during emergencies and the impact of sudden shocks (Alinovi and Romano 2009; Leichenko 2011; Fan et al. 2014; Charlton 2016). However, there is a shortage of data on the status of food security. There remains a gap in understanding household resilience to overcome and maintain a certain level of food security in protracted crises, such as conflicts. The awareness of the factors that affect household resilience against food insecurity can be important in providing policymakers with the framework for developing policies to be used during protracted conflicts in Libya, for example (Kuperman 2013).

It is found that resilience against food insecurity depends on several factors that contribute to resilience, such as assets, social safety nets, access to basic service and the degree of exposure and sensitivity to conflict as discussed earlier (Alinovi and Romano 2009; Brinkman and Hendrix 2011; Leichenko 2011; Fan et al. 2014; Charlton 2016; Dhraief et al. 2019). However, these findings come mainly from non-conflict contexts. In particular, there is no such study in the Libyan context, although the country has been suffering from protracted conflicts since 2011. Therefore, this research aims to explain what makes households resilient or not against food insecurity created by conflict in the case of Libya. This thesis attempts to answer the following research questions:

1. What types/variations in resilience can be identified in Libya between households?
2. What makes households in Libya resilient or non-resilient against food insecurity caused by recent conflicts?
3. What new theoretical insights regarding food security resilience can be generated from the Libyan case?

1.7 Research Aim and Objectives

The study aims to develop a new framework that explains why households in a conflict context may or may not be resilient against food insecurity. For this, this study analyses the contexts in Libya. The study intends to fulfil this aim by achieving the following

two specific objectives;

1. To identify the nature and extent of resilience demonstrated by Libyan households against food insecurity; and
2. To determine the factors that affect household resilience against food insecurity created by conflict.

1.8 Thesis Outline

To achieve the specific research objectives, this research is presented in the form of chapters (Figure 1.2) as follows.

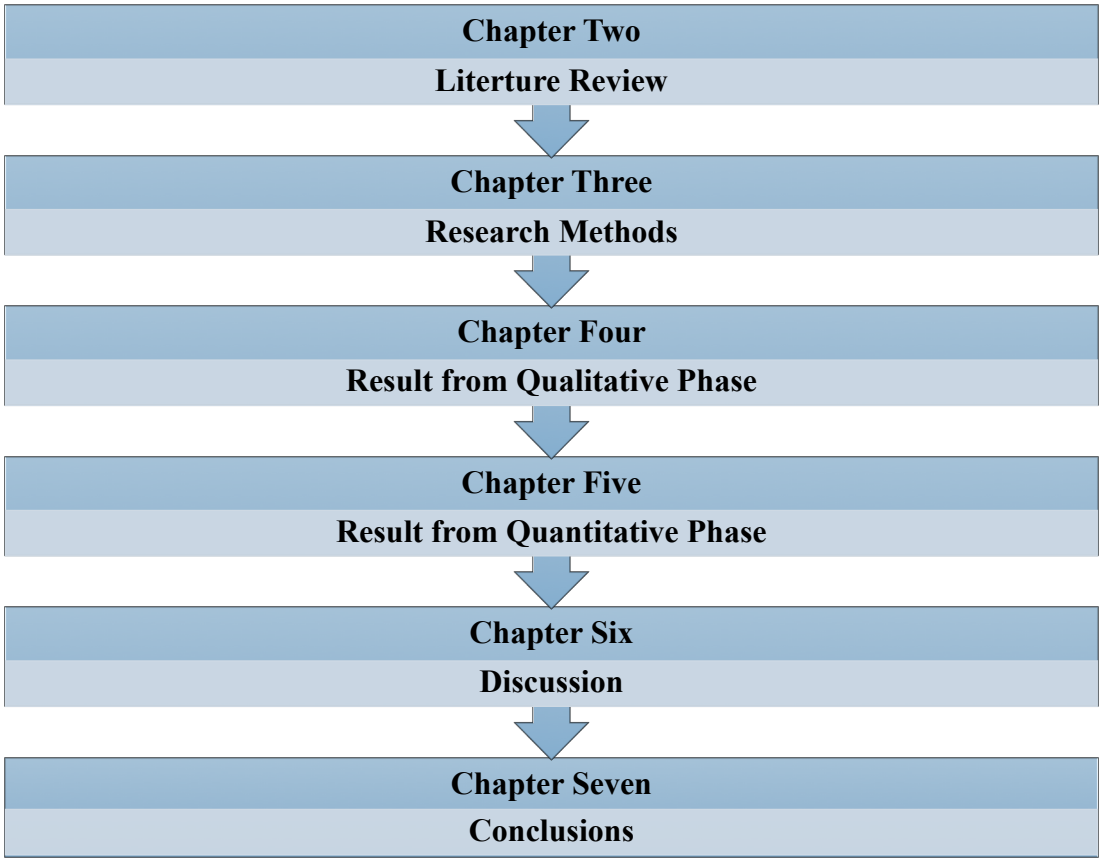

Figure 1.2 Thesis outline.

In Chapter Two, a conceptual framework for this study is defined. First, an explanation is given of the concepts of food security and resilience. Then, the most important variables that may affect household resilience against food insecurity are defined.

In Chapter Three, the study context in Libya and the research methods used in this study are described, including study location, data collection and analysis. The chapter is concluded by the ethical consideration of data collection.

Chapter Four contains a description of the results of the qualitative phase of this study that uses data gathered through semi-structured interviews with Libyan households and some food officials.

In Chapter Five, the research results from the quantitative phase of the study are presented. The questionnaire survey data is used to describe and quantify the food security situations in Libya, the type of food insecurity resilience demonstrated by Libyan households and the factors that affected such resilience.

In Chapter Six, the study's findings are discussed by comparing those with the literature. In this chapter, the study's contribution to the literature is highlighted, the research methodology evaluated, the implications of the results discussed, and areas of further research identified.

Then, in Chapter Seven, the main conclusions of the research are drawn.

Chapter Two

Literature Review

2.1 Overview

The purpose of this chapter is to develop an analytical framework to investigate household resilience against food insecurity in areas of protracted conflicts. The concepts of food (in)security, resilience against food insecurity, and the factors that affect household resilience against food insecurity are explored here. In developing this analytical framework, the theoretical and empirical literature from a range of disciplines is combined.

2.2 Understanding Food Security

The term 'food security' has been defined in various ways. One author has identified over 200 definitions (Maxwell and Smith 1992). However, nowadays, the definition established in the World Food Summit in 1996 is widely accepted (FAO 1996). In this definition 'food security' is said to exist:

> *"…when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life…"* (FAO 1996. p. 2).

Accordingly, 'food insecurity' "exists when people do not have adequate physical, social or economic access to food" as defined above (FAO 1996 p.2; Maxwell 1996).

According to FAO (2013), there are four dimensions of food security. These include availability, accessibility, utilisation and stability. The first dimension, food availability, is related to food supply, including the amount of food production, net import, and food reserve (Helland and Sørbø 2014; Klennert 2009; Brinkman and Hendrix 2011; D'Souza and Jolliffe 2013). The second dimension of food security is accessibility, which refers to the ability of people and households to access sufficient food. It includes household income, infrastructure, food service supplies, food markets, and food prices (Berry et al. 2015). The third dimension of food security is utilisation, which means the food eaten must be of good quality. It also means food is properly used, appropriately processed and properly stored. Utilisation also includes water supply service and adequate health care (Coates et al. 2007). Finally, the 'stability' dimension means that the three previous dimensions (availability,

accessibility, utilisation) of food security should exist at all times. Thus, food security exists when all these four dimensions are fulfilled.

The literature is not clear about which dimension should be taken into account when investigating household resilience against food insecurity in conflict contexts. This study is based on the idea from the literature that 'access' to food is the main dimension of food security. For example, Helland and Sørbø, (2014) found that historically, food security problems such as famine, vulnerability, and poverty have been issues of access more than availability. Food can be available in the markets in sufficient quantity, but people cannot access this food, especially high-quality food and food of expensive kinds.

While 'access' to food is important, it is not clear in the literature as to what types of foods access is required. The concept of 'food' depends on culture. What is food in one country or culture may not be regarded as food in another country or culture? It is because of this reason that the definition of food security adopted in the 1996 World Food Summit was later expanded to include access to culturally 'appropriate' foods (Timmer 2000; Menezes 2001; Alkon and Norgaard 2009). This means that, in this study, it is important, at first, to identify what food means in a Libyan context before assessing the food security status in the country.

Analytically, the concept of food security entails many different levels – global, national, regional, community, household and individual. It is however unclear in the literature which should be the focus of analysis in a resilience study. In this thesis, it is argued that the 'household level' is the most appropriate level to obtain information about food access. According to Spedding (1988), a household is a group of individuals who are living together and interacting for a common purpose. Radimer (2012) mentioned that a household includes adults, children and often two genders. The household is the decision-making unit about food. The household makes decisions about food security, such as managing income and living costs and the ways to overcome current or upcoming risks (Webb et al. 2006; Berry et al. 2014).

A household-level analysis is also important for policies and programmes. For example, Hoddinott (1999) mentions that the measurement of food security at the

household level is very necessary at the beginning of any development policy to investigate food insecurity problems, which can estimate the gravity of their food shortages and to describe exactly the status of their resilience.

2.3 Understanding Household Food Insecurity Resilience

The word 'resilience' comes from the Latin word 'resile' which means to jump back (Manyena 2006; Ewert and Yoshino 2008). The concept of resilience has been defined in different ways. Holling initially defined resilience as:

> *"…persistence of relationships within a system and the ability of these systems to absorb changes of state is a measure variable, driving variables, and parameters, and still, persist…"* (Holling 1973: p. 17).

Furthermore, Pimm (1984) has explained resilience as a period of necessary time for the system to make a recovery and return to the past situation.

Historically, the concept of resilience is primarily found in the ecology literature (see Holling 1973). Recently, the term has been used in the broader literature and for a variety of systems, including socio-economic systems, such as households (Maxwell 1996; Alinovi et al. 2010; Hanazaki et al. 2013; Tendall et al. 2015; D'Errico et al. 2018; Smith and Frankenberger 2018; Brück et al. 2019; Shah et al. 2019). The concept of resilience has been recently applied to food security interventions and regional development (Hoddinott 2014; Fan et al. 2014; Umetsu et al. 2014; Béné et al. 2016; Smith and Frankenberger 2018).

In food security literature, the term 'resilience' has been defined in many different ways. According to the International Food Policy Research Institute (IFPRI 2014, p. 6), resilience means:

> *"…the ability of individuals, households, communities, and countries prepare to cope with, and recover from shocks and become even better off…"*

FAO (2013) defines resilience as:

> *"…The ability to prevent disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner. This includes protecting, restoring and improving food and agricultural systems under threats that impact food and nutrition security, agriculture, and food safety/public health…"* (FAO 2013, p. 91).

Another definition of resilience refers to the capacity of a system to experience shocks while retaining essentially the same function, structure, feedback, and therefore, identity (Breisinger et al. 2014; Fan et al. 2014; Hoddinott 2014; Tendall et al. 2015; Upton et al. 2016; Stone and Rahimifard 2018; Serfilippi and Ramnath 2018; Carr 2019; Kuylenstierna et al. 2019).

Tendall et al. (2015) maintain that the term 'resilience' is always contextualised. In order to understand resilience, it is important at first to answer the question 'resilience of what?' The above definitions suggest that resilience is about a system. In this case, the system is the 'household'. This approach is consistent with the literature. For example, although resilience against food insecurity can be measured at different levels, including household, community, region, and nation, the dominant level of resilience measurement has been the household (Misselhorn 2005; Alinovi et al. 2010 Ado et al. 2019) because this is where food insecurity occurs.

The next important question is 'resilience against what?' There are many different types of sudden shocks mentioned in the literature that can affect food security, such as financial or economic crises, floods, tsunami, and disease (Carter et al. 2006; Smith and Frankenberger 2018; Bharadwaj et al. 2019; Knippenberg et al. 2019; Sina et al. 2019). In this research, the shock is "conflict".

Accordingly, the term 'resilience' in this research can be defined as the ability of a household to 'maintain' a certain level of well-being (i.e. being food secure) by withstanding the shocks and stresses created by conflicts.

In the literature, three types of resilience have been identified. One is called "highly resilient" (Alinovi and Romano 2009; Cassidy and Barnes 2012; Demeke and Tefera 2013; Shah and Dulal 2015). This is a situation when a household's food security is

not affected by shocks (e.g. climatic hazards, conflicts) at all. The second situation is called “less resilient”. In this case, a household’s food security declines due to shocks but the household then recovers from this shock in the post-shock period. The third situation is called “collapse”, or non-resilient, this type of household cannot make a recovery from the challenges and stresses created by shocks and continues suffering from the negative consequences after the shock (Alinovi and Romano 2009; Shah and Dulal 2015; Anderson and Bollig 2016). These three types are shown in Figure 2.1.

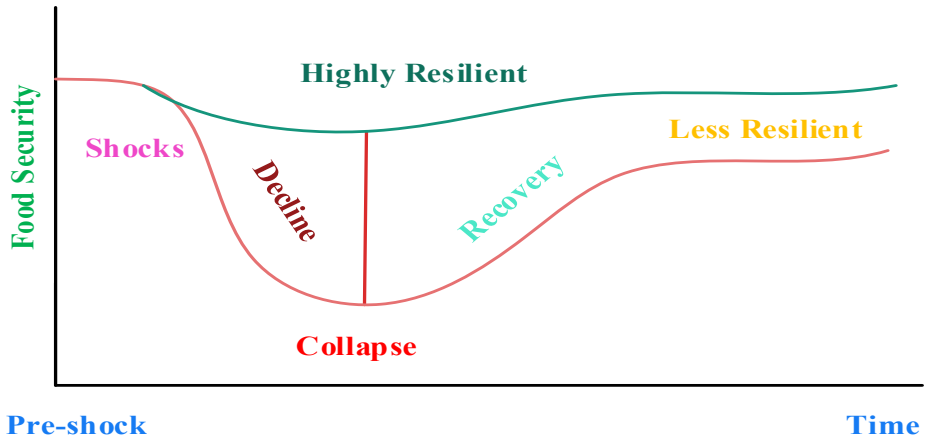

Figure 2.1 Nature of household resilience

Source: Based on the idea from (Alinovi at el 2010; DFID 2000; Tendall et al. 2015; Kimberly et al. 2018).

2.4 Factors that Affect Resilience Against Food Insecurity

Many theories exist about the factors that affect the resilience of various systems. According to the resilience literature in ecology (Holing 1973; Gunderson 2000; Evans 2011; Holing and Gunderson 2012; Redman 2005; Palmer et al. 2016), the resilience of a system is affected by several factors, including ongoing changes in climate, environments and the adaptive capacity of a system to make a transformability and recovery from environmental problems, such as forest insects, forest fires, fisheries and arid rangelands. The disturbances of the ecology system can be described by duration, frequency, size extent and intensity of severity (Holing 1973). However, these theories are concerned with the resilience of ecological systems, such as forests, lakes, and other natural disturbances (Foelster 1994; Carpenter and Cottingham 1997;

Drever et al. 2006; Lewis et al. 2014; Van de Leemput et al. 2018). Thus, although they provide some useful concepts, this literature is not very suitable for studying the resilience of households as systems.

Another body of literature that seemed relevant to the analysis of resilience is in natural hazards and disasters (e.g. IPCC; O'Brien et al. 2006; Nelson 2011; Leichenko 2011; Tompkins and Adger 2004; Douxchamps et al. 2017; Stevens-Rumann et al. 2018; Forsyth 2018; Islam and Khan 2018). There are two types of literature: vulnerability and resilience. Vulnerability is considered the opposite of resilience (Garmezy 1993; Briguglio et al. 2009; Gaillard 2010; Turner 2010; Jabareen 2013; Tanner et al. 2015; Pearce and Lee 2018; Fuchs and Thaler 2018; Oulahen et al. 2019). According to this literature, household resilience is affected by some key variables, e.g. exposure-sensitivity, social safety nets, access to basic services and adaptive capacity (Scoones 1998; DFID 2000; Carney et al. 2000; Alinovi et al. 2010; Pretty et al. 2010; Rothwell et al. 2015; Tendall et al. 2015; FAO et al. 2019). Adaptive capacity, in turn, is influenced by assets, which include financial capital, natural capital, physical capital, human capital and social capital (Chambers and Conway 1992; Maxwell and Smith 1992; Carney 1998; Gundersen and Gruber 2001; Lampis 2009: Alinovi et al. 2010; Kalaba et al. 2013; d'Errico et al. 2018; Manlosa et al. 2019). This literature, however, has not been developed specifically for food security studies or conflict contexts. However, they provide some useful insights, such as the role of shocks in household livelihood strategies and resilience.

In this research, ideas from the Sustainable Livelihoods literature (Scoones 1998; DFID 2000; Carney et al. 2000) and the other literature on household-level food security analysis (Alinovi et al. 2010; Pretty et al. 2010; Rothwell et al. 2015; Tendall et al. 2015; FAO et al. 2019) are combined (see Figure 2.2). According to the Sustainable Livelihoods literature, a sustainable livelihood is defined according to Chambers and Conway (1992, p.1) as:

> *"…a livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural*

resource base…"

This definition of sustainable livelihood is very similar to the definition of resilience as discussed in section 2.3. For example, the ability of livelihood to cope with and recover from a shock (i.e. a sustainable livelihood) can be considered as a resilient livelihood as well. This is because, as discussed in section 2.3, resilience also means the ability of a system (e.g. a household) to cope with and recover from shocks. Therefore, the literature on Sustainable Livelihoods seems quite relevant to this study.

According to the authors, the sustainability of livelihood depends on various factors, as shown in Figure 2.2. These include shocks/stresses (can be natural shocks, but also conflicts), food Insecurity, seasonality, trends and changes as well as the access and influence of assets, coping (livelihood) strategies, and institutional structures and processes. These factors together ultimately affect the ability of a household to sustainably achieve various outcomes, including food security (Figur 2.2). Therefore, this framework is quite suitable to study the resilience of households against food insecurity in a conflict (shock) context. Moreover, the sustainable livelihoods framework has been developed especially for household-level analysis (Alinovi et al. 2010; DFID 2000; Tendall et al. 2015; Kimberly et al. 2018).

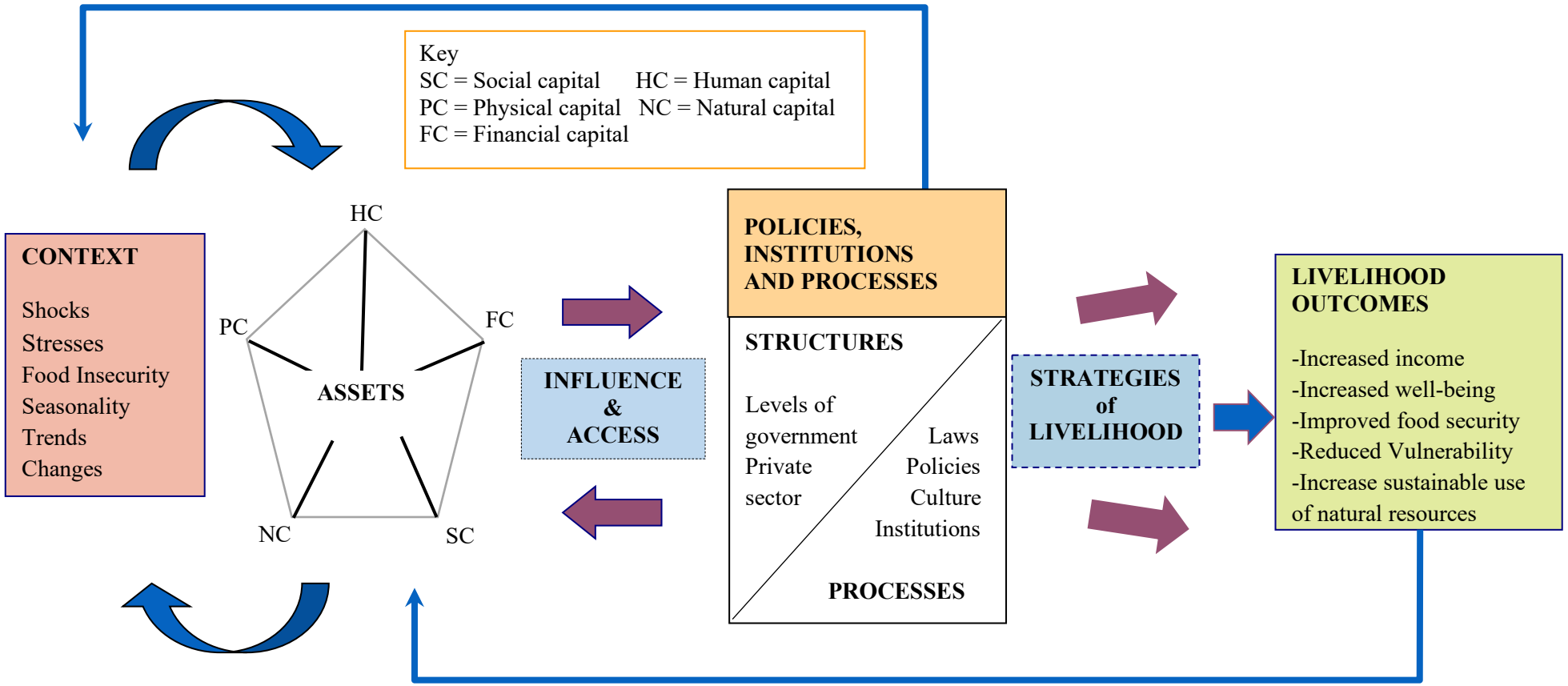

Figure 2.2 Sustainable livelihoods framework

Source: Adapted from (DFID 2000; Alinovi et al. 2010; FAO 2018b).

Another body of recent literature also identifies household resilience factors (Maxwell and Smith 1992; Alinovi et al. 2010; DFID 2000). This literature hugely draws on sustainable livelihoods literature. According to the authors, the resilience of households against food insecurity depends on social safety nets, access to public services, income and food access, assets, adaptivity.

A review of all these literature mentioned above suggests that the resilience of households against food insecurity in a conflict context can be affected by: Exposure and Sensitivity to conflict, Assets (five types), Coping Strategies, Social Safety Nets, and Access to Basic Services. In the following sections, a detailed review of the roles of each of these factors in household resilience and food security is given.

2.4.1 Exposure and sensitivity to conflict

The term 'exposure' comes from many kinds of literature and depends on the context of exposure (e.g. war exposure, violent exposure, conflict exposure and political exposure, etc. (Netland 2001; Vinck et al. 2007; Miller and Rasmussen 2010; Rodriguez and Sanchez 2012; Pettersson and Wallensteen 2015; Shpigelman and Gelkopf 2019; Sohnesen 2019).

Exposure refers to shocks that relate to food which is widely defined as the degree to which a food system faces risk or hazard that affects household accessibility to safe and nutritious food (Parry et al. 2007; Ericksen et al. 2011; Ibok et al. 2019).

In this research, exposure is defined as the exposure of households to food insecurity shocks created by conflicts in Libya including armed conflict, political conflicts and tribal conflicts.

The term exposure can be estimated according to the type and level of damage that households face. This can be a high, medium and low level of exposure (Miller and Rasmussen 2010; Pettersson and Wallensteen 2015; Brück et al. 2019).

Brück et al. (2019) said the exposure to the conflict might differ from place to place or region to region. Nevertheless, other studies estimated household exposure according to the type and level of damage that households faced as high, medium and low levels

of exposure (see Eakin and Bojorquez 2008; Miller and Rasmussen 2010).

Exposure in many kinds of literature has been measured by the indicators of frequency, impact and degree of hazard or shocks (Birkmann 2006; De Haen and Hemrich 2007). The shocks can be floods, conflict, climate change, economic loss, drought, storms (see Bohle et al. 1994; Cohen and Pinstrup 1999; Del Ninno et al. 2003; Eriksen and Silva 2009; Gray and Mueller 2012; Pangaribowo 2012; Krishnamurthy et al. 2014; Chilton et al. 2014; Sohnesen 2019). Some studies analysed the exposure of household welfare together by using the welfare indicator (Harrison and Vinod 1992; Ovtcharova and Tesliuc 2006: Dennis 2016; Pandey et al. 2018).

A number of exposure indicators in relation to conflict, as a reason for household food insecurity, have been identified in the literature. This includes levels of deaths, assets loss, infrastructure damage and physiological trauma on people, especially children (Frankenberger 1992; Arunatilake et al. 2001; De Haen and Hemrich 2007; Justino 2013; Sneyers 2017; Martin and Stojetz 2019).

De Haen and Hemrich. (2007) from their study on the implications of the economics and natural disasters how challenges for food security established that the practical analysis requiring more information on risk included the direct losses which comprise human injuries and loss of lives, the infrastructure and physical damages, as well as buildings and agricultural assets losses.

However, all these exposure indicators come from the economics of natural disasters and climatic hazards literature. Exposure factors in relation to conflict contexts are not well identified in the literature. Thus, this study estimates the impact of exposure to conflict on household food security as the types of damages on exposed households.

Regarding sensitivity as a factor affecting household food security, there are mixed opinions in the literature of how sensitivity can be defined and measured in relation to resilience. For instance, DFID. (2011, p. 8) in its paper on resilience has defined sensitivity as:

> *"…as the degree to which a system will be affected by, or respond to, a given shock or stress…"*

In the food security resilience literature, Alinovi and Romano (2009) described household sensitivity as:

> *"…the impacts of stress that may result in reduced household's food security owing to the crossing of a threshold where the entity experiences lower food security and resilience…"* (Alinovi and Romano 2009, p. 8).

Other studies adopted the sensitivity as a factor related to local access to services and infrastructure, which supports adaptive capacity households to stand against shocks such as floods, climate change etc (Maxwell and Smith 1992; Carter et al. 2006; Ericksen et al. 2011; Shah and Dulal 2015).

In household food insecurity issues, several sensitivity indicators were identified. This includes limited mobility, skills, women heads, sick children and higher child dependency ratio, (Maxwell 1996; Bickel et al. 2000; Loopstra and Tarasuk 2013). It is suggested in the literature that, the more these indicators are present within a household, the lower their resilience and food security will be. This is because sick members or more children may require medical attention and extra costs. This cost can reduce a household's ability to buy food. However, most of these indicators are based on non-conflict contexts.

Very limit research exists on household sensitivity to conflict, which can create particular hardships for households. This study argues that the hardships vary between households depending on their specific characteristics, e.g. ethnic minority women-headed household disability, the majority are children/women etc. These obstacles might make households more vulnerable and sensitive to shocks, such as conflicts. Households can be affected directly or indirectly by these characteristics.

2.4.2 Household assets

It is widely recognised in the literature that household assets are important for household resilience and food security. Assets can improve a household's ability to withstand shocks and stresses and thereby help maintain food security (Chambers and Conway 1992; Maxwell and Smith 1992; Carney 1998; Rakodi 1999; Gundersen and Gruber 2001; Keil et al. 2008; Yusuf 2008; Lampis 2009: Kalaba et al. 2013; Green

and Haines. 2015; d'Errico et al. 2018; Manlosa et al. 2019).

Five kinds of assets are identified in the literature (DFID 2000; Scoones 1998). These include natural capital, physical capital, financial capital, human capital and social capital (Figure 2.3).

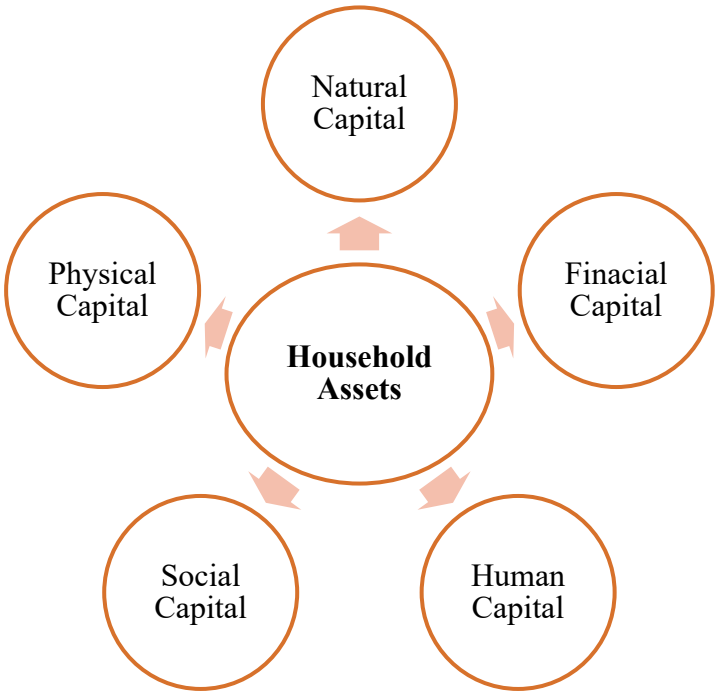

Figure 2.3 Type of household assets

Source: (Scoones 1998; DFID 2000).

Natural capital (NC): refers to the natural resource stocks which people can draw on for their living, such as land, livestock, forests, water (DFID 2000; Guerry et al. 2015). Several studies confirmed that household ownership of land and livestock had positive associations with household resilience and food security (Olson 1999; Turner et al. 2003; Carter et al. 2006; Olte et al. 2019; Manlosa et al. 2019).

Many studies found the important role of livestock to food security and vulnerability (Hendrickson et al. 1998; Thornton et al. 2007; Megersa et al. 2014 Marshall et al. 2018; Alonso et al. 2019). However, the type of 'natural capital' that is important for household resilience tends to vary from place to place. For example, a recent study on rural livelihoods in South Africa conducted by Mbiba et al. (2019) mentioned that the

most important natural assets are the communal land used for grazing, livestock and cultivation and harvesting natural resources.

In another context of food security and resilience Hanazaki et al. (2013), for example, studied natural assets that were important among household livelihood assets in Caiçara of Coastal Brazil. They did this by analysing food production as natural capital; their questions were asked about household production for some food items which were directly used for household consumption or sale, such as fish, shellfish, bitter manioc, bananas and other fruits.

Another example on the impact of a natural resource on food security in Kenya saw crops, livestock and soils were the most important natural resources that affected household food security in the country. Stephens et al. (2012) show in their findings that larger and higher quality land will provide more accumulation of cash and livestock resources to households which suggests the availability of asset thresholds that divide households to food-secure households and food-insecure ones. Their data include survey information on household assets, key livestock nutrition indicators, such as productivity and herd size, as well as data on the types and quality of land soil.

It is therefore important to identify the specific assets important for Libya.

Physical capital (PC): according to DFID (2000), physical capital defines as:

> *"…the basic infrastructure that people need to make a living, as well as the tools and equipment that they use — for example, transport and communication systems, shelter, water and sanitation systems, and energy…"* (DFID 2000, p. 1).

Several studies have revealed that physical capital, such as infrastructure, market access and durable consumer goods inside the house, include phones, radio, TV, fridge, blender, stereo, washing machine, DVD, computer, electric/gas cooker, oven, microwave, vacuum or floor polisher, water heater and transportation vehicles such as a car, truck and motorcycle. Moreover, physical capital also refers to the household's ownership of housing and buildings such as ownership of a house, apartment, rents in someone's home or building etc. (see Rakodi 1999; González et al. 2010; Vincent and

Cull 2010; Mbukwa 2014; Thulstrup 2015; Manlosa et al. 2019).

In most previous studies household physical capital was measured using durable consumer goods and indicators of housing quality. However, most of these previous studies are based on the household livelihood and sustainability approach and non-conflict contexts; they are not focused on household food insecurity resilience. Hence, this study will identify the physical capital in the context of conflicts and food insecurity resilience.

Financial capital (FC): refers to financial assets, such as income, loans and savings, in terms of access to earned income, and access to pensions and other transfers from the state (Thulstrup 2015; Quandt 2018). Many researchers find that household financial capital is an important factor in resilience. Gundersen and Gruber (2001) state that households with low income and savings are more likely to be vulnerable to shocks and stress and enter into food insecurity. Sharaunga et al. (2016) found that increased access to different sources of income is very important for household resilience and reduces the risks of food insecurity during times of sudden shocks.

Kiewisch (2015) also points out multiple income resources can be useful to deal with negative impacts of a 'lean season' before the cocoa harvest, which most of the households faced in West African countries. The author confirmed that financial capital is vital in reducing the cost of living and depends on other sources. Similarly, Mutabazi et al. (2015) stated that financial capital such as cash, credit and so on, helps the recovery after a climate change shocks and increase the ability of households to withstand the shocks and stresses, as well as enhance the resilience of farm households in Morogoro city in Tanzania.

However, Jewitt and Baker. (2012) stated that the influence of socio-economic factors on risk perception is still underdeveloped. The authors concluded that household risk to food insecurity perceptions and responses vary greatly with socio-economic status e.g. the age, gender and the spatial or temporal distance of the risk.

Nevertheless, these empirical studies were not about conflict-related shocks, not about food security outcomes and mostly from outside the MENA regions.

Human capital (HC): defined as an individual's investment in training that increases his or her productivity and therewith earns a money return (Becker 2009). Household human capital also refers to the knowledge, skills, good health, and the ability to work (Mutabazi et al. 2015; Quandt 2018).

Light (2004), cited that household human capital just like financial capital assets or vice versa, the owners of human capital can be transformed into financial capital. For example, when household members have committed to the success level of skills or work during high demand times, that will be transformed into money and a source of income. This interaction of the different assets is a significant part of household resilience against shocks.

Two main indicators including household health status and level of household head education were the most important variables in the household livelihood index indicators collected through a household survey in Ghana (Antwi-Agyei et al. 2013). Qureshi et al. (2015) found that education is one of the most important factors that affect a household's food security status. For example, education can help household members who are employed and give them opportunities to increase household income. Furthermore, education not only provides a very significant role in household knowledge of safety and healthy nutrition, including how to obtain sufficient caloric quantity but also can be enhanced by a good understanding of the willingness to have a healthy, clean, sustainable, food nutritious life for all household members (Misselhorn 2009).

Social capital (SC): 'social capital' refers to the social nets in which people participate and from which they can get help (Rakodi 1999). It emphasises the way people interact with each other and with systems within their communities to achieve their livelihood outcomes (Carney 1998; Rakodi 2014). Examples include networks and connections (neighbourhoods, patronage and kinship), relations of trust and shared understanding and support, with groups, shared values and activities, standard rules and sanctions, co-operative representation, strategies for participation in decision-making and management (Harpham et al. 2002; O'Brien et al. 2005; Gong et al. 2018).

Social capital can be three types (bonding capital, bridging capital and tribal social

capital), bonding social capital refers to cooperative relations within homogeneous groups while bridging social capital describes relations between people who are dissimilar with respect to social identity and power (Villalonga-Olives and Kawachi 2015). Whereas tribal social networks are defined as lines of transmission of information and material as per lines of cooperation, communication and exchange roles, that are evident among individuals and groups (Braun and Plog 1982).

Many authors have drawn attention to the critical role that social capital plays in sustainable livelihood and food security (Grootaert 1999; Woolcock and Narayan 2000; Lamidi 2019; Gebrekidan et al. 2019). Most previous studies identify the positive feature of social capital on household resilience which ensures assistance, care and creates a sense of safety and welfare, it was clear that social capital commonly increases when households face shocks and become vulnerable (Ledogar and Fleming 2008; Nombo and Niehof 2008; Alinovi and Romano 2009; Carpenter et al. 2012; Hayhurst et al. 2013; Fan et al. 2014; Pelletier et al. 2016; Smith and Frankenberger 2018). Some other studies found that social capital does not always play a positive role in household resilience. For example, exclusion of outsider groups, restrictions on people's freedoms, and creating norms of racism, such as cultural norms of discrimination or violence (Portes 1998; Spring 2011; Ledogar and Fleming 2008).

However, the literature does not mention the role of tribal-based social capital, which can be important for countries within the MENA region. This study will determine the role of social capital types in the conflict-affected country (Libya) and identify the effect of these roles on household resilience.

2.4.3 Coping strategies

The term 'coping strategies' (CS) refers to a response to adverse events or shocks (Corbett 1988; Davies 1993). Another definition by Snel and Staring defines coping strategies as:

> *"…all the strategically selected acts that individuals and households in a poor socio-economic position use to restrict their expense or earn some extra income to enable them to pay for the basic necessities (food, clothing, shelter) and not fall too far below their society's level of*

welfare…" (Snel and Staring 2001, p. 10).

The coping strategy also refers to the plans used by households to survive when faced with an unanticipated shock that negatively affected their livelihood (Ellis 2000).

Some literature implies that coping strategies involve a conscious estimation of alternative plans of action as a survival mechanism, household strategies or coping strategies (Rashid et al. 2006; Bukusuba 2007; Farzana et al. 2017; Smith and Frankenberger 2018; Drysdale et al. 2019). Thus, coping strategies are a series of plans of action applied by the household to respond to shocks, such as conflict.

The role of coping strategies in household resilience and food security are widely recognised in the literature (Coates et al. 2007; Lagi et al. 2011; World Bank 2011; Mavhura et al. 2013; Grobler 2014; Breisinger et al. 2014; WFP 2016; Haysom and Tawodzera 2018; Manlosa et al. 2019).

Coping strategies against food insecurity include relying on less preferred and less expensive foods, borrowing food, relying on help from a friend or relative, purchasing food on credit, gathering wild food, hunting, harvesting immature crops, consuming seed stock held for the next season, sending household members to eat elsewhere, sending household members to beg, limiting portion size at mealtimes, and reducing intake or skipping entire days without eating (Maxwell and Caldwell 2008; Mjonono et al. 2009; Alinovi et al. 2010; D'Souza and Jolliffe 2013; Tusiime et al. 2013; Abdulla 2015; Berman et al. 2015; Djogbenou and Abidjan 2015; Farzana et al. 2017; Khemili and Belloumi 2018).

However, very few studies identify what coping strategies households in areas of protracted conflicts apply. For instance, Justino (2013) concludes, there is very limited knowledge about what people do in areas of violent conflict, and how their choices and coping against shocks affect their food security. This study makes a contribution by further developing these considerations in the context of ongoing and emerging conflicts in the Middle East and North African (MENA) region.

2.4.4 Access to basic service

Access to Basic Services (ABS) generally defined as the basic services provided by the governments to its citizens, such as healthcare, water supplies, income and other wellbeing matters (see Nnadozie 2013; Sharaunga et al. 2016).

In the resilience literature, for example, Toth et al. (2016) found that access to basic services mostly relies on institutional structures to bridge resilience gaps, which can often be found through governmental organisations. For example, such service increases household resilience by enhancing their adaptive capacity within communities providing food and water at a reduced cost. Similarly, Alinovi and Romano (2009) stated that this public service is not under a household's control, but it is a very important factor for building resilience for households to overcome risks and adapt to food crises. The author also mentioned some public services which are considered in the analysis (e.g. access to health and the health care quality score, quality of education system, perception of security, mobility and transport, water, electricity and telecommunications networks services).

There is a very large and growing literature on access to basic services. Several authors (Dasgupta 2000; Atkinson et al. 2004), argue that the level of accessibility of households to basic services is an essential indicator of well-being, such as food security. Dasgupta (2000) however, argues that the level of accessibility of households to basic services should be developed, expressed and tested within households that need these services. Household accessibility to basic services is an important issue because it is closely related to food security as a key aspect of household well-being.

In the food security context literature, Maxwell and Smith (1992) point out that all people must have the right to adequate food and access to basic needs services is, therefore, a condition in which the population can obtain food services in enough quantity and quality to secure survival and satisfy their life.

Two elements of access to basic service have been measured by Crane and Daniere (1996) in global cities. To address this problem, they firstly refine the definitions of accessibility to infrastructure services, such as the level and costs associated with proximity to and demand for basic services benefits. Then they applied these measures

to household-level survey data from the megacities of Bangkok and Jakarta to explain what access means and how it is measured.

Very little of this literature, however, is related to food security in a conflict context. For instance, Kruk et al. (2010) claimed that even though there has been progressing in accessing basic services in post-conflict Liberia, rural household Liberians still faced a limitation of access to health care. The authors suggested that systematic investments are required in the health system to ensure that health services respond to post-conflict.

In fact, through reviewing the literature there are limited studies that identified that status of access to basic services in areas of protracted conflicts, but most of the studies in protracted and post-conflict areas agreed that conflict-affected areas are severely under-served and have exacerbated food insecurity for these countries and communities. This was especially evident in conflict-affected countries in Africa when the government became absent or broken down. Hence, restoring access to basic food services is needed to include the survival of conflict-affected people (Gukurume 2013; Strachan 2014; Blum and Rogger 2018).

Thus, these services may be destroyed or incapacitated due to conflict. Restoring access to basic food services is needed to include the survival of conflict-affected people (Van 2005; Weinthal 2014; Sharaunga et al. 2016).

2.4.5 Social safety nets

There are multiple approaches conducted on social safety nets (SSN). Social safety nets are defined as all subsidies that are provided by government or non-government organisations to households, which include social sector policies that offer a social assistance like education, health, labour market intervention and insurance (Maxwell et al. 1999; Barrett 2001; Rahmato et al. 2013; Devereux 2016; Narayanan and Gerber 2017).

A research conducted by Subbarao et al. (1997) on country experiences with social safety nets for the World Bank confirms that social safety nets programs include communities, local groups, and nongovernmental organisations (NGOs) which can

achieve better outcomes.

Despite interests of many previous studies in social safety nets, some recently considered it as ‘social protection’ (Sumarto et al. 2005; Rahmato et al. 2013; Devereux 2016; Andrews et al. 2018).

A recent study conducted by WFP (2018) established that SSN is a right wherein every person should have access to social security and protection, particularly the poorest and most vulnerable people which aims to support household livelihood option and reduce poverty (Sabates and Devereux 2018).

Furthermore, there is a strong relationship between food security and social safety nets, when food insecurity is defined as the ability to access sufficient service needs, and the social safety nets to ensure that subsistence needs are provided to the public.

Social Safety Nets (SSN): These are several of the services provided by the country and society or other institutions or charities, including well-being, unemployment benefit, healthcare, homelessness support and refugee support (Alinovi and Romano 2009; Besley et al. 2003).

SSN are used by UN organisations such as FAO to measure food insecurity created by crises (FAO 2009). This includes characteristics of SSN, such as cash transfer or food vouchers, food distribution, food subsidy and employment-based safety nets.

Alinovi and Romano (2009) provided an example of SSN in the context of Palestine where many households depend on assistance from NGOs and receive help from friends and relatives. Some indicators used in the estimation of household resilience were:

- Type and amount of assistance
- Quality of assistance
- Job assistance
- Evaluation of assistance
- Frequency of assistance

Thus, SSN cover the subsidies and services delivered through government institutions and organisations such as NGOs. These services are a very important part of establishing food security and resilience when people suffer from uncertain situations, such as conflict and civil war (Goodland 2008).

2.5 The Analytical Framework

Based on a review of the literature in the earlier sections, an analytical framework of resilience against food insecurity is proposed, as shown in Figure 2.4.

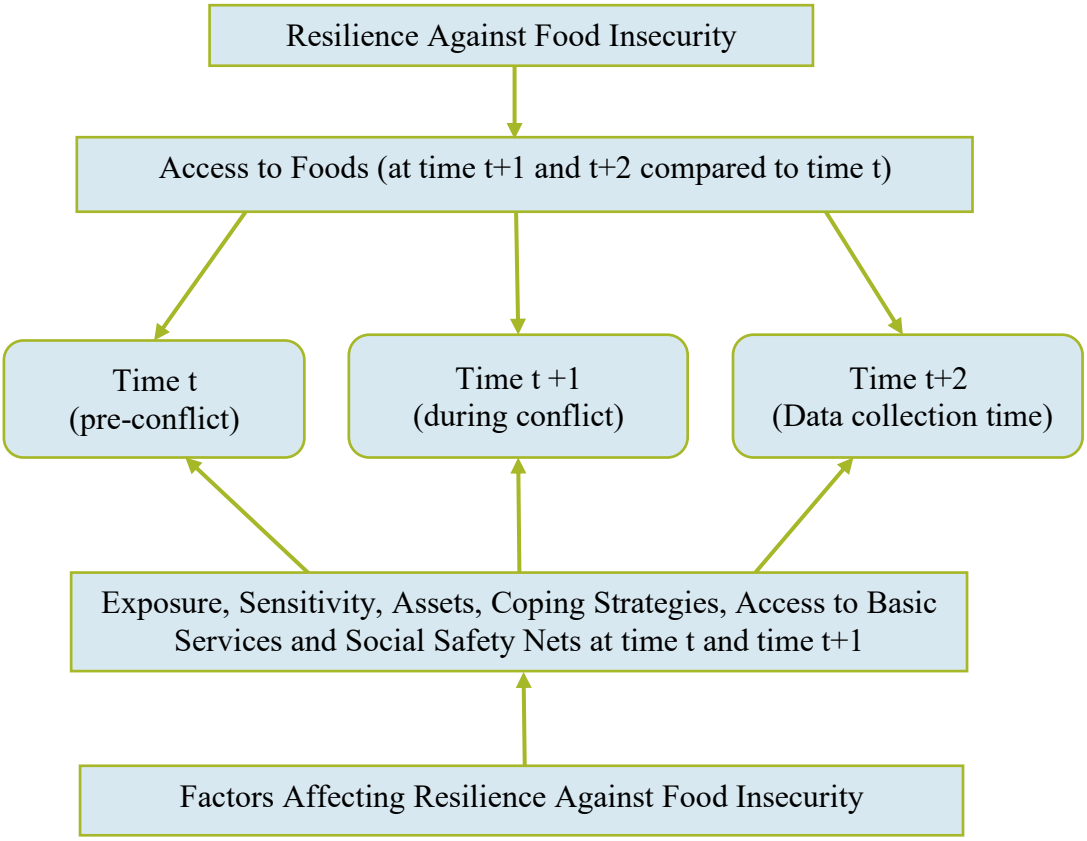

Figure 2.4 Household resilience framework

Source: Based on ideas from (Alinovi et al. 2010; DFID 2016; FAO 2018b).

Figure 2.4 displays the framework representing the elements to be considered when examining resilience. It explains how resilience against food insecurity can be understood. It also shows the factors that affect resilience. The level of analysis is the household, and the shock that households faced is conflict. Resilience is defined as the ability of a household to maintain an adequate level of food access when faced with

conflicts. Analytically, this means the difference between food access at the pre-conflict period (time t) and during the conflict (time t+1) compared to the time of data collection (time t+2) (see Figure 2.4).

It is conceptualised that household resilience against food insecurity at time t+1 and time t+2 will depend on the level of household exposure and sensitivity to conflicts and also household's possession of five types of assets, their coping strategies, social safety nets and access to basic services during time t and time t+1. These time frames have been identified from the methodological guidelines suggested in the resilience and food security literature (Alinovi et al. 2010; Pretty et al. 2010; Brinkman and Hendrix 2011; FAO RIMA approach 2016; Fan et al. 2014; Tendall et al. 2015). In this study, I apply this framework to investigate household resilience against food insecurity in conflicted-affected Libya.

2.6 Summary

It is clear that from the literature that the definition of food security is nearly the same among most previous studies. The majority of them depend on the definition, which was established by the WFS in 1996 in Rome. According to most literature, there are four dimensions of food security. However, this research focuses more on food accessibility as the leading dimension of other aspects of the food security system. The chapter discussed the evolving and changing ways of understanding food security and resilience nowadays, to establish a better understanding of the four essential dimensions of household food security.

In the context of food security resilience, the household level is mostly used to analyse food issues by previous studies as that is where accurate information was available.

Resilience is a very wide concept which is related to the methods of coping with shocks and stresses. In fact, many organisations and development institutions use resilience as a strategy to cope with food problems, but few of them mention what resilience means in a food security context or deeply study the factors which affect resilience against food security in areas of protracted conflicts. Thus, this research will attempt to bridge this knowledge gap.

Accordingly, this study attempts to develop a new framework to highlight household food insecurity resilience created by conflict by studying the most important factors that affect food security. Focus on the household's exposure and sensitivity to conflict, household assets, coping strategies, social safety nets and access to basic services as factors affecting household food security are all focused upon.

The food security framework is broadly based on these factors and is considered a solid starting point for measuring the food security dynamic; also, it has been adopted and depends on many previous studies and development organizations that are interested in the context of food security.

In the next chapter (Chapter Three) I am going to discuss the research framework and unified a mixed approach was designed as well as the data analysis.

Chapter Three

Research Methods

3.1 Overview

This chapter includes the research context and methods. The chapter begins by describing the conflict context in Libya to explain why Libya provides an excellent context for this research. Then, the study moves on to the research approach, overview of data collection and research sample. It justifies the use of a mixed-methods approach, following the description of the study location, sampling and data collection. Then, the analytical techniques used in assessing food security and resilience are provided. Finally, the ethical considerations around data collection are discussed.

3.2 Research Approach

In order to satisfy the objectives of the study, this research applied a mixed-methods approach combining a qualitative and a quantitative method. Some of the attributes of each approach are detailed in Table 3.1.

Table 3.1 Features of qualitative and quantitative research

Qualitative research	Quantitative Research
The aim is a complete, detailed description which is recommended during earlier phases of research projects.	The aim is to classify and quantify features, count them, and construct statistical models in an attempt to explain what is observed.
Definitely helpful for the researcher to learn and understand the research phenomena status.	The researcher knows clearly in advance what he/she is looking for.
It gives the researcher new experiences, and they gain more positive feelings toward research, which is recommended first.	Recommended during later stages of research projects.
Various new data aspects can be obtained compared to other methods.	All aspects of the study are carefully designed before data is collected.
Interviews and field observations are collected to aid in designing a beneficial questionnaire survey.	Researcher uses tools, such as questionnaires or equipment to collect numerical data.
Data is in the form of words, pictures or objects.	Data is in the form of numbers and statistics.
Subjective – individuals' interpretation of events is important, e.g. uses participant observation, in-depth interviews, etc.	Objective: seeks precise measurement and analysis of target concepts, e.g. uses surveys, questionnaires, etc.
Qualitative data is more 'rich', time-consuming, and less able to be generalised.	Quantitative data is more efficient, able to test hypotheses but may miss contextual details.
The researcher tends to become subjectively immersed in the subject matter.	The researcher tends to remain objectively separated from the subject matter.

Source: Adapted from (Miles and Huberman 1994 2002; Bryman 2016).

The main motive for using a mixed-method approach in this research was to uncover information about food security contexts in Libyan society. Libya had primarily been a closed society under the Gadhafi regime (Kawczynski 2011), and very little prior research relating to food security in Libya existed at the time this study was undertaken. This made it challenging to apply a quantitative approach right away since such an approach would require adequate prior information about the research topic and context (Table 3.1). For example, to understand food security resilience, it is necessary to understand, at first, what is "food" in Libyan society, since, as explained in Chapter Two, the concept of 'food' varies from one culture to another. Similarly, it is necessary to know what types of assets are important in Libyan society as these assets may also differ from country to country. Hence, this research firstly applies a qualitative method comprising interviews and field observations in order to understand these dimensions. After that, a structured questionnaire with appropriate scales was used in order to quantify all the aspects that have been identified from the qualitative phase. This approach is consistent with guidelines in the research methods literature. For example, a qualitative phase leading to quantitative research is one of the common types of mixed-method research suggested by notable authors (Miles and Huberman 1994; Creswell 1999; Tashakkori and Creswell 2007; Arora and Stoner 2009; Terrell 2012).

The overall research approach, including sampling, data collection and data analysis techniques used in this research are shown in Figure 3.1. Firstly, data were gathered through a process of 55 Semi-structured interviews, as well as field observations and conversations were conducted from November to December 2016. The data were analysed qualitatively using the NVivo software. In the second phase, a questionnaire survey of 320 households (HHs) was conducted from March to June 2018. The data from this survey were analysed using the SPSS software.

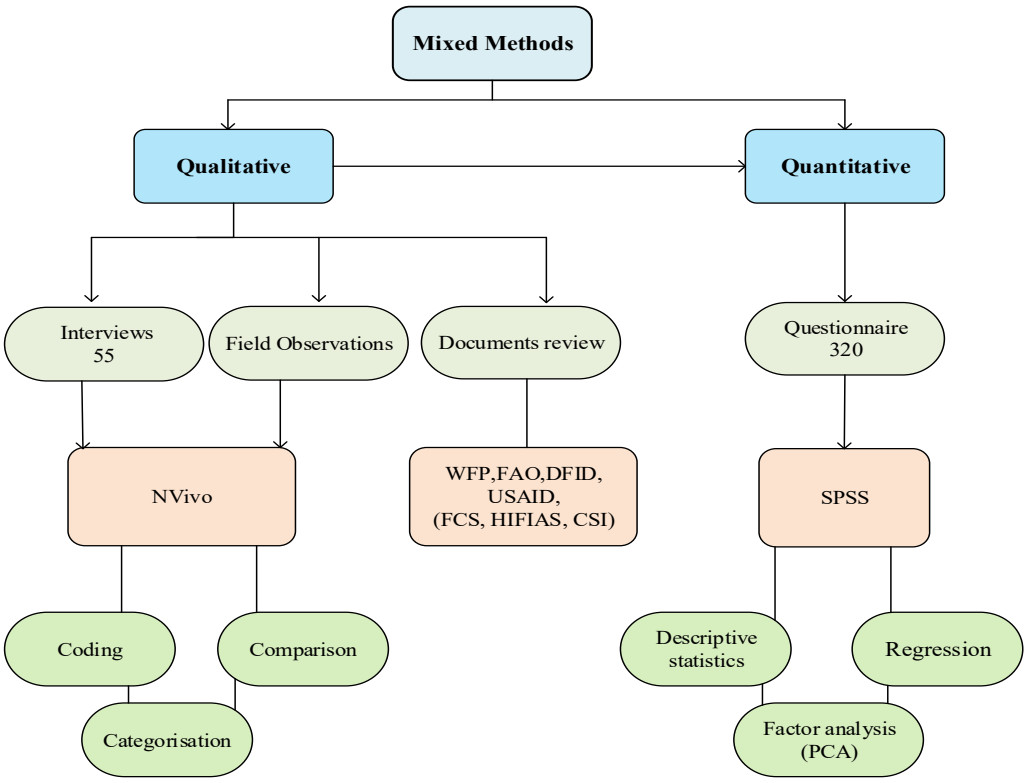

Figure 3.1 Flow diagram of the mixed methods approach used in this research

3.3 Study Location

Geographically, Libya falls into three main regions – Tripolitania in the West, Fezzan in the Southwest, and Cyrenaica in the East. The Tripolitania region holds most of the Libyan population, followed in order by Cyrenaica and Fezzan. Areas and cities were chosen from different parts of Libya from the East, West and South, including: Al Zintan, Sabha, Tobruk, Az-Zawiya, Alruhaibat, Alrujban and Al Marj (see Figure 3.2). Moreover, all of these regions were affected by the recent conflicts in Libya.

Figure 3.2 Study locations

(Source: Libya map 2018. https://www.arcmaps.com)

Several factors were considered, such as population, demographic and geographic diversity, as well as rural and urban settlements. Furthermore, areas that suffered from more intense conflicts in 2011 (e.g. Al-Zintan and Az-Zawiya) and the areas that suffered less from conflicts (e.g. Tobruk and Al-Marj) were selected. This was done in order to increase the comparability of the data in terms of the ability of households to overcome conflict shocks and the reasons why some households were unable to adapt and withstand against those shocks. These cities were significantly different in terms of geography, socio-economic and agro-ecological conditions (Table 3.2).

Table 3.2 Key characteristics of the study sites

Dimensions	**Study sites**						
	Al Zintan	***Sabha***	***Tobruk***	***Az-Zawiya***	***Alruhaibat***	***Alrujban***	***Al Marj***
Area (Km²)	2,666	17,066	84,996	2,753	2,174	1,439	13,515
Population	50,787	133,206	157,747	290,637	42,769	21,329	184,531
Male	27,635	70,110	79,796	16 212	23,464	12,111	96,667
Female	23,152	63,096	77,951	13 891	19,204	9,281	87,864
No of households	7,784	19,777	20,907	49,324	6,394	3,357	23,795
Urban	5,807	15,665	17,598	35,108	4.323	2.122	18,936
Rural	1,977	4,112	3,309	14,216	2,071	1,235	4,859
Average size of household	5.9	6	7.2	5.3	6.8	6.3	6.5
Education of household head:							
Primary	32%	28.6%	25.3%	29.0%	27.4%	26.8%	22.6%
Secondary	19.6%	45.8%	38.4%	21.6%	35.7%	39.7%	33.9%
University	30.8%	14.3%	28.7%	35.3%	19.5%	25.4%	29.2%
Master or PhD	1.4%	0.7%	2.6%	3.1%	0.9%	2.6%	1.3%
Unknown	7%	10.6%	5%	11.0%	16.5%	5.5%	13.5%
Occupation of the household head							
Agriculture and Animal Husbandry	15.6%	19%	8%	20.0%	22.0%	13.0%	53.0%
Government workers	45%	41%	43%	39.0%	45.0%	50.0%	25.0%
Construction workers	1.5%	2%	4.6%	3%	1%	3%	4%
Sales workers	2%	5%	13%	4%	1%	2%	4%
Unemployed	22%	17%	18%	25%	13%	16%	9%
Unemployed, but receive government benefits	11%	12%	9%	7%	11%	12%	3%
Unknown	2.9%	4%	4.2%	2%	7%	4%	2%
Main economy	Mostly pastoralism	Mostly agriculture	Mostly trading	Mostly agriculture	Mostly pastoralism	Mostly pastoralism	Mostly agriculture
Climate and geography	*1	*2	*3	*3	*1	*1	*1

Note: *1 Semi-arid mountainous terrain. *2 Dry, Sahara desert. *3Mediterranean along the coast, Semi-arid. Table source: Compiled from: Ben-Mahmoud 1993; Al-Haram 1995; Bulugma and Ghaziri 1995; BSCL 2006; MALM 2016; lNMC 2016.

The key attributes of the households, as relevant to food security, are provided in Table 3.2. The sampling technique used in this research was purposive and convenient since the purpose was an in-depth study of a limited number of samples and to identify conceptual categories, rather than statistical generalisation. Data samples from both rural and urban areas were collected.

3.4 Data Collection and Analysis – Qualitative Phase

A sampling at this phase was purposive and convenient since the purpose was an in-depth study of a limited sample and to identify conceptual categories, rather than statistical generalisation (Patton 2005; Merriam and Tisdell 2015; Bryman 2016).

The data were collected through 45 semi-structured interviews. Thirty-five of these interviews were conducted face-to-face and 10 over the phone. The semi-structured interviews were conducted during November 2016 to January 2017 in three different areas in Libya, including Al-Zintan in West of Libya (15 HHs), Tobruk in the East (15 HHs), and Sabha in the South (15 HHs) (Table 3.3)[3]. In addition to household interviews, ten government and NGO officials were interviewed in order to gather additional information. These interviewees included: the mayors of Al-Zintan, Sabha, and Tobruk; the food officials in Libya (Municipal Guards); and visiting local charities, food aid and relief centres in all the three different locations. The interviews were complemented with informal conversations with people in the streets and markets as well as observations during data collection.

Table 3.3 Sample of the interviewees used in this research

Study sites	Households	Food officials
Al-Zintan	15 (Urban = 8; Rural = 7)	5
Sabha	15 (Urban = 8; Rural = 7)	2
Tobruk	15 (Urban = 12; Rural = 3)	3
Total	45	10

[3] The interview transcripts have been coded as Z for Al Zintan, T for Tobruk, S for Sabha and FO for food officials.

An interview guide was used in collecting the data. The guide was designed according to the analytical framework presented in Chapter Two. It included questions on household exposure to conflicts, their food security situations, assets and coping strategies. The guide was pre-tested before final administration. In the interviews, food security situations in Libya were discussed in three main periods: pre-conflict, during the conflict, and data collection time or current situation. A detailed form of the interview guide is presented in the Appendix section (see Appendix One). The questions were designed to be flexible in letting the participants give information about the problems that were of importance to them along with their reflection on their food problems, actions and experiences.

Thirty-five of the face-to-face interviews took place at the interviewees' houses or premises. However, 10 interviews were conducted over the telephone in circumstances where it was difficult and/or risky to travel to the interviewees' premises. Each interview lasted between half and one hour. The interviews were conducted in a conversational style (Burgess 2003; Hepburn and Bolden 2013; Bryman 2016). After each main question, additional questions were asked for further information and clarification.

The interviewees were the heads of most of the households. Only five households presented a son as a participant in the absence of the household head.

In addition to interviews, further information was gathered from Libyan government reports and statistics. This included population statistics, food export and import data, departments and employment reports (see Appendix Two). Besides, books, reports of organisations such as FAO, WFP, as well as magazines, and publications, etc. were used. All interviews were conducted by the researcher, who is a Libyan national and fluent in the Arabic language. All interviews were digitally recorded, transcribed, translated from Arabic to English and analysed using the qualitative software package NVivo 11. The data were coded into themes or nodes and similar nodes were then grouped into corresponding categories.

3.5 Data Collection and Analysis – Quantitative Phase

3.5.1 Sampling and data collection

The survey sample for this research was drawn from all the three regions in Libya, including Tripolitania, Fezzan, and Cyrenaica. Within these regions, households were selected from seven different purposively selected areas (Table 3.4). This was not a typical random sample, although some degree of randomisation was considered while selecting households within each area. For example, within a region, households were selected from different Mahallas (similar to a community/township), rather than from the same Mahallah. A typical random sample was not possible due to the ongoing conflicts in Libya. The key consideration here was to draw the sample according to the low- and high-intensity conflict areas, as well as areas with varying socioeconomic and agroecological characteristics (see Table 3.2 in section 3.3). The total sample size was 320 households (HHs), with the highest proportions coming from Tobruk and Al-Zintan (Table 3.4).

Table 3.4 Regions where the questionnaire was conducted

Study sites	HH No	Per cent	Region
Al Marj	20	6.3 %	Cyrenaica
Tobruk	84	26.3 %	Cyrenaica
Sabha	58	18.1 %	Fezzan
Alrujban	6	1.9 %	Tripolitania
Alruhaibat	12	3.8 %	Tripolitania
Al-Zintan	76	23.8 %	Tripolitania
Az-Zawiya	58	18.1 %	Tripolitania
Total	320	100 %	

A structured questionnaire was used in data collection. The questionnaire was designed based on the information that came from the interviews conducted during the qualitative phase. The questions asked about the households' current food security situations in Libya, in comparison with the situation before and during the major conflicts. In line with the conceptual/analytical framework in Chapter Two, the questionnaire also included the factors that could affect household food security. This included six

sections: general household information, exposure and sensitivity to conflict, assets, and government institution structures (e.g. access to basic food services and social safety nets). The key indicators (questions) about which data were collected are presented in Table 3.9 in section 3.5.4 below). The full questionnaire is provided in Appendix Three. The English version of the questionnaire was translated into the Arabic language.

Using the structured questionnaire, data were collected from March to June 2018 in seven different areas in Libya. In most cases (68.3%), the questionnaire was distributed to the heads of the selected households. In some cases (31.7 %), the questionnaire was distributed to other adult persons within the households who could give the necessary information. The questionnaires were distributed through physical visits to the households. The completed questionnaires from each household were then collected after a few days/weeks.

The version of the household survey was drafted and translated into the Arabic language accordingly by not changing the meaning and keeping the language simple and understandable for all participants. The household survey was then ordered into six parts: general household information, exposure and sensitivity to conflict, assets, and government institutions structure such as access to basic food service and social safety nets.

3.5.2 Analysis of households resilience against food insecurity

As already stated in Chapter Two, resilience is the capacity of a system to bounce back from the negative effects of sudden shocks (Harrison 2013; Breisinger et al. 2014; Fan et al. 2014; Hoddinott 2014; Tendall et al. 2015; Upton et al. 2016; Stone and Rahimifard 2018; Serfilippi and Ramnath 2018). Accordingly, in this research, household resilience against food insecurity was defined as the ability of the Libyan households located in conflict zones to maintain a certain level of food security over time. Three-time points were considered, including the pre-conflict time, conflict time and post-conflict time. Conflict time was considered as the year 2011, which was identified from the qualitative phase. Household food security over these three time periods was then compared.

Household food security was measured using two methods – the Food Consumption Score (FCS) (WFP 2008) and the Household Food Insecurity Access Scale (HFIAS) (Coates et al. 2007).

3.5.3 Measuring Food Security (Food Access)

To understand resilience against food insecurity first it is necessary to assess food security. In this research two tools in measuring food security were used. The first method is culled Food Consumption Score (FCS). The second method is culled Household Food Insecurity Access Scale (HFIAS).

Food Consumption Score (FCS)

The FCS is one of the most commonly used methods of measuring household food security (WFP 2008, p 8). It primarily measures the "access" dimension of food security (Headey and Ecker 2012; Hoddinott et al. 2013; Vhurumuku 2014). In this research, the original FCS tool of the WFP was slightly adapted to cover the three-time periods required for this research.

FCS is a composite score used to capture the dietary diversity and food frequency of different kinds of food or food groups consumed during the seven days which involves: the weighing of these groups given a score that represents the diversity of intake of each household (Coates et al. 2007). Households were asked about the number of days each of the food items was consumed in their homes within a week; thus reflecting the quantity and quality of consumed food in the household (see Table 3.5).

Table 3.5 Food consumption score of food groups at three times compared

Considering the pre-2011 conflict period, the post-2011 conflict period, and the current situation, in general, how many days within a week the following food items have been eaten in your household?	Pre-conflict (before Feb 2011)	During conflict (2011 and after)	Current situation
Carbohydrates (e.g., rice, couscous, bread, pasta, ftat)			
Vegetables (tomato, potato, cucumbers, onions, pepper etc.)			
Fruits (e.g., banana, apple, orange, grapes etc)			
Livestock protein (e.g., meats including beef, sheep, camels)			
Poultry protein (e.g., poultry meat, eggs)			
Dairy protein (e.g. milk, yoghurt, cheese, butter)			
Seafood protein (e.g. fish, shellfish)			
Sugar and honey			
Oils, fats and butter			
Hot drinks(e.g. tea, coffee)			
Spices, salt			
Drinks (e.g. juice and soft drinks)			
Nuts (e.g. pistachios and almonds)			
Traditional food (e.g. bazin, ftat, tagin etc.)			

After identifying the number of days each food was consumed, the consumption frequency of the food items was then multiplied by the corresponding food group weights (see Table 3.6 below). According to WFP classification of food items, some kinds of food were given a higher weight because they are energy-dense foods with high-quality proteins, while lower weights were given to sugar and oil for example, which are energy-dense but contain low quality, low proteins and low levels of micronutrients.

The resultant values were then added to obtain the FCS for each household (equation 1).

$$FCS = 2 * x\ staple + 3 * x\ pulse + 1 * x\ veg + 1 * x\ fruit + 4 * x\ animal + 4 * x\ dairy + 0.5 * x\ sugar + 0.5 * x\ oil \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where x represents the number of days, each food item was consumed within a week.

Table 3.6 Food groups and weights used in calculating FCS

FOOD ITEMS	FOOD GROUPS	WEIGHT
Maize, maize porridge, rice, sorghum, millet pasta, bread and other cereals	Cereals and Tubers	2
Cassava, potatoes and sweet potatoes		
Beans. Peas, groundnuts and cashew nuts	Pulses	3
Vegetables and leaves	Vegetables	1
Fruits	Fruit	1
Beef, goat, poultry, pork, eggs and fish	Meat and fish	4
Milk yoghurt and other diaries	Milk	4
Sugar and sugar products	Sugar	0.5
Oils, fats and butter	Oil	0.5

(**Source:** WFP 2008, p. 8).

After estimating the FCS of the sampled households, their food consumption (access) were classified into three categories according to the guidelines provided by the World Food Programme (Table 3.7).

Table 3.7 Food consumption score and households groups

FCSs	Categories
Score 0-28	Poor
Score 28.5-42.5	Borderline
Score > 42.5	Acceptable

(**Source:** WFP 2008, p. 21).

The FCSs were calculated for three time periods – pre-conflict(t), during the conflict(t+1), current time or data collection time(t+2). After the categorisation of the households (Table 3.6), their resilience status was determined as follows.

- Household's FCS declined in time t+1 and time t+2 from "acceptable" to "poor/borderline" category = non-resilient household
- Household's FCS did not decline in time t+1 and time t+2 from "acceptable" to "poor/borderline" category = resilient household

This classification is consistent with the method used by other researchers (Rahman et al. 2013; Lovon and Mathiassen 2014; Vhurumuku 2014; Leroy et al. 2015; Mason et

al. 2015; Lokosang et al. 2016; Nkomoki et al. 2018; Nyangasa et al. 2019; Ibok et al. 2019).

Household Food Insecurity Access Scale (HFIAS) score

The HFIAS is a popular tool used by USAID Food and Nutrition Technical Assistance III Project (FANTA). The tool is designed to collect information on:

- Feelings of anxiety over food (e.g. access, resources)
- Concern that food is insufficient quantity and quality for children and adults (includes preference, dietary diversity, nutritional adequacy)
- Informing the reductions in food intake for the household (including adults and children)
- Feelings of embarrassment to turn to socially unacceptable means to obtain food resources

According to the guideline (Coates et al. 2007), the sampled households were asked 13 questions (Table 3.8), regarding their food insecurity over the three-time periods. The recall time was four weeks. Although the original HFIAS considers nine questions (Coates et al. 2007, p 5), this research added four more questions, which were identified during the qualitative phase. The scale and scoring were the same as in the original guidebook (Coates et al. 2007). Often was coded as 4, sometimes as 3, rarely as 2 and never as 1.

Table 3.8 Household Food Insecurity Access Scale (HFIAS) Generic Questions

Considering the pre-2011 conflict period, the post-2011 conflict period, and the current situation, has there been a situation when:	Pre-conflict (before Feb 2011)	During conflict (2011 and after)	Current situation
1. you or others in your household worried about not having enough food to eat because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
2. you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
3. you or others in your household ate only a few kinds of foods because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
4. you or others in your household had to skip a meal because there was not enough money or other resources to get food?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
5. you or others in your household ate less than you thought you should because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
6. your household ran out of food because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
7. there was ever no food to eat of any kind in your household?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
8. you or others in your household were hungry but did not eat because there was not enough money or other resources for food?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
9. you or others in your household went without eating for a whole day because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
10. the price of the food in the market was unaffordable for you?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
11. you or others in your household did not find the food that you needed in the market?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
12. you or others in your household worried that the quality of the food eaten in your household was quite bad?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
13. you or others in your household could not get the food from the market because of transportation or travelling problem?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often

The scores on all the 13 questions were then added in order to get the HFIAS score for each household. The total of HFIAS scores was then categorised as in Figure 3.3. Since there is no guideline in the literature about the categorisation of HFIAS scores, this research used an equal interval method in this categorisation.

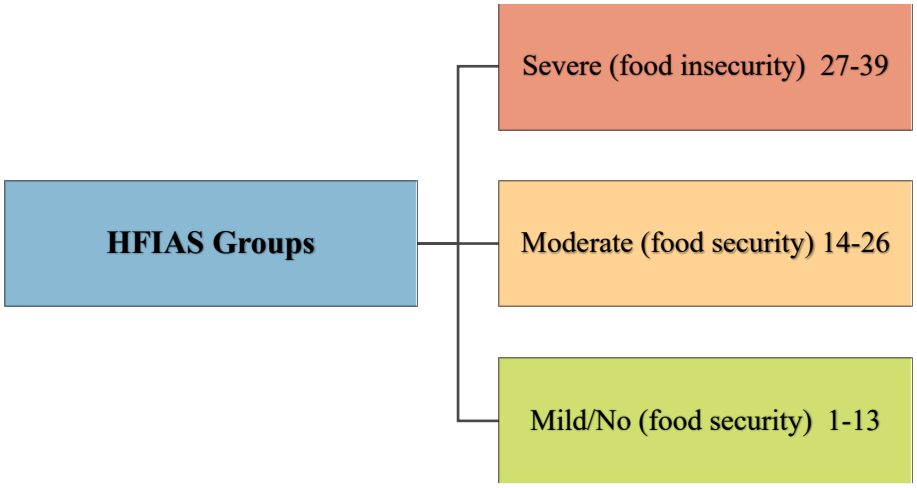

Figure 3.3 Food insecurity categories according to HFIAS scores

According to the categorisation, a household's food insecurity was considered as "Severe" (score between 27-39), "Moderate" (moderate score between 14 to 26), and "Mild/No" (score between 1-13).

After the categorisation of the households (Figure 3.3), the resilience status of the households was determined as follows.

- Household's HFIAS score did not increase in time t+1 and time t+2 from "mild/no" to "moderate/severe" category = resilient household
- Household's HFIAS score increased in time t+1 and time t+2 from "mild/no" to "moderate/severe" category = non-resilient household

3.5.4 Analysis of the factors affecting household resilience

According to the analytical framework in Chapter Two, the factors affecting household resilience considered in this research were:

- Exposure (ExInd)
- Sensitivity (SnInd)
- Physical capital (PC)
- Natural capital (NC)
- Financial capital (FC)
- Human capital (HC)
- Social capital (SC)
- Coping strategies (CS)
- Social Safety Nets (SSN)
- Access to Basic Service (ABS)

The indicators used in measuring these variables along with their corresponding scales are shown in Table 3.9. Based on these indicators, index scores for all these factors were created according to the guidelines in the literature (Córdova 2009; Filmer and Pritchett 2001; Gebreyesus et al. 2015; WFP 2017; Islam and Al Mamun 2019). According to the guidelines, some variables measured as ordinal-categorical (education of household head) were later coded as dummy variables during index construction. Furthermore, the exposure and sensitivity variables were considered as one variable called Exposure-Sensitivity. This was consistent with the literature (Smit and Wandel 2006; Shah and Dulal 2015; FAO 2016; Weis et al. 2016; Richardson et al. 2018).

Table 3.9 Indicators for Each Factor of the Resilience Model.

Index variables	Indicators	Measurement scale
Exposure-Sensitivity	• Faced trauma and concern about life • Faced deaths injuries • Faced loss of assets • Faced loss of jobs & salaries • Faced house and/or property damage • Some household members have been disabled or sick • The majority of HH members have been old • The majority of HH members have been children • The majority of HH members have been women	Dummy (1=yes, 0=otherwise)
Human capital	• HH head qualified to PhD level • HH head qualified to Master level • HH head qualified to University level • HH head has construction qualification	Dummy (1=yes, 0=otherwise)
Financial capital	• Head has a salary • Wife has a salary • Members have salaries	Dummy (1=yes, 0=otherwise)
Social capital	• HH bonding relationships between members • HH bridging relationships with neighbours/outsiders • HH affiliations to tribal/religious groups • HH affiliations to NGO organisations	Dummy (1=yes, 0=otherwise)
Physical capital	• Has one house • Has one building • Has car • Has TV • Has radio • Has mobile phone • Has internet	Dummy (1=yes, 0=otherwise)

Natural capital	• Has land • Number of sheep • Number of goats • Number of chicken • Number of well	Dummy (1=yes, 0=otherwise)
Coping Strategies	• Food compromising • Assets compromising • Change generation activities • Borrowing • Budgeting • Rely on food aid • Strengthen local cooperation • Migration	0=Never 1=Rarely 2=Sometimes 3=Often 4=Not Applicable
Social safety nets	• Access to public food distributors • Receive subsidies on agricultural inputs • Receive subsidies on livestock disease/health • Receive subsidies on loans for building constructions • Receive subsidies on jobs seeker's allowance • Receive subsidies on children and old or disabled members healthcare • Receive subsidies on fuel for personal transport	Dummy (1=yes, 0=otherwise)
Access to basic services	• Access to bank service such as salaries • Access to bank service such as withdraw money • Access to foreign currency	Dummy (1=yes, 0= otherwise)

*Note; HH means household.

Table 3.9 shows the indicators that were used in creating index variables for Exposure and Sensitivity to conflict, Assets (five types), Coping Strategies, Social Safety Nets, and Access to Basic Services. In the original questionnaire, there were more indicator variables (see Appendix Three). However, some of these indicators had to drop later as they did not fit the guideline for inclusion into index construction (Córdova 2009; FAO 2016 in RIMA-II; Islam and Al Mamun 2019). There are several methods of index variable construction, but in this research, I have used a popular method based on Principle Component Analysis (PCA) (Córdova 2009; and FAO 2016 in RIMA-II; Islam and Al Mamun 2019). In this method, the standardised values of the indicator variables are multiplied with their corresponding weights. The weights are obtained from the loadings on the first principal component. The formula used in the construction of the index variables is shown in equation 2.

$$y_i = \alpha_1 \left(\frac{x_1 - \bar{x}_1}{s_1}\right) + \alpha_2 \left(\frac{x_2 - \bar{x}_2}{s_2}\right) + \cdots + \alpha_k \left(\frac{x_k - \bar{x}_k}{s_k}\right) \ldots\ldots\ldots (2)$$

Where,

y_i = the index variables for ES, PC, NC, FC, HC, SC, ABS and SSN

$x_1, x_2, \ldots \ldots x_k$= the corresponding indicator variables for an index variable

$\bar{x}_1, \bar{x}_2, \ldots\ldots \bar{x}_k$= the mean of the indicator variables

$s_1, s_2, \ldots . s_k$ = standard deviations of the indicator variables and

α = the weight for each indicator variable for the first principal component

The PCA-based technique is based on the variance in the data. The first principal component corresponds to the largest eigenvalue of the correlation matrix of x. The first principal component assigns a larger weight to an indicator that varies the most across the households. For instance, in an asset index, the asset found in all households is given a weight of zero. Positive and negative values can be taken by the first principal component (McKenzie 2005).

Then, to estimate the effects of the factors on household food security resilience, a

binary logistic regression method using the SPSS software version 25 was adopted. The binary logistic regression method is used to explain the relationship between one dependent binary variable and several nominal, ordinal, interval or ratio-level independent variables. Hence, the binary logistic regression method was the appropriate option for this study (Quinn and Keough 2002; Tranmer and Elliot 2008; Schüppert 2009; Cox 2018). This is because the resilience variable in this research was considered as a binary variable. In this binary variable, resilience was defined as: (i) a decline or not decline of the Food Consumption Scores (FCS) over time, and (ii) an increase or not increase of the HFIAS scores over time if a household's FCS did not decline compared to the pre-conflict time, it was considered as a resilient household (coded as 1). On the other hand, if a household's FCS declined compared to the pre-conflict time, it was considered as a non-resilient household (coded as 0). For HFIAS scores, if a household's HFIAS score did not increase compared to the pre-conflict time, it was considered as a resilient household (coded as 1). On the other hand, if a household's HFIAS score increased compared to the pre-conflict time, it was considered as a non-resilient household (coded as 0). The binary logistic regression model can be expressed as in equation 3.

$$\ln\left(\frac{p}{1-p}\right) = \beta_0 + \sum \beta_i x_i \quad \ldots\ldots\ldots (3)$$

Where,

p = the probability that the resilience variable takes the value of 1 (i.e. being resilient)

$\frac{p}{1-p}$ = the odds of a household falling within the resilient category

$\ln\left(\frac{p}{1-p}\right)$ = the log link (Logit) of the resilience variable

β_0 = intercept of the model

β_i = coefficients of the independent variables

x_i = the independent variables in the model (e.g. ES, PC, NC, FC, HC, SC, CS, ABS and SSN)

I then estimated the odds of a household becoming food insecure from equation 4.

$$\frac{p}{1-p} = e^{\beta_0+\Sigma\beta_i x_i} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

3.6 Ethical Considerations

3.6.1 Data collection ethical approval

Data for this study were collected with strict adherence to the ethical guidelines of NTU. A formal ethical application was submitted to the NTU human ethics committee on 13/10/2016 before the qualitative data collection began on 12th November 2016 to 7th January 2017. The application was approved on 02/11/2016. Again, another ethics application was obtained on 13/02/2018 for the quantitative/survey data collection.

During data collection, informed consents were achieved from all the participants, participation was entirely voluntary, and all interviews were anonymised. The participants were fully informed regarding the objectives of the study.

The project fully complied with Libyan legislation. Most of the participants provided their written consent regarding their participation in the research. However, some participants provided oral consents that were audio-recorded during interviews.

3.6.2 Cultural Understanding

Investigating cultural context is very important before conducting any research. Local norms must fully be understood. Cultural sensitivity and gender relation specific attributes were observed which generally a greater degree in developing countries like Libya. For example, in Libya households are mostly controlled by men and they are responsible for expenses and livelihood strategies. However, most women in Libya are homemakers and do not work outside the home, given some of the ancient tribal traditions that prevent them from working outside the home, but some of the results of the interview of this study showed that many women broke this barrier due to the urgent need for money and work, especially during the conflict.

However, some cultural barriers are not impenetrable. For example, interviewing and speaking to women sometimes can be difficult, unlike men. Hence, the interviews in this research were conducted all with men but the household questionnaire has completed by the head of household no matter man or women as the gender were not important in selecting the study sample.

3.7 Summary

The chapter discussed the justification of using a new framework and unified perspective on a household-level in food security towards a greater realisation of its inherent complexity and a better understanding of food insecurity problems in Libya. For a proper understanding, a mixed approach was designed to collect data on household food security and conflict information from seven different cities in Libya to highlight the variations of resilience between households. The methodology and the purpose of analysing household resilience measures are dependent on the factors that affect resilience against food insecurity. Subsequently, following reviewing the literature, this research looked at how to measure food security in a conflict-affected country, such as Libya. The underlying strategy of data collection covered three time periods, before, during, and current time or data collection time, by conducting qualitative and quantitative research approach using interviews and questionnaires. Mainly the food accessibility and availability dimensions of food security were measured from different periods, providing a deeper understanding of resilience to food insecurity by using mixed methods.

The chapter has provided specific tools, statistical analysis and coded interviews to ensure a systematic approach using a multidimensional process of analysing food insecurity resilience problems to be adequately understood and addressed. Analysing dynamic resilience to food security processes, particularly by using two main tools: food consumption score (FCS) and household food insecurity access scale (HFIAS). This gave a holistic interpretation of food security situations, and regionally synthesised to reveal the common processes affected by the conflict that derived food insecurity, which is essential to understand in developing country like Libya which possessed a

tremendous challenge.

Multiple outcomes measures in this research are expected. For example, some households may live in a state of food security, and they are already resilient against food insecurity problems. However, on the other side, some live in the real crises of food insecurity, and perhaps there are some of the borderline condition of food security. These three main variations of household food security resilience are expected. However, the main objective of this research is to identify the factors that make this variation between households, especially in the Libyan context. Thus, this research attempted to bridge this knowledge. After that, the chapter ended with ethical considerations. As previously stated, these ethical principles had obtained informed consent from prospective research participants reduce the risk of harm to participants and keep their confidentiality and privacy as well as give participants the right to withdraw when the research was carrying out.

Consequently, this study analyses the unique context in Libya. The study intends to fulfil its aim by achieving the research objectives; firstly to identify the nature and extent of resilience demonstrated by Libyan households against food insecurity, and then determine the factors that affect household resilience against food insecurity created by conflict. For these purposes, the methods used to obtain the result were also explained in this chapter.

In the next chapter, (Chapter Four) qualitative results are provided.

Chapter Four

Results: Qualitative Phase

4.1 Overview

In this chapter, the results of the study are presented using data from Libyan households gathered through a process of semi-structured interviews. The results are presented according to the analytical framework discussed in Chapter Three. Initially, the food preferences in the study areas are defined by describing what is food in Libya and key events of household food insecurity. Then, the various degrees of resilience against food insecurity were identified in this study are highlighted. Furthermore, the result of the factors that affect household food insecurity is discussed in this chapter. A part of the results (coping strategies) presented in this Chapter has been accepted for publication in the journal *Development in Practice*.

4.2 Food Preferences in the Study Areas

It was found that the preference for food consumed in Libya was mostly local and traditional food. In Libya, these typically include complex carbohydrates, such as rice, pasta, couscous and, sometimes "bazin", which is mainly made from barley. The study found that the main meal of the day was lunch. It often consists of a main dish, such as pasta, rice or couscous with salad, meat, fish, fruits and drinks. Women mostly prepared the food consumed at home, although in some cases the role of preparing and cooking food could be mutual.

It was noticed that the consumption patterns were slightly different from one region to another depending fundamentally on geographical location, household preferences, and food production within the region. For instance, in the western part of Libya, Bazin and couscous were the most popular dishes whereas rice was more common in eastern Libya, and "Ftat" was preferred in southern Libya. Moreover, fish was a valuable food for households in cities near the sea, such as Tobruk, but was much rarer in non-coastal regions, such as Sabha and Al-Zintan. There were some foods consumed once a week or more, but not daily. These include chicken, meat, or fruit.

Regarding common dietary beliefs, Islamic or Halal food was eaten and preferred in Libya. The majority of Libyan households provided information about common dietary beliefs of their food. The responses were the same, suggesting that the food

beliefs were similar. The most commonly occurring belief was that eating pork and drinking alcohol was prohibited. These beliefs were present even in the laws of the state and the Islamic religion.

Another important finding was that, in all regions, there was a slight change recently in household food consumption patterns, as a result of urbanisation and openness to the world as well as the influence of television and social media. This has led to increased consumption of fast foods and "takeaways", especially among modern households and young people. According to the interviewees, overall, foods rich in fats, sugar and oils were the most frequently consumed unhealthy foods.

4.3 Conflicts and Household Food Insecurity in Libya[4]

In this section, the results regarding the role of conflicts in household food insecurity in Libya are presented.

The interviews confirmed that, since the conflict began in 2011, most of the households (HHs) were subjected to shocks and stresses. In addition to the destruction of houses and assets, one of the common shocks was death and injuries to household members, as one interviewee mentioned[5]:

> *"…we have experienced so much suffering, and we are still suffering from the effects of the conflict, and we just ask God's goodness; houses bombed and damaged as well as we lost two members of our family since the 2011 war…"* (Interview number 8-Z, 27 Dec 2016).

Loss of jobs and income was another commonly identified shock which has been affected households food security in a negative way, as one household said:

> *"…in 2011, my salary was stopped because of the conflict, and again*

[4] A part of this section has been taken from a paper of mine that has been accepted for publication in the journal Development in Practice.

[5] The interview transcripts have been coded as Z for Al Zintan, T for Tobruk, S for Sabha and FO for food officials.

my salary sometimes stops now because there is no flow of money in the banks, thus this was hugely affected our food security...” (Interview number 13-T, 12 Dec 2016).

According to the interviewees, at the beginning of the conflict in 2011, there were some difficulties in accessing foods because most markets were closed (see Figure 4.1).

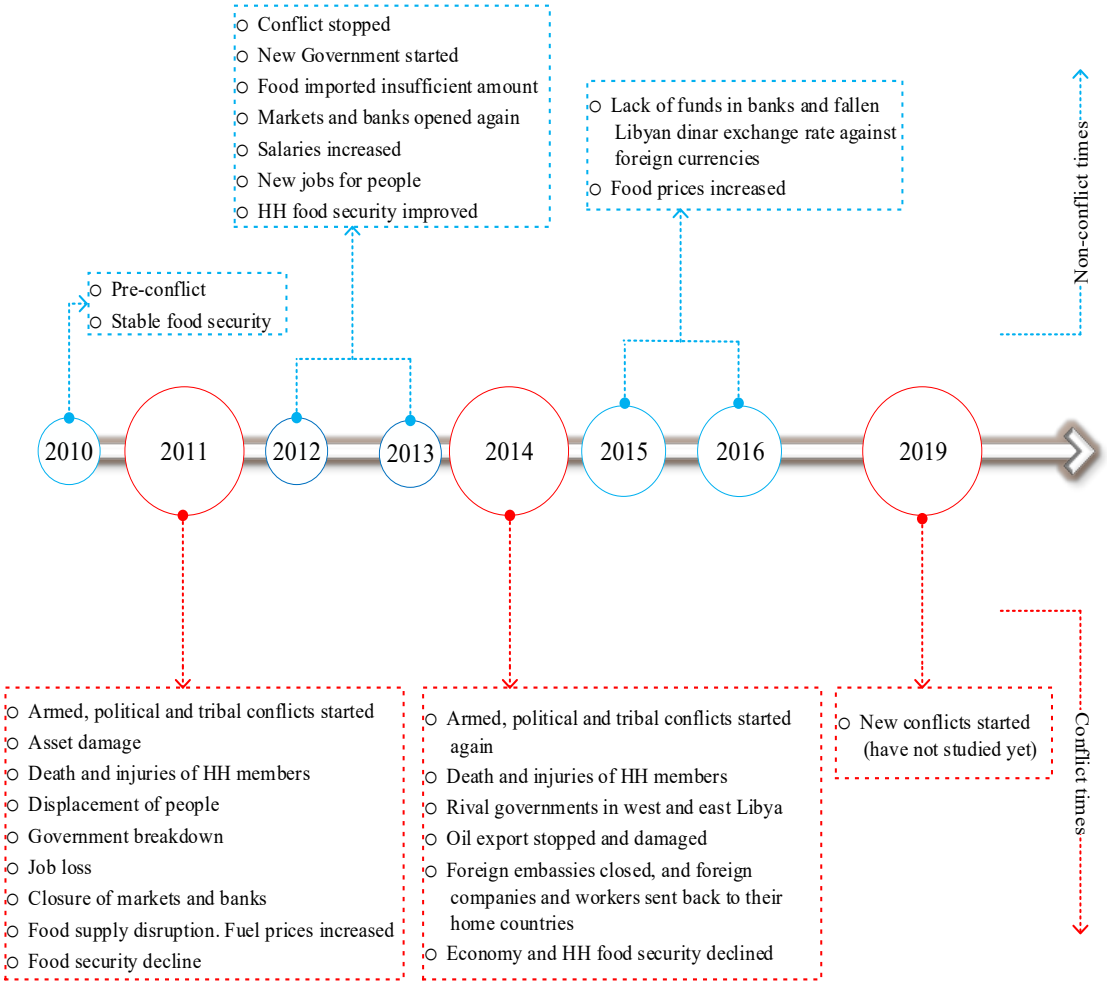

Figure 4.1 Household food security situation and key events

Source: a compilation based on interview data.

As reported by many households, some types of foods disappeared from the markets, especially baby milk, dairy products, vegetables, and fruits. Moreover, in 2011, the conflict and protests across Libya increased food and fuel prices. However, in 2012 and 2013, food security had improved because the country became stable with a new

government. Some interviewees mentioned that those years were even better than the situation that existed before 2011 (the Gaddafi era). For example, there was a significant recovery in the food supply in the whole country as foods were imported in large amounts from around the world. As a result, there were ample food supplies in the markets. In addition, the first government increased salaries in 2012, which had a positive effect on household food security.

In 2014 food security had declined again as the country faced a new war. The Tripoli international airport was burned, all foreign embassies were closed, and foreign companies and workers from Tripoli were sent back to their home countries. This renewed conflict aggravated food security through displacement, death, and destruction of physical and natural capital. Furthermore, the conflict-affected normal economic activities such as food production destroyed infrastructure and disrupted electricity and food supplies. All these factors in turn pushed food prices up in local markets. In addition, price controls were difficult because of weak government capacity and control. In 2014 many households lost their jobs due to the departure of companies operating in Libya, the departure of most foreign workers, and the suspension of most embassies and consulates from working in Libya.

According to the interviewees, the conflicts also resulted in fallen exchange rates for the Libyan dinar against the US dollar. Eight Libyan dinars were equivalent to one US dollar, down from 1.30 per dinar in the pre-conflict time. The households also faced some financial barriers, such as a lack of liquidity in the banks, and loss of jobs and businesses during the conflict, and this, in turn, led to reduced income. These problems continued due to the perpetuation of armed and political conflicts in 2015 2016 and 2017. The government became divided between the governments in the West and the East of Libya. This had forced further deterioration in the economic situation and thus severely affected the lives of Libyan households. Another important finding was that all Libyan households used to receive subsidised foods from consumer associations before 2011, which helped them to obtain all basic food needs such as sugar, oil, wheat, tomato, rice and many others. However, after 2011 these associations ceased to exist.

Household food security became slightly stable in 2016 as there were no further

conflicts or road closures or food supply stoppages. Many households were getting used to the situation, most food issues had been solved, but food prices were still very high, and this was the biggest problem for the majority of the households.

4.4 Household Resilience Against Food Insecurity

Three categories of households showing various degrees of resilience against food insecurity were identified in this study (Figure 4.2). These include resilient households, somewhat resilient households and less resilient households.

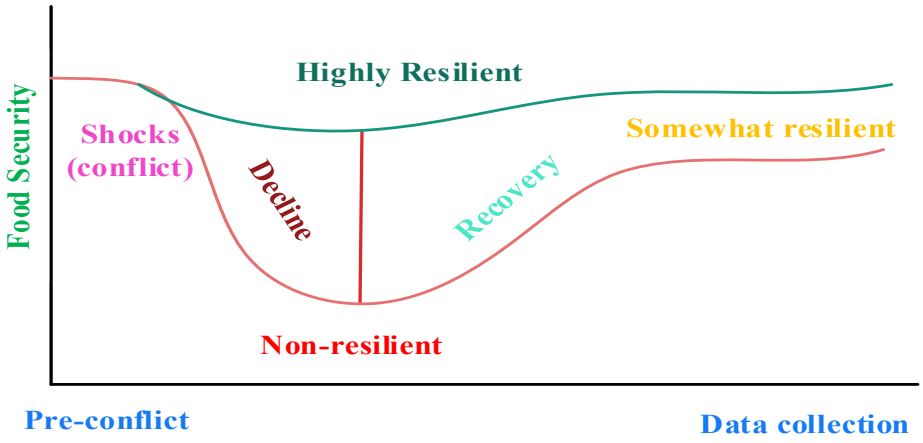

Figure 4.2 Types of household resilience

The resilient households were those who had sufficient amounts of food available at all times for all family members over the years, and there was no significant effect of conflict on their food availability. For example, one such householder said:

> *"Yes, for my family, there is food available at all times, thank God, food availability at home was not affected by the conflict."* (Interview number 24-T, 11 Dec 2016).

In addition, these households could easily access their food during and after the conflict times. One householder mentioned:

> *"...we eat what we would like to eat, and the way to go to the market is very easy for me and my family and the market is close to my house it is*

just about 300 meters…" (Interview number 26-T, 12 Dec 2016).

Furthermore, these households perceived no problems with their food quality. One such household head said:

> *"…the food in the market is acceptable, as I think, I buy the good types only, I always try to avoid unhealthy food..."* (Interview number 30-T, 13 Dec 2016).

Notably, about a third of the households that were interviewed had a high level of resilience in 2016, most of them in the city of Tobruk.

Another type found in this study was "somewhat resilient household". This type of household faced several food problems during the conflict times, but they slightly recovered and overcame most of the problems, even though their food security situation was still worse than the pre-conflict situation. As one household head asserted:

> *"…the food is not available as required since the period of the conflict but, nowadays, the situation is good in comparison with the conflict time, but before 2011 it was much better than after the conflict…"* (Interview number 10-Z, 4 Dec 2016).

However, overall, these households were still facing some problems during the time of data collection in 2016 in terms of affordability of food. They were sometimes consuming a medium level of nutritious and quality food in the household. For example, one interviewee mentioned that:

> *"…nowadays I can note that some foods are not of high quality. Libya before imported and provided first-grade food that was supported by the government, but now some kinds of food were not high-quality. Furthermore, it was more expensive…"* (Interview number 22-T, 10 Dec 2016).

The research finds that about one-half of the total households interviewed had a

medium level of resilience against food insecurity. This type of household resilience was recorded more in Al-Zintan city than the other cities.

The last type of resilience identified in this study was “non-resilient household”. This type of household could not recover from the shocks and stresses created by conflicts. They were still suffering from food shortages and an inability to buy and access food. Their food security declined in 2011 due to conflict, and since then, they could not overcome the shocks. For instance, one household head with low resilience stated that:

> *"...well, to be honest with you, there is not enough food for all the family at all times since the conflict started in 2011..."* (Interview number 34-S, 24th Dec 2016).

Additionally, this kind of household perceived a low sufficiency of food quality in the household for all family members. For example, one household said:

> *"... food now is not high-quality. For example, rice is not as high quality as before. At previous times the state was providing rice with high quality and at a low price..."*(Interview number 22-T, 10 Dec 2016).

This research found that a quarter of total households were in this category, and mostly in the city of Sabha.

4.5 Factors Affect Household Food Security

According to the analytical framework in Chapter Three, in this section, the results regarding the factors that could affect household resilience against food insecurity are presented. The factors include: exposure to conflict, sensitivity to conflict, household assets, coping strategies, social safety nets and access to basic service.

4.5.1 Exposure to conflicts

Out of the 45 households interviewed, the majority said that they were exposed to the conflicts in many different ways. According to the interviews, these were categorised by level of exposure as being high, medium and low.

Households belonging to the high level of exposure faced loss of members or injury within the family in addition to damage to household assets. For example, in the Al-Zintan area, most residents and households indicated that there was a fierce war in the city and there was shelling of the residential neighbourhoods, which led to the displacement of many households who were close to this conflict area. Some households indicated that they lost some of their children and relatives during the conflict that took place in 2011. For example, one such household said;

> *"...unfortunately, the war was close to our home where Gaddafi forces shelled my house, I have lost two martyr sons in the war of 2011, the first dated 01/05/2011 and another son was killed on 5/12/2011. Part of the family left for Tunisia, just my other sons and I stayed, and we faced this war defence ourselves..."* (Interview number 13-Z 6 Dec 2016).

Many households of this area claimed that they were subjected to severe financial, physical, and natural damage, such as loss of jobs, livestock and ownerships. For instance, one household stated;

> *"...the conflict has seen our assets damaged from looting and stealing..."* (Interview number 40-S 27 Dec 2016).

Furthermore, many households mentioned that there was the destruction of land and crops as a result of the war at that time.

Thus, the households facing the above type of exposure can be defined as experiencing a high-level of exposure. It was noted that nearly a third of the total households interviewed had been subjected to intense conflict and most of those households were in the Al-Zintan and Sabha regions.

In some cases, the households did not face death or injury of household members, but faced psychological shock, especially of children.

> *"...at the beginning of the war in 2011, all family members were traumatised and fear of the situation that happened. The children could not go to school because we were concern about their safety..."*

(Interview number 42-S 28 Dec 2016).

Furthermore, many households faced an interruption of salaries due to conflict as well as secondary shocks such as high food prices. Two households reported:

> *"...during the conflict, I almost spent all my money buying food for my family and my children, so there was only a few left, but now, thank God, I have back to my previous job, and my salary has restored, and the situation is not too bad..."* (Interview number 39-S, 1 Jan 2017).

> *"...food prices were costly during the conflict or even it was difficult to find some kinds of food because many kinds were missing in the markets and have gone people were buying lots of food in large quantity when the conflict started..."* (Interview number 7-Z, 16 Nov 2016).

Furthermore, some households said that schools had stopped functioning in their areas during the conflict. These kinds of exposure have been defined as the medium level of exposure.

For the low level of exposure, the households concerned did not experience intense or prolonged conflict. The conflict did not last long, only for several days and it had no significant effect on households.

4.5.2 Household sensitivity to conflict[6]

Out of the 45 households interviewed 19 indicated that there were obstacles that had made the households more sensitive to conflicts. For instance, some families had children who were still studying. This required tuition fees, books, stationery and transportation cost. For these, the households had to spend a significant part of their home budget. For example, two households said:

[6] A part of this section has been taken from a paper of mine that has been accepted for publication in the journal Development in Practice.

"...we have children attending primary school, and they need special food and care..." (Interview number 22-T 10 Dec 2016).

"...most of my family is composed of children; kids have special needs must be provided, such as school expenses..." (Interview number 18-T 8 Dec 2016).

Some households pointed out that there were older people in households who needed special care. This made the households more sensitive to conflicts, unlike the households whose members were mostly adults, in good health and able to work. For example, a household said:

"...my mother, she is 90 years old, and she is suffering from several ailments, and I bring her medicine from Tunisia, we take care of her always..." (Interview number 13-Z 6 Dec 2016).

In addition, there were some households with members suffering from health problems which affected their ability to withstand the stresses and shocks caused by conflicts. An example of this according to one household follows:

"...the health status of all family members is good to accept for my little girl she is suffering from an impaired mental and physical disease she always needs special care and purchase of medication which is somewhat expensive now..." (Interview number 8-Z 30 Nov 2016).

4.5.3 Household assets

According to the analytical framework in Chapter Three, all the five types of assets, including natural, physical, financial, human and social capital, were investigated. The findings are summarised in Table (4.1).

Table 4.1. Salient attributes of the sampled households

Household attributes	Description
House ownership	Out of the 44 households interviewed, 95% (42) had their own houses. Only two families lived in rented houses, and four owned more than one houses.
Land ownership	Of the 44 interviewed, 84% (37) owned family lands. Of these, 45% (20 households) had productive land with crops and trees and 39% (17) had unproductive lands, used for renting and housing construction. Four households had land under joint ownership with relatives and tribes.
Livestock ownership	Fourteen households (32%) had livestock which they relied upon for household meat consumption as well as income through the sale of livestock products.
Ownership of another important resource	Two households owned water wells which they used for selling water through trucks carrying water tanks. One household-owned forest that provided timber and income.
Ownership of transport and communication devices	Thirty-seven households (84%) owned private cars and 33 households (75%) had telecommunications devices such as mobile phones, computers and internet networks.
Employment	In over 84% of the households, the heads (males) had government jobs and in seven households private jobs/businesses (e.g. farming). In 39% of households, the spouse (wives) were in salaried employment.
Education of household head	Over 95% of household heads were educated, with nearly 23% having a university degree and nearly 21% diploma. Only two heads had no formal education. Over 77% of households had an educated spouse (wives), of which 30% with university degrees. Only 8 spouses (18%) were homemakers.
Special vulnerability attributes	Four households had household members suffering from chronic diseases.

Source: a compilation based on interview data.

Natural capital

The interview data showed that the majority of the households in all the three regions (Al-Zintan, Tobruk and Sabha) owned lands belonging to the family (see Tabl 4.1). This included productive land with crops and trees for half of the households. The rest of the households owned unproductive (non-agricultural) lands, but those lands were invested in different ways such as renting and housing construction. In addition, some households stated that they held some joint-ownership land that was shared with other people, such as relatives and tribes. About one-quarter of respondents informed that

their land was exposed to some problems during the conflict period. For example, some households claimed that their land was attacked, and yield destroyed during the war in 2011. Others said that they found it difficult to purchase grain, fertilisers and equipment required to cultivate their land, due to the high prices after the conflict in 2016. For example, one household reported:

> *"…our land has been affected with regards to the high prices of equipment. We haven't been able to buy the machinery necessary for work at the farm. Also, the prices of seeds and fertilisers are very high. Therefore, we have left it as it is now…"* (Interview number 16-T 18 Dec 2016).

These problems did not exist in the pre-conflict period.

Some households pointed out that they had livestock that they relied upon to provide meat at home for consumption as well as to sell them when needed for money and food. This happened during the conflict time in 2011. Some participants mentioned that they sold their sheep in the period of conflict to get money because their salaries stopped, and some households sold their livestock then left the country as a result of the intensity of the war during that time. One such household said:

> *"…i do not have many animals, I only have a few cows and sheep, I used to have a bigger number before, but I sold most of them during the conflict to get money…"* (Interview number 35-S 29 Dec 2016).

Few households indicated that their natural resources were not affected by conflict and remained as they were. These households were more in the area of Tobruk where the conflict was less severe than in other regions.

In addition, some households had water wells and sold the water to citizens through trucks carrying water tanks. This water was suitable for household use, for instance, washing, irrigation and other purposes but it was not ideal for drinking as some participants said.

Physical capital

Interviews revealed that almost all the households interviewed had a private car. Most households used their cars to go to markets to buy their food because there was no better way (see Tabl 4.1), such as public transport which was inadequate and unsatisfactory.

The majority of households owned early warning systems and telecommunications devices, such as mobile phones, computers and internet networks. These sources played a big role in helping households during the conflict period to find out what was going on around them and also to inquire about foods that sometimes disappeared from the market, such as baby milk. They currently use social media apps, such as Facebook, Twitter and WhatsApp, to contact each other more increasingly compared to a previous time before the conflicts.

Most of the families were found to have their own homes. Only two families were living in rented houses, while four families reported that they owned more than one house and built new houses for their sons to get married (see Tabl 4.1). As for jewellery and savings, there were only three households who said that they had some jewellery which they sold to solve some economic problems, such as to provide food for all family members. One household said;

> *"…there is an effect on our physical capital, particularly the amount of jewellery, which is now nearly gone…"* (Interview number 27-T 23 Dec 2016).

The majority of the households believed that in the past, they had a larger amount of jewellery than the time of data collection. Furthermore, all the households interviewed reported that they had an integrated kitchen and all the necessary equipment to store and prepare food. Only one household considered as a refugee had very limit asset ownership.

Around one-half of the households pointed out that their physical resources had changed considerably since the conflict started. Many households recognised that the prices of these physical resources had grown to three times the pre-conflict level. One

household said:

> *"…i bought the fridge for 230 dinars, now the same fridge equals 1100 dinars and the cooker I bought was 190 dinars, which now equals about 800 dinars and means there is a very high price rise…"* (Interview number 41-S 28 Dec 2016).

Increasing prices of most physical assets had negatively affected the renewal and modernisation of some physical resources. The purchase of assets, e.g. a new car, was not a priority for the households. Their urgent priority was to provide food for all family members.

Financial capital

The interviews showed that the vast majority of the households were employed as government employees and they had monthly salaries. Most of the households indicated that they depended entirely on those salaries to buy food. Out of 45 households interviewed, 37 households were government employees, while only seven households said they did not have government salaries, but they had private jobs and businesses (see Tabl 4.1). For example, some of them owned factories, shops and farms, while others worked as freelancers or were self-employed. However, the conflict in 2011 negatively affected those salaries and businesses. Most households pointed to the interruption of their wages and the loss of their work during the conflict. They were unable to get money from the banks, which adversely affected their food security. However, the situation improved when the conflict stopped. For example, one such household said:

> *"...when the conflict happened in 2011 our salaries stopped for a long time, but after that, we overcame the problem, and our salaries are back as they used to be…"* (Interview number 33-S 24 Dec 2016).

Many households reported that their income was not enough to cover their household expenses. This is particularly due to an increase in food prices and the decrease in the exchange rate of the Libyan Dinar due to the conflicts. One household said:

"...now food prices have rapidly increased because of the collapse of Libyan dinar against the dollar and also the conflicts and disputes that happened in Libya, such as political and armed conflicts and this might continue if the prices of the dollar is increasing against Libyan dinar, this will make food prices rise in the future as well..." (Interview number 4-Z 17 Nov 2016).

At the time of data collection, many households complained about the lack of liquidity in Libyan banks, which in turn adversely affected their economic and food security status. Most of these households indicated that they had money in the banks, but they could not get it because there was no liquidity of money in the bank. Despite the fact that in 2012 there was an apparent recovery from the effects of the conflict and a new government had increased the salaries of most of its employees, this increase was accompanied by the rise in the price of food too. For example, one household said:

"...the situation changed a lot in the last two years where the prices became very high and so the people started to suffer from lack of food, for example, milk was dinar now it has become five dinars, before people were buying more than they needed then much food was thrown in the bin, but now only they just buy the quantity required without increase..." (Interview number 25-T 11Dec 2016).

About one-half of households indicated that the spouses (wives) in their households were working and they had salaries which helped the households with their financial and food security situation. Many of these wives started working after the conflict started and got their salaries to support their families, especially when the husbands' salary was not enough to meet the needs of their families. For example, one household said:

"...my wife and I are employed by the governmental institution. In fact, we depend on our salaries for food and living, we do not have another source of income, my wife got a job recently, and this helped us a lot..." (Interview number 33-S 24 Dec 2016).

Human capital

Education of household heads (males) was an important human capital for the households in this study. For example, education helped household members to get employment and income. For instance, one household head said:

> *"… I recently got a PhD and my educational level has evolved a lot. My wife has a university level. I have a salary and my wife also has a salary, and we rely on these salaries to buy food and living expenses. Also, I have some skills on Microsoft such as Word, Excel and PowerPoint; I do this work at the university besides teaching…"* (Interview number 17-T 07 Dec 2016).

As for wives, there were 34 educated wives out of the 45 households interviewed (see Tabl 4.1). Wives' qualifications helped many households to generate income through employment in both the government sector and the private sector. In addition, some households indicated that their children had recently graduated from universities and schools, which helped some of them to get new jobs.

It was also found that many household members had specific skills and experiences in many different fields. Some of them invested their skills in part-time work to get extra money. Some households said that in 2011 when the jobs and salaries stopped because of conflict, they began to search for other part-time jobs, some of which were close to their speciality. For example, five households mentioned that they got part-time jobs to provide food for all family members during the conflict. For example, one household head reported;

> *"…there were pressures and shocks when I lost my previous work but thanked God I got through it by getting a new private job and my job helped me for living expenses. I feel that every day, I acquired new skills through my new job in delivering electricity to homes…"* (Interview number 11-Z 4 Dec 2016).

The vast majority of the households interviewed indicated that most household members were in good health and able to work. Only four households reported that

they had some children suffering from chronic diseases, which caused the households to incur additional expenses, such as treatment and healthcare for these children.

Social capital

The vast majority of the households who were interviewed in 2016 mentioned that they had excellent bridging and bonding relations. About half of the households reported that those relations had become stronger than before, especially during the conflict (see Tabl 4.1). For instance, household members became more cohesive and there was help from neighbours, communities and the tribes in each city and region. These social components became more interconnected with each other to help the poor and vulnerable households, e.g. they were providing food and money. One such household head explained;

> *"…the relationships between household members and my neighbours, and tribe are very good. This relationship is considered as having a positive effect on my household food security. We also have a connection with NGO organisations in Zintan since the conflict started…"* (Interview number 2-Z 17 Nov 2016).

In addition, many people participated in a lot of voluntary work. Some new charities that were established in 2011 focused on the collection of food donations from individuals, households, governments, international and non-governmental organisations (NGOs). They distributed those foods to families which were affected by conflicts.

> *"…in fact, during the conflict time, there was some food aid that reaching a few needy people and households, this aid comes from some Arab countries as well as United Nations, but this was in the period of the conflict. Now, there is no such assistance except some local voluntary charitable societies that are offering some alms and food for households in need…"* (Interview FO 1-Z 16 Nov 2016).

Many households, neighbours, friends and relatives cooperated in donating or borrowing food and money to each other during the conflict time. Various types of

assistance were found by the households in this study. This included free food distribution, food and cash donations from charities and non-governmental organisations (NGOs). Thirty-five households mentioned that they had good relationships with various organisations which helped them to receive such assistance.

However, seven households mentioned that social relations deteriorated due to conflict. For example, one household said;

> *"…before the conflict, the relationships between people were very good, and sometimes I meet some of my neighbours in the street, and they always say how you are and how about your family and asking if I need any help and seeing if you are fine etc. But now everybody became more careful and busier with their life issues…"* (Interview number 3-Z 8 Dec 2016).

Only two households said that they had received food aid from the national government, and international agencies, such as FAO, during the conflict time in 2011. For instance, one household mentioned:

> *"…in 2011, we received some relief from the FAO and WFP, which is a very simple aid is a small box where tomatoes and a bottle of oil and a box of home and bag spaghetti and some biscuits tray and that means it's just a little help and after two months, come back and this may be just enough in one week…"* (Interview number 11-Z 4 Dec 2016).

4.5.4 Coping strategies adopted by Libyan households[7]

Faced with the conflicts and resultant food insecurity, as discussed above, the Libyan households adopted over 30 types of coping strategies, which can be grouped into eight categories (see Table 4.2).

[7] A part of this section has been taken from a paper of mine that has been accepted for publication in the journal Development in Practice.

Table 4.2 Coping strategies adopted by the households

Coping strategies	Subcategories
Food compromising	Cut down meal size
	Ate traditional food more frequently
	Reduced fruit and salads from meal
	Reduced the consumption of preferred animal proteins
	Relied on less little expensive and preferred foods
	Gave children adult's milk to drink
	Adults ate less than usual to feed children
Assets compromising	Sold land
	Sold livestock
	Sold jewellery
	Sold property
	Used financial savings
Change in income generation activities	Smuggled food from neighbouring countries
	Youth join the army to get money to meet HHs expenditure
	Started a new private business
	Started working on family land to produce food
	Started a part-time job
Budgeting	Women undertook employment
	Bought less food
	Began planning for expenses and home budgets
	Began reducing food waste
Borrowing	Borrowed agricultural tools instead of buying them
	Borrowed food from friends and relatives
	Borrowed money from friends and relatives
	Bought food by cheques instead of cash
	Bought food in credit
Strengthening local cooperation and	Cooperated amongst the family, neighbourhoods and tribe
	Women neighbours shared foods
	Relied on the social network during the conflicts period
Rely on food aid	Received food aids from friends, neighbourhoods and tribe
	Received food aid from FAO, WFP and NGOs
Migration	Migrated temporarily within and outside Libya
	Migrated permanently within Libya

Source: researcher calculation based on NVivo analysis of interviews data.

The food compromising category included seven different indicators (Table 4.2), one being sacrificing their 'preferred' animal proteins for other animal proteins. For example, one household head said:

> *"…before the conflict, I used to buy lamb meat approximately every day, but nowadays, I am able to buy once or twice a week. Alternatively, we eat more chicken and fish…"* (Interview number 39-S, 26 Dec 2016).

Some households completely stopped eating meats or reduced the number of days on which meats were eaten. One such household said:

> *"…we overcome such troubles by stopping consuming some kinds of foods, such as meat, which we would now consume at intervals during the week. We also started to consume some other foodstuffs less than before…"* (Interview number 16-T, 7 Dec 2016).

Many households said they cut down meal size or ate meals without fruits and salads, which was very unusual in Libya. In some households, infants were given adults' milk to drink, because of the shortages of baby milk in the market. One such household reported:

> *"…so, I had to buy and give the baby normal milk which adults drink because there is no alternative or choice…"* (Interview number 11-Z, 4 Dec 2016).

Eating traditional foods more frequently than normal was another food compromising strategy that many households adopted. One such traditional food was Bazin, which is made mainly of barley grains produced from previous seasons. Traditionally, Bazin was usually eaten on Fridays during the pre-conflict period, but during the conflict period, it became a daily intake for most households along with other traditional foods, such as Couscous and Ftat. Furthermore, some households indicated that, during conflict times, they relied on a local bread, known as Tanur bread, instead of the regular bread, which they used to buy from supermarkets. One such household said:

> *"…we were eating our grandparent's traditional food, which is milled at home and based on wheat and barley such as Bazin, local bread and others…"* (Interview number 10-Z, 4 Dec 2016).

The sacrifice in food quality was also mentioned by one food official who said:

> *"…food quality became an issue as the state was no longer able to import good quality food. Further, many cheap and poor-quality foods were smuggled into Libyan markets…"*(Interview FO 3-Z, 05 Dec 2016).

Two further households reported:

> *"…we used to eat Italian pasta of high quality that most Libyans used to buy before the conflict. However, now we purchase other types which are coming from Egypt and Tunisia. These are cheaper in price but poorer in quality…"* (Interview number 25-T 19 Dec 2016).

> *"…in the past, we also consumed the high-quality rice coming from America, but now we are consuming the rice coming from Egypt and other countries which are not so good quality as the American one…"* (Interview number 38-S, 23 Dec 2016).

It was observed that the households who were most affected by the conflict were implementing more food compromising and coping strategies than the households that were far from the conflict or were not subjected to material or human damage.

One of the most common coping strategies households used during the conflict period was to sell their assets to reduce the effect of food insecurity. In this research, household asset compromises related to five main capitals: natural capital, physical capital, financial capital, human capital and social capital. Selling household assets was a common coping strategy for many households. For example, selling lands, livestock, jewellery and even homesteads in order to meet household expenses (including foods) or to migrate to safer areas was evident. One household described this situation in the following way:

> *"…in the past, I had more sheep. I sold part of them for cash during the conflict period. We had agricultural land in the past, but after 2011 we sold it too, and then we migrated to Tunisia for six months…"* (Interview number 2-Z, 16 Nov 2016).

Typically, this type of strategy worsened a household's economic situation in the long-term and was undertaken only under extreme conditions. Some households said that they spent their financial savings (cash at home or in the bank) during the conflict to buy foods.

> *"…during the conflict, I almost spent all my money buying food for my family and my children, so there was only a little left, but now, thank God, I am back to my previous job, and my salary has restored, and the situation is not too bad…"* (Interview number 39-S, 1 Jan 2017).

Asset compromising strategies depend on the degree of exposure that the household faced. This study has shown that households with high and medium exposure to the conflict were more likely to use asset compromising strategies than households that faced a high exposure to conflict. The coping strategies were taken against losses in household income or any effect on their food security that was caused by conflict. For example, a common one response to conflict was for a household to sell their assets in order to get food. Furthermore, assets such as land, livestock and homesteads were sold because they decided to migrate to another safer area. This is a costly strategy, and it reduces household assets and income. Thus, investigating household coping strategies in Libya highlights how household activities and coping strategies vary depending on the level of conflict activities and their opportunities within the crises. Asset availability and the household's economic situation provided opportunities to all households to adopt the relevant coping strategy.

Five subtypes of changes in income generation activities were found. These included both legal or positive and illegal or negative activities. One of the positive or legal coping strategies included starting part-time work alongside regular work, which was the case for more than a quarter of the 45 households interviewed.

"...also, I have a part-time job at this time, and this work is enough to provide food for the family…" (Interview number 11-Z, 4 Dec 2016).

Moreover, non-earning household members like women started working in various jobs. Before the 2011 conflict, women mostly worked as homemakers. According to Muslim and Arab cultural (tribal) values in Libya, women were restricted from undertaking work outside of their homes, except some disciplines, such as healthcare (nursing) and education (teaching). However, the conflicts changed this situation, and many women became engaged in new jobs such as being sales workers, government office workers and self-employed. One such household said:

"...recently, my wife started working, and this was a surprise to my family and tribe. In the past it very difficult for women to be working; women just stayed at home without education or work, but now women obtained this kind of freedom especially after we faced difficulty in covering household expenses these days…" (Interview number 20-T, 9 Dec 2016).

Another positive strategy was that some households started working on their lands to contribute to household food consumption, this especially happened in 2015-2017 when food became more expensive due to the fall of the Libyan dinar against foreign currency. One such household said:

"…my land was neglected before the conflict, and we did not rely on it a lot, but after the conflict, we looked after our land to produce some vegetables…" (Interview number 19-T 9 Dec 2016).

Regarding illegal or negative strategies, in some households, the youths stopped their university or school studies and joined militia groups for financial income. However, this strategy had harmful consequences, such as losing some young family members. For example, one such household mentioned:

"...I have lost two martyr sons in the conflict of 2011, the first dated 01/05/2011 and the other son was killed on 5/12 / 2011…" (Interview number 13-Z, 6 Dec 2016).

Some household members became involved in illegal trading, for example, smuggling weapons from neighbouring countries such as Tunisia and Egypt. Weapons could be seen for sale on public roads, markets and streets as well as on social media sites such as Facebook. These activities were illegal before the conflict, but since the conflict began, the Libyan state had been unable to control its borders. Another reason was that the neighbouring countries, Egypt and Tunisia, also witnessed similar developments as Libya during the period known as the Arab Spring. Thus, weapons sales were rapidly growing and becoming a source of livelihood for many households, especially those who lived close to the border between Libya, Tunisia and Egypt (interview number 1-T, 7 Dec 2016; interview number 2-T, 13 Dec 2016; interview number 2-Z 19 Dec 2016; interview number 5-Z, 18 Nov 2016). Smuggling food was another illegal coping strategy that many people adopted. For example, one food official said:

> *"…many people are dependent on smuggling in the source of their income, especially in these circumstances, taking advantage of the weakness of the government and the regulatory bodies in the state…"* (Interview number FO2-T, 9 Dec 2016).

It was found that the illegal coping strategies were mostly adopted by the most vulnerable and food-insecure households who did not have assets or savings. This strategy was their last resort as it was highly risky, and since it could result in irreparable damage, such as the loss of family members, as mentioned in the quotation above (interview number 13-Z, 6 Dec 2016). Furthermore, it was noticeable that the most exposed households were more likely to change their pattern of income than medium and low exposure households by seeking new jobs or work for additional hours to generate extra income.

Several different budgeting strategies have been identified. Almost one-half of the 45 households interviewed said that they had cut down on non-food items in order to provide for household food and medical treatments, as one household mentioned:

> *"…the household's budget goes almost all on food, and treatment, there is not enough amount to buy clothes and electronic devices at all times…"* (Interview number 21-T, 10 Dec 2016).

Another positive strategy was reducing the number of foods purchased for household consumption. During the pre-conflict period, Libya was an affluent country with a wasteful culture (as can be seen now in many Western societies). At that time, most households used to buy excessive quantities of food, more than was necessary for their households. This excess food in most cases was wasted (e.g., dumping in rubbish bins and landfills) or given to the poor as Zakat. During the post-conflict period, however, most households tried to avoid food wastage. One such household illustrated:

> *"…we have become rationed in the consumption of food, so this pressure on household budget is driving us to cut food waste too…"* (Interview number 17-T, 7 Dec 2016).

Other households saved money for food by cutting expenses on luxury goods. For instance, some households sold their expensive cars, precious furniture, and smartphones and purchased cheaper ones. One such household said:

> *"…I sold my Toyota 2010 car and purchased a cheaper car with the lowest price. I saved about 15,000 dinars, and I used this money for the family expenses of food and medicine…"* (Interview number 13-Z, 7 Dec 2016).

Furthermore, urban-based households more widely used budgeting as a coping strategy during the stress and shock times, which has been demonstrated alongside other coping strategies. However, there was no clear difference between households who used budgeting strategies and the exposure to conflict; many households have adapted this strategy since the conflict started, in order to control the home budget and expenditure.

Some households adopted strategies such as borrowing money from friends or relatives and buying food on credit from private grocers. These strategies were adopted mainly by households with larger family sizes (e.g., >5 people). A quarter of the 45 households interviewed used cheques to buy food instead of using cash due to the lack of liquidity in banks. For instance, one household stated:

> *"…to overcome the problem of lack of money in banks, I have used*

cheques to buy food. I have dealt with two food stores and in a way that helped me a lot to get food…" (Interview number 22-T, 10 Dec 2016).

Regarding renting, two households mentioned that they had rented agricultural tools instead of buying them due to the high prices of agriculture equipment. One such household explained:

"…well, some equipment, like the tools for the tractor and harvester, became very expensive after the conflict, so sometimes I rented them for several days…" (Interview number 19-T, 9 Dec 2016).

Surprisingly, low exposure households were the most likely to borrow than high exposure households. The result shows that out of a total of 14 households adopting this strategy, only three households had high exposure to conflict.

Interviews with the food officials revealed that, during the 2011 conflict, there was some minor food relief, coming mostly from UN organisations, such as the WFP and the FAO, as well as some donor countries, especially the United Arab Emirates and Saudi Arabia. However, this aid began to gradually disappear in 2012-13 until it slightly returned in 2014-16 when Libya faced another conflict that resulted in the displacement of many households in the city of Sirte, Tripoli, Benghazi and other parts of Libya. Only two households said that they had relied on food aid from the FAO and WFP, with one household saying:

"…we received food aid including a small box of tomatoes, a bottle of oil, rice and some biscuits that meant it was just a little help and was distributed once a month…" (Interview number 11-Z, 4 Dec 2016).

However, there were also local charities and NGOs, which played significant roles in helping conflict-affected households. These associations started again in 2016 and provided some basic foodstuffs, such as oil, sugar, tomatoes, rice and flour, at reasonable prices. Some households took their share monthly.

Historically, the nature of collaboration in Libya has been tribe-based. The tribal affiliation has been deeply entrenched in Libyan society for hundreds of years. Many

Libyans still felt proud to belong to their tribes. Tribal affiliation played many positive roles in household food security during the conflicts. For example, tribal leaders supervised the collection of donations and provided financial and food aids to households in need. Some households also mentioned the role of tribal leadership in resolving disputes, such as inheritance of lands and other assets. Many of the households said that the solidarity and cooperation between households and their friends, relatives and tribes became stronger since the conflict had begun.

> *"…social relationships here in Al-Zintan are very good and the whole town of Al-Zintan is considered as one family and one tribe, and it is like a social umbrella for all residents. People are getting support when they need from tribe members…"* (Interview number 12-Z, 22 Nov 2016).

This local cooperation included food, medicine, gifts and cash. However, this help did not fully cover all food needs for households.

Two types of migration have been identified in this research national migration "internal" and international migration "external". The result shows the commonly used coping strategy was temporary and permanent migrations including migration to areas considered safer or less affected by conflict within Libya. However, some households especially from the west of Libya, such as Alzintan region, mentioned that they moved to Tunisia which is international migration outside Libya. In other regions like eastern regions such as Tobruk, some households migrated to Egypt, which is on the border with Tobruk.

The majority of households had returned to their homes by the end of the conflict in 2011. Except for some members of households still migrated and never returns as the interviews reported during the conversations. Although migration had temporarily improved food access, the costs incurred in migration negatively affected household economic situations in the longer term, thereby affecting households' ability to buy quality foods.

The households mentioned that migration was their last choice, and this choice was

made only under extremely compelling conditions. For instance, one household said:

> *"…well, in fact, the war was brutal, and Gaddafi's forces bombed Al-Zintan with Grad rockets. People were afraid, and many of them fled to Tunisia to protect women and children…"* (interview number 14-Z, 5 Jan 2016).

The households who fled to Tunisia noted that there were shelters and camps under the auspices of the UN and some countries, such as the United Arab Emirates, Qatar and Saudi Arabia. Some households who had financial savings had rented houses with their own money in Tunisia, while other households had lived with their friends in Tunisia and Egypt. All households reported that they had returned to their homes by the end of the conflict in 2011.

Furthermore, two households said that even though migration resulted in better living conditions, it was a very costly coping strategy. Overall, households with a high level of exposure were least likely to migrate, as well as households with a large number of members within the household.

4.5.5 Social safety nets (SSNs) and access to basic services (ABSs)

With respect to institutions in Libya, such as social safety nets (SSN) and access to basic services (ABS), the research revealed that after the 2011 conflict there was poor food service and a lack of control on foods imported through Libyan borders during the 2011-2016 period. This situation negatively affected household food security in different ways. Many households reported that there were expired and adulterated foods in the market, and food importers compromised quality for profits. One household reported:

> *"…after the revolution, there are a lot of bad things that have emerged in the absence of the law, for example, there are those who falsify the validity on some kinds of food and sell some expired food, and perhaps they change the validity date…"* (Interview number 20-T, 25 Dec 2016).

In addition, some laws, regulations, cultural norms, values, and activities were found

in this study that affected household food security. For example, before the 2011 conflict, there were some gender-discriminatory tribal laws as well as the Robin Hood policy of asset redistribution. There was also a law called "law 4", which meant that "the land is not owned by anyone" and "the house is only for its inhabitants" (Ministry of Justice 1978)[8]. These laws prevented many households from owning resources that could support their businesses and income (MJL 1978). For example, one food official said:

> *"…before 2011, several laws were limiting the family's ownership of resources. There was a law called the house for the inhabitant which restricts people from owning more than one house. For example, if there is a person who owns a building, the state will confiscate this building and give the flats to people who do not have houses. The same thing happened to the land. There was a law called law 123 that took lands from its owners and gave it to other people to reclaim and work on it. This is a big problem now. These are the people's rights, and now many people want to get back, because of the cancellation of these laws by the new government…"* (Interview number FO 2-T, 23 Dec 2016).

Those laws were meant to prevent people from making financial profits and preventing them from having profitable commercial activities. However, those laws no longer existed after a new government was established in 2012 and no authority or organisation prevented any person from possessing whatsoever.

Above and beyond, there were tribal laws in some Libyan cities, especially in the eastern part of the country, where the tribe prevented women from owning land. For example, one household head, who was also a tribal leader, said:

> *"…as a tribe leader, I always intervene to resolve land disputes between people and families in the area of Tobruk. Women sometimes complain of their right to land ownership from other family members, such as*

[8] These laws can be found on the Ministry of Justice website on: http://aladel.gov.ly/home/?p=1069

brothers…" (Interview number 5-T 19 Nov 2016).

This had negatively impacted household incomes and the ability of households to withstand the shocks of the conflict. For example, some households lost their male heads, who were the main earners for the entire family. Thus, the women in those households required alternative income sources to compensate for the loss of earning from the men.

This research also identified some types of government subsidies including food, loans for income generation, job seekers allowance as well as healthcare subsidies for children and others. There were also subsidies for livestock feed and water (e.g. wells in the pastures located in the desert) as well as livestock healthcare.

Before 2011 there were government consumer associations called Aljamaiatt that provided many kinds of food at lower prices, which helped greatly in getting basic foods, such as tomatoes, sugar, oil and flour for most of the households.

> *"…before 2011, the food was better. All kinds of food were available, and it came from the Aljamaiatt…"* (Interview number 36-S, 29 Dec 2016).

However, these associations stopped after 2011 due to the new government and system. The loss of these subsidies or SSNs affected household food security during the conflicts. As mentioned earlier, many households could not afford to buy adequate food due to the increase in food prices. In contrast, traditionally, Libyans received government food subsidies, which reduced the cost of key commodities by 50%. One food official said:

> *"…mostly government-subsidised goods that we distributed to shareholders in the government association that had been operating in the past…"* (Interview number 1-Z, 16 Nov 2016).

In 2016 there were just a few households that received this service compared to the pre-conflict time when almost all households had access to such subsidies. They used to get basic food at a low price. Those foods included rice, oil, tomato, flour, and sugar

from the local government organisations in each *Mahallah* in Libya. Thus, the sudden disappearance of this service for the majority of the households during the conflicts created food insecurity.

Many household members noted that they were receiving agricultural subsidies before 2011. This included loans, agricultural tools, improved seeds, fertilisers as well as agricultural machinery such as tractors, harvesters, etc. This support was in the form of free subsidies or sometimes for a small fee. Even though some farmer households reported that this assistance was not enough, they acknowledge that it encouraged them to invest in their lands. However, these subsidies rapidly decreased after the conflict for most households. As a result, many households had to stop agriculture. For instance, one household said:

> *"…yes. It has been affected with regards to the high prices. We haven't been able to buy the machinery necessary for work at the farm. Also, the prices of seeds and fertilisers are very high. Therefore, we have left it as it is now…"* (Interview number 16-T, 23 Dec 2016).

Another household stated:

> *"…we used to have livestock before, but we had to sell it because it is very difficult to take care of it at the current time especially during drought seasons and there are no any subsidies from the association of livestock educators like before…"* (Interview number 14-Z, 18 Nov 2016).

Before the conflict, households in Libya could get bank loans for unemployed household members or mortgages for a property. However, the financial institutions in Libya became weak after the conflict began. Consequently, many households had not been able to obtain financial support or loans as they could in the pre-conflict period. The former Libyan Government was introducing a new jobseeker's allowance and income support as part of its strategy for household welfare for many years. For example, some household members, including both women and men, received money and benefits until they got new jobs and salaries. More than one-half of total

households interviewed had benefited from these services in the pre-conflict time, but after the conflict in 2011, only a few households had received jobseeker allowances and benefits. In 2012-13, there was a slight improvement in this service from the government. One household mentioned:

> *"...I have my salary, and my wife is a housewife, but she has a support-salary from the government..."* (Interview number 19-T, 22 Dec 2016).

The interviewees also mentioned that, during the pre-conflict period, the government used to provide social support for elderly and disabled people as well as children, such as salaries and healthcare assistance. Moreover, medicine and healthcare were free for everyone in Libya. However, this support rapidly decreased since the conflict started in Libya. As a result, many households had to spend their own money on healthcare at the expense of foods.

Over three decades, there had been a government subsidy on fuel. The average price was 15 Dirhams for one litre (about 3 pence in Pound-Sterling) (NOC 2017). However, after the conflict in 2011, many households faced difficulty in accessing this subsidy because the fuel was smuggled to neighbouring countries, especially Tunisia, Egypt, Chad and Niger. For example, one municipal guard said:

> *"...things become more difficult than it was before 2011, due to the fuel smuggling in the country, where petrol smugglers are taking advantage of cheap fuel price in Libya and transfer petrol by big trucks to Tunisia, Chad and Niger, this is due to absent of Libyan army to control the borders..."* (Interview number 1-Z, 16 Nov 2016).

As a result of smuggling, Libyan citizens could not get fuel as quickly as they could during the pre-conflict time. Many of the households reported that they sometimes waited for hours in front of the petrol station to get fuel for their cars because of the shortage of fuel between 2011/16. For instance, one household said:

> *"...I wait for a week or two may outweigh without fuel in the petrol station, which adversely affected me in many ways..."* (Interview number 40-S, 29 Dec 2016).

The armed conflict also disrupted commercial banking, thus limiting the availability of money in banks in the whole of Libya. For instance, one household from Sabha said:

> *"…my family and I are always trying as much as possible to provide food, but there are some financial barriers such as lack of liquidity in the banks…"* (Interview number 40-S, 29Dec 2016).

Many households also said that they experienced difficulties in accessing their salaries at the time of collecting data in 2016. They never experienced this problem during the pre-conflict time. Withdrawing money from banks in the pre-conflict time was convenient for most households in all areas. However, during the conflict, there was a noticeable decrease in this service where all households could not withdraw their money from the bank on time. Overall, bank services, including withdrawal of money, access to salaries, access to foreign currency and security of the deposit in the banks, became much worse than in the pre-conflict time. During interviews, the majority of the households were dissatisfied with these services, and described those as "bad services".

> *"…now the situation has turned; the prices increased, and salaries have don't come in on time, and people are suffering from that…"* (Interview number 27-T, 24 Dec 2016).

As regards SSN and ABC, some external institutions also played some role. As mentioned earlier, during the conflict, seven households reported that they received relief from the FAO and WFP. These supports were very small and included a small box containing tomatoes, a bottle of oil, rice and some biscuits. The boxes were distributed every month. As one household said:

> *"…my family is receiving some support from an international organisation, but this very limit contains; a bottle of oil, tomato, rice and sometimes biscuits and milk…"* (Interview number 43-S, 30 Dec 2016).

Furthermore, since the conflict started in 2011, there had been many local social

associations and NGOs that played a significant role in helping the affected households. Such aid included food and household supplies, such as cookers, fridges, TVs, furniture and other kitchen equipment. Furthermore, these local charities provided rent for housing and accommodation for poor households. The interviewees mentioned many organisations, such as Al-Zintan Charity Association, Society of Martyrs' Families, Taher Al-Zawi Association, Al-Wafa Charity Association and others.

4.6 Summary

In this chapter, the food preferences of Libyan households is described. It showed what the term "food" means in a Libyan context. This understanding is important for investigating resilience against food insecurity. The results showed that Libyan households commonly eat carbohydrates, such as pasta, rice, couscous. However, there are local foods that are also usually eaten, such as Bazin, which is mainly made from barley and Ftat which is common in the west and south of Libya. In Libya, the main meal of the day was lunch and women were mostly responsible to prepare the food consumed at home, although in some cases this role could be mutual.

Then, the role of conflicts in household food security was discussed. The results confirmed that conflicts did have harmful impacts on household food security, in terms of access to adequate and quality foods. However, the results indicated that there were variations in food insecurity suffered by the households. Some households were not greatly affected by the conflict, thus they were defined as *"resilient households"* who had enough amount of food available at all times for all family members over the years, and there was no significant effect of conflict on their food availability, accessibility and quality over the time. Another type of household resilience was found and defined as *"somewhat resilient household".* This type of household faced several food problems during the conflict times, but they slightly recovered and overcame most of the problems, even though their food security situation was still worse than the pre-conflict situation. The last type of household was *"non-resilient household"* or collabs; these households could not overcome the shocks and stresses created by conflicts and they were still suffering from food shortages and an inability to buy and

access food.

In this chapter, a descriptive account of the factors that could affect household resilience against food insecurity was also provided. As regards exposure, households showed variations between high, medium and low exposure. As regards sensitivity, some households had children who were still studying, older people who needed special care and some households had members suffering from health problems that increased their sensitivity to the conflicts.

All five types of assets were investigated. In the Libyan context, land, livestock and wells were the most important natural capital found which was invested in many ways. Most physical capital, such as cars, homes, jewellery, and telecommunications devices, helped with household food security and resilience against shocks and stresses. Regarding financial capital, the vast majority of the households were employed and they had monthly salaries. These households depended entirely on those salaries to buy food. For human capital, education of both household heads (males and females) was also important for the households to obtain salaries and income. Moreover, most households indicated that members were in good health and able to work. The study also reported that the vast majority of the households had excellent bridging and bonding social relations which had become stronger than before, especially during the conflict where there was help from neighbours, communities and the tribes in each city and region.

Many coping strategies were identified, including food compromising, asset compromising, change in income generation activities, budgeting, borrowing, strengthening local cooperation, relying on food aid and migration. In particular, food compromising and asset compromising, were more frequently applied and vital for household food security resilience.

In the Libyan context, the key SSNs and ABSs were public food distributors, loans for income generation, job seekers allowance as well as healthcare subsidies for children and others. There were also subsidies for livestock feed/healthcare and water wells in the desert. Many households depended on these services and subsidies especially in the pre-conflict time when almost all households had access to such subsidies. Most

importantly households used to get basic foods at a low price from the local government organisations (Aljamaiatt) in each Mahallah in Libya. However, these services and subsidies suddenly disappeared for the majority of the households during the conflicts, which created food insecurity.

In the next chapter (Chapter Five) quantitative results for each of these dimensions are provided.

Chapter Five

Results: Quantitative Phase

5.1 Overview

The previous chapter presented the results from the qualitative phase of the research. The results have been structured according to the resilience framework, as discussed in Chapter Two. The qualitative results included a descriptive account of the food security situations in Libya, the exposure and sensitivity of the households to conflicts, and their assets and coping strategies. In this chapter, the results obtained from the questionnaire survey are presented. As explained in Chapter Three (Methodology), the questionnaire design was informed by the qualitative results. In this chapter as well, the results are structured according to the resilience framework proposed in Chapter Two.

In line with the research aims, this chapter is structured into two main sections. In section 5.2, the results regarding the household food security situations in Libya over three periods (pre-conflict, during the conflict, and time of data collection) are presented. As described in Chapter Three, two types of measures have been used in assessing food security: Food Consumption Score (FCS) and Household Food Insecurity Access Scale (HFIAS). Based on the nature and trends of the FCS and HFIAS scores over these periods, this research will then classify the households according to their degree of resilience. The results relating to this will be provided using descriptive statistics. In section 5.3, the results relating to the factors that affect household resilience against food insecurity will be presented. According to the resilience framework (Chapter Three), this section will include descriptive results of household exposure and sensitivity to conflict, five types of assets, coping strategies, access to basic services, and social safety nets. In order to identify the effects of these factors on resilience, a regression analysis was performed, the results of which are presented in section 5.4. The chapter then ends with a chapter summary in section 5.5.

5.2 Household food security and resilience according to FCS and HFIAS scores

As detailed in Chapter Three (Methodology), food security in this study was assessed using the FCS and HFIAS scores over three time periods: pre-conflict time (t), during conflict time (t+1) and the time of data collection (t+2). The results are presented in Table 5.1.

Table 5.1 Food security trends in terms of the FCS and HFIAS scores

Descriptive Statistics	FCS scores			HFIAS scores		
	Time *t*	Time *t+1*	Time *t+2*	Time *t*	Time *t+1*	Time *t+2*
Mean	82.9	52.2	68.9	15.8	23.7	21.5
S.D	16.9	22.3	22.5	6.1	8.8	8.5
Min	17.5	3.0	5.0	13	13	13
Max	112	112	112	39	39	39
N	310	310	310	311	311	311

Note: time t = pre-conflict; time t+1 = during conflict; time t+2 = the time of data collection

The results in Table 5.1 show that household food consumption scores (FCSs) declined both in time *t+1* and *t+2*, compared to time t. For instance, the lowest FCS in time *t* was 17.5, which declined to 3.0 in time *t+1*, suggesting increased prevalence of household food insecurity in time *t+1*. The mean scores, which declined from 82.9 in time *t* to 52.2 in time *t+1* also indicate the same finding. The HFIAS scores also indicate a similar pattern. For example, while the mean HFIAS score was 15.8 in time *t*, it increased to 23.7 in time *t+1* and 21.5 in time *t+2*, indicating a higher prevalence of household food insecurity.

The FCS and HFIAS scores also suggest that the most significant decline in food security occurred in time t+1, that is, at the time of the major conflict in 2011. After this, household food security improved slightly at the time of data collection (time t+2).

According to the FCS scores, the households' food security situations were then classified into the following three categories, as suggested by the World Food Programme (WFP 2008).

- Poor = FCS score up to 28
- Borderline = FCS score between 28.5 to 42
- Acceptable = FCS score 42.5 and above

Similarly, household food insecurity situations were classified according to the HFIAS scores as follows.

- Severe food insecurity = HFIAS scores 27-39
- Moderate food insecurity = HFIAS score 14-26

- Mild/no food insecurity = HFIAS score up to 13

The above HFIAS categorisation is based on an observation of the pattern of distribution (min, max, mean, and SD) of the HFIAS scores. This was because there was no guideline in the literature regarding the categorisation of the HFIAS score. The observed HFIAS data were divided into three groups with equal intervals.

Table 5.2 Household FCS and HFIAS categories at times t, t+1 and t+2

	FCS time (t)		**FCS time (t+1)**		**FCS time (t+2)**	
Food Security Threshold	*Freq*	*Per cent*	*Freq*	*Per cent*	*Freq*	*Per cent*
Poor (≤28.5)	2	0.6	35	11.3	14	4.5
Borderline (28.5-42)	6	1.9	95	30.6	46	14.8
Acceptable (≥42.5)	302	97.5	180	58.1	250	80.7
Total	*310*	*100%*	*310*	*100%*	*310*	*100%*
	HFIAS time (t)		**HFIAS time (t+1)**		**HFIAS time (t+2)**	
Food Security Threshold	*Freq*	*Per cent*	*Freq*	*Per cent*	*Freq*	*Per cent*
Severe (27-39)	30	9.6	115	37	92	29.6
Moderate (14-26)	55	17.7	124	39.8	120	38.6
Mild/No (0-13)	226	72.7	72	23.2	99	31.8
Total	*311*	*100%*	*311*	*100%*	*311*	*100%*

The distribution of the households according to their food security categories, as presented in Table 5.2, show that the vast majority of the households in Libya were food secure during the pre-conflict period, *time t*. According to the FCSs, in *time t*, over 97% of households' food consumption was *acceptable*, 2% of households' food consumption was *borderline,* and only 0.6% of households' food consumption was *poor*. However, during the time of conflict (*time t+1*), the proportion of households within the *acceptable* category was 58%, within the *borderline* 30.6%, and within the *poor* category as 11.3%. During *time t+2*, however, there was a slight increase in the proportion of households within the acceptable category and, a slight decrease in the percentage of households within the *borderline* and *poor* categories.

The distribution of the HFIAS scores presented in Table 5.2 reveals a similar finding to that from the FCS score. The percentage of households with *no/mild* food insecurity at the pre-conflict time was 72.7%, the percentage with *moderate* food insecurity was 17.7%, and the percentage with *severe* food insecurity was just 9.6%. During the major conflict (*time*

t+1), however, the percentage of households within the *no/mild* category declined to only 23.2%, and the percentages within the *moderate* and *severe* categories increased to 39.8% and 37%, respectively. At the time of data collection, there was a slight increase in the proportion of households within the mild/no category, compared to that at *time t+1*; almost no change in the percentage of households within the *moderate* category; and a slight decrease within the *severe* category.

Based on the FCS and HFIAS scores, household resilience against food insecurity was then established as follows:

- FCS score (categories) declined between t and t+1=non-resilient household
- FCS category remained the same or increased between t and t+1=resilient household
- FCS score (categories) declined between t and t+2=non-resilient household
- FCS category remained the same or increased between t and t+2=resilient household
- HFIAS score (categories) increased between t and t+1=non-resilient household
- HFIAS category remained the same or not increased between t and t+1=resilient household
- HFIAS score (categories) increased between t and t+2=non-resilient household
- HFIAS category remained the same or not increased between t and t+2=resilient household

Table 5.3 shows the distribution of the households' resilience according to their FCS and HFIAS scores. The percentage of *non-resilient* households between pre-conflict time (*time t*) and during the conflict (*time t+1*) was 35.5%, and the percentage of *resilient* households was 64.5%. Between the pre-conflict (*time t*), and the current time (*time t+2*), however, the percentage of non-resilient households declined to only 19.4% and the percentage of the *resilient* households increased to 80.6%.

Table 5.3 Food security patterns among households according to FCS and HFIAS scores

Changes in food security status	Food security indicators			
	FCS		HFIAS	
	Freq	*Per cent*	*Freq*	*Per cent*
Non-resilient households between time *t* and *t+1*	110	35.5	135	43.4
Resilient households between time *t* and *t+1*	200	64.5	176	56.6
Non-resilient households between time *t* and *t+2*	60	19.4	103	33.1
Resilient households between time *t* and *t+2*	250	80.6	208	66.9
Total household	*310*	*100%*	*311*	*100%*

*FCS and HFIAS at three times comparison: time t = pre-conflict, time t+1 = during conflict, and time t+2 = data collection time.

However, the distribution of the household resilience based on the HFIAS scores presented in Table 5.3 appears to be different from that based on the FCS scores. The percentage of households as *non-resilient* between the pre-conflict time and during the conflict was 43.4%, and the percentage with *resilient* households was only 56.6%. Nevertheless, between the times from during the conflict (*time t+1*), and current time (*time t+2*), the percentage of households within the *non-resilient* type declined to 33.1% and the percentages within the *resilient* households increased to reach nearly 67%.

5.3 Factors Affecting Household Resilience – Descriptive Analysis

According to the conceptual framework (Chapter Two) and methodology (Chapter Three), nine factors were considered for their effects on household resilience. These were: exposure to conflict, sensitivity to conflict, five types of household assets, household coping strategies, social safety nets, and access to basic services. Index scores for each of these factors, based on their corresponding indicators variables, were calculated for each of the three-time periods (*time t, t+1, and t+2*). All the index scores were then standardised (normalised) on a scale from 0 to 1. Further details about the methods of index construction have been provided in Chapter Three (Methodology).

In this section, the results from the descriptive analyses of the nine resilience factors are provided.

5.3.1 Exposure and sensitivity to conflict

Seven indicator variables were considered in assessing exposure and four indicators in assessing sensitivity (see Table 5.4).

Table 5.4 Descriptive statistics and weights of the exposure and sensitivity variables

Exposure to conflict			
Indicators	**Mean**	**S.D**	**Weight PCA**
Household member(s) were concerned about life (1=yes, 0=otherwise)	0.63	0.484	0.466
Household children suffered from psychological trauma (1=yes, 0=otherwise)	0.31	0.462	0.747
Household member(s) were injured or became ill (1=yes, 0=otherwise)	0.14	0.348	0.608
Household lost member(s) (1=yes, 0=otherwise)	0.08	0.264	0.17
Household faced asset damage (1=yes, 0=otherwise)	0.21	0.407	0.426
Household faced livestock damage (1=yes, 0=otherwise)	0.08	0.278	0.456
Household member(s) lost job (1=yes, 0=otherwise)	0.10	0.305	-0.201
Sensitivity to conflict			
Indicators	**Mean**	**S.D**	**Weight PCA**
Household had sick and disabled members (1=yes, 0=otherwise)	0.14	0.345	0.505
Household had old member(s) (1=yes, 0=otherwise)	0.07	0.248	0.528
Household had children in education (1=yes, 0=otherwise)	0.18	0.388	0.193

The results (Table 5.4) show over 60% suffered from a fear of life which was the highest of all the exposure indicators, and nearly a third household said their children suffered from psychological trauma with the highest weight 0.747. About 8% of total households lost one or two members during the conflict, and 14% of households suffered from injury or illness to members and the weight for this indicator was 0.608. However, in nearly 10% of the households, one/more members lost their jobs. The weightings for the other indices were very similar.

Regarding sensitivity to conflict (Table 5.4), about 18% of total households had children in education, but this indicator had the lowest weight (0.193) of all the sensitivity indicators. Fourteen per cent of the households had disabled and sick members who needed special care, and almost 7% of the households had older members within the households, with the highest weight of 0.528 for this indicator.

Based on the descriptive statistics of the indicators and their weights obtained from

Principal Component Analyses (Table 5.4), index scores of Exposure and Sensitivity to conflict for the sampled households were computed. The index scores were then re-scaled (normalised) from 0 to 1, in which a higher score meant more exposure and sensitivity. All these were performed according to the methods described in Chapter Three (section 3.5.4). The distribution of the index scores is shown in Figures 5.1.

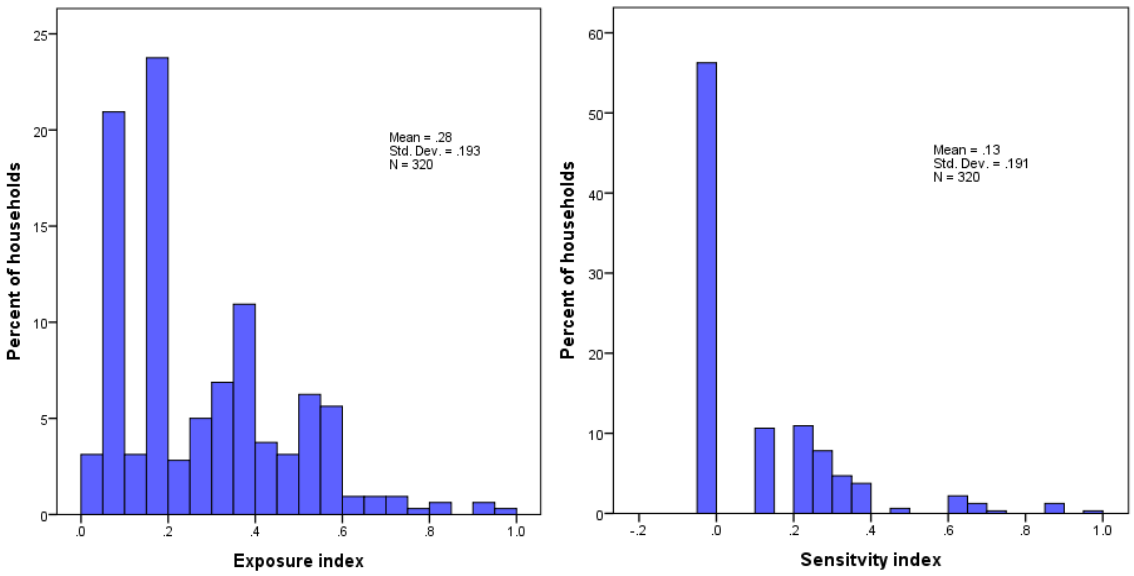

Figure 5.1 Household exposure and sensitivity index scores.

The exposure index exhibits a right-skewed distribution (Figure 5.1), with nearly 43% of the 320 households falling above the mean value of 0.28. The distribution of the sensitivity index shows that almost 56% of the households had below the mean value of 0.13 (Figure 5.1).

5.3.2 Household assets

Household assets investigated in this research include natural capital, physical capital, financial capital, human capital, and social capital. Mean, standard deviation and weight for all indicators at three time periods (pre-conflict, during conflict and data collection time) were computed. Then, index scores for each of the five capitals were created.

The Physical Capital (PC) index was created based on the possession of eight assets (indicators) (Table 5.5). This included: houses, buildings, cars, TVs, radios, computers,

internet, and mobile phones. The descriptive statistics of these indicators along with their weights are shown in Table 5.5.

Table 5.5 Descriptive statistics and weights (loadings) of the physical capital asset

PC Indicators	*Time t*			*Time t+1*			*Time t+2*		
	Mean	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**
Had houses (1=yes, 0=otherwise)	1.19	0.615	0.496	1.19	0.633	0.490	1.46	0.923	0.543
Had buildings (1=yes, 0=otherwise)	0.20	0.539	0.371	0.18	0.51	0.372	0.31	0.691	0.386
Had cars (1=yes, 0=otherwise)	1.53	1.017	0.684	1.40	0.921	0.639	2.02	1.254	0.633
Had TV (1=yes, 0=otherwise)	1.93	1.098	0.648	2.04	1.19	0.542	2.69	1.473	0.543
Had radio (1=yes, 0=otherwise)	0.51	0.608	0.484	0.52	0.608	0.496	0.72	0.773	0.439
Had computer (1=yes, 0=otherwise)	0.83	0.91	0.501	0.81	0.912	0.518	1.26	1.086	0.584
Number of mobiles	2.33	1.467	0.574	2.37	1.415	0.399	3.64	1.946	0.603
Had internet (1=yes, 0=otherwise)	0.22	0.416	0.377	0.25	0.432	0.581	0.83	0.375	0.287

Table 5.5 indicates that most of the families were found to have their own home at time t and time t+1 with a mean number of 1.19. However, at the time t+2, the mean was increased to 1.46. This means that some households bought or built new houses to allow their sons to get married, this was explained by some household heads during the interviews in the last chapter. The mean of households who had a building addition to their houses has slightly decreased from 0.20 at time t to 0.18 at time t+1 perhaps due to some households selling their building during the time of severe conflict. However, during the time t+2 the mean has increased to 0.31 when there were no intense conflicts like time t+1. Similarly, the mean indicator of car ownership has dropped from 1.53 at time t to 1.40 at the time t+1 but it increased again to 2.02 at the time t+2. While the frequency of mean ownership of a TV, radio, and mobile phones indicators were significantly increased across all times except computer ownership, which experienced a small decrease during time t+1 from mean 0.83 to 0.81. Surprisingly, the percentages of households who had access to the internet were significantly increased during the three times comparison, from 22% at the time t to 25% at time t+1 and 0.83 at the time t+2. This means that households getting more access to the internet has become a priority of most households in conflict-affected areas like Libya; this is because most of the households need to follow the news of what is

happening in their areas in terms of conflicts and connecting each other via social media apps, such as Facebook, Twitter and WhatsApp etc., as mentioned by some households during the interviews (chapter four, section 4.5.3).

Accordingly, all physical capital indicators had positive contributions to the index across all three time periods, with the highest contribution coming from the "car " by 0.684 and the lowest from the "internet" by 0.287 (Table 5.5). The weightings for the other indices were very similar.

Based on the above, index scores for physical capital for the three-time periods were computed. The distribution of the index scores is shown in Figure 5.2.

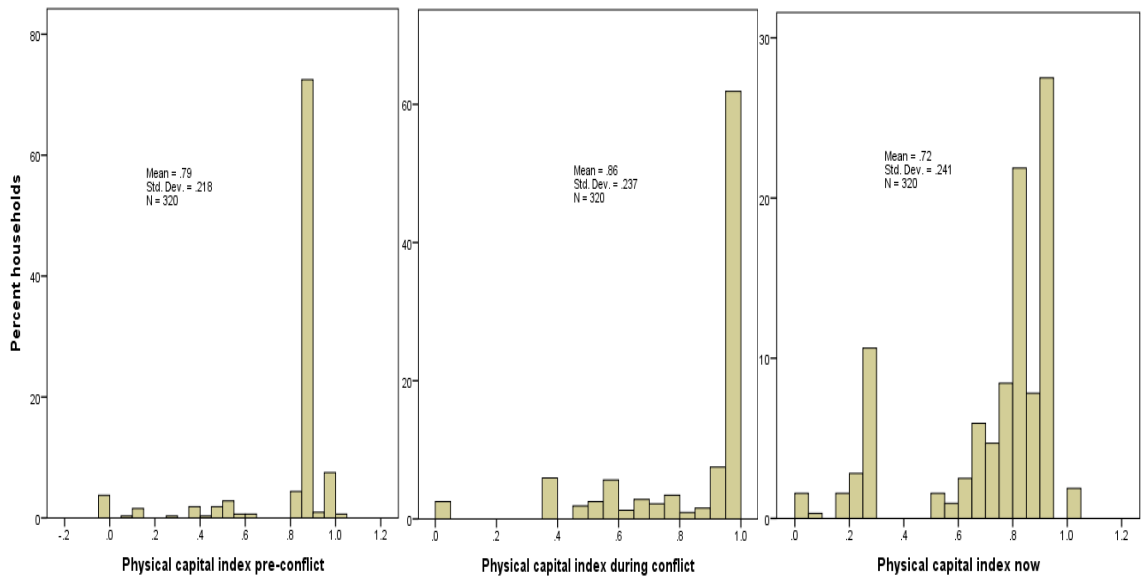

Figure 5.2 Physical capital index for the three-time periods compared

Physical capital index shows a left-skewed distribution (Figure 5.2), more than 70% of total households falling above the mean at three times comparison; 92% of total households above mean value of 0.79 at time t, 70% of total households above mean value of 0.86 at time t+1, and about 75% of total households above mean value of 0.72 at time t+2. The histogram indicates that household physical capital increased during time t+1 and t+2 comparing to time t, as mentioned earlier.

Natural capital (NC) investigated in this study included the ownership of agricultural (productive) land, wells, and livestock such as sheep, goats, horses, camels, and chickens.

However, horses and camels were dropped from the analysis as only a very few (<5%) of the households had these assets (Table 5.6).

Table 5.6 Descriptive statistics and weights (loadings) of the natural capital asset

NC Indicators	*Time t*			*Time t+1*			*Time t+2*		
	Mean	**S.D**	**weights**	**Mean**	**S.D**	**weights**	**Mean**	**S.D**	**weights**
Household has productive land (1=yes,0=otherwise)	0.33	0.471	0.298	0.42	0.495	0.374	0.45	0.498	0.418
Had sheep (1=yes, 0=otherwise)	0.35	0.476	0.656	0.73	0.444	-0.680	0.29	0.453	0.673
Had goats (1=yes, 0=otherwise)	0.24	0.429	0.659	0.19	0.389	0.681	0.21	0.409	0.676
Had chicken (1=yes, 0=otherwise)	0.21	0.399	0.637	0.13	0.338	0.684	0.20	0.404	0.688
Had well (1=yes, 0=otherwise)	0.29	0.453	0.536	0.29	0.455	0.52	0.35	0.477	0.479

As illustrated in Table 5.6 about 33% of the total households owned agricultural land at the time t, this percentage had increased to 42% at time t+1 and 45% at the time t+2. Household ownership of land had slightly increased at the time t+2 by nearly 12% compared with time t. This can be explained by the fact that many newly formed households purchased land plots to build new housing for some of their married members as previously mentioned in the qualitative result chapter.

The results indicate that the mean of livestock indicators has been decreased at time t+2 compared to time t and t+1. The ownership of sheep during time t+1 was significantly higher than previous time t “the mean at time t was 035 and at time t+1 was 0.73”. However, between time t+1 and time t+2, there was a sharp decrease in sheep ownership mean from 0.73 to 0.29. Moreover, goats ownerships has also slightly decreased at a time t+1 by 0.19 and time t+2 by 0.21 compared to time t 0.24. Furthermore, the study showed that a number of households had poultry, which helped these households to obtain meat and eggs, with a considerable decrease in the mean from 0.21 at time t to 0.13 at time t+1 with a slight increase in time t+2 by 0.20.

The reduction of livestock ownership can be explained by the fact that most households had sold or consumed their livestock during periods of conflicts to cope with the crises.

The study shows the mean of wells ownership had increased from 0.29 in both times t and t+1 to 0.35 at time t+2. The possible explanation of this is that, as mentioned earlier, most households increased property ownerships for the new families followed by an increase in the number of wells in their homes. Furthermore, wells ownerships had increased by following the increase of ownership of land and farms.

Of all the NC indicators, ownership of goats had the highest weight at time t by 0.659. The chicken indicator had the highest weight at both time t+1 by 0.684 and t+2 by 0.688. The lowest weight comes from the ownership of sheep in time t+1, which had a negative weight of -0.680. The negative loading in PCA simply means that a certain characteristic is lacking in a latent variable which was associated with the specific PCA that presented with no concern about the accuracy of data in the overall result. The weights of the other indicators were very similar.

Based on the above, index scores for natural capital for the three-time periods were computed. The distribution of the index scores is shown in Figure 5.3.

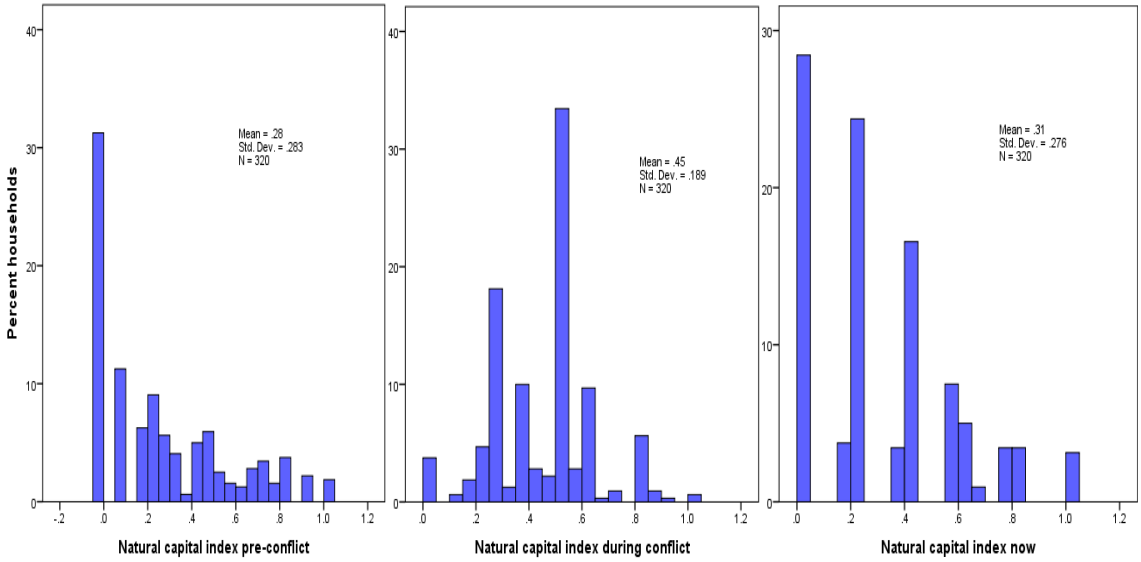

Figure 5.3 Natural capital index at three time periods compared.

Natural capital indices show a right skew at time t with more than half (59%) of total households falling under the mean 0.28 (Figure 5.3). However, at time t+1, the Figure spread in the middle, with about 60% of total households falling above the mean of value 0.45. At the time t+2 less than half of the total 320 households fall above the mean 0.31.

Three indicators of Financial Capital (FC) were considered in this study. These include: head salary, spouse salary and household members salary (Table 5.7). The descriptive statistics of these indicators along with their corresponding weights are shown in Table 5.7.

Table 5.7 Descriptive statistics and weights (loadings) of the financial capital asset

FC Indicators	Time t			Time t+1			Time t+2		
	Mean	S.D	Weight	Mean	S.D	Weight	Mean	S.D	Weight
Head had salary (1=yes,0=otherwise)	0.83	0.372	0.293	0.75	0.432	0.250	0.93	0.248	0.210
Spouse had salary (1=yes,0=otherwise)	0.20	0.398	0.688	0.17	0.372	0.685	0.22	0.412	0.704
Other member(s) had salary (1=yes,0=otherwise)	0.17	0.375	-0.714	0.14	0.348	-0.725	0.15	0.361	-0.739

As Table 5.7 shows, 83% of the household heads had salaries at time t. This decreased to 75% at time t+1. A significant increase in heads salaries was observed at time t+2 at 93% of total households. Regarding spouses' salary, 20% of total wives had salaries at time t, whereas this percentage declined to 17% at time t+1, but again it increased to 22% at time t+2.

Table 5.7 also shows that 17% of the households had salaries from other members (s) at time t, 14% at t+1, and 15% at time t+2, with a slight decrease compared to time t. The lowest weights of FC indicators were from the household members indicator showing a negative loading in all three time periods. The highest weight was from spouse indicator especially at time t+2 with 0.704. The weightings for the other indices were very similar.

Based on the above, index scores for financial capital for the three-time periods were computed. The distribution of the index scores is shown in Figure 5.4.

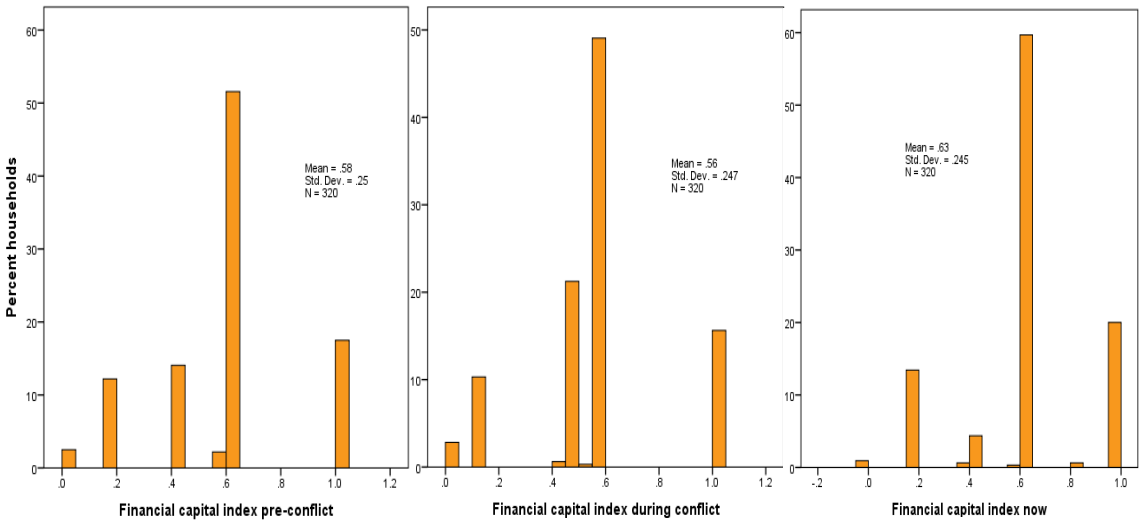

Figure 5.4 Financial capital indices for the three-times compared

Figures 5.4 shows that over 70% of the households had FC index scores above the mean value 0.58 at time t, nearly 68% of total households above the mean value of 0.56 at time t+1, and about 80% of total households above mean value of 0.63 at time t+2.

Four indicators of human capital (HC) were included in this study (Table 5.8). Descriptive statistics and weights of these indicators are shown in Table 5.8.

Table 5.8 Descriptive statistics and weights (loadings) of the human capital asset

HC Indicators	*Time t*			*Time t+1*			*Time t+2*		
	Mean	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**
Head had postgraduate level education (1=yes,0=otherwise)	0.35	0.478	0.511	0.40	0.49	0.477	0.41	0.492	0.46
Head had undergraduates level (1=yes, 0=otherwise)	0.83	0.381	0.104	0.85	0.355	0.126	0.63	0.483	-0.085
Head had technical training (1=yes,0=otherwise)	0.50	0.501	0.747	0.49	0.501	0.725	0.49	0.501	0.739
Head had construction or industrial training (1=yes, 0=otherwise)	0.22	0.416	0.696	0.22	0.416	0.696	0.22	0.416	0.696

The results in table 5.8 show that the data on the educational status of respondents revealed that the majority of the household heads had an undergraduate level of education with 83%

at time t, 85% time t+1, and 63% at time t+2, which means in Libya high school, university level and similar degrees.

The percentage of heads who had postgraduate level was 35% at time t with a slight increase at time t+2 to 40.6%. Furthermore, about half of the household heads had a technical training qualification, and only 22.2% had construction training. However, from a total of 320 households, there were only eight heads (3%) that mentioned that they had no education or training skills. The lowest weight was from "Head had undergraduates level" indicator by -0.085 and the highest weight came from the indicator "Head had technical training" by 0.747. The weightings for the other indices were very similar.

Based on the descriptive statistics in Table 5.8, index scores for human capital for the three-time periods were computed. The distribution of the index scores is shown in Figure 5.5.

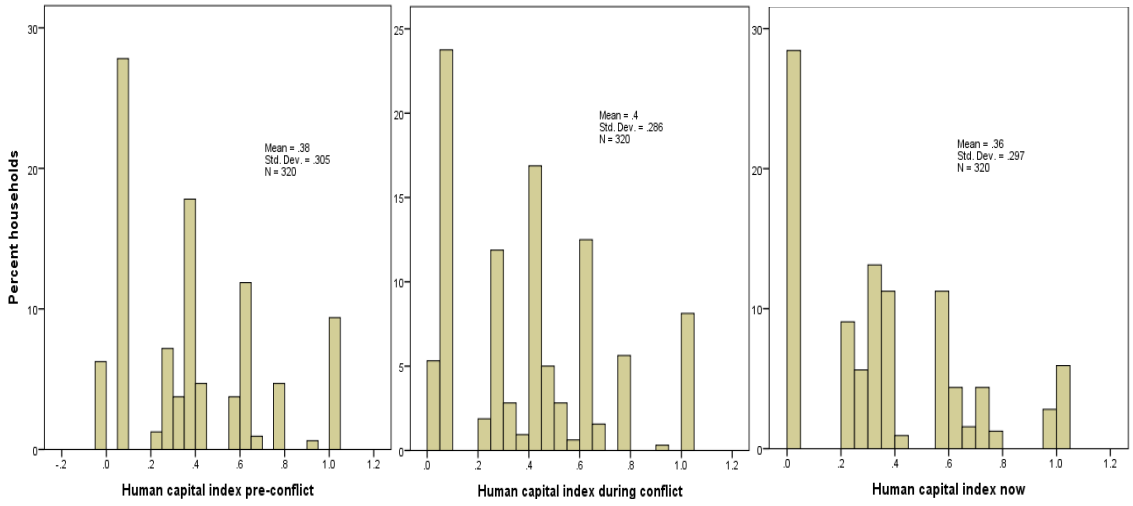

Figure 5.5 Human capital indices for the three times compared

As figure 5.5 shows, the human capital indices show a skewed right distribution with a slight spread in the middle at time t. About 59% of the households fell above the mean value 0.38 at time t, approximately 55% of total households fell above the mean value of 0.4 at time t+1, and about 60% fell above the mean value of 0.36 at time t+2.

Two types of social capital have been considered in this study; "bonding" and "bridging" relationships. A total of 12 indicators of these relationships were investigated (Table 5.9).

Table 5.9 Descriptive statistics and weights (loadings) of the social capital asset

SC Indicators	*Time t*			*Time t+1*			*Time t+2*		
	Mean	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**
Income-earning members sharing money for investment (1=yes,0=otherwise)	0.83	0.372	0.31	0.84	0.367	0.309	0.87	0.338	0.271
Members bearing the financial expenses of younger members (1=yes,0=otherwise)	0.89	0.313	0.346	0.88	0.32	0.313	0.87	0.342	0.284
Income earning members helping each other in crises (1=yes,0=otherwise)	0.64	0.481	0.664	0.54	0.499	0.624	0.58	0.494	0.683
Taking or giving financial loans from neighbours, friends and relatives (1=yes,0=otherwise)	0.51	0.501	0.462	0.31	0.464	0.299	0.38	0.486	0.385
Eating together with neighbours, friends, in restaurants (1=yes,0=otherwise)	0.94	0.242	-0.005	0.87	0.338	-0.049	0.80	0.401	0.535
Visiting neighbours, friends and relatives in conditions like illness or death etc. (1=yes,0=otherwise)	0.94	0.242	0.042	0.79	0.407	0.161	0.93	0.253	0.213
Attending social activities like marriage ceremonies. (1=yes,0=otherwise)	0.91	0.292	0.231	0.59	0.492	0.565	0.72	0.452	0.649
Going to picnic with neighbours, friends and relatives (1=yes,0=otherwise)	0.68	0.467	0.178	0.43	0.496	0.259	0.48	0.501	0.229
Affiliation to a professional association (1=yes,=otherwise)	0.08	0.274	0.327	0.08	0.269	0.343	0.10	0.296	0.395
Affiliation to a craftsman group or cooperative (1=yes, 0=otherwise)	0.17	0.378	0.411	0.13	0.342	0.379	0.18	0.386	0.344
Affiliation with a community or Tribal groups (1=yes,0=otherwise)	0.13	0.331	0.299	0.12	0.328	0.315	0.10	0.305	0.258
Religious groups (e.g. mosque study group or mosque committee) (1=yes,0=otherwise)	0.10	0.3	0.178	0.09	0.292	0.136	0.11	0.309	0.098

Table 5.9 showed that the vast majority (83%) of household income-earning members were sharing money for investment at time t, this was respectively increased at time t+1 (84%) and time t+2 (87%). Similarly, about 89% of household members were bearing the financial expenses of younger members with a slight decrease by 2% at time t+2 (87%) compared to time t. Contrary to expectations, the percentages of income-earning members helping each other in crises decreased slightly at time t+1 54% rather than 64% at time t with a 10% decrease when the conflict started in 2011. However, this percentage increased again to 58% at time t+2. Furthermore, the percentage of households who were taking or giving financial loans from neighbours, friends and relatives also declined from more than half of households (51%) at time t to about 31% at time t+1 and 38% at time t+2. In addition, there was a clear reduction of (-14%) households members eating together with neighbours and friends in restaurants from 94% at time t to 80% at time t+2; this might be because of the increase of food prices in restaurants and also due to conflicts which happening sometimes in their areas as many households reported during the qualitative phase.

More than 90% of the total households were visiting neighbours, friends and relatives with conditions like illness or death, and provide their assistance at time t. this has been rapidly decreased to 79% during time t+1 and then increased to 93% of the total household at time t+2. Furthermore, more than 90% of households were often or sometimes attending social activities like marriage ceremonies and tribal meetings, which is a perfect opportunity for them to meet and build a strong relationship at time t. However, during time t+1 and t+2, these percentages declined to 79% and 59% of households, respectively, that were attending social activities. Moreover, there was a significant decrease in the percentages of households going to picnics with neighbours, friends and relatives from 68% at time t to 48% at time t+2.

Otherwise, about 8% of total households confirmed that they had an affiliation to a professional association, such as a craftsman group or cooperative at time t, and this slightly increased at time t+1 to 13% and to 18% at time t+2. The affiliation with a community or tribal groups at time t stood at 13% with a slight decline at time t+1 to 12% and time t+2 to only 10% of the total of 320 households. However, the affiliation with religious groups (e.g. mosque study group or mosque committee) was without significant

changes across all time periods, reporting at around 10% in each period.

As expected, all social capital indicators had positive contributions to the index cross all three time periods the highest contribution was from the indicator "income-earning members helping each other in crises" across all three time periods with a weight of 0.664 at time t, 0.624 at time t+1 and 0.683 at time t+2. The lowest weight contribution was from the indicator "eating together with neighbours, friends, in restaurants" with a weight of -0.005 at time t, -0.049 at time t+1 and the lowest weight at time t+2 was from the indicator "affiliation to religious groups" with a weight of 0.098. The other indicators of loadings were quite similar.

Based on the above, index scores for social capital for the three-time periods were computed. The distribution of the index scores is shown in Figure 5.6.

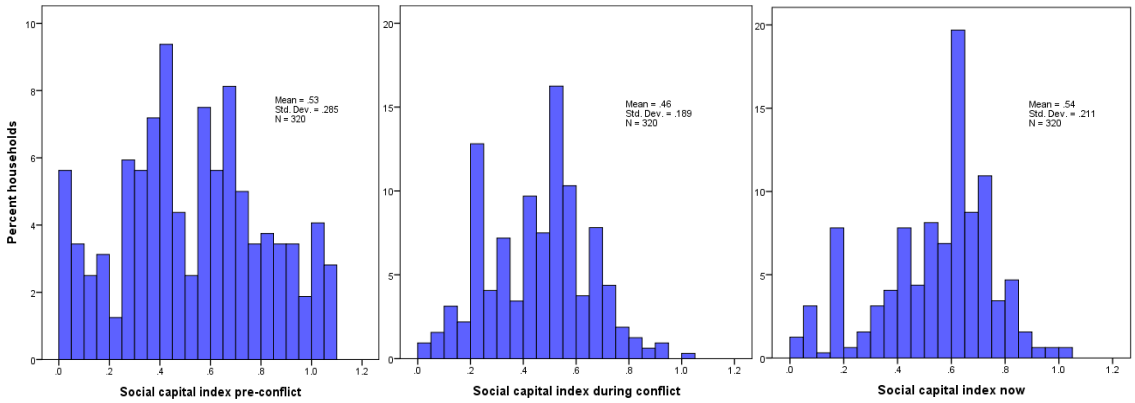

Figure 5.6 Social capital indices for the three times compared

Figure 5.6 shows social indices were spread in the middle and nearly a normal distribution, with about half of the households (51%) falling above the mean value 0.53 at time t; however, nearly 60% of total households were above the mean value of 0.0.46 at time t+1, and about 69% of total households were above mean value of 0.54 at time t+2. This study reported that these social components were stronger at time t than time t+2.

5.3.3 Household coping strategies

In this study, 21 types of coping strategies were investigated (see Table 5.10). Descriptive statistics and weights of each type of coping strategies are provided in Table 5.10.

Table 5.10 Descriptive statistics and weights of coping strategies for the three periods

CS Indicators	*Time t*			*Time t+1*			*Time t+2*		
	Mean	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**
Reducing the number of meals eaten daily (1=yes,0=otherwis)	0.25	0.434	0.504	0.58	0.494	0.361	0.33	0.470	0.463
Cutting down meal portion size or eat meal without fruit, salad and meat (1=yes,0=otherwis)	0.26	0.437	0.317	0.26	0.439	0.494	0.55	0.498	0.378
Stop wasting food (1=yes,0=otherwis)	0.61	0.49	0.025	0.79	0.416	0.143	0.80	0.405	0.176
Purchasing food on debt (1=yes,0=otherwis)	0.11	0.316	0.391	0.48	0.501	0.375	0.42	0.495	0.49
Buying less quality and cheaper food (1=yes,0=otherwis)	0.16	0.367	0.242	0.36	0.480	0.244	0.52	0.501	0.419
Borrowing food from friends, relatives (1=yes,0=otherwis)	0.04	0.198	0.229	0.49	0.501	0.222	0.34	0.475	0.375
Relying on help from a social network (1=yes,0=otherwis)	0.32	0.465	0.255	0.30	0.46	0.258	0.63	0.484	0.303
Adults eating less than normal to feed children (1=yes,0=otherwis)	0.09	0.292	0.139	0.27	0.442	0.392	0.36	0.48	0.364
Giving children adults milk to drink (1=yes,0=otherwis)	0.07	0.253	0.253	0.27	0.444	0.327	0.20	0.398	0.405
Consuming traditional food more than normal (1=yes,0=otherwis)	0.61	0.489	0.007	0.81	0.391	0.162	0.81	0.393	0.211
Spending most of the household's budget on food and cutting expenses on luxury goods (1=yes,0=otherwis)	0.60	0.490	0.025	0.78	0.416	0.143	0.79	0.405	0.176
Receiving NGOs support (1=yes,0=otherwis)	0.07	0.259	0.129	0.30	0.458	0.299	0.13	0.342	0.407
The youth stopped studying to join army to get money to meet household expenditure (1=yes,0=otherwis)	0.13	0.331	0.259	0.22	0.416	0.418	0.26	0.437	0.438
Renting agricultural tools instead of buying them to meet household expenditure (1=yes,0=otherwis)	0.33	0.469	0.278	0.38	0.486	0.329	0.42	0.494	0.379
Selling jewellery to get money to meet household expenditure (1=yes,0=otherwis)	0.17	0.375	0.249	0.43	0.496	-0.03	0.56	0.498	0.489
Selling livestock to get money to meet household expenditure (1=yes,0=otherwis)	0.19	0.393	0.203	0.43	0.496	0.438	0.45	0.498	0.464
Selling land to get money to meet household expenditure	0.08	0.278	0.214	0.17	0.375	0.277	0.25	0.435	0.372
Selling property to get money to meet household expenditure (1=yes,0=otherwis)	0.05	0.225	0.185	0.13	0.342	0.364	0.15	0.358	0.441
Entire household temporarily migrating to another city or country (1=yes,0=otherwis)	0.10	0.305	0.225	0.58	0.494	0.302	0.08	0.274	0.249
Entire household permanently migrating to another city or country (1=yes,0=otherwis)	0.03	0.174	0.285	0.10	0.296	0.394	0.05	0.212	0.392
Bringing foods from neighbouring countries to eat and/or sell in the local markets (1=yes,0=otherwis)	0.07	0.276	0.135	0.14	0.493	0.258	0.14	0.492	0.292

Table 5.10 illustrates the commonly used coping strategies found were households reducing the number of meals eaten daily by 25% at time t, 58% at time t+1 and 33% at time t+2. Households also cut down meal portion size or ate a meal without fruit, salad and meat, especially at time t+2 by 55% of total households compared to time t and t+1, where only 26% of households adopted this strategy. Furthermore, the majority of households adopted the strategy of reducing food waste (61%) at time t, which increased to about 80% of total households during time t+1 and t+2. Purchasing food on debt was also used by 11% of the total households at time t, 48% at time t+1 and 42% at time t+2. Buying less quality and cheaper foods were used by 16% at time t, 36% at time t+1 and 52% at time t+2. Households also increased dependence on borrowing food from friends and relatives from 4% at time t to 49% at time t+1 and 34% at time t+2. About 30% of households relied on help from a social network at time t and t+1, however, this increased significantly to 63% at time t+2. Adults eating less than normal or skipping one meal to feed their children was mostly used at time t+2 by 36% of the sample compared to 27% at time t+1 and only 9% at time t. Similarly giving children adult's milk to drink was a strategy more commonly used at time t+1 by 27% 20% at time t+2 and only 7% of total households at time t.

Likewise, households used to eat more traditional food during time t+1 and t+2 (81%) compared to time t (61%), with traditional food usually simply made at home such as Bazin, Ftat and bread. Most of the households used to spend most of their household's budget on food by cutting expenses on luxury goods and other normal expenses; this was increased from 60% at time t to 78% at time t+1 and 79% at time t+2.

Some households depended on NGOs to receive food aid and help at time t by only 7%, then in time t+1 this support increased to reach about 30% of households but at time t+2 this help decreased to only 13% of households. One of the unique coping strategies was found to be where the youth stopped studying to join the army to get money to meet household expenditure; this was used by 13% at time t, 22% at time t+1 and 26% at time t+2. Households who had a farm were used to renting agricultural tools instead of buying them to meet household expenditure, with 33% at time t, which increased to 38% at time t+1 and 42% at time t+2.

Many households used to sell their jewellery to get money to meet household expenditure, with the highest percentage observed at time t+2 with 56% of total households, in contrast

to 43% at time t+1 and only 17% at time t. Similarly, households used a strategy such as selling livestock (mainly sheep and goats) to raise money to meet household expenditure and also to meet consumption at home, this was used by 19% at time t, 43% at time t+1 and 45% at time t+2. Some households sold their land as coping strategies against shocks, which was adopted by less than 8% at time t, 17% at time t+1 and 25% at time t+2. Likewise, some households sold their properties; 5% at time t, 13% at time t+1 and 15% at time t+2.

Some households members that experienced temporary migration, with only 10% at time t but in time t+1 when the conflict started about 58% of total households migrated to a safer area; however, at time t+2 there were only 8% of total households that had migrated as the migration was the last choice for households to deal with conflicts. The entire household permanently migrating to another city or country was observed in less than 10% at all times. Households were decamped to safe areas both within Libya and outside Libya, such as to Tunisia and Egypt, as they mentioned in Chapter Four (qualitative). About 14% of total households depended on foods from neighbouring countries to eat and/or sell in the local markets at times t+1 and t+2, while this was only 9% at time t.

As expected, all coping strategies indicators had positive contributions to the index across all three time periods, with the highest contribution coming from the coping strategy "purchasing food on debt" by 0.49 and the lowest from the coping strategies "stop wasting food and spending most of the household's budget on food and cutting expenses on luxury goods" by 0.176 (Table 5.10). The weightings for the other indices were very similar.

Accordingly, Table 5.10 demonstrated that most of the coping strategies were increasingly used by households at time t+1 and time t+2 to overcome shocks created by conflict. In addition, most coping strategies' weights and means significantly increased during time t+1 and time t+2 due to conflicts affecting the household food security situation.

Based on the above, index scores of coping strategies for the three-time periods were computed. The aggregate index scores were then normalised from 0 to 1 in which a higher score meant a higher coping strategy. The data on Figure 5.7 highlights the coping strategies adopted by households between the three-time periods; t, t+1 and t+2.

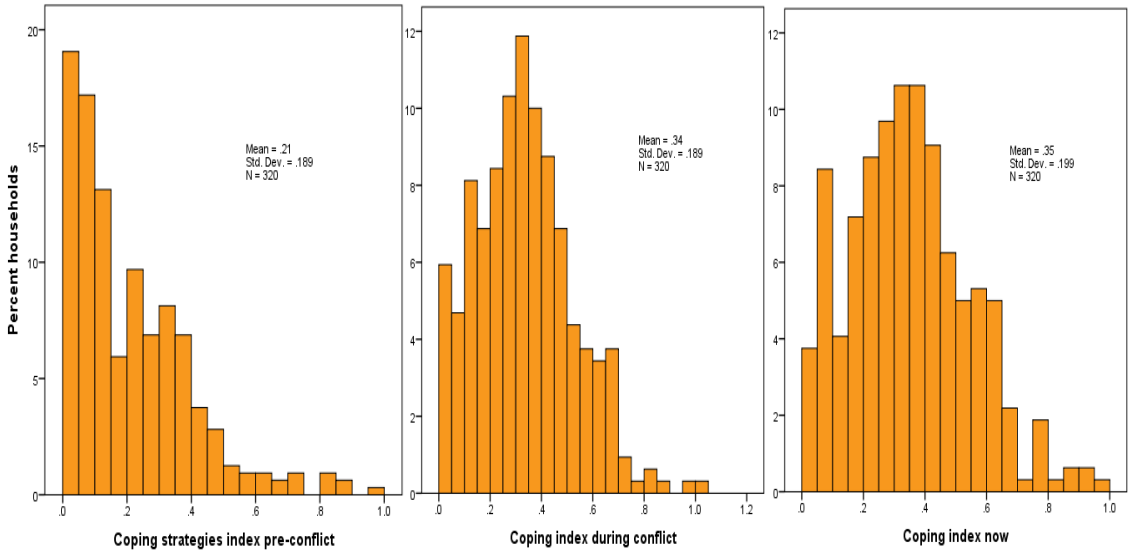

Figure 5.7 Coping strategies indices for the three times compared

Household coping strategies indices showed a skewed right distribution with slight peaks and spread on the right at time t and time t+1 with more peeks and normal distribution at time t+2 (Figure 5.7). About 47% of the 320 households fell above the mean value 0.21 at time t, almost 60% of total households fell above the mean value of 0.34 at time t+1, and about 70% of total households fell above the mean value of 0.35 at time t+2.

5.3.4 Social Safety Nets (SSN)

Nine indicators of Social Safety Nets (SSN) were investigated (see Table 5.11). The descriptive statistics and weight of SSN for each indicator are provided at three different times. Based on the descriptive statistics of the indicators and their weights obtained from Principal Component Analyses, the index scores of SSN for the 320 households were computed according to chapter three (section 3.5.4).

Table 5.11 Descriptive statistics and weights of the SSN indicators for the three periods

SSN Indicators	*Time t*			*Time t+1*			*Time t+1*		
	Mean	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**
HH received foods from Govt public food distributors (e.g. Aljamaiatt) (1=yes, 0=otherwise)	0.66	0.474	0.110	0.25	0.431	0.070	0.25	0.435	0.054
HH received Govt subsidies on foods in times of crisis (1=yes, 0=otherwise)	0.21	0.406	0.254	0.52	0.501	0.269	0.21	0.41	0.156
HH received Govt subsidies on agricultural inputs e.g. seeds, machinery (1=yes, 0=otherwise)	0.40	0.492	0.335	0.22	0.417	0.266	0.23	0.421	0.291
HH received Govt subsidies on livestock disease and health (1=yes,0=otherwise)	0.32	0.465	0.393	0.12	0.330	0.352	0.08	0.271	0.408
HH received Govt subsidies on loans for building constructions or business for income generation (1=yes, 0=otherwise)	0.31	0.464	0.521	0.13	0.337	0.585	0.14	0.344	0.590
HH received Govt subsidies on jobs seeker's allowance or unemployment benefits (1=yes, 0=otherwise)	0.52	0.501	0.619	0.22	0.413	0.649	0.25	0.431	0.559
HH received Govt subsidies for old or disabled household members (1=yes, 0=otherwise)	0.30	0.459	0.389	0.18	0.383	0.496	0.20	0.401	0.425
HH received Govt subsidies or special support for children (1=yes, 0=otherwise)	0.69	0.461	0.509	0.67	0.471	0.480	0.73	0.445	0.496
Gov subsidies on treatment and medicine free of charge for household members (1=yes, 0=otherwise)	0.73	0.459	0.558	0.54	0.499	0.498	0.64	0.481	0.510
HH received Govt subsidies on on fuel for personal transport (1=yes, 0=otherwise)	0.63	0.484	0.446	0.59	0.493	0.349	0.54	0.499	0.450

Table, 5.11 indicates that about 65% of the 320 households stated that at time t they had received government subsidence of public food distribution for households (Aljameeiat in Libya). The mean shows there was a decrease of this subsidy at time t+1 and time t+2 as it declined to only 25% of total households compared to 65% at time t. Traditionally, Libyans received government basic food subsidies, which reduced the cost of key commodities by 50%; these foods included rice, oil, tomato, flour, sugar etc. These subsidies suddenly disappeared for the majority of the households when the conflict started in time t+1. In

addition, about 52% of households had received subsidies on foods in times of crisis at time t+1 when the conflict started compared to only 21% at both time t and t+2.

Moreover, households received government subsidies on agricultural inputs e.g. seeds, and machinery etc. by 40% at time t. However, this support rapidly decreased to reach 22% of the households at time t+1 and 23% at time t+2. This support was sometimes in the form of free subsidies or for a small fee. Even many farmers households reported that during the qualitative phase (Chapter Four) this aid was not enough, but it encouraged them to invest in land.

Another type of subsidy identified in this research was government subsidies on livestock disease and livestock healthcare. There was a significant decline at time t+1 and time t+2 as there were only 12% at time t+1, and just 8% at time t+2 still receiving livestock subsidies compared to 40% of total households receiving this subsidy at time t.

Data from the questionnaire reports that 31% of the total household was able to obtain financial subsidies, such as loans for construction or business, for income generation at time t. However, the banking sector during the conflict had become one of the governmental institutions in the country that offered the lowest level of services, which affected households and therefore only 13% of the total household were able to access this subsidy at time t+1. Consequently, 14% of total households were able to obtain financial support or loans at time t+2.

Furthermore, the Libyan Government introduced a new jobseeker's allowance and income support as part of its strategy for household welfare many years ago. As reported by households, more than half (52%) of the sample had benefited from these services at time t, but at time t+2, the percentage of those who received this government subsidy reduced to about 24% of the 320 households who participated in this research. As discussed previously, the conflict negatively affected most of the government's role, and the performance of its services declined compared to the past.

As Table 5.11 shows, 30% of the total household had access to government subsidies or financial support for old or disabled household members at time t. This percentage declined to about 20% of total households at time t+1 and t+2.

Households also received subsidies or special support for their children, such as free health care for children at time t as reported by 69% of total households. During time t+1 this subsidy slightly declined to 67% of the total households; however, it increased at time t+2 to about 73% of total households who benefited from this service. There were also subsidies on treatment and medicine for all household members as historically in Libya all healthcare was free for everyone, this subsidy reached about 73% at time t, 54% at time t+1 and 64% at time t+2.

For over two decades there was a government subsidy on fuel, which averaged 15 Dirhams for one litre (about 3 pence in sterling currency). However, after the conflict in 2011, many households faced difficulty in accessing these subsidies because fuel stocks were smuggled to neighbour countries, especially Tunisia and Egypt, Sudan, Chad and Niger. Furthermore, more than half of households still had access to their subsidies on fuel for personal transport 63% at time t, 59% at time t+1, and 54% at time t+2. Libyan citizens could not get fuel as easily as in the pre-conflict period. Many of the households reported that they sometimes waited for hours in front of the petrol station to get fuel for their cars because of the shortage of fuel between 2011/18 and many of them bought their fuel from the black market at an expensive price.

Throughout, SSN has decreased significantly at time t+1 and time t+2. The results clearly show that the mean for all indicators rapidly decreased during the conflict times except for the government free foods in times of crisis indicator, which slightly increased at time t+1.

However, all SSN indicators had positive contributions to the index cross all three times, with the highest contribution coming from the subsidy “Household received government subsidies on jobs seeker’s allowance or unemployment benefits” at 0.649 and the lowest from the subsidy “Household received foods from government public food distributors” at 0.054 (Table 5.11). The weightings for the other indices were very similar.

Based on the above, index scores for SSN for the three-time periods were computed. The distribution of the index scores is shown in Figure 5.8.

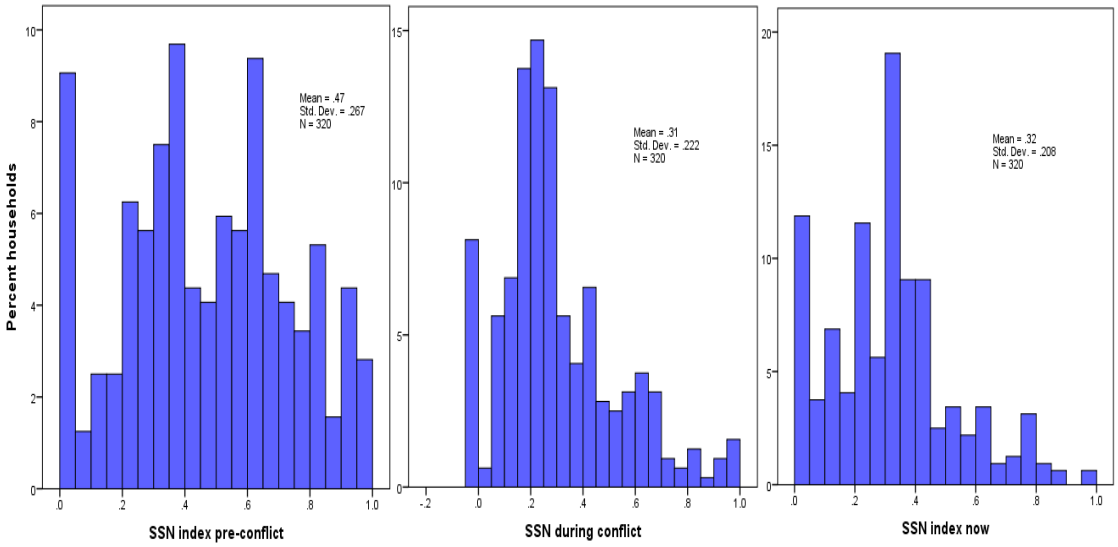

Figure 5.8 Social safety nets indices for the three times compared

Figures 5.8, shows the household safety nets skewed in the middle with an almost normal distribution with slight peaks and spread at the "at time t more than 60% of households falling above the mean value of 0.47". In addition, it also shows that "at time t+1 28% of total households falling above mean value of 0.31", "and nearly 50% of total households above the mean value of 0.32 at time t+2".

5.3.5 Access to Basic Services (ABS)

Access to Basic Services (ABS) found in Libya mainly in bank services, such as getting their salaries on time from the bank, withdrawing money from banks on time, availability of security deposits in the bank and getting foreign currency when needed. The descriptive statistics of ABS are provided in Table 5.12.

Table 5.12 Descriptive statistics and weights of the ABS indicators for the three periods

ABS Indicators	*Time t*			*Time t+1*			*Time t+2*		
	Mean	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**	**Mean**	**S.D**	**Weight**
Able to get salaries on time from bank (1=yes,0=otherwise)	0.64	0.487	0.252	0.17	0.375	0.492	0.07	0.261	0.430
Able to withdraw money from banks on time (1=yes,0=otherwise)	0.67	0.471	0.539	0.12	0.330	0.547	0.04	0.184	0.402
Availability of security deposits in the bank (1=yes,0=otherwise)	0.67	0.471	0.644	0.22	0.413	0.672	0.09	0.29	0.585
Availability of foreign currency in bank when needed (1=yes,0=otherwise)	0.56	0.497	0.622	0.19	0.391	0.622	0.07	0.25	0.288

As mentioned in Table 5.12, all households means significantly declined comparing between the three-time periods, due to conflict affects on these services. More than half (64%) of the households had access to their salaries on time at time t with the lowest weight of 0.252, but during time t+1, this percentage decreased to 17% and only 7% of the total number of households were able to access their salaries at time t+2.

Furthermore, access to withdrawing money from banks in time t was nearly 67% of the total households in the survey areas. However, during time t+1, there was an obvious decrease in this service where about 12% of the households could withdraw their money from the bank on time and when they needed it during time t+1, and only 4% of total households could access their salaries at time t+2.

The security of deposits in the banks also decreased at time t+1 comparing to the previous time t, where 67% of total households were satisfied with this service at time t. However, at time t+1, there were only 22% of the 320 households that could access this service, which declined further to just 9% of households at time t+2. Overall, bank service has become much worse since the conflict started.

The lowest weights of ABS indicators were from “Able to get salaries on time from bank” indicator by 0.252 loadings at time t. The highest weight was from “Availability of security deposits in the bank” indicator at time t+1 with 0.672.

The data in Figure 5.9 also highlights this decrease of access to basic services between the three-time periods.

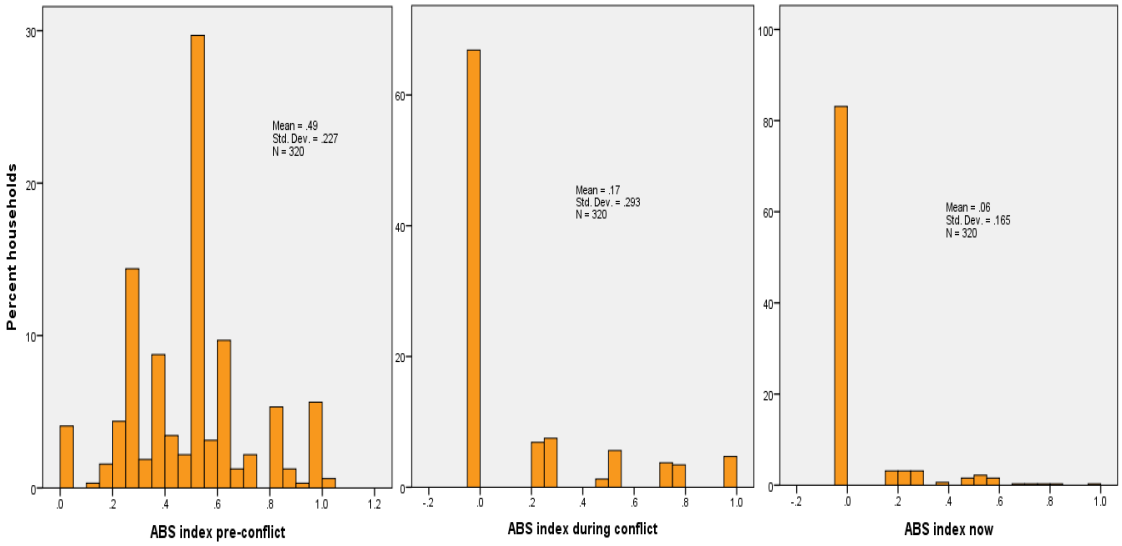

Figure 5.9 ABS indices for the three times compared

Figures 5.9 show that ABS indices are skewed in the middle distribution with peaks and spread at time t. Nearly 63% of the household indexes were above the mean value of 0.49 at time t. However, at time t+1 until the time t+2 the shape was skewed right at mostly 0, with about 70% of total households falling below the mean of 0.17 at time t+1, and more than 80% of households falling below the mean value of 0.6 at the time t+2.

Hence, these findings indicate that household ABS has decreased significantly during the time t+1 and t+2 and many households faced difficulty in accessing basic services that were provided by the previous conflict mainly to access their salaries and banks as mentioned by the majority of households in both phases of data collection.

5.4 Factors Affecting Resilience – Regression Results

Two models were developed in order to identify the factors that affected household resilience against food insecurity in Libya. The mathematical expressions of the models are provided in equations 1-4 (see section 3.5.3 and 3.5.4 in Chapter Three). All the models were estimated using a binary logistic regression.

Model 1: household resilience between time t and time t+1

In this model, the dependent variable was:

Resilience (coded as non-resilient = 0, resilient = 1) in time t+1. Non-resilient households were those whose FCSs declined, or HFIAS scores increased in t+1 compared to those in time t. Resilient households were those whose FCS did not decline, or the HFIAS score did not increase at time t+1 compared to those in time t.

In this model, the independent or explanatory variables were:

- Exposure index (ExInd)
- Sensitivity index (SnInd)
- Physical capital index in time t (PCInd_t)
- Natural capital index in time t (NCInd_t)
- Financial capital index in time t (FCInd_t)
- Human capital index in time t (HCInd_t)
- Social capital index in time t (SCInd_t)
- Coping strategies index in time t (CSInd_t)
- Social Safety Nets index in time t (SSNInd_t)
- Access to Basic Service index in time t (ABSInd_t)

Table 5.13 Factors affecting resilience against food insecurity (model 1)

Factors affecting resilience (Independent variables in time t)	FCS Dependent Variable=Resilience in time t+1 (FCS declined/non-resilient=0, FCS not declined/resilient=1)					HFIAS Dependent Variable=Resilience in time t+1 (HFIAS increased/non-resilient=0, HFIAS not increased/resilient=1)				
	B	***SE***	***Wald***	***Sig.***	***Exp(B)***	***B***	***SE***	***Wald***	***Sig.***	***Exp(B)***
ExInd	-.040	.084	.235	.628	.960	-.078	.078	.999	.318	.925
SnInd	.151	.109	1.915	.166	1.163	.071	.097	.537	.464	1.074
PCInd_t	.010	.056	.029	.864	1.010	-.007	.053	.018	.892	.993
NCInd_t	.146	.109	1.791	.181	1.158	-.092	.102	.825	.364	.912
FCInd_t	.173	.115	2.258	.133	1.189	.014	.106	.018	.894	1.014
HCInd_t	.022	.104	.043	.836	1.022	.014	.096	.020	.886	1.014
SCInd_t	**.219**	.079	7.781	**.005**	1.245	.062	.073	.725	.394	1.064
CSInd_t	.022	.027	.636	.425	1.022	-.009	.024	.150	.699	.991
SSNInd_t	.139	.130	1.139	.286	1.149	-.014	.117	.014	.906	.986
ABSInd_t	-.056	.121	.216	.642	.945	-.022	.114	.037	.847	.978

Note: ExInd=Exposure Index; SnInd=Sensitivity Index; PCInd_t= Physical Capital Index in time t; NCInd_t= Natural Capital Index in time t; FCInd_t= Financial Capital Index in time t; HCInd_t= Human Capital Index in time t; SCInd_t= Social Capital Index in time t; CSInd_t= Coping stratgeies Index in time t; SSNInd_t= Social Safety Nets Index in time t; ABSInd_t= Access to Basic Service Index in time t.

As Table 5.13 shows, household social capital **(SC)** in time t was the only variable with a significant effect (p=.005) on resilience in time t+1. This means that the more social capital a household had in time t, the more likely it was to maintain its food security in time t+1. The other explanatory variables had no statistically significant effect. This result was obtained only for the model in which food security was assessed in terms of FCSs. The model in which the HFIAS was included as the dependent variable, none of the explanatory variables had any statistically significant effect on resilience (see Table 5.13).

Model 2: household resilience between time t and time t+2

In this model, the dependent variable was:

Resilience (coded as non-resilient = 0, resilient = 1) in time t+2. Non-resilient households were those whose FCSs declined, or HFIAS scores increased in t+2 compared to those in time t. Resilient households were those whose FCS did not decline, or the HFIAS score did not increase at time t+2 compared to those in time t.

The independent or explanatory variables were:

- Exposure index (ExInd)
- Sensitivity index (SnInd)
- Physical capital index in time t (PCInd_t)
- Natural capital index in time t (NCInd_t)
- Financial capital index in time t (FCInd_t)
- Human capital index in time t (HCInd_t)
- Social capital index in time t (SCInd_t)
- Coping strategies index in time t (CSInd_t)
- Social Safety Nets index in time t (SSNInd_t)
- Access to Basic Service index in time t (ABSInd_t)

Table 5.14 Factors affecting resilience against food insecurity (model 2).

Factors affecting resilience (Independent variables in time t)	FCS Dependent Variable=Resilience I time t+2 (FCS declined/non-resilient=0, FCS not declined/resilient=1)					HFIAS Dependent Variable=Resilience in time t+2 (HFIAS increased/non-resilient=0, HFIAS not increased/resilient=1)				
	B	***SE***	***Wald***	***Sig.***	***Exp(B)***	***B***	***SE***	***Wald***	***Sig.***	***Exp(B)***
ExInd	.028	.103	.076	.783	1.029	-.073	.081	.807	.369	.930
SnInd	.042	.127	.109	.741	1.043	.127	.106	1.443	.230	1.136
PCInd_t	-.037	.072	.272	.602	.963	-.039	.057	.459	.498	.962
NCInd_t	**.308**	.132	5.432	**.020**	1.360	.021	.107	.038	.846	1.021
FCInd_t	.105	.138	.585	.444	1.111	-.094	.112	.699	.403	.911
HCInd_t	.010	.126	.006	.937	1.010	-.025	.102	.059	.808	.976
SCInd_t	.121	.096	1.603	.205	1.129	-.023	.078	.090	.764	.977
CSInd_t	-.005	.032	.024	.876	.995	-.020	.025	.626	.429	.981
SSNInd_t	.079	.155	.262	.609	1.083	-.076	.122	.386	.534	.927
ABSInd_t	-.086	.139	.388	.533	.917	.006	.121	.003	.959	1.006

Note: ExInd=Exposure Index; SnInd=Sensitivity Index; PCInd_t= Physical Capital Index in time t; NCInd_t= Natural Capital Index in time t; FCInd_t= Financial Capital Index in time t; HCInd_t= Human Capital Index in time t; SCInd_t= Social Capital Index in time t; CSInd_t= Coping stratgeies Index in time t; SSNInd_t= Social Safety Nets Index in time t; ABSInd_t= Access to Basic Service Index in time t.

As Table 5.14 illustrates, only one variable had a significant effect on resilience in time t+2. This variable is natural capital **(NC)** (p=0.020). This means that the more natural capital a household had in time t (pre-conflict), the more likely it was to maintain its food security in time t+2. The other explanatory variables had no statistically significant effect. However, in the model in which the HFIAS was included as the dependent variable, none of the explanatory variables had any statistically significant effect on resilience (see Table 5.14).

Model 3: household resilience between time t+1 and time t+2

In this model, the dependent variable was:

Resilience (coded as non-resilient = 0, resilient = 1) in time t+2. Non-resilient households were those whose FCSs declined, or HFIAS scores increased in t+2 compared to those in time t+1. Resilient households were those whose FCS did not decline, or the HFIAS score did not increase at time t+2 compared to those in time t+1.

The independent or explanatory variables were:

- Exposure index (ExInd)
- Sensitivity index (SnInd)
- Physical capital index in time t (PCInd_t+1)
- Natural capital index in time t (NCInd_t+1)
- Financial capital index in time t (FCInd_t+1)
- Human capital index in time t (HCInd_t+1)
- Social capital index in time t (SCInd_t+1t)
- Coping strategies index in time t (CSInd_t+1)
- Social Safety Nets index in time t (SSNInd_t+1)
- Access to Basic Service index in time t (ABSInd_t+1)

Table 5.15 Factors affecting resilience against food insecurity (model 3).

Factors affecting resilience (Independent variables in time t+1)	FCS Dependent Variable=Resilience in time t+2 (FCS declined/non-resilient=0, FCS not declined/resilient=1)					HFIAS Dependent Variable=Resilience in time t+2 (HFIAS increased/non-resilient=0, HFIAS not increased/resilient=1)				
	B	***SE***	***Wald***	***Sig.***	***Exp(B)***	***B***	***SE***	***Wald***	***Sig.***	***Exp(B)***
ExInd	.025	.104	.059	.808	1.026	-.085	.081	1.095	.295	.918
SnInd	.058	.126	.214	.644	1.060	.124	.106	1.347	.246	1.131
PCInd_t+1	.058	.078	.558	.455	1.060	.047	.065	.529	.467	1.048
NCInd_t+1	**.425**	.130	10.730	**.001**	1.530	.044	.103	.185	.667	1.045
FCInd_t+1	**.473**	.178	7.102	**.008**	1.605	**.398**	.146	7.430	**.006**	1.488
HCInd_t+1	.025	.036	.472	.492	1.025	-.007	.027	.065	.798	.993
SCInd_t+1	**-.262**	.097	7.360	**.007**	.769	**-.219**	.079	7.652	**.006**	.803
CSInd_t+1	.027	.078	.122	.727	1.028	.045	.064	.495	.482	1.046
SSNInd_t+1	.123	.084	2.147	.143	1.131	-.032	.063	.250	.617	.969
ABSInd_t+1	.014	.092	.023	.880	1.014	.056	.075	.548	.459	1.057

Note: ExInd=Exposure Index; SnInd=Sensitivity Index; PCInd_t+1= Physical Capital Index in time t+1; NCInd_t+1= Natural Capital Index in time t+1; FCInd_t+1= Financial Capital Index in time t+1; HCInd_t+1= Human Capital Index in time t+1; SCInd_t+1= Social Capital Index in time t+1; CSInd_t+1= Coping stratgeies Index in time t+1; SSNInd_t+1= Social Safety Nets Index in time t+1; ABSInd_t+1= Access to Basic Service Index in time t+1

As Table 5.15 shows, three variables had significant effects on resilience in time t+2. These are: natural capital **(NC)** (p=0.001), financial capital **(FC)** (p=.008) and social capital **(SC)** (p=.007). This means that the more natural and financial capital a household had in time t+1 the more likely it was to maintain its food security in time t+2. However, social capital had a negative effect on the likelihood of household resilience according to FCS between t+1 and t+2. The possible explanation of why social capital has a negative effect on food security is that in many households, especially during the conflict, income-earning members helped each other in crises by sharing money and food with others. Thus their savings and assets were reduced during the conflict which lead them to be less resilient and have less food security. The other explanatory variables had no statistically significant effect. This result was obtained only for the model in which food security was assessed in terms of FCSs. The model in which the HFIAS was included as the dependent variable shows two variables with a statistically significant effect on resilience. These variables are financial capital **(FC)** (p=.006) and social capital **(SC)** (p=.006). Social capital negatively affected the likelihood of household resilience in both types of measurement, i.e. FCS and HFIAS between t+1 and t+2. Other indicators were not statistically significant.

5.5 Summary

As explained in Chapter Three (Methodology), the quantitative results are structured according to the resilience framework depending on the information obtained from the household survey. The chapter illustrated the results on the household food security situations in Libya over three periods – pre-conflict (t), during the conflict (t+1), and time of data collection (t+2). Two types of measures have been used in assessing food security – Food Consumption Score (FCS) and Household Food Insecurity Access Scale (HFIAS). Based on the result two types of household resilience were displayed for dealing with food-related stresses (resilient and non-resilient). Section 5.3 provided descriptive statistics related to all factors that affect household resilience against food insecurity. The factors included descriptive results of household exposure and sensitivity to conflict, five types of assets, coping strategies, access to basic services, and social safety nets. Regression analyses were conducted in order to identify the effects of these factors on resilience by assessing three models to determine the best result. The main results of the analysis are the following:

- A significant decline in households' food security status was observed between time t

and the time t+1, identifying 20% of the 320 households that were considered food insecure households as a minimum threshold in their FCS. Whereas approximately 80% were considered as secure food households according to their FCS. On the other hand, the results on HFIAS show about 31% as not secure households and nearly 69% of total households as secure households according to their HFIAS scores between time t and time t+2.

- The result indicates that 14% of the households faced a high level of conflict; for example, there were injuries and deaths among household members. Other types of damage were found as households lost their assets, by 20% of the total household. However, the majority of households (94%) reported that they were living in a terrible psychological situation during the conflict time; they suffered trauma and great concern about their lives.
- The study investigated about 21 types of coping strategies adopted by Libyan households during conflicts times. The study found that more increasingly, households used coping strategies during t+1 and t+2 than t to overcome shocks created by conflict. For example, the most commonly used coping strategies were reducing the number of meals eaten daily (63%), reducing food waste (80%), buying less quality and cheaper foods (52%), eating more traditional food (81%), sell jewellery saving to get money to meet household expenditure (56%) and households undertaking temporary migration (58%). Some of the coping strategies used by households were unique to the food insecurity context, such as smuggling food to eat and/or sell in the local markets (14%) and youth members stopping studying and joining the army or militias groups to obtain money (26%). The augmented ongoing conflict likely contributed to the increased use of such strategies.
- Household assets and government institutions are very important and positively related to future household food security outcomes. The study found that about 93% of total households depend on their salaries for living and 70% work as a government employee, thus many households are becoming more and more dependent on support from the government, such as government salaries and subsidies. For example, SSN and ABS have extremely decreased by time t+1 and time t+2. The result clearly shows that the mean for all indicators has rapidly decreased during the conflict times. More than the half (64%) of the households had access to their salaries on time at time t, but during time t+1, this percentage decreased to 17% and only 7% of the total number of households were able to access their salaries at time t+2. Furthermore, access to

withdraw money from banks in time t was almost 67% of the total households in the survey areas. However, during time t+1, there was an obvious decrease in this service where about 12% of the total households could withdraw their money from the bank at the time they needed it during time t+1, and only 4% of total households could access their salaries in time t+2. Overall, bank service has become much worse since the conflict started.

- The regression result indicated that the likelihood of food security being food secure or not (assuming value 1 for resilient and value 0 for not resilient) shows a significant effect of factors particularly NC, FC and SC were more statistically significant. This is because most Libyan households depended on financial saving and salaries on their livelihood options. Most remarkably, model 3 in table 5.15 showed the best result based on several important performance criteria and that it is also the most appropriate for the research purposes. It was demonstrated that food security in a conflict-affected country, such as Libya, commonly depends on assets such as household financial capital, social capital and natural capital. Therefore these are an essential component of household food security resilience as it ensures food security by providing adequate government services and supplies to households, of course, if the conflict ended first.

In the next chapter, further discussion on the research results compared with the literature are provided.

Chapter Six

Discussion

6.1 Overview

In this chapter, a discussion of the factors that affect household food insecurity resilience in an area of protracted conflict influence is presented. A comparison of the results is given with the wider literature. This will include a discussion on each of the factors within the analytical framework proposed in Chapter Two. Then the implications of the findings for conflict-affected countries and lessons from Libya are highlighted.

6.2 Factors Affecting Household Resilience – Comparison with the Literature

According to the conceptual framework (Chapter Two section 2.4), several factors were considered for their effects on household resilience. These were: exposure and sensitivity to conflict, five types of household assets, household coping strategies, social safety nets, and access to basic services. These factors were also documented in many previous studies (Alinovi et al. 2010; Pretty et al. 2010; Brinkman and Hendrix 2011; Leichenko 2011; FAO RIMA approach 2016; Fan et al. 2014; Tendall et al. 2015; Rothwell et al. 2015; Charlton 2016; Dhraief et al. 2019). In the following sub-sections, the findings of this research on each of these factors with the literature are presented.

6.2.1 Exposure and sensitivity

This research identified several aspects of exposure and sensitivity (ES) to conflict. These were: household members were injured or became ill, household lost members, household faced asset damage, household faced livestock damage, household members lost a job, as well as household, household had sick and disabled members, household had old members and household had children in education. These ES indicators are well-documented in the literature (Frankenberger 1992; Arunatilake et al. 2001; De Haen and Hemrich. 2007; Justino 2013; Sneyers 2017; Martin and Stojetz. 2019).

However, this study identifies some new ES indicators unique to conflict contexts. For example, households were concerned about life and children suffered from psychological trauma during the conflicts, these were the most common indicators in the conflict context like Libya. Most of the existing studies identify ES indicators from socio-economic factors,

economic loss, climatic shocks and disasters disaster such as floods, drought, storms (see Bohle et al. 1994; Maxwell 1996; Cohen and Pinstrup 1999; Bickel et al. 2000; Del Ninno et al. 2003; Eriksen and Silva 2009; Gray and Mueller 2012; Pangaribowo 2012; Jewitt and Baker. 2012; Loopstra and Tarasuk 2013; Chilton et al. 2014; Krishnamurthy et al. 2014; Sohnesen 2019).

Results from the 'qualitative' phase indicated that these ES factors had negative impacts on household food security. For example, many households in the study areas claimed that they were subjected to severe financial, physical, and natural damage, such as loss of jobs, livestock and damages to household assets. Furthermore, there were some households with members suffering from health problems which affected their ability to withstand the stresses and shocks caused by conflicts; for example, one household with sick members had to spend money on medicine from Tunisia that affected their food security. This was consistent with the literature (Maxwell 1996; Bickel et al. 2000; Loopstra and Tarasuk 2013). However, during the 'quantitative' phase, ES did not show a statistically significant effect on household resilience against food insecurity. A probable reason could be that the index did not include all the possible ES indicators, i.e. there may be many other indicators. All households in the sample were almost equally exposed to the conflicts, i.e. there was little variability in the data. The possible link between ES and resilience is not clearly established in the literature, although ES is found to affect 'food security' (Eakin and Bojorquez 2008; Miller and Rasmussen 2010), it is not clear if ES also affects 'resilience against food insecurity' over time.

6.2.2 Household assets

Household assets were investigated in this research, including natural capital, physical capital, financial capital, human capital and social capital. Below, a comparison of the results of this investigation regarding each of these assets with the literature is given.

Natural capital

The natural capital investigated in this study included land, livestock and wells. The results of the regression analysis confirmed that household natural capital during the time of conflict (time t+1) had a statistically significant effect on household resilience at the time of data

collection (time t+2). However, this effect was found only for the model in which food security was measured as FCS (see Table 5.15 Chapter Five). This finding is consistent with the literature. For example, the role of lands and livestock in food security is well documented in the literature (Olson 1999; Turner et al. 2003; Carter et al. 2006; Stephens et al. 2012; Olte et al. 2019; Manlosa et al. 2019). However, this study revealed that livestock, including sheep, goat and chicken were the 'most important' natural capital for Libyan households since these indicators had the highest loadings on the natural capital index (see Table 5.6 in Chapter Five). This is expected since in Libya, livestock plays a crucial role in people's livelihoods. This is because a significant part of Libya is formed of mountains and deserts, and thus is not very suitable for crop-based agriculture.

The study is in line with those who found conflict had reduced livestock ownerships (Olson 1999; Turner et al. 2003; Carter et al. 2006; Stephens et al. 2012; Olte et al. 2019; Manlosa et al. 2019). Although many previous studies identified the role of livestock in reducing the vulnerability of households to shocks (Hendrickson et al. 1998; Thornton et al. 2007; Megersa et al. 2014; Marshall et al. 2018; Alonso et al. 2019), no study quantified their relative importance. This study, therefore, contributes to the literature.

During the qualitative phase, this research also found some natural capital unique to the Libyan context. An example is natural capital: water wells. It was found that 112 households (35%) out of the total 320 households in the sample had water wells during the data collection time compared to the pre-conflict time (time t) and during the conflict (time t+1) this was 29%, thus showing a 6% increase. The wells were important for household income and food security as the water was transferred to homes for domestic use and was also sold to others. Many authors suggested that water wells were important in Libya and most of the sub-Saharan region (Saad et al. 2011; Abughlelesha and Lateh 2013). However, no previous study tested the effects of this natural capital on household resilience against food insecurity. Most studies were conducted in a non-conflict context. Therefore, this study contributes to the literature by confirming the effect of household natural capital in a conflict context.

Physical capital

Previous studies found a significant correlation between physical capital and infrastructure on household food security (Grootaert and Swamy 2002; Mbukwa 2014; Green and Haines 2015). These studies, however, did not test the effect on food security 'resilience' over time.

In Libya, the most important physical capital was identified as houses, building, cars, and electronic devices such as TVs, radios, computers, internet, and mobile phones. These assets were important for food security. For example, during the qualitative phase, it was found that most households used their cars to go to markets to buy their foods because the public transport system was poor and unsatisfactory during the conflict time. Furthermore, the study found that most households owned telecommunications devices, such as mobile phones, computers and internet networks. These allowed better access to news and market information in terms of food availability and other information. These results support Rakodi (1999) and Yusuf (2008) who suggested that these sources can play a significant role in helping households during stress times to find out what is going on around them and also to learn about some kinds of food, such as inquiring about foods that sometimes disappear from the market and also cut down on travelling frequency — thus saving time for other activities.

However, no significant effect of physical capital on household food security resilience was found from the regression analysis. A possible reason may be that the assets did not vary much between the sampled households in this study (e.g. most of them had cars, TVs, houses, phones and internet). Another reason may be that physical capital was not as significantly related to food consumption or accessibility during the conflict times as natural and financial capitals.

Financial capital

Concerning financial capital in Libya, it was found that salaries from jobs were an important financial capital. Over 90% of the household heads had salaries at the time of data collection t+2 (see Table 5.9 in Chapter five) and the households depended hugely on those salaries to buy food. This observation is consistent with (Kiewisch 2015; Mutabazi et al. 2015; Sharaunga et al. 2016).

Another important observation was the positive role of spouses' (wives) income which is not well-documented in the literature. This indicator had the highest loading/weight (0.688) in the financial capital index (see Table 5.7 in Chapter Five). This research revealed that women's participation in economic activities rapidly increased from 19.7% in the pre-conflict time (time t) to almost 22% in time t+2 (time of data collection). This was because many of the spouses (wives) in the sampled households started working after the conflict had started. Their income helped the family, especially when the husband's salary was not enough

to meet the food needs of the households.

Regression analysis confirmed that financial capital had a positive effect on household resilience against food insecurity during the conflict time (time t+1) (see Table 5.15 Chapter Five). This significant effect was observed for both models – the model in which food security was measured as FCS and as HFIAS. This finding is consistent with many authors who suggest that household financial capital is an important factor for the ability of a household to withstand unforeseen events, such as conflict (Cattermoul et al. 2008; Misselhorn 2009; Sharaunga et al. 2016). The results also seem to be consistent with other research that found that households with low income and savings were more likely to be vulnerable to shocks and stress and enter into food insecurity (Gundersen and Gruber 2001). The study is in line with Cattermoul et al. (2008) who found that income and financial resources were the most significant resource for households. This resource can be converted into other types of capital that provide people with livelihood options and enable them to maintain a certain level of wellbeing. These studies, however, were conducted in a non-conflict context. Therefore, my study contributes to the literature by confirming the effect of household financial capital in a conflict context.

This study identifies the importance of multiple sources of income, for example, the income of both husbands and wives within a household. Other studies also reveal a similar finding, although not exactly the same as this study. For example, alternative income sources were identified as necessary for resilience against the conflict in vulnerable pastoralist and agro-pastoralist regions (Fan et al. 2014). Similarly, Sharaunga et al. (2016) found that increased access to different sources of income was vital for household resilience and it reduced the risks of food insecurity during times of sudden shocks. Kiewisch (2015) also points out the importance of multiple income resources for a household's ability to deal with shocks. This study revealed that spouses' income had the highest contribution to household financial capital since this indicator had the highest loading. No previous study was found that identified such high importance of spouses' income in household resilience against food insecurity. Therefore, this is an important contribution to the literature.

Human capital

Some human capital indicators were found to be important in Libya, such as the education level of household heads and members, the level of skills and training and the ability to work.

During the qualitative phase, the importance of those factors was evident. Many households said their education was important for securing jobs and income (see section 4.5.3 in Chapter Four).

Light (2004), cited that household human capital can be transformed into financial capital and vice versa. However, regression analysis did not reveal a statistically significant effect of human capital on household resilience against food insecurity. This finding was in contrast with the literature (Misselhorn 2009; Qureshi et al. 2015). A reason why the human capital index was not significant could be that human capital did not vary much between the sampled households in this study with most of the households (63%) having the same level of education, which is the undergraduate level (see Table 5.8 in Chapter Five).

Social capital

Three types of social capital – bonding, bridging, and linking – were investigated in this study. During the qualitative phase, it was found that these social capitals played an important role in household food security. Many households mentioned that they had excellent bridging and bonding relations. For example, neighbours, friends and relatives cooperated in donating or borrowing food and money with each other during the conflict time. This included free food distribution across many households (see section 4.5.3 in Chapter Four). Regression analysis also confirmed that social capital in the pre-conflict time (time t) had a significant positive effect on household resilience in the time of the major conflict (time t+1) (see Table 5.13 in Chapter Five). This finding is in agreement with many authors who suggest that social capital is important for household members to access jobs and foods (Rakodi 1999; Carney 1998; Rakodi 2014) as well as for household resilience (Grootaert 1999; Woolcock and Narayan 2000; Hanazaki et al. 2013; Lamidi 2019; Gebrekidan et al. 2019). Social capital in many previous studies is an auxiliary factor in supporting food security for households (Martin et al, 2004; Nombo and Niehof 2008; Tolossa 2009; Smith and Frankenberger 2018).

Unexpectedly, however, social capital at time t+1 (time of the major conflict) revealed a significant negative effect on household resilience against food insecurity in time t+2 (time of data collection). This was found in both models, i.e. for both FCS and HFIAS (see Table 5.15 in Chapter Five). This is in contrast with the literature (Ledogar and Fleming 2008; Nombo and Niehof 2008; Alinovi and Romano 2009; Hayhurst et al. 2013; Fan 2014; Pelletier et al. 2016; Smith and Frankenberger 2018), which suggests that social capital plays

positive roles in food security and resilience of households. Two best explanations for this variation in findings could be that the literature did not consider social capital in the context of conflict. Firstly, the findings of this research suggest that in a conflict context social capital may have a negative role. This is because of a household's connection with others increases its burden of responsibility due to increasing in households who become suffering from food shortages. Consequently, the household may have to share its income, foods, and shelter with its neighbours, friends, relatives and others. In particular, in Libyan society, such a norm is quite common. As a result, households with strong social capital may, in fact, be less resilient in terms of food security during a conflict time.

Secondly, another explanation of this result is that many social relations were negatively affected by conflicts and weak social cohesion as a result of wars. Some households mentioned that during the interviews that less solidarity and disintegration of social ties that appeared between tribes and households in Libya, this is almost exceptional in the Libyan case where each household is related to tribe. For example, many regional and tribal struggles emerged which let to disintegration social solidarity between people as many Libyan people became interested in their affairs only without thinking about helping others. Libya is one of few countries in North Africa that still maintains its tribal style and character very significantly, as the country is divided into cities and areas inhabited by most people belonging to one tribe. The study can conclude that when social capital decreased household food insecurity increased.

This is an important finding since the literature overwhelmingly identifies social capital as a positive factor. However, this study suggests that this may not be the case in a conflict context.

6.2.3 Coping strategies [9]

This study has identified 33 types of coping strategies during the qualitative phase, which could be grouped under eight categories – including food compromising, assets compromising, change generation activities, borrowing, budgeting, rely on food aid, strengthen local

[9] A part of this section has been taken from a paper of mine that has been accepted for publication in the journal Development in Practice.

cooperation and migration. Some of the coping strategies identified during the qualitative phase (see Chapter Four Table 4.2) were dropped during the quantitative phase to reach 21 coping strategies. This is because those coping strategies were adopted by ≥95% or ≤5% of households; hence, they were removed from the analysis. Descriptive statistics and weights of each type of coping strategies are provided in Chapter Five Table 5.10.

The food compromising strategies identified in this study were: cutting down meal size, eating traditional food more frequently, reducing fruit and salads from the meal, reducing the consumption of preferred animal proteins, relying on less expensive and preferred foods and adults eating less than usual to feed children. This study has identified similar coping strategies within the Coping Strategies Index (CSI) used by international institutions, such as the World Food Program (Maxwell et al. 2003). Furthermore, most of these coping strategies were identified by other studies (see Shariff and Khor 2008; Tandon 2014; Poelman et al. 2014; Farzana et al. 2017; Smith and Frankenberger 2018). With regards to previous studies conducted in other countries that faced conflicts, these showed that households applied rationing strategies when faced with food insecurity. Some studies established that households reduced the number of meals eaten per day and ate meals without salad or fruit as a coping mechanism (Shariff and Khor 2008; Djogbenou and Abidjan 2015; Farzana et al. 2017). This study also highlighted the fact that Libyan households adopted the same strategies.

The most commonly used coping strategy was decreasing the amount of food bought over time for most households; in this research, this was true except for the lower conflict-exposed households. However, in this study coping strategies such as giving children adult's milk to drink and eating more traditional food during the conflict, were found as new coping strategies, which others did not find.

Assets compromising strategies identified in this study were: selling land, selling livestock, selling jewellery, selling property and using financial savings. These findings are directly in line with previous findings regarding assets-compromising strategies, such as, most commonly, households selling their assets as a coping strategy against the conflict in Libya. Kelman et al. (2016) assert that the immediate environment of the natural and physical resources surrounding a household play a role in determining household coping strategies and affect their ability to conduct any particular coping strategy. This is true, however, in this research, asset compromising strategies depended on the degree of exposure that a household

faced; then the coping strategies were taken to mitigate against the loss of household income caused by the conflict. For example, it was common for households to sell their assets as a response to the conflict in order to get food (Rashid et al. 2006; Grobler 2014; Knight et al. 2015; Farzana et al. 2017; Smith and Frankenberger 2018). The similarity between these studies and the Kelman's research is that households who do not have large assets were more vulnerable to food insecurity than households that have assets at times of distress.

The result was largely in line with the findings of WFP (2016) on food security assessment in Libya. The most common coping strategies were spending savings on food. A study conducted by Berman et al. (2015) found that households rely less on savings as a direct coping strategy for climatic hazards. Similarly, Del Ninno's (2003) explored household coping strategies in Bangladesh after the food security crisis following the 1998 floods. However, the results of this study indicate that many households relied on their savings as a direct coping strategy during a time of conflict. Therefore, the drivers for households to undertake the coping strategies were diverse.

Changes to income generation activities strategies identified in this study were: smuggling food from neighbouring countries, youth joining the army to get money to meet household expenditure, starting a new private business, start working on family land to produce food, starting a part-time job and wives starting a new job.

A similar pattern of results was obtained by Tusiime et al. (2013) who found that the conflict has strongly influenced many households to seek new jobs and look for opportunities to make money due to two important reasons: the loss of their previous jobs as a result of the conflict or insufficient salaries to cover household expenses. The households in Libya often found additional jobs or part-time jobs to generate some supplemental income and buy food. This was also similar to previous studies that mainly focused on food insecurity in conflict-affected countries (Tusiime et al. 2013). This study, however, was contrary to previous studies who found that one of the coping strategies to prevent the situation of food insecurity was to send some household members to eat outside the house or relying on fishing to provide food (Maxwell et al. 2003; Senefeld and Polsky 2006; Mjonono et al. 2009; Gupta et al. 2015). In contrast, these strategies were not present in the Libyan context.

Eriksen et al. (2005) established that gender could also be a key driver in household decisions regarding coping strategies. However, in this research there was no evidence of a gender role

being especially essential or leading the household's coping strategies; however, it is noticeable that in the Libyan society, women depend on men in many cases or rather, women do not have a range of freedoms to take decisions at home compared to men, such as the traditional absence of women's participation in some kinds of work. Nonetheless, this research found that in a protracted conflict country, women gained more freedom and engaged in various jobs which are new or were not practised in the past. A strategy such as sending some household members outside the house to beg was found in previous studies (see Maxwell and Caldwell 2008; Crush 2013; Rademacher et al. 2014; Farzana et al. 2017). However, this was not found in Libya.

The study found some unique coping strategies to conflict contexts, such as joining the army and militia groups to earn money, as well as engaging in weapons sale for cash (see Chapter Four section 4.5.4). These negative coping strategies, if unchecked, may create vicious cycles of conflicts and food insecurity. The existing literature on conflicts and food insecurity do not seem to adequately focus on the mediatory role of coping behaviours within the conflict-food insecurity nexus as also found in other countries (see Justino 2012). This is an important message from this study. Therefore, there is a need to add these findings to existing coping strategies tools, such as the Coping Strategies Index (CSI) used by international institutions, including the World Food Program (WFP) (Maxwell et al. 2003).

Budgeting coping strategies identified in this study were: buying less food, began planning for expenses and home budgets, households cut down on unnecessary items to buy food. A similar result was obtained by (Shariff and Khor 2008; Kruger et al. 2008; Tandon 2014; Poelman et al. 2014; Farzana et al. 2017; Smith and Frankenberger 2018). In the Libyan context, this coping strategy resulted in a reduction of household food waste. The result was largely in line with the findings of WFP (2016) on food security assessment in Libya. The most common coping strategies were followed by reducing non-food expenses on health and education.

However, a positive strategy was found in this study is reducing the number of foods purchased for household consumption. During the pre-conflict period, Libya was an affluent country with a wasteful culture (as can be seen now in many Western societies). At that time, most households used to buy excessive quantities of food, more than was necessary for their households. This excess food in most cases was wasted (e.g., dumping in rubbish bins and landfills) or given to the poor as a donation "Zakat" during the pre-conflict period, however,

most households tried to avoid food wastage during conflict periods. Therefore, this is an important contribution to the literature.

Borrowing coping strategies identified in this study were: borrowed agricultural tools instead of buying them, borrowed food from friends and relatives, borrowed money from friends and relatives, bought food by cheques instead of cash, bought food on credit. Previous studies on household coping strategies found an important association with borrowing food and money. This result ties well with previous studies where many households adopted this strategy in order to maintain food security during the conflict, especially when the banks were closed or when there was no money in the banks. Frankenberger (2012) found that, during food insecurity, households tended to borrow money from friends and relatives, sell assets to get cash and purchase food. This study has verified that households in Libya produced similar coping strategies by purchasing food on debt; food was also used by 11% of the total households at time t, 48% at time t+1 and 42% at time t+2. In addition, households increased dependence on borrowing food from friends and relatives from 4% at time t to 34% at time t+2 (see Table 5.10 in Chapter Five).

Strengthening local cooperation activities strategies identified in this study were: cooperating within the family, neighbourhoods and tribe, women neighbours sharing foods, and relying on social networks during the conflict period. These results go beyond previous reports, showing that households depend on support from relatives and friends during the period of food insecurity (Maxwell et al. 2008; Khemili and Belloumi 2018; Smith and Frankenberger 2018). In Libya, the tribe and the clan represent a social umbrella for the households. Most of the families explained that they depend on elders and tribal leaders in solving their problems that have arisen during the conflict, whether it is household food problems or other problems such as disputes between individuals over land. Regarding the strengthening of social relations and solidarity during the conflict, a similar conclusion was reached by this research. For instance, many households indicated that they relied on the strength of the social bond between them and their relatives, neighbours and friends, as well as their tribes and affiliations.

Relying on food aid coping strategies also identified in this study such as; receiving food aids from friends, neighbourhoods and tribes and receiving food aid from FAO, WFP and NGOs. A similar pattern of results was obtained by (Maxwell et al. 2003; Lentz et al. 2005; Senefeld and Polsky 2006; Drysdale et al. 2019).

Migration coping strategies identified in this study were: migrating temporarily within and outside Libya and permanently migrating within Libya. Other results are broadly in line with the findings of this research on migration as a coping strategy adopted by households during times of conflict (Maxwell et al. 2003; Konseiga 2006; Gupta 2015). For example, Snel and Staring (2001) stated that households commonly make the migration decision, even in non-conflict times, in many developing countries. Many of the previous studies found that households adopted migration to seek work or a good wage, while this study showed that immigration was only made under high exposure to conflict and fear of life. In Libya, however, there were two types of migration found during the conflict: temporary and permanent migration. These primary findings were consistent with research conducted by Abdulla (2015) showing that households commonly used temporary migration as a coping strategy – relocating to areas less affected by conflict or to areas considered safer. However, in Libya, this was the household's last choice, and this choice was made only under extremely compelling conditions.

However, regression analysis did not find a significant effect of coping strategies on household resilience against food insecurity. The reason could be that all households in the sample were almost equally applying the same coping strategies against conflicts, i.e. there was little variability in the data.

6.2.4 Social Safety Nets (SSN)

The Social Safety Nets (SSNs) found in Libya were mainly government sector food aids and subsidies provided by the previous government to protect low-income Libyans from poverty and hardship, as well as filling the gap between wealthy and poor households (Al Qaddafi 1980).

During the qualitative phase, it was found that those SSNs were crucial for food security for many households in Libya. These results are in accord with other studies (Dercon 2002). These results also agree with Devereux's (2002) findings which showed that food aid to poor households can be beneficial for a household's food security and income generation.

However, regression results did not reveal any significant effect of SSN on household resilience against food insecurity. This was in contrast with the resilience literature (Maxwell

et al. 1999; Barrett 2001; Besley et al. 2003; Alinovi and Romano 2009; Rahmato et al. 2013; Devereux 2016; Narayanan and Gerber 2017; Sabates and Devereux 2018). A reason for such contract could be that the sample used in this study was not a typical random sample. It was also a relatively small sample. As a result, there was little variability in the data (Martyn and Belli 2002).

6.2.5 Access to Basic Services (ABS)

Several ABS factors were identified as crucial for food security during the qualitative phase. Access to financial services of local banks was the main factor including the household ability to obtain salaries on time from the bank, household ability to withdraw money from banks on time, availability of security deposits in the bank, availability of foreign currency in the bank when needed.

It was confirmed by Le Billon (2001, 2013) that in an armed conflict situation, any country is expected to experience an economic crisis, which might be characterised by a drop in the value of the local currency or a severe liquidity shortage, which leads to difficulties to obtain salaries on time. These findings were very similar to Abdou and Zaazou (2013) result in Egypt confirming that bank service such as withdraw money, access to salaries, access to foreign currency and security of the deposit in the banks have become much worse during the conflict times.

With respect to ABS, found in Libya was mainly bank services (see Chapter Five section 5.3.5). This service was significantly dropped between three times of data collection due to the conflict's effect on the banking sector in Libya.

However, regression results did not reveal any significant effect of ABS on household resilience against food insecurity. This was in contrast with the food security and resilience literature (Alinovi and Romano 2009; Gukurume 2013; Strachan 2014; Toth et al. 2016; Blum and Rogger 2018). A possible explanation could be that ABS index scores did not show much variation between the resilient and non-resilient households. The index did not include all the possible ABS indicators, i.e. there may be many other indicators.

6.3 Implications of the Findings for Conflict-Affected Countries Like Libya

This findings of this study provide important lessons for policy-makers, international organisations, such as WFP and FAO, who work for developing and improving food security in Libya and the MENA region, as well as in other conflict-affected areas.

Although the exposure-sensitivity variable was not found to be significant in regression analysis, the results of the qualitative phase indicate their importance in household food security. These findings suggest that, in a conflict zone, there is a need to protect households with special circumstances, for example, households with sick or elderly family members and children.

The effects of the assets provide valuable lessons. For example, the significant, but negative effect of social capital can provide one such lesson. Looking into the social capital index, it is obvious that, helping others during the conflict had the highest weights on the social capital index. This means that those who had to help others became more food insecure. It suggests the need for continued external support from aid institutions during an ongoing conflict so that households have lesser burdens of sharing their resources with others.

Results regarding the role of natural capital suggest that there is a need to protect not just humans, but also people's livestock during conflict contexts. This may require building or promoting livestock services and livestock shelters. The significant effects of financial capital, on the other hand, suggests the need to create employment opportunities for people in conflict-affected areas. This support, however, should not be only for males. As this study suggests, the income of spouses (wives) can play a crucial role for the household to be resilient against food insecurity. It is therefore important to support job creation for women as well. Related to this is the need to improve banking services in conflict areas such that people could draw their salaries on time.

Although the coping strategies index variable was not statistically significant, the coping strategies identified during the qualitative phase provide useful lessons to be learned for food security assessment and interventions from a study of household coping strategies in conflict contexts. From this study in conflict-affected Libya, it was found that the food compromising strategies adopted by the households are very similar to those identified in non-conflict

contexts and can be found in coping-based food security assessment tools like the CSI and the HFIAS. Similarities can also be found in asset compromising, change in income generation activities, budgeting and borrowing, relying on food aids, the use of local norms of cooperation (social capital), and migration. Although not all of these measures were directly related to consumption problems, they did have implications for household food security. Currently, tools like the CSI/HFIAS include food-related coping behaviours only and thus are limited in their ability to provide a comprehensive account of the behavioural responses that may signify food insecurity.

This study reinforces the importance of identifying locally appropriate coping mechanisms in food security assessment, as suggested by the proponents of coping-based tools like the CSI (Maxwell and Caldwell 2008). Some coping mechanisms in Libya, such as switching to traditional foods like Bazin, the use of tribal-based cooperation, and reducing food waste, were not previously identified in the literature. Likewise, some of the strategies reported in the literature, such as going entire days without eating, sending some household members to eat outside the house, begging, gathering wild food, relying on fishing or hunting, harvesting immature crops, and permanent migration, were not found in Libya (Crush 2013; Farzana et al. 2017; Maxwell and Caldwell 2008; Rademacher et al. 2014). A reason could be that these coping mechanisms were identified mostly in countries less wealthy than Libya[10]. Moreover, Libya did not have livelihoods based on hunting and gathering, which can be found in many low-income African countries. This reinforces the criticism that coping-based tools may not be cross-culturally compatible (Haysom and Tawodzera 2018), raising the need to develop locally appropriate, country- or region-specific tools.

The Libyan study also suggests that coping strategies in conflict-affected areas can be both negative and positive in terms of their potential long-term impacts on household welfare. For instance, measures like the selling of productive assets could be harmful to a household, but measures like allowing women to work outside of the home, starting work on family farms to produce food, and reducing food waste, are likely to have positive effects on household income and food security. Many oil-rich MENA countries like Libya, for instance, have historically relied on their oil money to buy foods from overseas at the neglect of developing

[10] For example, in 2017, the GNI PPP was $19,960 in Libya compared to $3,250 in Kenya, $4280 in Ghana, and $1820 in Uganda, and $4,040 in Bangladesh (see the World Bank database at https://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD)

their own agriculture and food systems. Agriculture in those countries has been relegated to a neglected profession and carried out through migrant workers from poorer African countries. In such a context a refocus on family farms and the development of agriculture can help enhance the resilience of households against potential shocks. The same can be said about the importance of empowering women, developing them as a valuable workforce, and recognising their valuable contribution to family welfare. In most previous studies, however, such positive aspects of coping strategies have been ignored. The findings of this study, therefore, raise the need to accommodate the unique coping strategies found in conflict-affected areas into the existing tools, for example, the CSI. In such measures, a reverse weight system can be used for positive coping strategies.

Another important message from this study is that certain types of coping mechanisms, such as joining militia groups and engaging in weapons sales, are unique to conflict contexts, as also found in other countries (see Justino 2012). These negative behaviours, if unchecked, may create vicious cycles of conflicts and food insecurity. The existing literature on conflicts and food insecurity (reviewed in section 6.2.3) do not seem to adequately focus on the mediatory role of coping behaviours within the conflict-food insecurity nexus. Neither do coping-based tools like the CSI/HFIAS include these unique behavioural responses as indicators of food insecurity. There is, therefore, a need to develop 'conflict-sensitive' CSI tools in food security assessment and monitoring. The findings also suggest the need to create alternative employment opportunities, especially for young people, in order to break conflict-food insecurity cycles.

This study also identifies other issues in relation to quantitative metrics like the CSI/HFIAS. Although both tools are intended to capture the consumption not only of food quantity but also of food quality, the latter is assessed in terms of the consumption of 'preferred' foods (Coates et al. 2007; Maxwell and Caldwell 2008). This can be problematic because a food may be culturally preferred, but nutritionally poor. For instance, eating lamb meat (or any red meat) frequently may not be nutritionally appropriate from a health perspective, but for the respondents of this study, lamb meat was a preferred food and a reduction in its consumption (e.g. by switching to poultry meat) equated to stress. Likewise, store-bought bread was more preferred than local bread like Tanur. Such a choice can be questioned from food quality and nutritional point of view, given the overwhelming evidence worldwide of the poor nutritional quality of store-bought or processed foods. It is appropriate then to

consider such behaviour as indicators of food insecurity.

Another crucial issue is the 'sole emphasis' in both tools on 'lack of money or resources' as motives for food-related coping; for instance, in both tools, the respondents are asked what they do when they do not have enough money or resources to buy foods. Although, there is a strong theoretical basis to focus on assets/resources – for example, according to the entitlement, livelihoods and capability related theories (Chambers and Conway 1992; Sen 1981) – this study shows that such a focus may not be adequate. As this research has found, the adoption of a coping behaviour may not always be due to a 'lack of money or resources'. For example, the main driver of using adult milk as baby food and food smuggling was a food supply shortage in the market caused by conflicts, such as road blockages by militia, disruption in imports due to bombing of airports, the siege on cities and so on. Considering monetary or resource-related stresses only, whilst ignoring such violence, may provide a partial, or even distorted, picture about food insecurity in a conflict context.

While this study identifies important lessons for improving coping-based measurement tools and metrics, it encourages the assessment of the usefulness of the very language of 'coping', which seems to undermine people's resistance, resilience, and agency. For instance, faced with income shortfalls, many Libyan households broke out of tribal traditions and allowed women to undertake unconventional employment. Shall this be considered as a sign of food insecurity or a sign of social progress? Questions can also be raised about other behavioural responses, such as a shift away from wasteful food culture and a motive for migration unrelated to hardship or consumption problems. Quantitative measures like CSI/HFIAS also tells nothing about the violence and suffering that households in conflict zones encounter, as has been described in this study. Therefore, this research concurs with Davies (1993) who has cautioned about the shorthand use of the term 'coping strategies' in famine early warning systems, policymaking, and planning. According to Davies (1993), the term may convey a misleading idea that people merely cope, i.e. get by somehow. The author also cautions that reinforcing coping strategies in food security interventions may trap people permanently in coping mode. The language of 'coping' may also make it immensely difficult to identify patterns of behaviour that could reliably be used to assess and monitor food-related stresses only.

This, in turn, can make coping-related data collection, analysis, and interpretation extremely difficult. As this study shows, many of the behavioural responses in Libya were not

necessarily in response to food consumption problems only. Rather, they were related to overall household welfare and driven by diverse and complex motives. This research also questioned the usefulness of the term 'strategy', since many of the coping behaviours that the Libyan households displayed were 'compulsions' rather than 'strategies'.

Despite such limitations, the use of short-cut, quantitative tools continue to prevail in international development intervention due mainly to satisfying donor demands for more rigorous impact measurement in which organisational learning is of secondary importance (Lewis 2017). In order for food security assessments and interventions to be more effective, it would be desirable that such a culture of short-cutting is changed and more emphasis is placed on understanding people's suffering, resilience, and agency.

Perhaps, the most important conclusion that can be derived from this study is that food insecurity in conflict contexts cannot be resolved by focusing only on agricultural development or providing short-term food aid and relief, such as the ongoing works of the WFP and the FAO in the conflict-affected regions of the Middle East and North Africa[11]. Whilst, the importance of such support cannot be underestimated, it is also important to create alternative employment opportunities for the youth and women, resolve violent conflicts between warring parties, and build or improve the governance and law enforcement capacities of the government.

More importantly, unpacking the links between food insecurity and conflict helps for dealing with the problems. For instance, it is critical to breaking the vicious circle, especially in ongoing conflict areas. Food aid is the standard instrument used to limit immediate food insecurity in conflict-affected countries. However, food aid cannot help provide everything with a better context for resolving other issues of social discontent. For example, food aid will not assist in a better transition to longer-term stability, which can exacerbate conflict under some situations, and when used poorly regularly, it can also exacerbate some of the root causes of social discontent. In some conflict countries, the focus needs to be on offering new job opportunities and agricultural production growth assistance to vulnerable people rather than giving food and repeating the same tools for a long time in different places.

[11] Examples of the ongoing works of the WFP in Libya can be found at http://www1.wfp.org/countries/libya and those in Syria at http://www1.wfp.org/countries/syrian-arab-republic. The works of the FAO can be found at http://www.fao.org/emergencies/crisis/syria/en/

The research has established that local government and NGOs agencies also promote food security in Libya but with limited impact. More government support and work in food and resilience development are needed to address the food insecurity challenge in Libya and other North Africa countries.

While the prevailing food insecurity situation in Libya may be hard to change in the short term due to protracted conflicts, there are many resources in Libya which can be harnessed to address food problems. Furthermore, if the policymakers change their perception of the causes of food insecurity and households to secure adequate support from the government and other development actors, a resolution can indeed be found.

The study concludes that the factors that affect household resilience in its current level (e.g. current time according to household food consumption and accessibility) is a desirable thing in the first place.

In conflict countries like Libya, the focus needs to be on stopping the war and supporting the democratic transformation, as well as offering new job opportunities and agricultural production growth assistance to vulnerable people rather than giving food and repeating the same tools for a long time.

6.4 Summary

This chapter aimed to discuss the findings of this study with linking and comparison to the literature. It has highlighted the main similarity and differences to the previous studies concerning household food security and resilience at different locations and contexts worldwide. The chapter began by explaining the findings on the factors affecting household food security and resilience with reference to the possible indicators, weighting, percentages of the factors were measured. The results were compared to literature and the contributions to the literature were cited. Following on from this, the implications of the findings for conflict-affected countries such as Libya have been discussed.

The next final chapter (Conclusions) will start to summarise the important points of the research framework, the method used, main findings of this research, as well as the evaluation of the methodology and the suggestions for future studies.

Chapter Seven

Conclusions

7.1 Overview

Global food insecurity continues as a huge problem for many development and institutions in the world. Nowadays over 820 million people are hungry which corresponding to about 1 in every 9 people in the world (FAO et al. 2019).

The conflict has been identified as one major factor for food insecurity particularly in the MENA including Libya (Brinkman and Hendrix 2010; Justino 2013; FAO et al. 2018; Brück et al. 2019; Ujunwa et al. 2019). It is, therefore, important to know how to overcome this problem.

Resilience building has been identified as a strategy by many development institutions around the world to address this challenge and improve food security in conflict-affected areas (Barrett and Headey 2014; Breisinger et al. 2014; Ciani and Romano 2014; Fan et al. 2014; Dhraief et al. 2019). Most of the resilience literature based on the ecological system, climate change, natural disaster, poverty, population growth, economic slowdown, and political issues (Holing 1973; Carpenter and Cottingham 1997; Gunderson 2000; Drever et al. 2006; Evans 2011; Nelson 2011; Holing and Gunderson 2012; Lewis et al. 2014; Fuchs and Thaler 2018; Palmer et al. 2016; Van de Leemput et al. 2018; Oulahen et al. 2019). However, little was empirically known about what makes households resilient against food insecurity in areas of protracted conflicts. Hence, in this thesis, I explored this question based on research in Libya.

Depending on a variety of literature, such as the Sustainable Livelihoods literature, I developed an analytical framework. This framework defined resilience as the ability of a household to maintain an appropriate level of food consumption (access) during conflict times. The study found that household ability to be resilient would depend on nine factors: exposure-sensitivity to conflicts, five types of assets (natural capital, physical capital, financial capital, human capital and social capital), coping strategies, access to basic services (ABS), and social safety nets (SSN).

As explained in the methodology chapter this research used a mixed-methods approach (qualitative and quantitative). To understand the contexts in Libya the qualitative phase was conducted, including the nature of the conflicts and its effects on household food security; the nature of assets important in Libyan context; the strategies households used to cope with

conflicts and food insecurity; and the nature of the SSNs and ABS relevant to Libya. The study firstly adopted semi-structured interviews, as well as field observations and conversations to gather more information on household food security and conflict from three regions in Libya, namely Alzintan, Tobruk and Sabha. The data were analysed qualitatively using the NVivo software.

The findings from the qualitative phase were then led to the design of the quantitive part of the research. In the quantitative phase, survey data were collected from a sample of 320 households from seven different areas in Libya, namely Al Zintan, Sabha, Tobruk, Az-Zawiya, Alruhaibat, Alrujban and Al Marj. A structured questionnaire was used in data collection. The questionnaire data were analysed using the software SPSS versions 25 and 26. Food security was measured using two tools; the Food Consumption Score (FCS) and the Household Food Insecurity Access Scale (HFIAS). Index scores were created for both FCS and HFIAS according to the guideline in the literature.

Two main types of household resilience have been identified in this research (resilient and non-resilient household). Consequently, households were considered as resilient if their FCS did not decline (or the HFIAS score did not increase) during conflict times compared to the pre-conflict time (time t). Based on the results of the qualitative phase, two conflict times were considered in the analysis – the major/severe conflict in 2011 (time t+1), and the less severe/ongoing conflict in 2016-17 (during the time of data collection; time t+2). Index scores were also created using descriptive statistics and Principal Component Analysis for each explanatory variable. Binary logistics regression analyses were performed to determine the effects of these nine explanatory variables on food insecurity resilience.

Results from both the qualitative and quantitative phase showed a significant decline in households' food security during conflict periods, compared to the pre-conflict times. The result of the qualitative phase concluded that all the factors in the applied analytical framework were important for household food security. However, quantitative analyses displayed that only social capital at time t (pre-conflict) had a statistically significant positive effect on resilience against food insecurity during the major conflict in 2011 (time t+1). To analyse resilience in time t+2, two logistic models were formed – effects of the nine explanatory variables that households possessed in time t, and in time t+1. The results of the first model indicated that household natural capital e.g. sheep and poultry were the two most important natural capital according to the weights of the principal component analysis. In

time t had a significant positive effect on resilience in time t+2. The result of the second model indicated that household resilience in time t+2 was significantly affected by three variables – financial capital, natural capital and social capital in time t+1. The financial capital in Libya were mainly head, wife and members salaries, though, the most important financial indicator was 'Spouse' salaries as it showed the highest weight according to the PCA analysis. Whereas, social capital had a negative effect. Most of these significant effects were, however, found in the models in which food security was measured as FCSs.

Thus, the results concluded that assets play important roles in household food security resilience. Nevertheless, not all assets are significant in a conflict context. Assets, such as social capital, can have a negative effect. The findings also lead to the conclusion that the type of assets that can affect household resilience also depends on which conflict time is taken into analysis and how the variable "food (in)security" is measured.

The results were compared to the literature in the previous chapter (Discussion). The methodology of the study will also be evaluated in the next section (7.2) followed by the limitations of the study and the suggestion for future work in section (7.3 and 7.4).

7.2 Evaluation of Methodology

The method used in this research has several strengths. It applies an analytical framework by drawing on a range of literature on resilience and the factors affecting resilience in the context of food security. This has improved the construct validity of the research (Chen and Rossi 1987; Drost 2011).

The household-level of analysis used in this research is appropriate. Many interventions to build resilience focus on the individuals, community, national, region scales (Pendall et al. 2010; Berkes and Ross 2013; Tugade and Fredrickson 2004; Keating et al. 2017), while this study focuses at the household-scale because this is where food insecurity occurs (Sen 1976). As explained in Chapter Two, there may be foods available in the market, but people may not have the ability to buy those foods. This is especially true for conflict-affected regions (Brinkman and Hendrix 2011; D'Souza and Jolliffe 2013). A household-level analysis, therefore, provides an accurate picture of food security assessment in conflict contexts. Furthermore, two methods for measuring household food access were used – the FCS and HFIAS scores. This has increased the robustness of the methods.

Moreover, although research on food security and resilience identifies the time dimension as important, it is not very clear in the literature which time period needs to be considered in assessing resilience. Many studies have used different approaches to measure household resilience which has many advantages and benefits; there are also drawbacks and critiques of these methods. For instance, some cross-sectional (survey) studies only provide a 'snapshot' of household resilience without an effective measure of how resilience changes over time (Adger 2000; Rose 2004; Misselhorn 2005; Cutter et al. 2008; Alinovi et al. 2010; Zhou et al. 2010; Colten et al. 2012; Breisinger et al. 2014; Umetsu et al. 2014; Dessavre et al. 2016; Smith and Frankenberger 2018; Oyo et al. 2018; Manlosa et al. 2019). If the aim were to look at how resilience has changed over time, households would have to be asked the same questions focused on indicators of resilience at two or more different points in time. In this research, the study identified (from the qualitative phase) two-time points as important – during the major conflict (the year 2011 or time t+1) and during the minor conflict (time of data collection or t+2). This is important for areas of protracted conflicts where conflicts tend to increase and decrease over time. Assessment of resilience at multiple points in time is therefore crucial. The approach that has been used can provide lessons for other researchers (Jones and Tanner 2015).

Another strength of this research is the use of a mixed-methods approach. This was important as there was no such previous study in Libya or the entire MENA region. Qualitative research helped understand the context and to design the questionnaire for the quantitative phase. As discussed in Chapter Two, the key theoretical concepts used in this research – such as food, food security, exposure-sensitivity to conflicts, assets, SSN, and ABS – tend to vary according to contexts. For example, if we need to study food security in Libya, we need to know what food in Libya is in terms of food preferences, culture, and traditions. In addition, when talking about exposure-sensitivity to conflicts, we need to know the extent to which households were exposed to such conflicts and what type of damages they experienced. Furthermore, regarding household assets, there is a need to discover what kinds of assets are important in Libya. For example, social capital in Libya contains elements of tribal affiliation as well as affiliation to religious, construction, industrial and other social bonding and bridging components. In other countries, this may not be the case. Identification of such contextual information helped improve the relevance of this research in a Libyan context. The logic for applying this mixed-method approach (qual-quant) is in line with the suggestions in the literature (Miles and Huberman 1994; Bryman 2016).

As described in Chapter Three (Methodology), to estimate the effects of conflict on household food security, Binary Logistic Regression was used, as this research analysed the dependent variable, 'resilience', as a dichotomous (binary) variable. Hence, choosing binary logistic regression was the appropriate option for this study (Quinn and Keough 2002; Tranmer and Elliot 2008; Schüppert 2009; Cox 2018).

7.3 Limitations of the Study

7.3.1 Limitations of the Methods:

As it is for every study, there are several limitations. The methods used in this research had some limitations. The mixed-methods approach used in this research was found robust and appropriate; however, the methods used in this research have some limitations. A key limitation is that the sample used for the quantitative analyses was not a typical random sample. Drawing a typical random sample was not possible due to ongoing conflicts. This may be a reason why this study did not find significant effects of some important explanatory variables – such as coping strategies, ABS, and SSN – on food insecurity resilience. Future studies could consider this aspect. Also, this research used the "retrospective" nature of the questionnaire survey in which households were asked about their food security, assets, experiences, etc. in the past (over five years ago). This may have been difficult for some respondents. Therefore, future studies should use longitudinal design and collect real-time data on a yearly basis.

Furthermore, the size of the sample was relatively small. As a result, there were inadequate variabilities in the data on some indicators. Due to this, some crucial indicators were nearly equal across households. This may be a reason why some index variables did not show statistically significant effects on resilience, although, according to the literature (see Chapter Two), those variables should have been significant. A larger sample would probably have resolved this problem. Although the initial plan was to draw a random (and larger) sample, it was eventually not possible due to security concern. For example, it was difficult and risky to travel to some areas in Libya due to conflicts. The situation in some areas, such as Benghazi and Tripoli, was still unstable. Some cities had even ongoing military operations, which made it difficult to travel and collect data from many households.

Additionally, there was a delay in data collection too. Some households took a long time in returning the questionnaires supplied to them. Despite such delay, the researcher finally managed to collect data from 320 households.

The quantitative analysis of food access used in this research was slightly limited by the shortages of comprehensive information on nutrition. Although both the FCS and HFIAS are methodologically robust tools for measuring food access, they have been criticised for their inadequacy to capture the nutritional dimension of food security, for example, micronutrient adequacy (Rose et al. 2010; Leroy et al. 2015).

7.3.2 Acknowledgement of the sensitive nature questions

Within a specific cultural like Libya, some social context seems to be "sensitive". For example, some behaviours or coping strategies that adopted by households may reveal information of a sensitive nature or may also be considered "illegal" such coping strategies like selling weapons, joining militias and smuggling activities. These results have been removed from the initial household questionnaire during the next phase data collection. Only one question about "youth stopped studying to join the army to get money to meet household expenditure" was kept because this type of coping strategy was commonly used in Libya by many of young members within the households as the qualitative data result confirmed during the conversations with many households.

After considering the sensitive local norms to protect households who form the sample from harm or uncomfortable questions, the revised questionnaire was submitted and approved by NTU Ethics Committees.

After that, a pilot study was conducted and the designed questionnaire was tested with 15 households in Libya to get feedback and opinion on the questionnaire. I have realised that some households did not provide a satisfactory answer on some questions and they just left it out, these questions were identified during the semi-structured interviews months before. For example, some questions were about income sources and financial state. In the final version of the questionnaire, these types of questions were removed. Hence, to avoid the potential for recall error the respondents cannot feel they are being coerced into giving an answer they do not want to give or sometimes they do not complete the questionnaire.

7.4 Suggestions for Further Studies

The research found that the value of assets available to households in determining resilience, as posited by Keil et al. (2008) and Alinovi et al. (2010) for example, was both not intelligible and over-estimated. These suggest that, for resilience building in areas of protracted conflict, it is important to identify which assets are important. Development agencies and institutions should then focus on protecting and improving those assets. It is also important for developing agencies to use appropriate tools for assessing and monitoring "food (in)security", since the results may be different based on which tools are used.

For instance, quantifying assets prior to a shock and associating these with resilience estimation and analysis was inaccurate on the basis that households used their assets before they faced shocks (e.g. sold, consumed or exchanged) or these assets were lost due to other stressors, therefore, assets become unavailable for the household during the periods of shocks. Thus, estimation resilience should be on the factors and assets available during shocks rather pre-shocks period; this is when the assets, for example, can be used as coping strategies to respond to stresses, such as in the Libyan case.

Another suggestion for future studies is that conflict can create both negative and positive coping strategies and these perhaps can be different in each country or from place to place. Both positive and negative coping strategies should be identified and then taken into account. The findings of this study, also suggest the need to add the unique coping strategies found in conflict-affected areas into the existing tools, for example, the CSI, used by the WFP. In this index, a reverse scoring system can be used for positive coping strategies (Swesi et al. 2019).

Avenues for further empirical research on household resilience against food insecurity are mostly conditional on the availability of better quality data. The analysis may be extended or developed in other countries, similarly facing protracted conflicts. A larger sample of households could provide more robust evidence, confirming or challenging the results presented here. Furthermore, using multiple household surveys at different times may prove to be useful about the effect of shocks and stressors on food security and household resilience.

The study suggests that assets played an important role in household food security resilience. Some assets, such as social capital, can have a negative effect, therefore for resilience in areas of protracted conflict, it is important to consider which assets are important. Future studies

should focus on building those assets.

The evaluation of the methodology provided some suggestions. For instance, the mixed-methods approach was correct and an appropriate research approach for this kind of study, because there is no methodological guideline in the literature about how to track the time dimension of resilience analysis especially in protracted conflict areas; therefore, this research found two types/times of conflicts: one is the main conflict which happened in 2011 and the other is the minor conflict that happened in 2014. This led to measuring household resilience in two times during the first conflict in 2011 and during the second conflict in 2014.

Future studies should draw a typical statistically random sample. As a result of this research, the data were collected by retrospective questions about the past. Thus, future studies should collect data by longitudinal design annually by tracking resilience and food security situations at different times.

Finally, no previous studies tested the effects factors that affect household resilience against food insecurity in areas of protracted conflicts like Libya. Most studies were conducted in a non-conflict context. Therefore, my study contributes to the literature by confirming the effect of these factors in a protracted conflict context should be taken into account. Hence, studies on household resilience against food insecurity in protracted-conflict areas are still under development, and much theoretical thinking is coming.

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Appendix One (Household Interviews Schedule)

Dear respondent,

You are invited to take part in an investigation entitled "Household Resilience Against Food Insecurity in Areas of Protracted Conflicts - Case of Libya" conducted by me, Rashd Swesi, as part of my PhD studies at Nottingham Trent University, UK.

The information you provide in this interview will be used entirely for my academic research and will not be used for any commercial purpose or shared with any third party. Participation in this investigation and at every stage of the investigation is entirely voluntary. You have the right to withdraw from the study at any time and to ask that your data be removed from the investigation. All data collected will be stored securely. The identities of the participants will not be recognisable in any reports, publications, and/or presentations produced as part of this investigation. Below I provide you with the aims and objectives of this investigation.

Background and rationale behind this study

A current estimate provided by the Food & Agriculture Organisation (FAO) of the United Nations indicates that there are nearly 800 million people suffering from food insecurity in the world. Research indicates that there are many reasons for food insecurity including poverty, climate change, natural disasters as well as population growth, and political issues. However, one of the most important causes of food insecurity is conflict, including armed or political conflict, disputes, war, terrorism, human rights violations, and genocide. This is particularly true for countries in the Middle East and North Africa, including Libya, Iraq, Syria, Yemen, and Tunisia.

Increasingly, governments and development institutions around the world are using "resilience-building" as a strategy to improve food security in developing countries. However, little is known what the concept of "resilience against food insecurity" implies and what makes households/communities/regions resilient in conflict-affected countries like Libya. Therefore, the overall aim of this proposed project is to fill this knowledge gap. The findings of this study are expected to be useful for governments in conflict-affected countries as well as the international development institutions working on those countries to develop effective policies and interventions for improving

peoples' food security situations.

Aim and Objectives of the study:

The overall aim of this study is to improve our understanding of what makes Libyan households resilient against food insecurity caused by conflicts. The specific objectives are as follows:

1. To identify the nature and extent of resilience demonstrated by Libyan households against food insecurity.
2. To determine the factors that affect household resilience against food insecurity created by conflict.

Consent:

Now that you have read or heard of the purpose and aims and objectives of the research if you think you would be willing to take part in this study, can I request you kindly to provide your consent to the following?

I provide my consent to take part in this study:

- Signature……Oral consent…….....

I provide my consent to audio-record my interview:

- Signature……Oral consent……

I provide my consent to use the data for academic research and publications:

- Signature……Oral consent…….

Contact Information:

I will be glad to answer any questions you may have about this study at any time. You may contact me in the following ways:

 Email address: rashd.swesi2015@my.ntu.ac.uk
 Tel: 0044 115 84 85205 (UK), Tel: 00218913477791 (Libya)
 UK postal address: Rashd Swesi, Nottingham Trent University, Brackenhurst Campus, Southwell, Nottinghamshire, NG25 0QF
*Libya postal address: Rashd Swesi, 1st Hameedat Tamory, Alzintan, Libya (*temporary contact addresses valid until 11/01/2017).

Interview serial Number_____

Date of interview _____

Time of interview _____

Household location:

Town/City/Region _____

Mahallah _____

Street _____

Postcode/Zip code_____

Respondent:

Household head_____

Other adult representing the household_____

Brief details about household:

Number of people living in the household_____

Other relevant info_____

A. Household exposure to conflict

Q. A-1. To what extent was the household exposed to conflict?

a) What type of conflict happened in your area? Can you please explain?
b) When did the conflicts start and how long did they last?
c) Was your household exposed to the conflicts? How?
d) How frequently did your household faces the conflicts?

B. Household sensitivity to conflicts

Q. B-1. How sensitive was the household to the conflicts?

a) What types of damages your household has incurred due to exposure to conflicts?
b) Are there any particular characteristics (e.g. ethnic minority, women-headed household, disability, etc.) that made your household sensitive or vulnerable to conflicts?
c) To what extent your household was able to overcome the impacts of conflicts?

C. General information about food

Q. C-1. What is safe, secure, nutritious and appropriate food for the household?

a) What kinds of Foods 'typically' preferred and eaten in this area and in your household?
b) What are the typical food acquisition and preparation practices (including gender roles)?
c) How do your household and people in this area define healthy and safe, nutritious food?

D. Food security situations

Q. D-1. What has been the household's food security situations (availability, accessibility, utilisation, stability) at present, before the conflict, and during the conflict?

a) What is the current situation of your household in terms of the availability of enough foods for all household members? How does this situation compare with the situation during the pre-conflict period (i.e. before 2011) and why? Did the conflicts have any effect on your household's food availability? If yes, how and in what ways? What did you do to overcome any shocks or stresses caused by the conflict on your household's food availability? Why did you take those strategies or actions and what were the outcomes of your strategies?

b) To what extent do you think the foods that your household members consume currently are nutritious, and preferred by your household members? How does this situation compare with the situation during the pre-conflict period (i.e. before 2011) and the conflict period, and why? What did you do to overcome any shocks or stresses caused by the conflict on your household's

consumption of nutritious and preferred foods? Why did you take those strategies or actions and what were the outcomes of your strategies?

c) What is the current situation of your household in terms of the ability to get and buy foods for all household members? How does this situation compare with the situation during the pre-conflict period (i.e. before 2011) and why? Did the conflicts have any effect on your household's food ability to get foods? If yes, how and in what ways? What did you do to overcome any shocks or stresses caused by the conflict on your household's food accessibility? Why did you take those strategies or actions and what were the outcomes of your strategies?

d) How stable your food security situation is currently? Has it been stable all the time (i.e. before 2011 and after when the conflict started) or it fluctuates? Can you explain how and why it happened? What did you do to overcome any shocks or stresses caused by the conflict on your household's food stability? Why did you take those strategies or actions and what were the outcomes of your strategies?

E. Natural capital

Q.1-E. What is the status of your household's natural capital, e.g. ownership of lands, livestock, forests, water resources, etc.? How does it affect your household's food security, e.g. availability, accessibility, utilisation, and stability?

Q.2-E. What was the situation of natural capital before the conflict started in 2011? How did it change during the conflict period in terms of possession and values of the natural resources? What was the impact on food security, e.g. availability accessibility, utilisation, stability?

Q.3-E. What did your household do to overcome any shock/stress on natural capital caused by conflicts? Why did you do that? What were the impacts on food security, e.g. availability accessibility, utilisation, and stability?

F. Physical capital

Q.1-F. What is the status of your household's physical capital, e.g. ownership of transports, jewellery, buildings, electronic goods, communications, and food machinery, etc.? How does it affect your household's food security, e.g. availability, accessibility, utilisation and stability?

Q.2-F. What was the situation of the physical capital before the conflict started in 2011? How did it change during the conflict period in terms of possession and values of the physical resources? What was the impact on food security, e.g. availability, accessibility, utilisation and stability?

Q.3-F. What did your household do to overcome any shock/stress on physical capital caused by conflicts? Why did you do that? What were the impacts on food security, e.g. availability, accessibility, utilisation and stability?

G. Financial capital

Q.1-E. What is the status of your household's financial capital, e.g. wages, salaries, pension funds or savings, investment, mortgage loans, etc.? How does it affect your household's food security, e.g. availability, accessibility, utilisation and stability?

Q.1-E. What was the situation of the financial capital before the conflict started in 2011? How did it change during the conflict period in terms of possession and values of the financial resources? What was the impact on food security, e.g. availability, accessibility, utilisation and stability?

Q.1-E. What did the household do to overcome any shock/stress on financial capital caused by conflicts? Why did you do that? What were the impacts on food security, e.g. availability, accessibility, utilisation and stability?

H. Human capital

Q.1-H. What is the status of your household's human capital, e.g. level of education, knowledge, skills and motivations, household health and ability to work, etc.? How does it affect your household's food security, e.g. availability, accessibility, utilisation and stability?

Q.2-H. What was the situation of the human capital before the conflict started in 2011? How did it change during the conflict period in terms of possession and values of the human resources? What was the impact on food security, e.g. availability, accessibility, utilisation and stability?

Q.3-H. What did the household do to overcome any shock/stress on human capital caused by conflicts? Why did you do that? What were the impacts on food security, e.g. availability, accessibility, utilisation and stability?

I. Social capital

Q.1-H. What is the status of your household's social capital, e.g. connections/relationships between household members, families, friends and neighbours, powerful people, tribes, NGO organizations, etc.? How does it affect your household's food security, e.g. availability, accessibility, utilisation, and stability?

Q.2-H. What was the situation of social capital before the conflict started in 2011? How did it change during the conflict period in terms of possession and values of the social resources? What was the impact on food security, e.g. availability, accessibility, utilisation and stability?

Q.3-H. What did the household do to overcome any shock/stress on social capital caused by conflicts? Why did you do that? What were the impacts on food security, e.g. availability, accessibility, utilisation and stability?

J. Institutional structures and processes

Q.1-J. Are there any organisations (e.g. government, NGOs, private, international) that have affected your household's access to various types of capitals and your household's strategies in relation to food security (e.g. availability, access, utilisation, and stability), either at present, before the conflict, and during the conflict? What these specific organisations and how do they affect your household's food security, can you please explain?

Q.2-J. Are there laws, policies, regulations and cultural norms and values that have affected your household's access to various types of capitals and your household's strategies in relation to food security (e.g. availability, access, utilisation, and stability), either at present, before the conflict, and during the conflict? What these specific organisations and how do they affect your household's food security, can you please explain?

Appendix Two (Food Officials Interview Protocol)

Interview serial Number_____

Date of interview _____

Time of interview _____

Office location:

Town/City/Region _____

Street _____

Postcode/Zip code_____

Respondent:

Brief details about organisation _____

Title/Position of interviewee_____

Work experience in food and agriculture_____

Other relevant info_____

B. General information about the city and region

1. What are the key geographic, demographic, economic, social and cultural characteristics of this city and region?
2. How have these characteristics changed during the last 10-15 years and also since the conflict started?

C. Conflict in the city and region

1. What kind of conflicts have people been exposed to in this area, for how long, and what was the severity of those conflicts?
2. What kind of natural, physical, financial, human, and social damages have occurred in this region, and the city due to conflicts?
3. What is the current situation now? Has the situation worsened, has remained the same or improved? How?
4. What actions have been taken by the government and other organizations to limit the negative impacts of conflicts in this area or the country as a whole?

D. Food availability, markets and food production

1. What types of food people in this region typically eat?
2. Is there enough food available for everyone in the local markets and stocks in this area? How has it changed since the conflict started? How have these changes affected people?
3. How is access to markets? What are the main market days? Have there been any changes in prices selling or buying? Why? How have these changes affected people?
4. Where does the food in this area come from (e.g. production, market, exchange, donation, solidarity)?
5. What are the main kinds of local food and beverage products produced locally? How has it changed since the conflict started? How have these changes affected people?
6. What kinds of food are imported from overseas compared with local food? How has it changed since the conflict started? How have these changes affected people?

E. Food consumption patterns, safety and preservation

1. What are healthy and nutritious foods for people in this area? How has the consumption of healthy and nutritious foods changed since the conflict started? How have these changes affected people?
2. What is the condition of food safety and preservation, including, drying, canning, preserving, refrigeration and food processing, fortification foods such as dairy, cereal, bread and other products? How has it changed since the conflict started? How have these changes affected people?

F. Food security projects/programmes/interventions

1. Have any national organizations or global NGO organizations been in this area to provide help at different times during the conflict (pre/during/and now)? If so, who and when did they provide food aid? What kind of food aid have they provided? Are there people still receiving this support in this area?
2. At the moment, what do you think are the main problems for food security in this region? Can you describe them? Will these problems become worse or be resolved, why?
3. In your opinion, what are the best ways to improve food security and nutrition in this country?
4. Do you have any other comments you would like to make or questions you would like to ask?

.....
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.....

Thank you for your participation in the interview.

Appendix Three (Household Questionnaire)

Questionnaire Serial Number_____

Section 1: General information about your household

(Please answer questions as they relate to your household. For most answers, please fill in the blanks.)

1. Date _____

2. City _____

3. Mahallah _____

4. Street address _____

5. What is your position in the household?

- Household head
- Son of household head
- Daughter of household head
- Other (please specify):……..……

6. How many people eat and regularly live in this household? Number ( )

7. Of the total number of people living and eating together, how many are children under 18 years old Number ( )

Section 2: Household Exposure and sensitivity to conflicts

A. Household exposure to conflicts

1. Since the conflict in 2011 began in Libya, what types of conflicts have you experienced in your area?	Location	Year	Number of times
Armed conflicts between government forces and opposition groups (e.g., rebel groups fighting government forces)	☐ My village ☐ My Mahallah ☐ My City ☐ My Region ☐ Other (please specify)……....		
Armed conflicts between local tribes or militia groups	☐ My village ☐ My Mahallah ☐ My City ☐ My Region ☐ Other (please specify)……....		
Armed conflicts between opposing government forces (e.g., the government in east and the government in the west of Libya)	☐ My village ☐ My Mahallah ☐ My City ☐ My Region ☐ Other (please specify)……....		
Other (please specify): …… ……	☐ My village ☐ My Mahallah ☐ My City ☐ My Region ☐ Other (please specify)……....		

2. What types of damages has your household incurred due to exposure to the above conflicts?
(Tick and select all that apply)

Household member(s) were concerned about life ☐Yes ☐No
Household children suffered from psychological trauma ☐Yes ☐No
Household member(s) were injured or became ill ☐Yes ☐No
Household lost member(s) ☐Yes ☐No
Household faced asset damage ☐Yes ☐No
Household faced livestock damage ☐Yes ☐No
Household member(s) lost job ☐Yes ☐No
Others (please specify):…….....……

B. Household sensitivity to conflicts

1. Some households may be more vulnerable to the effects of conflicts than the others. Has one or more of the following characteristics made your household sensitive or vulnerable to conflicts? (Select all that apply)

Household had sick and disable members ☐Yes ☐No
Household had an old member(s) ☐Yes ☐No
Household had children in education ☐Yes ☐No
Others (please specify):……...……

Section 3: Food consumption

1. Considering the pre-2011 conflict period, the post-2011 conflict period, and the current situation, in general, how many days within a week the following food items have been eaten in your household?	**Pre-conflict (before Feb 2011)**	**During conflict (In 2011)**	**Current situation**
Carbohydrates (e.g., rice, couscous, bread, pasta, ftat)			
Vegetables (tomato, potato, cucumbers, onions, pepper etc.)			
Fruits (e.g., banana, apple, orange, grapes etc)			
Livestock protein (e.g., meats including beef, sheep, camels)			
Poultry protein (e.g., poultry meat, eggs)			
Dairy protein (e.g. milk, yoghurt, cheese, butter)			
Seafood protein (e.g. fish, shellfish)			
Sugar and honey			
Oils, fats and butter			
Hot drinks(e.g. tea, coffee)			
Spices, salt			
Drinks (e.g. juice and soft drinks)			
Nuts (e.g. pistachios and almonds)			
Traditional food (e.g. bazin, ftat, tagin etc.)			

Section 4: Household Food Insecurity Experience

Considering the pre-2011 conflict period, the post-2011 conflict period, and the current situation, has there been a situation when:	Pre-conflict (before Feb 2011)	During conflict (In 2011)	Current situation
1. you or others in your household worried about not having enough food to eat because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
2. you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
3. you or others in your household ate only a few kinds of foods because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
4. you or others in your household had to skip a meal because there was not enough money or other resources to get food?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
5. you or others in your household ate less than you thought you should because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
6. your household ran out of food because of a lack of money or other resources?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
7. there was ever no food to eat of any kind in your household?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
8. you or others in your household were hungry but did not eat because there was not enough money or other resources for food?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
9. you or others in your household went without eating for a whole day because of a lack of money or other resources?	□Never □Rarely □Sometimes	□Never □Rarely □Sometimes	□Never □Rarely □Sometimes

	□Often	□Often	□Often
10. the price of the food in the market was unaffordable for you?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
11. you or others in your household did not find the food that you needed in the market?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
12. you or others in your household worried that the quality of the food eaten in your household was quite bad?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often
13. you or others in your household could not get the food from the market because of transportation or travelling problem?	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often	□Never □Rarely □Sometimes □Often

Section 5: Household Assets

Conflicts can affect households disproportionately depending on resources. For example, households with limited resources may find it harder to cope. Sometimes, more resources may create more trouble for a household. Can you please give me some idea about your household's ownership of the following resources?

Lands	**Pre-conflict (before 2011)**	**During conflict (In 2011)**	**Current situation**
Agricultural land under household ownership	□Yes □No	□Yes □No	□Yes □No
Livestock	**Pre-conflict (before 2011)**	**During conflict (In 2011)**	**Current situation**
Sheep	Number ( )	Number ( )	Number ( )
Camel	Number ( )	Number ( )	Number ( )
Goats	Number ( )	Number ( )	Number ( )
Chicken/Duck	Number ( )	Number ( )	Number ( )
Well and Forest	**Pre-conflict (before 2011)**	**During conflict (In 2011)**	**Current situation**
Well	Number ( )	Number ( )	Number ( )
Physical Capital	**Pre-conflict (before 2011)**	**During conflict (In 2011)**	**Current situation**
Houses owned by household	Number ( )	Number ( )	Number ( )
Buildings or shops for renting	Number ( )	Number ( )	Number ( )
Private car	Number ( )	Number ( )	Number ( )

TV	Number ( )	Number ( )	Number ( )
Radio	Number ( )	Number ( )	Number ( )
Computer	Number ( )	Number ( )	Number ( )
Internet and broadband connection	□Yes □No	□Yes □No	□Yes □No
Mobile phones	Number ( )	Number ( )	Number ( )
Financial capital	**Pre-conflict (before 2011)**	**During conflict (In 2011)**	**Current situation**
Head had salary	□Yes □No	□Yes □No	□Yes □No
Spouse had a salary	□Yes □No	□Yes □No	□Yes □No
Other members (s) had a salary	□Yes □No	□Yes □No	□Yes □No
The principal occupation of the household head or main income owner has been:	□Farmer □Teacher □Gov employee □Sales worker □Businessman □Self-employed Other (please specify):…..…	□Farmer □Teacher □Gov employee □Sales worker □Businessman □Self-employed Other (please specify):…..…	□Farmer □Teacher □Gov employee □Sales worker □Businessman □Self-employed Other (please specify):…..…
Human Capital	**Pre-conflict (before 2011)**	**During conflict (In 2011)**	**Current situation**
Household head qualified to PhD Level	□Yes □No	□Yes □No	□Yes □No
Household head qualified to Master Level	□Yes □No	□Yes □No	□Yes □No
Household head qualified to University level	□Yes □No	□Yes □No	□Yes □No
Household head qualified to Secondary school	□Yes □No	□Yes □No	□Yes □No
Technical or Technology Training (e.g., computer training, internet training): □Household head □Wife	□Yes □No	□Yes □No	□Yes □No
Construction or industrial Training (e.g. masonry): □Household head □Wife	□Yes □No	□Yes □No	□Yes □No
Other (please specify):.....…….			
No-education or training: □Household head □Wife	□Yes □No	□Yes □No	□Yes □No
Social Capital	**Pre-conflict (before 2011)**	**During conflict (In 2011)**	**Current situation**
Household members eating together	□Yes □No	□Yes □No	□Yes □No
Household members discussing family matters together	□Yes □No	□Yes □No	□Yes □No
Household income-earning members sharing money for investment or buying property, etc.	□Yes □No	□Yes □No	□Yes □No

Older household members bearing the financial expenses of younger, non-earning members (e.g., paying the educational expenses of younger brother or sisters)	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Income earning members helping each other in crises (e.g., in times of illness or conflicts with outsiders)	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Interactions/relationships between your household members and outsiders, e.g. neighbours, friends, relatives, etc.	**Pre-conflict (before Feb 2011)**	**During conflict (In 2011)**	**Current situation**
Eating together with neighbours, friends, in restaurants	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Visiting neighbours, friends and relatives in conditions like illness or death etc.	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Attending social activities like marriage ceremonies etc.	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Going to a picnic with neighbours, friends and relatives	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Taking or giving financial loans from neighbours, friends and relatives	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Sharing farm machinery, e.g. tractors from neighbours, friends and relatives	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Affiliation to a professional association	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Affiliation to a craftsman group	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Affiliation with a community or tribal groups	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Religious groups (e.g. mosque study group or mosque committee)	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
NGO or civic groups (e.g. Red Crescent)	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No

Section 7: Coping and adaptation strategies

Has your household applied or used the following coping strategies when faced with food insecurity or other crises? *(Select all that apply please).*

Coping strategies	Pre-conflict (before Feb 2011)	During conflict (In 2011)	Current situation
Reducing the number of meals eaten in a day	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Cutting down meal portion size or eating a meal without fruit, salad and meat	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Purchasing food on debt	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Buying less quality and cheaper food	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Borrowing food from friends, relatives	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Relying on help from a social network	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Adults eating less than normal to feed children	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Giving children adults milk to drink	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Consuming traditional food more than normal	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Spending most of the household's budget on food and saving money by cutting expenses on luxury goods	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Receiving free food from NGOs and charities	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Household youth stopped studying to join the army to get money to meet household expenditure	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Renting agricultural tools instead of buying them to meet household expenditure	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Selling jewellery to get money to meet household expenditure	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Selling livestock to get money to meet household expenditure	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Selling land to get money to meet household expenditure	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Selling property to get money to meet household expenditure	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Reducing or stopped wasting food	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Entire household temporarily migrating to another city or country	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Some household members temporarily migrating to another city or country	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Bring foods from neighbouring countries to eat and sell in the local markets to make some income	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No

Section 8: Social safety nets			
Questions	**Pre-conflict (before Feb 2011)**	**During conflict (In 2011)**	**Current situation**
To what extent has your household received foods from public food distributors (e.g. government consumer organisations like ***Aljamaiatt***) in your area?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
What has been your household's experience with the food prices in the market from where your household buy most food?	☐Expensive ☐Somewhat expensive ☐Neither nor expensive ☐Inexpensive ☐Don't know	☐Expensive ☐Somewhat expensive ☐Neither nor expensive ☐Inexpensive ☐Don't know	☐Expensive ☐Somewhat expensive ☐Neither nor expensive ☐Inexpensive ☐Don't know
To what extent has your household received government subsidies on agricultural inputs e.g. seeds, machinery etc.?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
To what extent has your household received government subsidies on livestock disease and health?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
To what extent has your household received government loans for building constructions or business for income generation?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
To what extent has your household received government jobs seeker's allowance or unemployment benefits?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
To what extent has your household received government subsidies or financial support for old or disabled household members?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
To what extent has your household received government subsidies or special support for children?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
To what extent has your household received government subsidies on treatment and medicine free of charge for household members?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
To what extent has your household received government subsidies on fuel for personal transport?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
To what extent has your household received free foods from the government in times of crisis?	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No

Section 9: Access to basic service

Questions	Pre-conflict (before Feb 2011)	During conflict (In 2011)	Current situation
How frequently has it occurred that one or more members of your household couldn't get their salaries on time from the bank?	□Yes □No	□Yes □No	□Yes □No
How frequently has it occurred that one or more members of your household couldn't withdraw money from banks on time?	□Yes □No	□Yes □No	□Yes □No
Has it occurred that one or more of your household members were worried about the security of their deposits in the bank?	□Yes □No	□Yes □No	□Yes □No
Has it occurred that one or more of your household members faced a situation when the bank could not provide them with adequate foreign currency when they needed it?	□Yes □No	□Yes □No	□Yes □No

Appendix One (Arabic version)

جدول المقابلة الشخصية مع رب الأسرة

(الأمــن الغـذائي فـي ليــبـيا "مرحـلة الـــصراع")

معلومــات للمشــاركين:

عزيزي المشارك ... أنت مدعو للمشاركة في بحث بعنوان "مرونة الأمن الغذائي في ليبيا في مرحلة قبل وما بعد الصراع" تحث إجراء الباحث: راشد محمد مسعود سويسي وهو جزء من دراسة الدكتوراة في جامعة نوتنغهام ترنت، المملكة المتحدة. المعلومات التي سوف تقدمها في هذه المقابلة ستستخدم كلياً لغرض البحث العلمي فقط ولن يتم استخدامها لأي غرض تجاري أو مشاركتها مع أي طرف آخر. المشاركة في هذا البحث إختيارية تماماً ولك الحق في رفض المشاركة في أي وقت ترغب. سيتم تخزين جميع البيانات التي يتم جمعها بشكل آمن بما يخدم أغراض وأهداف هذا البحث.

مقدمة عامة عن هذا البحث:

تشير التقديرات الحالية المقدمة من منظمة الأغذية والزراعة (الفاو) التابعة للأمم المتحدة إلى أن هناك ما يقرب من 800 مليون شخص يعانون من إنعدام الأمن الغذائي في العالم. وتشير الأبحاث إلى أن هناك العديد من الأسباب وراء انعدام الأمن الغذائي على سبيل المثال: الفقر، وتغير المناخ، والكوارث الطبيعية ومشاكل الزراعة، فضلا عن النمو السكاني. ولكن من أهم أسباب انعدام الأمن الغذائي ايضاً هوالصراع أو الحروب والنزاعات، بما في ذلك النزاعات المسلحة أو السياسية، والإرهاب وانتهاكات حقوق الإنسان، وغيرها. هذا ظاهر بشكل خاص في بعض البلدان العربية في منطقة الشرق الأوسط وشمال أفريقيا، بما في ذلك ليبيا والعراق وسوريا منذ عام 2011، تعاني ليبيا من صراعات واليمن وتونس التي عانت وتعاني من بعض الحروب والنزاعات والصراعات مؤخراً. وحروب عديدة. وبالتالي فإن هذا البحث هو محاولة للتحقيق في كيفية تأثير هذه الصراعات على الأمن الغذائي للأسر الليبية، وكيف واجهت الأسر الليبية هذه التحديات، وما هي العوامل التي تؤثر على قدرتها على التغلب على الأزمات. حيث أن نتائج هذا البحث سوف تكون مفيدة لصانعي القرار والسياسات في ليبيا لوضع سياسات مناسبة لتحسين الأمن الغذائي للسكان ككل والاسرة الليبية بالاخص.

الموافقة:

الآن وبعد أن قرأت أو سمعت عن غرض وأهداف هذا البحث يسعدني أن اطلب منك الموافقة على المشاركة في هذا البحث والتفضل لتقديم موافقتك على النحو التالي:

أنا موافق على المشاركة في هذه البحث وأنا ايضاً موافق على استخدام البيانات للبحوث والمنشورات الأكاديمية:

التوقيع: .....

معلومات الاتصال:

سوف نكون سعداء للرد على أية أسئلة لديكم حول هذا البحث في أي وقت من الاوقات. وتستطيعون الإتصال بي من خلال الطرق **العنوان في ليبيا:** التالية:

راشد سويسي، حميدة تموري، الزنتان، ليبيا

عنوان البريد الإلكتروني: rashd.swesi@ntu.ac.uk

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عنوان البريد الإلكتروني: rashd.swesi@ntu.ac.uk

هاتف: 00441158485205 المملكة المتحدة

أهداف الدراسة:

الهدف العام من هذا البحث هو تحسين الفهم العام للأمن الغذائي للأسر الليبية وكيف واجهت هذه الأسرالمشاكل الغذائية الناتجة عن الصراعات التي حدتث مؤخراً من خلال معرفة الطرق والاستراتيجات المتبعة في مواجهة هذه المشاكل.

الموافقة:

الآن وبعد أن قرأت أو سمعت عن غرض وأهداف هذا البحث يسعدني أن اطلب منك الموافقة علي المشاركة في هذا البحث والتفضل لتقديم موافقتك على النحو التالي:

- ❖ أنا موافق على المشاركة في هذه البحث و أنا ايضاً موافق على استخدام البيانات للبحوث والمنشورات الأكاديمية:
  - التوقيع .....

1. تعرض الأسرة للصراع:

أ. ما هو نوع الصراع الذي حدث في منطقتك؟ أرجو أن توضح؟
ب. متى بدأ الصراع ومتي انتهى؟
ت. كيف واجهت أسرتك الصراعات التي حدثت في المنطقة؟

2. تأثر الأسرة بالصراع:

أ. ما هي أنواع الأضرار التي تكبدتها أسرتك نتيجة التعرض للصراع؟
ب. هل هناك أي خصائص ديموغرافية أو صحية (على سبيل المثال أقلية عرقية أو غالبية الأسرة من النساء أو كبار السن وهل يوجد أفراد من الأسرة من ذوي الأحتياجات الخاصة ، ألخ) جعلت أسرتك أكثر عرضة للصراعات ؟
ت. إلى أي مدى كانت الأسرة قادرة على التغلب على آثار الصراعات ؟

3. معلومات عامة عن الغذاء:

أ. ما هو برأيك مفهوم الغذاء الصحي للأسرة ؟
ب. ما هي أهم أنواع الأطعمة المفضلة لدى أسرتك في هذا المنزل ؟
ت. ما هي الأنماط المتداولة في تجهيز وإعداد الطعام (بما في ذلك الأدوار بين الجنسين) ؟
ث. هل أنت وأسرتك علي دراية وفهم تام بالغذاء الصحي المناسب والمفيد للجسم ؟

4. الأمن الغذائي للأسرة:

أ. ما هو الوضع الحالي لأسرتك من حيث توفر ما يكفي من المواد الغذائية لجميع أفراد الأسرة ؟ هل تغير هذا الوضع مقارنة مع الوضع خلال فترة ما قبل الصراع (أى قبل عام 2011) وفترة أثناء الصراع ، ولماذا ؟ هل للصراع أي تأثير على توافر الغذاء في منزلك ؟ إذا كانت الإجابة بنعم كيف وما هي هذه الآثار ؟ ماذا فعلتم للتغلب على المشاكل الناجمة عن عدم توافر الغذاء في منزلك ؟

ب. إلى أي مدى تعتقد أن الأغذية التي يتناولها أفراد أسرتك مغذية وصحية ومناسبة للاستهلاك المنزلي ؟ كيف كان هذا الوضع مقارنةً مع الوضع خلال فترة ما قبل الصراع (أي قبل عام 2011) وفترة أثناء الصراع ، ولماذا ؟ هل للصراع أي تأثير على نوعية الغذاء في منزلك ؟ إذا كانت الإجابة بنعم فكيف ؟ وما هي هذه الآثار ؟ ماذا فعلتم للتغلب على الصدمات و المشاكل الناجمة عن الصراع على نوعية الغذاء ؟

ت. ما هو الوضع الحالي لأسرتك من حيث القدرة على الوصول والحصول علي المواد الغذائية لجميع أفراد الأسرة ؟ كيف ترى هذا الوضع مقارنة مع الوضع خلال فترة ما قبل الصراع (أي قبل عام 2011) وفترة أثناء الصراع ، ولماذا ؟ ما هي الآثار السلبية للصراع ؟ ماذا فعلتم للتغلب على الصدمات و المشاكل الناجمة عن عدم قدرة الأسرة علي شراء الغذاء والحصول عليه ؟

ث. هل حالة الأمن الغذائي للأسرة مستقرٌ حالياً ؟ مثلاً من ناحية توفر الأغذية المناسبة وطريقة الحصول عليها ، وهل حالة الأمن الغذائي للأسرة مستقرٌ في كل وقت (أي قبل عام 2011 وبعد ذلك عندما بدأ الصراع) أو أنه متقلب ؟ هل يمكن أن توضح لماذا وكيف حدث ذلك ؟ ماذا فعلتم للتغلب علي الصدمات و الضغوط الناجمة عن عدم الاستقرار الغذائي للأسرة ؟

5. الموارد الطبيعية للأسرة:

أ. ما هي أهم أنواع الموارد الطبيعية للأسرة ؟ على سبيل المثال ملكية الأراضي والثروة الحيوانية والغابات والموارد المائية، وما إلى ذلك ؟ الي أي مدى يمكن أن تساعد هذه الموارد في تحقيق الأمن الغذائي للأسرة، على سبيل المثال توافر الغذاء وسهولة الحصول عليه واستخدامه واستقرار كل ذلك ؟

ب. كيف كان وضع الموارد الطبيعية للأسرة قبل بدء الصراع في عام 2011 ؟ كيف تغير هذا الوضع خلال فترة الصراع من حيث ملكية الأراضي والثروة الحيوانية والغابات والموارد المائية وما إلى ذلك ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة ؟

ت. ماذا فعلتم للتغلب على أي صدمات أو ضغوطات ناجمة عن الصراع على الموارد الطبيعية للأسرة ؟ و لماذا ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة ؟ على سبيل المثال توافر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار كل ذلك ؟

6. الموارد المادية للأسرة:

أ. ما هي أهم أنواع الموارد المادية للأسرة ؟ على سبيل المثال ملكية وسائل النقل والمجوهرات والمباني والعقارات والأجهزة الالكترونية والإتصالات وأدوات إعداد الطعام، وما إلى ذلك ؟ إلي أي مدى يمكن أن تساعد هذه الموارد في تحقيق الأمن الغذائي للأسرة، على سبيل المثال توافر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار كل ذلك ؟

ب. كيف كان وضع الموارد المادية للأسرة قبل بدء الصراع في عام 2011؟ كيف تغير خلال فترة الصراع من حيث ملكية وسائل النقل والمجوهرات والمباني الأجهزة الالكترونية والإتصالات وأدوات إعداد الطعام ، وما إلى ذلك ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة ؟

ت. ماذا فعلتم للتغلب على أي صدمات أو ضغوطات ناجمة عن الصراع على الموارد المادية للأسرة ؟ لماذا فعلتم ذلك ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة، على سبيل المثال، توافر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار الأمن الغذائي للأسرة ؟

7. الموارد المالية للأسرة:

أ. ما هو الوضع بالنسبة للموارد المالية للأسرة، على سبيل المثال مستوي الدخل والأجور والرواتب ومعاشات التقاعد و الإدخار والإستثمار والقروض وما إلى ذلك ؟ إلي أي مدى يمكن أن تساعد هذه الموارد في تحقيق الأمن الغذائي للأسرة ، على سبيل المثال توافر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار كل ذلك ؟

ب. كيف كان وضع الموارد المالية للأسرة قبل بدء الصراع في عام 2011 ؟ كيف تغير خلال فترة الصراع من حيث الأجور والرواتب ومعاشات التقاعد و الإدخار والقروض وما إلى ذلك ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة ؟

ت. ماذا فعلتم للتغلب على أي صدمات أو ضغوطات ناجمة عن الصراع على الموارد المالية للأسرة ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة، على سبيل المثال توفر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار كل ذلك ؟

8. الموارد البشرية للأسرة:

أ. ما هي أهم الموارد البشرية للأسرة على سبيل المثال مستوى التعليم والمعرفة والمهارات والوضع الصحي لأفراد الأسرة والقدرة على العمل، وما إلى ذلك ؟ إلي أي مدى يمكن أن تساعد هذه الموارد في تحقيق الأمن الغذائي للأسرة ؟ علي سبيل المثال توفر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار الأمن الغذائي ؟

ب. كيف كان وضع الموارد البشرية قبل بدء الصراع في عام 2011 ؟ وكيف تغير خلال فترة الصراع من حيث مستوى التعليم والمعرفة والمهارات والوضع الصحي للأسرة والقدرة على العمل وما إلى ذلك ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة ؟

ت. ماذا فعلتم للتغلب على الصدمات و الضغوطات الناجمة عن الصراع على الموارد البشرية للأسرة ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة على سبيل المثال توفر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار كل ذلك ؟

9. الوضع الإجتماعي للأسرة:

أ. ما هو الوضع الإجتماعي للأسرة على سبيل المثال العلاقات بين أفراد الأسرة والأصدقاء والجيران والقبيلة ، وأيضاً العلاقات مع صناع القرار ورجال السلطة والجمعيات غير الحكومية وما إلى ذلك ؟ إلي أي مدى يمكن أن تساعد هذه الموارد في تحقيق الأمن الغذائي الخاص بالأسرة ؟

ب. كيف كان الوضع الإجتماعي للأسرة قبل بدء الصراع في عام 2011 ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة ، على سبيل المثال توفر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار كل ذلك؟

ت. ماذا فعلتم للتغلب على الصدمات و الضغوطات الناجمة عن الصراع على الوضع الاجتماعي للأسرة ؟ ما هو تأثير ذلك على الأمن الغذائي للأسرة، على سبيل المثال ، توفر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار الأمن الغذائي للأسرة ؟

10. الهياكل والمؤسسات والقوانين والتشريعات:

أ. هل هناك أي منظمات حكومية أو غير حكومية، أو قطاعات خاصة أثرت على وصول أسرتك لمختلف الموارد السابقة الذكر فيما يتعلق بالأمن الغذائي علي سبيل المثال توافر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار الأمن الغذائي للأسرة ، سواء في الوقت الحاضر، أو قبل وخلال الصراع ؟ ما هي هذه المنظمات وما هو دورها ؟ وكيف تؤثر على الأمن الغذائي للأسرتك، الرجاء التوضيح ؟

ب. هل هناك قوانين وسياسات ولوائح أو معايير أوقيم سواء ثقافية أو دينية أو اجتماعية أثرت على وصول أسرتك لمختلف الموارد السابقة الذكر فيما يتعلق بالأمن الغذائي للأسرة علي سبيل المثال توفر الغذاء وسهولة الحصول عليه وإستخدامه وإستقرار الأمن الغذائي للأسرة)، سواء في الوقت الحاضر، أو قبل وخلال الصراع ؟ ما هي هذه القوانين والسياسات واللوائح و المعايير والقيم وما هو دورها ؟ وكيف تؤثر على الأمن الغذائي للأسرتك، الرجاء التوضيح ؟

هل لديك أي تعليق أو اسئلة تود أن تسأل؟

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.....شكرا لمشاركتكم في هذا البحث.

NOTTINGHAM TRENT UNIVERSITY

Appendix Two (Arabic version)

جدول المقابلة الشخصية مع المسؤولين

(الأمــن الغـذائي فـي ليــبـيا "مرحـلة الـــصراع")

الرقم التسلسلي للمقابلة _____

تاريخ المقابلة _____

وقت المقابلة _____

موقع المسؤول:

المدينة أو المنطقة _____

المحلة _____

الشارع _____

الرمز البريدي _____

تفاصيل موجزة عن المسؤول:

إسم المسؤول _____

الوظيفة الحالية _____

سنوات الخبرة في هذا المجال _____

معلومات أخرى _____

1. ***الصراع في المدينة أوالمنطقة:***

أ- ما هو نوع الصراع الذي حدث في هذه المنطقة ؟ متي بدأ ومتى إنتهى ؟
ب- إلى أي مدى كان الصراع شديداً ومؤثراً علي حياة السكان الطبيعية في هذه المنطقة ؟ وكيف حدث ذلك ؟
ت- ماهي الأضرار البشرية والمادية والمالية والإجتماعية التي نتجت عن الصراع في هذه المنطقة أو المدينة؟
ث- ما هي الإجراءات التي تم اتخاذها من قبل الحكومة أو المنظمات والجمعيات الأهلية وغيرها إن وجدت للحد من الآثار السلبية للصراع في هذه المنطقة أو البلد ككل؟

2. ***الخدمات الغذائية وآثار الصراع على الأمن الغذائي في المنطقة:***

أ- ما هو الوضع الحالي للأمن الغذائي في هذه المنطقة (وقت جمع البيانات) ؟
ب- كيف كانت حالة الأمن الغذائي في هذه المنطقة قبل بدء الصراع في عام 2010 ؟ وما هو وضع الأمن الغذائي خلال فترة الصراع (2011-2012)، كيف تغير، ولماذا ؟
ت- ما هي حالة الخدمات الغذائية الأساسية في هذه المنطقة، بما في ذلك تجهيز الغذاء والتعليب والنقل، والتسويق، والاستهلاك، والتخلص من الطعام ؟ كيف تقيم مستوى الخدمات الغذائية في هذه المنطقة ؟
ث- ماهو تأثير الصراعات على حالة الخدمات الغذائية مثل توفر المواد الغذائية واستهلاكها وخدمات المياه والرعاية الصحية والكهرباء والنقل وأنظمة الإتصالات وغيرها ؟ وما هي الإجراءات التي تم إتخاذها من قبل الحكومة أو المنظمات الغير الحكومية والجمعيات وغيرها إن وجدت للحد من هذه الآثار على الأمن الغذائي للسكان؟
ج- كيف قامت الحكومة بمساعدة الأسر والمناطق المتضررة خلال فترة الصراع ؟ وهل هناك مساعدات تقدم الآن ؟
ح- هل يمكن أن توضح كيف قاوم الناس المشاكل والمخاطر الناتجة عن الصراع في هذه المنطقة ؟ ما الذي قاموا به للتغلب على الصدمات والأزمات على الأمن الغذائي ؟ لماذا فعلوا ذلك ؟

3. ***التركيب السكاني للمنطقة والأحتياجات المستقبلية للغذاء:***

أ- إلي أين تسير الاتجاهات الديموغرافية المستقبلية للسكان حول الأحتياجات الغذائية في هذه المنطقة ؟ هل هناك سياسات حكومية تواكب الزيادة الطبيعية للسكان أو هناك خطط علي المدى القريب أوالبعيد تأخذ في عين الاعتبار النمو السكاني والديمغرافي في هذه المنطقة ؟
ب- ما هو الهيكل والهرم العمري للسكان في هذه المنطقة (مثلاً الشباب وكبار السن والجنس) ؟
ت- ما هو مستوى الدخل والتعليم والتحضر للسكان في هذه المنطقة ؟ هل تغيرت هذه الخصائص منذ بدء الصراع ؟ لو نعم كيف ؟ وهل هذه التغييرات أثرت على الأمن الغذائي للسكان ؟

4. ***الإقتصاد والتجارة في المنطقة:***

أ- ما هو نوع التبادل التجاري للسلع و فرص التجارة في هذه المنطقة ؟ وإلي أي مدى يساعد هذا في الأمن الغذائي للسكان؟ هل تغير هذا الوضع في الآونة الأخيرة ؟ ماذا فعلت الحكومة لتشجيع التبادل التجاري وتجنب نقص الغذاء في المنطقة ؟
ب- هل تعتقد أن الصراعات الأخيرة أثرت سلباً على الاقتصاد الليبي والأمن الغذائي في البلاد ؟ كيف ؟
ت- هل هناك أي مشاريع أو مخططات جديدة تهدف لتحسين الأمن الغذائي في ليبيا بوجه عام ؟

5. ***توفر الأغذية في الأسواق والإنتاج الغذائي:***

أ- هل الغذاء متوفر بشكل يكفي لجميع السكان في الأسواق في هذه المنطقة ؟ ما نسبة المحلي منه ؟ هل هناك تغيرات في كمية وجودة الأغذية في الأسواق منذ بدء الصراع ؟ كيف أثرت هذه التغييرات على الأمن الغذائي للسكان ؟
ب- كيف يتم الوصول إلى السوق في هذه المنطقة ؟ ما هي أيام السوق الرئيسية ؟ هل هناك أي تغيرات في أسعار المواد الغذائية منذ بدء الصراع إلى الآن ؟ لماذا ؟ كيف أثرت هذه التغييرات في الأسعارعلى الأمن الغذائي للسكان ؟
ت- من أين يأتي الغذاء لهذه المنطقة (مثل: انتاج محلي ، أسواق خارجية ، مصادر حكومية ، تبرعات) ؟

ث- هل هناك أي أنواع رئيسية من المنتجات الغذائية أوالمشروبات تنتج محلياً ؟ كيف تغير إنتاج هذه الأنواع منذ بدء الصراع ؟ كيف أثرت هذه التغييرات على وضع الأمن الغذائي للسكان ؟

ج- ما هي أنواع ونسبة المواد الغذائية التي يتم إستيرادها من الخارج مقارنة مع الأغذية المنتجة محلياً ؟ كيف تغيرت هذه النسبة منذ بدء الصراع ؟ كيف أثرت هذه التغييرات على الأمن الغذائي للسكان ؟

6. *أنماط إستهلاك الغذاء وقيمة الأغذية:*

أ- ما هي جودة وقيمة المواد الغذائية المعروضة للمستهلك ؟ كيف تغيرت هذه القيمة منذ بدء الصراع ؟ كيف أثرت هذه التغييرات على الأمن الغذائي للسكان ؟

ب- ما هي حالة الأغذية وسلامتها للإستهلاك البشري ، بما في ذلك التجفيف والتعليب والحفظ والتخزين والتجهيز مثل منتجات الألبان والحبوب والخبز وغيرها من المنتجات ؟ كيف تغيرت هذه الحالة منذ بدء الصراع ؟ كيف أثرت هذه التغييرات على الأمن الغذائي للسكان ؟

7. *المشاريع و البرامج والمخططات المتعلقة بالأمن الغذائي:*

أ- هل هناك أي منظمات حكومية أو منظمات غير حكومية محلية أودولية إشتغلت أو لازالت تشتغل بخصوص الأمن الغذائي و تقديم المساعدة للسكان في مختلف الأوقات (قبل وأثناء وبعد الصراع) ؟ ما اسم هذه المنظمات وما نوعية المساعدات الغذائية والخدمات التي قدموها أو لازالو يقدمونها ؟ هل هناك أسر أو أشخاص مازالوا يتلقون هذه المساعدات إلي الآن ؟

ب- هل هناك أي حلول تهدف لتحسين الأمن الغذائي للسكان في هذه المنطقة ؟ ما هذه الحلول إن وجدت ؟

ت- في الوقت الحالي ما هي برأيك أهم المشاكل المتعلقة بالأمن الغذائي في هذه المنطقة ؟ في رأيك هل هذه المشاكل ستصبح أسوأ في المستقبل القريب ، ولماذا ؟

ث- في رأيك ما أفضل الطرق والحلول الممكنة لتحسين الخدمات الغذائية للمواطن وتطوير الأمن الغذائي في المنطقة ؟

هل لديك أي تعليق أو أسئلة تود أن تسألها ؟

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شكرا لمشاركتكم في هذا البحث.

Appendix Three (Arabic version)

(استـبيان عـن الأمـن الغـذائـي للأسـر اللـيبيـة)

معلومـات للمشـاركين:

عزيزي المشارك ... أنت مدعو للمشاركة في بحث بعنوان "مرونة الأمن الغذائي في ليبيا في مرحلة قبل وما بعد الصراع" تحث إجراء الباحث: راشد محمد مسعود سويسي وهو جزء من دراسة الدكتوراة في جامعة نوتنغهام ترنت، المملكة المتحدة. المعلومات التي سوف تقدمها في هذه المقابلة ستستخدم كلياً لغرض البحث العلمي فقط ولن يتم استخدامها لأي غرض تجاري أو مشاركتها مع أي طرف آخر. المشاركة في هذا البحث إختيارية تماماً ولك الحق في رفض المشاركة في أي وقت ترغب. سيتم تخزين جميع البيانات التي يتم جمعها بشكل آمن بما يخدم أغراض وأهداف هذا البحث.

مقدمة عامة عن هذا البحث:

تشير التقديرات الحالية المقدمة من منظمة الأغذية والزراعة (الفاو) التابعة للأمم المتحدة إلى أن هناك ما يقرب من 800 مليون شخص يعانون من إنعدام الأمن الغذائي في العالم. وتشير الأبحاث إلى أن هناك العديد من الأسباب وراء انعدام الأمن الغذائي على سبيل المثال: الفقر، وتغير المناخ، والكوارث الطبيعية ومشاكل الزراعة، فضلا عن النمو السكاني. ولكن من أهم أسباب انعدام الأمن الغذائي ايضاً هوالصراع أو الحروب والنزاعات، بما في ذلك النزاعات المسلحة أو السياسية، والإرهاب وانتهاكات حقوق الإنسان، وغيرها. هذا ظاهر بشكل خاص في بعض البلدان العربية في منطقة الشرق الأوسط وشمال أفريقيا، بما في ذلك ليبيا والعراق وسوريا واليمن وتونس التي عانت وتعاني من منذ عام 2011، تعاني ليبيا من صراعات وحروب عديدة. وبالتالي بعض الحروب والنزاعات والصراعات مؤخراً. فإن هذا البحث هو محاولة للتحقيق في كيفية تأثير هذه الصراعات على الأمن الغذائي للأسر الليبية، وكيف واجهت الأسر الليبية هذه التحديات، وما هي العوامل التي تؤثر على قدرتها على التغلب على الأزمات. حيث أن نتائج هذا البحث سوف تكون مفيدة لصانعي القرار والسياسات في ليبيا لوضع سياسات مناسبة لتحسين الأمن الغذائي للسكان ككل والاسرة الليبية بالاخص.

الموافقة:

الآن وبعد أن قرأت أو سمعت عن غرض وأهداف هذا البحث يسعدني أن اطلب منك الموافقة على المشاركة في هذا البحث والتفضل لتقديم موافقتك على النحو التالي:

أنا موافق على المشاركة في هذه البحث وأنا ايضاً موافق على استخدام البيانات للبحوث والمنشورات الأكاديمية:

التوقيع: .....

معلومات الاتصال:

سوف نكون سعداء للرد على أية أسئلة لديكم حول هذا البحث في أي وقت من الاوقات. وتستطيعون الإتصال بي من **العنوان في ليبيا:** خلال الطرق التالية:

راشد سويسي، حميدة تموري، الزنتان، ليبيا

عنوان البريد الإلكتروني:rashd.swesi@ntu.ac.uk

هاتف: ليبيا: 00218913477791

العنوان في بريطانيا:

Rashd Swesi, Nottingham Trent University, Brackenhurst Campus, Southwell, NG25 0QF England

عنوان البريد الإلكتروني:rashd.swesi@ntu.ac.uk

هاتف: 00441158485205 المملكة المتحدة

أهداف الدراسة:

الهدف العام من هذا البحث هو تحسين الفهم العام للأمن الغذائي للأسر الليبية وكيف واجهت هذه الأسرالمشاكل الغذائية الناتجة عن الصراعات التي حدتث مؤخراً من خلال معرفة الطرق والاستراتيجات المتبعة في مواجهة هذه المشاكل.

الموافقة:

الآن وبعد أن قرأت أو سمعت عن غرض وأهداف هذا البحث يسعدني أن اطلب منك الموافقة علي المشاركة في هذا البحث والتفضل لتقديم موافقتك على النحو التالي:

أنا موافق على المشاركة في هذه البحث و أنا ايضاً موافق على استخدام البيانات للبحوث والمنشورات الأكاديمية:

- التوقيع .....

القســـم الاول: معـــلومـــات عامـــة عن الأســـرة

أجب عن الأسئلة من حيث صلة أسرتك بها. بالنسبة لمعظم الإجابات. *(يرجى ملء الفراغات أو وضع علامة علي الإجابة الصحية).*	
تاريخ المشاركة: ..... المدينة: ..... المحلة او المنطقة السكنية: ..... الشارع:.....	
الاسئلة	**الإجابات**
ما هو ترتيبك في الاسرة؟ مثلاً أب ، أم ، أبن ، أبنة ، جد جدة الخ ؟	□رب الأسرة □ رئيس المنزل □ ابن او ابنة □ غير ذلك (الرجاء التحديد):.....
ما هي جنسية رب الاسرة؟	□ مهاجر وغير متحصل علي الجنسية □ مهاجر متحصل علي الجنسية □ مواطن ليبي منذ الولادة
كم عدد الأشخاص الذين يعيشون ويأكلون بانتظام في أسرتك؟	( )
كم عدد الأطفال الذين تقل أعمارهم عن 18 سنة في اسرتك؟	( )

القســم الثــاني: تــعرض الأســرة للصــراع ومـدى حســاسـية الأســرة للصــراع؟

منذ اندلاع الصراع في ليبيا سنة 2011، ما هي أنواع الصراعات التي واجهتها أسرتك في منطقتك؟

نوع الصراع	الموقع	السنة	عدد المرات	المدة الإجمالية (أشهر أو أيام)
صراعات مسلحة بين القوات الحكومية وجماعات المعارضة (مثل جماعات الثوار)	□ حدث قرب المنزل □ في وسط المدينة □ في المنطقة □ غير ذلك			
صراعات مسلحة بين القبائل المحلية أو جماعات اخري	□ حدث قرب المنزل □ في وسط المدينة □ في المنطقة □ غير ذلك			
صراعات مسلحة بين القوات الحكومية المعارضة (على سبيل المثال، الحكومة في الشرق والحكومة في غرب ليبيا)	□ حدث قرب المنزل □ في وسط المدينة □ في المنطقة □ غير ذلك			

1. ما هي أنواع الأضرار التي تكبدتها أسرتك بسبب التعرض للصراعات المذكورة أعلاه؟
(الرجاء وضع علامة وتحديد كل ما ينطبق علي أسرتك)

□ تعرضنا لأضرار نفسية وعانينا من القلق المستمر أو الخوف على الحياة والممتلكات الخاصة للأسرة □ تعرض الأطفال لصدمات نفسية □ عانى واحد أو أكثر من أفراد الأسرة من إصابة أو مرض

□ فقد أو وفاة واحد أو أكثر من أفراد الأسرة □ تعرضنا لأضرار لحقت بالممتلكات المنزلية كالتلف أوالسرقة □ فقدان الماشية كالاغنام والابقار وغيرها □ تم تدمير البيت أو السيارة الخاصة بالأسرة □ فقدان واحد أو أكثر من أفراد الاسرة وظيفته □ لم يكن هناك ضرر

□ غير ذلك (يرجى التحديد).....

2. قد تكون بعض الأسر أكثر تعرضاً لآثار الصراعات أكثر من غيرها .هل أدى واحد أو أكثر من الخصائص التالية إلى جعل أسرتك حساسة أو معرضة للصراعات؟

(الرجاء وضع علامة وتحديد كل ما ينطبق على أسرتك)

□ بعض أفراد الأسرة يعانون من العجز أو المرض □ أغلب أفراد الأسرة كبار في السن □ غالبية أفراد الأسرة من الأطفال □ غالبية أفراد الأسرة من النساء □ رب الأسرة هو امرأة

□ الأطفال في المدارس وهذا ماسبب قلق على أمنهم □ رئيس الأسرة ينتمي إلى أقلية عرقية أو مهاجر □ لا يوجد مثل هذه الخصائص لدي أسرتي

□ غير ذلك (يرجى التحديد):.....

القســـــم الثالـــث: استهـــلاك الأســـرة للـــغذاء

بالنظر إلى فترة ماقبل الصراع السابقة لسنة 2011، وفترة أثناء الصراع سنة 2011، وفترة مابعد الصراع سنة 2012 – 2013 وفترة مابعد سنة 2014 والوضع الحالي بصفة عامة، كم يوما في غضون الاسبوع كانت اسرتك تتناول المواد الغذائية التالية؟	**قبل الصراع (قبل 2011)** كم مرة اسبوعياً	**اثناء الصراع (في 2011)** كم مرة اسبوعياً	**منذ نهاية سنة 2014 الي الوقت الحالي** كم مرة اسبوعياً
الكربوهيدرات (على سبيل المثال، الأرز، الكسكسي، الخبز، المعكرونة، فتات، الخ)			
الخضروات (كالطماطم والبطاطس والخيار والبصل والفلفل وغيرها)			
الفواكه (مثل الموز والتفاح والبرتقال والعنب وغيرها)			
البروتين الحيواني (مثل اللحوم بما في ذلك لحم البقر والأغنام والابل الخ)			
بروتين الدواجن (مثل لحوم الدواجن والبيض)			
بروتين الألبان (مثل الحليب والزبادي والجبن والزبدة)			
البروتينات البحرية (مثل الأسماك والمحار)			
السكر والعسل			
الزيوت والدهون والزبدة			
المشروبات الساخنة (مثل الشاي والقهوة)			
التوابل والملح			
المشروبات (مثل العصير والمشروبات الغازية)			
المكسرات (مثل الفستق واللوز)			
الأغذية التقليدية (مثل بازين، فتات، طاجين الخ)			

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القســـم الرابـــع: تجـربة انـــعدام الأمـــن الغـــذائي للأســـــرة

بالنظر إلى فترة ماقبل الصراع السابقة لسنة 2011، وفترة أثناء الصراع سنة 2011، وفترة مابعد الصراع سنة 2012 – 2013 وفترة مابعد سنة 2014 والوضع الحالي بصفة عامة، هل كان هناك حالة عندما اصبحت:	قبل الصراع (قبل 2011)	اثناء الصراع (في 2011)	منذ نهاية سنة 2014 الي الوقت الحالي
أنت و افراد أسرتك قلقون من عدم وجود ما يكفي من الطعام بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
أنت و أفراد أسرتك لم تتمكنو من تناول طعام صحي ومغذي بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
أنت و أفراد أسرتك لم تأكلوا سوى أنواع قليلة من الأطعمة بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
أنت و أفراد أسرتك قمتو بانقاص وجبة من الوجبات الرئيسية بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
أنت و أفراد أسرتك أكلت أقل من المعتاد بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
نفد الطعام من أسرتك بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
مضى عليك او علي اسرتك وقت من الاوقات بدون نوع معين من الطعام في منزلك بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
أنت و أفراد أسرتك تعرضتو للجوع ولم تأكلوا بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
أنت و أفراد أسرتك بقيت دون تناول الطعام لمدة يوم كامل بسبب نقص المال أو الموارد الأخرى؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
ثمن الطعام في السوق لا يمكن تحمله بالنسبة لك او لافراد اسرتك؟	□ دائماً □ احياناً	□ دائماً □ احياناً	□ دائماً □ احياناً

	□ نادراً □ ابداً	□ نادراً □ ابداً	□ نادراً □ ابداً
أنت و أفراد أسرتك لم تجدو الطعام الذي تحتاجه في السوق؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
أنت و أفراد أسرتك قلقون من أن نوعية الطعام الذي يؤكل في منزلك كانت سيئة للغاية؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
أنت و أفراد أسرتك لا تستطيعون الحصول على الطعام من السوق بسبب مشكلة النقل أو السفر؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً

القســـم الخـــامـــس: أصـــــول ومـــوارد الأســـرة

يمكن أن تؤثر النزاعات على الأسر بشكل غير متناسب حسب الموارد. فعلى سبيل المثال، قد تواجه الأسر ذات الموارد المحدودة صعوبة أكبر في التعامل معها. في بعض الأحيان، قد تخلق المزيد من الموارد المزيد من المتاعب للأسرة. هل يمكنك أن تعطيني فكرة عن ملكية أسرتك للموارد التالية؟

(الرجاء فقط تعبئة ما ينطبق على اسرتك وترك باقي الخانات فارغة).

الأراضـــي	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
الأراضي الزراعية تحت ملكية الأسرة	□نعم □لا	□نعم □لا	□نعم □لا
الأراضي غير الزراعية تحت ملكية الأسرة	□نعم □لا	□نعم □لا	□نعم □لا
نوع اخر من الأراضي	□نعم □لا	□نعم □لا	□نعم □لا
المـــاشيـــة والدواجـــن	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
□ اغنام	العدد ( )	العدد ( )	العدد ( )

□ إبل	العدد ( )	العدد ( )	العدد ( )
□ ماعز	العدد ( )	العدد ( )	العدد ( )
□ الأبقار	العدد ( )	العدد ( )	العدد ( )
□ خيل	العدد ( )	العدد ( )	العدد ( )
□ الدواجن	العدد ( )	العدد ( )	العدد ( )
□ لا يوجد			
أبـــار الميـــاه والغـــابـات	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
الابار	العدد ( )	العدد ( )	العدد ( )
الغابات	العدد ( )	العدد ( )	العدد ( )
المـــوارد المـــادية للاســـرة	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
البيوت المملوكة للأسرة	العدد ( )	العدد ( )	العدد ( )
المباني أو المحلات التجارية	العدد ( )	العدد ( )	العدد ( )
سيارة خاصة	العدد ( )	العدد ( )	العدد ( )
تلفزيون	العدد ( )	العدد ( )	العدد ( )
راديو	العدد ( )	العدد ( )	العدد ( )
الحاسوب	العدد ( )	العدد ( )	العدد ( )
الإنترنت	□نعم □لا	□نعم □لا	□نعم □لا
الهواتف المحمولة	العدد ( )	العدد ( )	العدد ( )
الوظـــائـــف	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
هل رب الأسرة متحصل علي وظيفة براتب شهري؟	□ نعم □ لا	□ نعم □لا	□ نعم □ لا
هل زوجة رب الأسرة متحصلة علي وظيفة براتب شهري؟	□ نعم □ لا	□ نعم □لا	□ نعم □ لا
هل أفراد الأسرة الآخرون متحصلون علي وظائف براتب شهري؟	□ نعم □ لا	□ نعم □لا	□ نعم □ لا
ماهي وظيفة رب الاسرة او المسؤول علي هذه الاسرة؟	□ موظف حكومي □ معلم □ موظف مبيعات □ فلاح □ رجل أعمال لحسابه الخاص غير ذلك (يرجى التحديد):.....	□ موظف حكومي □ معلم □ موظف مبيعات □ فلاح □ رجل أعمال لحسابه الخاص غير ذلك (يرجى التحديد):.....	□ موظف حكومي □ معلم □ موظف مبيعات □ فلاح □ رجل أعمال لحسابه الخاص غير ذلك (يرجى التحديد):.....
المـوارد البشـــريـــة للاســـرة	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
أفراد الأسرة المتحصلين على شهادة الدكتوراه: □ رب الأسرة □ ربة الاسرة □ الابناء	العدد ( )	العدد ( )	العدد ( )

أفراد الأسرة المتحصلين على شهادة الماجستير: □ رب الأسرة □ ربة الاسرة □ الابناء	العدد ( )	العدد ( )	العدد ( )
أفراد الأسرة المتحصليين الشهادة الجامعية: □ رب الأسرة □ ربة الاسر □ الابناء	العدد ( )	العدد ( )	العدد ( )
أفراد الأسرة المتحصلين على الشهادة الثانوية: □ رب الأسرة □ ربة الاسرة □ الابناء	العدد ( )	العدد ( )	العدد ( )
أفراد الأسرة المتحصلين على الشهادة الابتدائية: □ رب الأسرة □ ربة الاسرة □ الابناء	العدد ( )	العدد ( )	العدد ( )
الموارد البشـــريـــة للاســـرة	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
أفراد الأسرة المتحصلين على دورات تقنية (مثل التدريب على الحاسوب والتدريب على الإنترنت): □ رب الأسرة □ ربة الاسرة □ الابناء	العدد ( )	العدد ( )	العدد ( )
أفراد الأسرة المتحصلين على دورات في التدريب المهني او الصناعي (مثل البناء والحرف): □ رب الأسرة □ ربة الاسرة □ الابناء	العدد ( )	العدد ( )	العدد ( )
غير ذلك (يرجى التحديد):.....	العدد ( )	العدد ( )	العدد ( )
أفراد الأسرة الغير متعلمين او متدربين: □ رب الأسرة □ ربة الاسرة □ الابناء	العدد ( )	العدد ( )	العدد ( )
التـفاعلات والعـلاقـات بـين أفـــراد الأسرة	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
تناول الطعام مع بعض داخل الأسرة	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
مناقشة المسائل العائلية مع بعض داخل الاسرة	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق

تقاسم دخل الأسر من أجل الاستثمار أو شراء الممتلكات، وما إلى ذلك	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
تحمل أفراد الأسرة الأكبر سناً المصروفات المالية لأفراد الاسرة الأصغر سنا مثل دفع مصروفات المدرسة وغيرها	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
مساعدة أفراد الأسرة لبعضهم البعض في الأزمات (على سبيل المثال، في أوقات المرض او المشاكل الاخرة خارج الاسرة)	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
التـفاعلات و العــلاقـات بـين أفـراد الأسـرة والخــارج كالجـيران والاصـدقاء والاقــارب الخ	**قبل الصراع (قبل 2011)**	**اثناء الصراع (في 2011)**	**منذ نهاية سنة 2014 الي الوقت الحالي**
تناول الطعام مع الجيران والأصدقاء في المطاعم	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
زيارة الجيران والأصدقاء اوالأقارب في ظروف مثل المرض أو الموت إلخ	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
حضور الأنشطة الاجتماعية مثل مراسم الزواج وغيرها	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
الذهاب إلى نزهة مع الجيران والأصدقاء والأقارب	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
اقتراض أو إعطاء الاموال من الجيران والأصدقاء والأقارب	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
تقاسم الأجهزة او المعدات الزراعية، على سبيل الجرارات من الجيران والأصدقاء المثال والأقارب	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق	□ دائماً □ احياناً □ نادراً □ ابداً □ لا ينطبق
الانتماء والمشاركة في المنظمات والتجمعات والروابط والمؤسسات	**قبل الصراع (قبل 2011)** **نوع العضوية**	**اثناء الصراع (في 2011)** **نوع العضوية**	**منذ نهاية سنة 2014 الي الوقت الحالي** **نوع العضوية**
:الانتماء الي رابطة مهنية □ نعم □ لا □ رابطة الأطباء □ رابطة المعلمين □ رابطة المهندسين محرري العقود □ رابطة المحاميين □	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد .....
:الانتماء الي رابطة حرفية □ نعم □ لا رابطة التجار □ رابطة اوجمعية الصيادين □ أو رجال الأعمال	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد

رابطة ثقافية مثل الفنون والمسرح والشعر □ رابطة الشباب والرياضة كالنوادي والسباقات الرياضية □	غير ذلك يرجى التحديد	غير ذلك يرجى التحديد	.....
الانتماء الي رابطة اجتماعية القبيلة مثلاً (اللجنة الاجتماعية بالمدينة او القرية) □ نعم □ لا	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد .....
رابطة دينية (مثل لجنة مسجد المدينة او القرية او لجنة الاشراف على دورات تحفيظ القران) □ نعم □ لا	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد .....
مجموعة سياسية أو حزب سياسي □ نعم □ لا	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد .....
المنظمات غير الحكومية أو المدنية (مثل الهلال الأحمراو الجمعيات الخيرية) □ نعم □ لا	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد	□ عضو عادي □ عضو تنفيذي □ مشارك في الأنشطة فقط □ متبرع □ غير عضو غير ذلك يرجى التحديد .....

القـــسم الســـابع: استراتيـــجيات وخـطط التـــكيف مع الازمـــــات

إلى أي مدى قامت أسرتك بتطبيق أو استخدام استراتيجيات وخطط التكيف التالية عند مواجهة انعدام الأمن الغذائي أو الأزمات الأخرى؟ اختر كل (ما ينطبق على اسرتك. يرجى أيضا توضيح ما إذا كان. (ضع علامة على مربع واحد في كل خانة

استـــراتـيـجـيات وخـطط المـــواجـــهة	قبل الصراع (قبل 2011)	اثناء الصراع (في 2011)	منذ نهاية سنة 2014 الي الوقت الحالي
تقليل عدد الوجبات التي تؤكل يوميا	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
خفض حجم الوجبة أو تناول والوجبة دون الفواكه والسلطة واللحوم	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
شراء الغذاء بالدين	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
شراء أقل جودة وأرخص انواع الغذاء	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
اقتراض الطعام من الأصدقاء والأقارب	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
الاعتماد على مساعدة من الاقارب والأصدقاء بخصوص أي ظرف	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
تقاسم الطعام مع الجيران	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
البالغين يأكلون أقل من المعتاد وذلك لإطعام الأطفال	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إعطاء الأطفال حليب الكبار للشرب لعدم توفر حليب الاطفال	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
الاستهلاك من مخزون الحبوب التي تم تخزينها لزراعة الموسم المقبل	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
استهلاك الطعام التقليدي أكثر من المعتاد مثلا الطعام المنزلي	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إنفاق معظم ميزانية الأسرة على الغذاء وتوفير المال عن طريق خفض النفقات على السلع الفاخرة او الكماليات	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
تلقي الأغذية المجانية من المنظمات غير الحكومية والجمعيات الخيرية	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً

اصبح أفراد الأسرة يعملون بدوام جزئي أو يعملون ساعات أطول من المعتاد	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
المرأة بدات تعمل بدوام كامل او جزئي وذلك لتغطية تكاليف المعيشة	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
توقف الشباب عن الدراسة للانضمام للجيش للحصول على المال	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
استئجار الأدوات الزراعية بدلا من شرائها	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
بيع مخزون الاسرة من الذهب والمجوهرات للحصول على المال وشراء المواد الغذائية	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
بيع الماشية للحصول على المال وشراء الغذاء	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
بيع الأراضي للحصول على المال وشراء الغذاء	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
بيع الممتلكات المنزلية للحصول على المال وشراء الغذاء	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
البدء في العمل في مزرعة الأسرة لإنتاج الغذاء	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
تقليل أو إيقاف هدر الطعام	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
الأسرة بأكملها هاجرت مؤقتا إلى مدينة أو بلد آخر	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
بعض أفراد الأسرة هاجرو مؤقتا إلى مدينة أو بلد آخر	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
الأسرة بأكملها هاجرت بشكل دائم إلى مدينة أو بلد آخر	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
هاجر بعض أفراد الاسرة بشكل دائم إلى مدينة أو بلد آخر	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
جلب الأغذية من البلدان المجاورة لتوفير الطعام	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً

NOTTINGHAM
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القســـم الثامـــن : الهيـــاكل المؤسســـات الرسمـــية

الأســـئـــلة	قبل الصراع (قبل 2011)	اثناء الصراع (في 2011)	منذ نهاية سنة 2014 الي الوقت الحالي
إلى أي مدى تلقت أسرتك طعاماً من مؤسسات حكومية عامة (مثل الجمعيات الاستهلاكية والاسواق الحكومية العامة) في منطقتك؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
ما هي تجربة أسرتك مع أسعار المواد الغذائية في الاسواق التي تشتري منها معظم الاطعمة؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت عائلتك دعم حكومي بخصوص الادوات والمعدات الزراعية، على سبيل المثال البذوروالاسمدة وغيرها؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت أسرتك دعم حكومي بخصوص الخدمات البيطرية للثروة الحيوانية؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت أسرتك قروض حكومية سكنية أوقروض لمزاولة اعمال تجارية لزيادة الدخل؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى حصلت أسرتك على وظائف حكومية للعاطلين عن العمل في اسرتك؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت أسرتك دعم حكومي أو دعم مالي لأفراد الأسرة العاجزيين أو المعوقين؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت أسرتك إعانات حكومية أو دعما خاصاً للأطفال (علي سبيل المثال التطعيمات والعلاج)؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت أسرتك إعانات حكومية بخصوص العلاج والأدوية لأفراد الأسرة؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت أسرتك دعم حكومي على الوقود للتنقل الشخصي؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت أسرتك مواد غذائية مجانية من الحكومة في أوقات الأزمات؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى تلقت أسرتك دعما غذائيا أو مادياً من منظمات غير حكومية دولية والتي عملت او لازالت تعمل في منطقتك؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى كان واحداً أو أكثر من أفراد أسرتك لا يمكنهم الحصول على رواتبهم في الوقت المحدد من الحكومة ؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى كان واحد أو أكثر من أفراد أسرتك لا يمكنهم سحب الأموال من البنوك في الوقت المحدد؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى كان واحد أو أكثر من أفراد أسرتك قلقون على أمن ودائعهم في البنك؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً
إلى أي مدى كان واحد أو أكثر من أفراد أسرتك تعذر عليهم احصول علي العملة الأجنبية من البنك عندما يحتاجون إليها؟	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً	□ دائماً □ احياناً □ نادراً □ ابداً