Food Security:

Impact of food assistance on the health status of women and children in Ethiopia



Author: Carola Golino

Study Programme: International Food Business

Institution: Aeres University of Applied Sciences &

Dalhousie University

Date: 15th August 2022

Place: Wageningen, The Netherlands

Thesis Coach: Emmanuel Anom





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Preface

The following research paper has been written by Carola Golino as graduation project for the program International Food Business offered by Aeres University of Applied Sciences, in the Netherlands and Dalhousie University, in Canada. When I first started my studies, I seemed to have no idea about what I wanted to do with my life, but because of the experiences I had over the course of four years and the interesting topics discussed in class, I was able to develop a strong interest in food security and social sustainability. It was for this reason that I decided to write about food security for my final thesis. At first, I planned to focus on food insecurity among students in the Netherlands. However, I changed my perspective and decided to focus on Ethiopia as I would want to work for an international organization like the FAO or the UN in the future, and my internship tutor, Mr. Rasoul Mikkelsen, who worked for the UN, advised me to focus on international issues to increase my chances in the field I want to work in. The transition was challenging, but I was able to move forward thanks to the help of my thesis coach, Mr. Emmanuel Anom, who was always willing to assist, advise, encourage, and understand me. I would like to express my greatest gratitude to Mr. Anom, he was extremely patient with me and was always positive and encouraging, even when he had to explain the same concept numerous times. His expertise and knowledge in the sector were essential in guiding me through the entire process, I am very glad that he agreed to accompany me through this important period of my life. I would like to extend my gratitude to Mr. Mikkelsen as well, who was always interested in the progress of my work and kindly offered his time, assistance, and knowledge to ensure my success. Lastly, I would like to express my gratitude to my family and friends for their support not just during the thesis writing process but also throughout these four years. My friends accompanied me on this journey, so I am really thankful; in particular, Isabella Kleine, who has always supported and motivated me to do my best. It would not have been possible for me to even consider achieving this outcome if it hadn't been for my family's efforts which ensured that I could follow my own path. Thank you for believing in me and for always being my greatest supporters and critics.

I hope that by reading this work, you will be able to see my passion for achieving food security, as well as the effort and drive that went into it.

Carola Golino Wageningen, August 2022

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Summary

Global food insecurity was estimated to affect billions of people in 2020. Ethiopia has one of the highest incidence rates of food insecurity among all countries. Women and children are among the most vulnerable groups. Food assistance with the aim of addressing food insecurity is one of the mitigation measures used relief organizations. The scope of this study is to determine how food assistance responses may affect the health status of Ethiopian women and children. The research question "What is the impact of food assistance on the health status of women and children in the Ethiopian region of Tigray?" has been formulated to fulfill the scope. The objective is to enhance the vulnerable group's food security status.

A qualitative analysis has been performed for the proposed research. The answers of five experts, were conducted and analyzed using MAXQDA by grouping the responses according to a thematic coding system and the creation of graphic illustrations of the results.

The results highlighted the strong links between the country's food insecurity and issues such as inflation, conflict, and climate change. Women and children were identified as the vulnerable group, mostly because of their household responsibilities, restricted access to resources, and ties to cultural practices. Humanitarian aid and development programs are at the foundation of the operations conducted by relief organizations. Conclusions show that despite most institutions having some level of operational review in the form of the amount of people reached and the improvement of livelihoods, less than half (40%) of the institutions directly assess the health status (with nutritional levels assessments) in relation to the activities performed.

The short-term recommendations for the stakeholders include advice for national and international organizations, such as ensuring that resources are provided in compliance with people's needs. Food manufacturers and suppliers should make sure that the foods provided are culturally appropriate, high in nutrition, and able to sustain food security.

The achievement of food security in Ethiopia is the focus of longer-term recommendations and final aim of the research. Recommendations for the organizations include the implementation of stronger monitoring systems, helpful to assess their impact on those assisted and food security levels. Additional recommendations comprise the creation of policies that reflect the needs of the population and to keep adapting to the evolving environment present in the country. Additionally, it is advised to limit the provision food exports to emergency situations, to safeguard the national food systems.

Acronyms

CFS	Committee on World Food Security
Covid-19	Coronavirus disease
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organization
GHI	Global Hunger Index
IDA	International Development Association
IEP	Institute for Economics and Peace
NGOs	Non-Governmental- Organizations
NFP	Netherlands Food Partnership
RQ	Research Question
SDG's	Sustainable Development Goal(s)
UN	United Nations
WASH	Water Sanitation and Hygiene
WB	World Bank
WFP	World Food Program

1.Introduction

Nations (UN), states that everyone has the right to a living standard sufficient for their own and their families' health and well-being, including food, clothing, housing, medical care, and necessary social services, as well as the right to security in the event of unemployment, sickness, disability, widowhood, old age, or other loss of livelihood due to circumstances beyond their control. (United Nations, 1948)

Although access to food is recognized as a basic human right, there are still many barriers that do not make this right a reality for everyone. According to the Food and Agriculture Organization (FAO) of the UN, the number of people around the world suffering from hunger, malnutrition, and food insecurity increased in 2020 due to the Covid-19 outbreak, a worldwide pandemic. (FAO et al., 2021c)

Hunger, also acknowledged as chronic malnutrition, is defined as the inability to obtain enough food to meet one's daily basic nutritional energy requirements over a year's time (Webb et al., 2018). Undernutrition (nutritional deficiency) and overnutrition (obesity and overweight) are both examples of malnutrition (Webb et al., 2018). In fact, with the term malnutrition, any form of incorrect nutrition is intended (Webb et al., 2018). The Committee on World Food Security (CFS) (2012) defines food and nutrition security as all individuals having physical, social, and economic access to safe, sufficient food at all times.

Food security can exist on various levels, and it is generally separated into four pillars: availability, access, utilization, and stability. The word food availability refers to the supply of food that is available to meet one's requirements. To ensure food availability, food must be of adequate quantity and quality. Moreover, it must be supplied either nationally or internationally through production and imports, which would include both trade and food aid. The pillar of food access refers to an individual's ability to gain adequate access to resources in order to procure food. This implies that a person possesses all of the necessary means, such as legal, political, economic, and social power, to gain access to food sources. In the context of food security, utilization refers to an individual's likelihood of having a proper diet, safe water, sanitation, and healthcare, all of which contribute to achieving all physiological needs and nutritional well-being of the individual. Food stability encompasses the principles of guaranteeing food availability and access at all times; food security can only be obtained if these criteria are met. (FAO, 2006)

Food insecurity, hunger, and malnourishment can be present at many levels. The Global Hunger Index (GHI) developed a severity scale to assess the severity of these concerns in various countries. The scale assesses the likelihood that several factors such as undernutrition, nutrition levels, and child mortality would have an impact on the population of the country under consideration. Low (\leq 9.9) is the lowest rank on the severity scale, followed by moderate (10.0-19.9), serious (20.0-34.9), alarming (35.0-40.9), and extremely alarming (\geq 50,0) (Global Hunger Index, 2021a).

According to the GHI, 47 countries are already at risk of not becoming food secure before 2030, despite the UN's sustainable development goal (SDG) of achieving zero hunger by 2030. (Global Hunger Index, 2021c)

In 2020, 768 million people worldwide went hungry, up by 161 million from the previous year. Since 2014, the number of people impacted by food insecurity has increased dramatically, signaling that it is becoming a widespread concern. The pandemic, on the other hand, aggravated the issue, with over 2.37 billion people facing food insecurity in 2020 (the numbers rose by 320 million people compared to 2019). Asia, Africa, Latin America, and the Caribbean were the most affected regions. (FAO et al., 2021c)

One of the countries most at risk is Ethiopia, which has been facing a hunger crisis since 2021 (Global Hunger Index, 2021c). When it comes to food security threats, Ethiopia ranks 90th out of 116 nations analyzed, with 24.1 percent (which is considered serious on the GHI severity scale) of the population affected, women and children, particularly those under the age of five, bear the brunt of the burden (Global Hunger Index, 2021b; Gebru et al., 2018). The situation taking place in Ethiopia is a currently relevant issue and it involves different stakeholders. Commonly food systems stakeholders include producers, distributors, consumers, policy developers, food associations, and civil organizations (Garcia-Gonzalez & Eakin, 2019). This research will focus on understanding the impact of food assistance on the health status of women and children in the Ethiopian's region of Tigray. The study will contribute knowledge to address the issue from different points of view and create relevance for all the stakeholders involved with food security and food assistance. The identified stakeholders for this research include vulnerable groups, national and international organizations, policymakers, and suppliers of food products. The findings of the research will support the vulnerable group by providing information useful to improve their health status and livelihoods. The information acquired will assist national and international organizations to validate the operational models used to address the issue, as well as policymakers to develop policies that take into account the relationship between food assistance and food insecurity among vulnerable groups. Finally, the findings of the study can aid producers and suppliers in their attempts to supply food that fulfills the nutritional needs and health status of the vulnerable group.

Drivers of food insecurity will be explored in the upcoming sections in order to better understand the impact of different components on the development of a situation such as the one occurring in Ethiopia. Additionally, an overview of several approaches used to alleviate food insecurity will be provided. This will assist in the assessment of the connection between food assistance and food insecurity.

1.1 Overview of food insecurity

In 2015 the UN states created the Agenda for Sustainable Development, with the aim of encouraging a sustainable life for people and the planet (United Nations, 2015). The 17 development goals are at the foundation of the agenda; they highlight the direction to pursue in order to ensure that the UN members' aims are met (United Nations, 2015). The second of the SDG's 'Zero Hunger' focuses on ending hunger, achieving food security and improved nutrition, and the promotion of sustainable agriculture by 2030 (The Global Goals, 2015).

Despite the fact that food security is among the UN's goals and should be guaranteed for everyone, more than a third of the world's population struggled with food insecurity in 2020. The number of individuals affected has risen steadily since 2014, and the spread of the Covid-19 virus has only exacerbated the situation, with the number of people impacted rising from 22.6 percent in 2014 to 30.4 percent in 2020 (as shown in figure 1 below). The increase as a consequence of Covid-19 was nearly equal to the whole increase over the preceding five years combined. (FAO et al., 2021c)

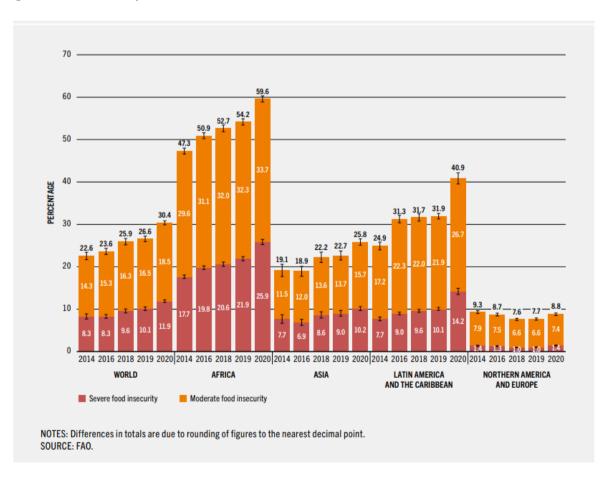


Figure 1. Food insecurity in the world, 2014-2020

The World Food Program (WFP) and FAO have also issued warnings regarding the food security situation in African countries (Madagascar, Democratic Republic of Congo, Central African Republic), Asian countries (Afghanistan, Syria), and Central American countries (Haiti, Honduras) (FAO & WFP, 2022). Ethiopia, Nigeria, South Sudan, and Yemen are the countries most in danger of food insecurity at the moment, where famine and starvation are threatening a large portion of the population (FAO & WFP, 2022).

Food insecurity can arise from a variety of causes. Food prices and a country's economy can have a significant impact on food security; this phenomenon can be seen in South Sudan, Nigeria, and Yemen. Climate change can also lead to a deterioration in food security among the population, as seen in nations like the Sahel, Haiti, and Madagascar. Conflict is a major contributor to food insecurity and has far-reaching consequences on people's livelihoods. Countries like Ethiopia, Yemen, and Nigeria are now seeing the effects of war on food access. (United Nations, 2022)

The drivers of food insecurity will be explored in-depth in section 1.2 to better understand their impact on a country's stability and population.

1.2 Key drivers of food Insecurity

1.2.1 Impact of climate change and agriculture on food security

Climate change has a significant impact on food security. It has the potential to disrupt food availability, access, and utilization, which are all pillars of food security (FAO, 2015). Increasing temperature, declines in precipitation, and extreme climate events such as droughts and floods are all repercussions of climate change which can affect a country's agricultural output and threaten its food security (IPCC, 2016).

Climate change is having an especially negative impact on agricultural yields in arid areas of the world, including Africa, Asia's highlands, and South America (IPCC, 2016). The reason for this is that the amount of moisture in the soil decreases as a consequence of the lack of precipitations, making it more difficult to grow food in those locations (Schmidhuber & Tubiello, 2007). Additionally, warmer temperatures create a more favorable environment for pests, which contribute to crop degradation and change in the existing ecosystem (Schmidhuber & Tubiello, 2007). The spike in temperatures jeopardizes food security by affecting livestock both directly and indirectly (FAO, 2015). Extreme droughts in Sub-Saharan Africa have resulted in the loss of 20 to 60 percent of livestock in recent times (FAO, 2015). Lower agricultural productivity may result in a loss of income, limiting the population's capability to access food supplies (FAO, 2015). Restricted funds available for expenditure on food can result in a shift in dietary patterns, which can mean that the utilization of food sources is negatively influenced (FAO, 2015). Among the most influenced by climate changes there are people who rely on agriculture for a living and have restricted power to adapt, such as indigenous peoples in the Arctic and Pacific Islands, fishery communities, and poorer households, particularly women, who have already limited access to resources and are thus more vulnerable (FAO, 2015). Despite the fact that the disadvantages of climate change significantly outweigh the advantages, the rising temperatures associated with environmental change may benefit areas with lower temperatures by generating more arable land and better cultivation conditions (FAO, 2015; Schmidhuber & Tubiello, 2007).

Different countries are dealing with the effects of climate change on food security. Growing evidence is proving the impact of climate change on agriculture in Central American countries, extreme climate events, such as droughts and floods associated with El Niño/Southern Oscillation (climatic pattern), has had an impact on the agricultural yield of the area, resulting in a loss of \$5 billion over the last three decades (Pons, 2021). Small and medium farm holders were particularly affected, and as a consequence, they were unable to consume their produce, ending in food insecurity (Pons, 2021). El Salvador, Guatemala, and Honduras all had significant cases of food insecurity and had to recur to the sale of lands or migration as a solution (Pons, 2021).

In Afghanistan, similar conditions to those in Central America were observed, with La Niña (meteorological pattern) causing one of the country's worst droughts. The drought diminished agricultural yields, impacted household food production, and generated adverse situations for livestock (FAO & WFP, 2022).

The Sahel region of Africa is experiencing a surge in food insecurity among its population as a result of climate change, particularly due to the effects of irregular precipitation in 2021 (FAO & WFP, 2022). Heavy precipitation during the high season led to a loss of productivity, leaving the availability for the following months at risk (FAO & WFP, 2022). Especially in Niger, the production of staple

foods like cereals dropped by 38 percent compared to the five-year average (FAO & WFP, 2022). In East Africa and particularly in Ethiopia the concern for food security is high, despite having great potential the country is still unable to produce enough food to reach stability (Wendimu, 2021). Ethiopian agricultural systems are extremely outdated and dependent on rainfall (Wendimu, 2021). However, as a result of climate change, precipitations are becoming more unpredictable, and droughts more common. These factors, combined with the nature of the soil, which is prone to erosion, exacerbate the situation of food insecurity already present in the country (Wendimu, 2021).

1.2.2 The impact of nutrient-diverse diets on food security

A nutritious diet incorporates not only an acceptable volume of food but also an adequate quality of food, which is essential for achieving food security (United Nations Office for the Coordination of Humanitarian Affairs, 2022).

A sufficient amount of meals that include both macronutrients and micronutrients to satisfy the body's requirements should be part of one's balanced diet (Cena & Calder, 2020). Carbohydrates, proteins, and fats mainly contain macronutrients, whereas vitamins and minerals are part of the micronutrients (Cena & Calder, 2020). Carbohydrates can be found in grains, fruits, legumes, and vegetables and represent the main source of energy for the body (Cena & Calder, 2020). Proteins can be found in a variety of foods, including meat, fish, and eggs, as well as legumes, nuts, and seeds (Cena & Calder, 2020). Animal protein should be consumed with caution as it contains saturated fatty acids, which have been related to cancer and cardiovascular diseases (Cena & Calder, 2020). Proteins are essential for mass body maintenance (Cena & Calder, 2020). Fats, also referred to as lipids, are a source of energy and make up the cellular membrane, monounsaturated, polyunsaturated, saturated, and trans fats are among the several types of fats (Cena & Calder, 2020). Fish, plant-derived oils, nuts, and seeds are part of unsaturated fats, whereas processed fats constitute saturated fats (Cena & Calder, 2020). Unsaturated fats, such as omega 3, are necessary for a diet as they help protect the body from illnesses. In contrast, trans fats are dangerous for health as they have been associated with a greater risk of mortality (Cena & Calder, 2020). Micronutrients can be found in fruits, vegetables, and water (Cena & Calder, 2020). They are essential for maintaining good health as they include vitamins and fibers with antioxidant and anti-inflammatory qualities (Cena & Calder, 2020). A well-balanced diet should include vegetables, fruits, water, grains (preferably unprocessed), legumes, nuts, unsaturated fats, fish, and low-fat dairy on a daily basis, as well as meat, eggs, and potatoes on a weekly basis (World Health Organization, 2020). Sweets may occasionally be consumed in a well-balanced diet (World Health Organization, 2020).

In the context of food insecurity, however, maintaining a balanced diet can be challenging because food options are limited by different factors (Avery, 2021). Conditions associated with food insecurity, such as rising food prices, might make it difficult to acquire nutritious and sufficient food (FAO, 2021b). Between 2017 and 2019, the cost of a nutritious diet rose by 7.9 percent globally, with Africa seeing the largest increase (12.9 percent), followed by North and South America and Europe with an increase of 6.8 percent (FAO et al., 2021). Covid-19 posed a threat to food security in Europe and Central Asia, especially for lower-income households and vulnerable groups such as children (FAO, 2021b). Food insecurity was also more typically related to unbalanced diets high in fats, salt, and sugar, as well as a low fruit and vegetable consumption in the afore mentioned countries (FAO, 2021b). Furthermore, when compared to the rest of the globe, these countries consume significantly more animal-based items, while fish, pulses, and vegetables are consumed at lower rates (FAO, 2021b). Despite the rising costs of healthy diets in Europe and North America, the proportion of people who cannot afford to follow a balanced diet has decreased. This is not the scenario in Latin America, where rising costs of healthy diets have led to an increase in the number of individuals

unable to purchase nutritious foods (FAO et al., 2021). The pandemic's impact in 2020 aggravated the issue, resulting in a greater proportion of people living in poverty, further extending the affordability gap for healthy meals (FAO et al., 2021). Other pandemic repercussions include restricted mobility and supply chain disruptions, both of which contributed to dietary pattern modifications (FAO et al., 2021). Africa and Asia were severely impacted by the circumstances, and as a result, they had to deal with malnutrition and a lack of access to essential nutrition services (FAO et al., 2021). The majority of food produced in Africa and in specific in the Sub-Saharan area is grown by smallholder farmers and it is heavily dependent on climate conditions this may result in diets low in diversity among the population (Fraval et al., 2019). According to a study published by the Ethiopian Public Health Institute (2013), the diversity of diets in Ethiopia is quite low, with an overreliance on grains, cereals, and carbohydrates (Ethiopian Public Health Institute, 2013). Ethiopians' chances of being healthy are constrained by several factors, the first one being the scarcity of nutrient-diverse diets which is related to both eating patterns and product offerings (Ethiopian Public Health Institute, 2013). Contrary to what is advised in scientific guidelines, Ethiopians consume fruits and vegetables in extremely small quantities, the protein intake is also low compared to what is recommended (Gebru et al., 2018). Legumes and beans are more easily consumed (Gebru et al., 2018).

1.2.3 Impact of conflict on food security

Conflict is one of the primary causes of food insecurity all around the world, and when it is combined with other variables such as climate change and economic instability, the consequences may be devastating (FAO, 2021a). The Secretary-General of the UN, Antonio Guterres reinforced the connection between conflict and food security during a Secretary Council meeting (Visions for Humanity, 2021). The Secretary-General emphasized that the countries with the highest levels of food insecurity are also experiencing conflict (Visions for Humanity, 2021). The relationship between food security and warfare can occur in many ways. Conflict may arise as a result of a shortage of food supplies, causing unrest among people, or conflict may result in disorders that prevent individuals from focusing on obtaining basic resources since they must focus on survival (Institute for Economics and Peace, 2020). Population growth is occurring, particularly in war-torn countries, and is set to continue; this could be an incentive for conflict (Institute for Economics and Peace, 2020). The population increase, combined with the conditions generated by changing climate, will put a strain on the production system, potentially leading to a struggle for the few resources available (Institute for Economics and Peace, 2020). Furthermore, in situations like the one mentioned, where a crisis is unfolding, the number of displaced people is particularly high, aggravating the issue (Institute for Economics and Peace, 2020).

According to a study conducted by the Institute for Economics and Peace (IEP) (2020), more than 450 million people are affected by food insecurity in areas where peace is particularly low. In these locations, food insecurity is frequently linked to low income, which is related to restricted access to resources which leads to potential conflicts (Institute for Economics and Peace, 2020). Niger, Burundi, and Zimbabwe are the countries with the highest percentage of people impacted, with respectively 76 percent, 73 percent, and 72 percent (Institute for Economics and Peace, 2020). Ethiopia is the ninth of the ten countries with the lowest income and the lowest levels of stability; in fact, 51 percent of the population cannot afford food (Institute for Economics and Peace, 2020).

The ongoing conflict in Ukraine demonstrates how much war has an impact on food systems and their security on a national and international scale. Since the invasion of Ukraine by Russian forces in March, the world has been in a precarious situation in terms of food security. In fact, the countries are among the world's largest producers of food and agricultural fertilizers, and the war has halted

exports, raised prices, and resulted in the destruction of farmland. The current situation poses a threat to not just the food security of the targeted populations, but also to countries that rely on Russian and Ukrainian exports. (Security Council, 2022)

Afghanistan is another example of how conflict disrupts food security. Conflicts in the country have been ongoing for years since the Taliban assumed control of the country; but, between July and September of 2019, there was a particularly violent period that resulted in a peak in fatalities (42 percent more compared to the previous year). 400.000 people were displaced as a result of the conflict, impacting people's ability to find new sources of income and create new ways of living (FAO & WFP, 2020).

In Nigeria, a surge in violence has hampered freedom of movement. People residing in the affected areas were unable to receive food aid as a result of this. Furthermore, humanitarian aid organizations that had previously worked in the country were pushed to withdraw after a worker was executed by non-government armed forces. This had a significant impact on food security, leaving almost half a million people without access to food assistance. Similar circumstances have been described in countries such as Chad, where more than thousands of violent acts have been inflicted on humanitarian workers. (FAO & WFP, 2020)

Not too differently, in Ethiopia, armed conflicts led to a humanitarian crisis and the worst famine in the world in the last decade. The conflict between national forces led by Prime Minister Abiy Ahmed and the Tigray People's Liberation Front (TPLF) has been ongoing since 2020. The conflict has had tragic consequences, with people being the primary victims. Human rights breaches such as massacres and acts of violence, including sexual violence, have been perpetrated against civilians by all parties involved. To complicate matters, blockades have been put in place throughout the country to slow the spread of the conflict and bring the population to a breaking point; however, these have inhibited the movement of people and goods, resulting in limited banking services, restricted access to fuel and humanitarian aid, and, most importantly, lack of accessibility to food and medical resources. Food shortages resulted in famine, the displacement of almost 2 million civilians, and a significant number of deaths. (Zelalem, 2021)

1.2.4 Impact of price inflation on food security

Food prices play an important role when it comes to food security. The cost of food, already affected by factors such as climate change, saw ulterior inflation due to the spread of Covid-19. During the pandemic only essential activities were able to keep operating, resulting in interruptions in supply chains and a restricted flow of goods resulting in increases in production costs. In addition, the number of people allowed to work decreased during this time, and many people lost their jobs. This made it increasingly difficult to keep up with rising food costs. (Summers, 2022)

A clear interconnection between the drivers of food insecurity can be observed (Summers, 2022). For example, climate change affects the capability of a country and its people to have a positive agricultural yield, this impacts the availability of food products as well as the capability to sell and export them, which consequently leads to an increase in prices (FAO et al., 2021). Individuals' ability to obtain healthy and nutritious food is subsequently hindered by rising food prices, leading people to change their eating patterns eventually ending up adopting nutrient-deficient diets (FAO et al., 2021). The rise in costs and the increase in food insecurity are as well directly associated with conflict (Summers, 2022). Conflicts, as previously noted, harm not only local but also global systems; in fact, disruptions in the supply chain can lead to inflation, this is the scenario with the conflict between Ukraine and Russia, two major food exporters (Summers, 2022). This seeks to demonstrate that the drivers of food insecurity are all connected and influence one another.

1.3 Measures to mitigate food insecurity

1.3.1 Climate resilience and green development

The World Bank (WB) members with high and middle income put a significant quantity of money (\$93 billion) into the International Development Association (IDA) to help develop 74 of the world's poorest countries, where the pandemic increased poverty and hindered development opportunities. The funds are aimed toward mitigating and adapting to the effects of climate change while also protecting local biodiversity (The World Bank, 2021).

One approach to strengthening agricultural systems is to promote and implement measures that are tailored to the ecosystem available and relevant to the country's needs (FAO, 2015). Since the dependency on sources is significant in more fragile systems, reducing the dependency and becoming more effective in the utilization of sources is a strong adaptation measure (FAO, 2015). In areas where water is scarce, for example, preventive measures such as water collection and enhanced technology can have a positive impact on productivity (FAO, 2015). Crop management, which might involve broadening crop diversification and prioritizing climate-resilient cultivations, represents another effective mitigation measure when tailored to the needs of a specific location (FAO, 2015). Additionally, greater diversification of productivity sources, with the aim of getting more than one food production source and reducing risks in case of emergency (FAO, 2015). To be able to implement these adaptation measures, which help people become more resilient and thus less vulnerable to poverty and food insecurity, national and international authorities must make investments in resistant food systems (FAO, 2015).

Because the IDA supports this problem-solving approach, a large percentage of the funds have been allocated to green development (The World Bank, 2021). Even if the financial investment is critical to the program's success, policies that support mitigation efforts must be adopted and enabled (FAO, 2015). National and international entities should support the policies, but they should be administered by specific local institutions that are familiar with the context in which they must be implemented (FAO, 2015). This would make the entire process easier, from farm to market (FAO, 2015).

Countries have demonstrated that climate resilience measures can be implemented successfully. Access to insurance to cover climate-related risks through public and private organizations helped to increase security and decrease poverty in Mexico, Ethiopia, and Kenya. In areas such as the Sahel, where climate change has a significant impact on rural people's livelihoods, resource management has helped to build household resilience to climate shocks, resulting in higher yields that promote food security. (FAO et al., 2021)

1.3.2 Transformation of food systems

Food system transformation is a critical step in addressing food insecurity. The current status of food systems has left billions of people in poverty around the world and is responsible for 37 percent of greenhouse emissions, which not only harm the planet but also contribute to climate change. The current situation is unsustainable, and adjustments are required to continue to meet the needs of the population. However, there are numerous barriers to the system's change, namely food loss, waste throughout the supply chain, imbalanced food market competitiveness, and a significant reliance on food imports (Ruben et al., 2021).

Additionally, the nature of the food systems makes it difficult for a great number of people to access healthy foods. This stresses the need for transformation; in fact, everyone should be able to lead a healthy life and consume nutritious food. To accomplish so, a policy-investment outlook is required to

encourage the development of more efficient production-to-consumption networks with a focus on lowering losses while increasing performance and resource management. Food manufacturers and sellers should be engaged as well, so that they can promote healthy food and reformulate products, namely by fortifying them with supplements that can aid improve health. Successful examples of this mitigation measure can be found in Peru, Rwanda, and Zimbabwe, where fortification of food products improved household health by increasing micronutrient intake. (FAO et al., 2021)

The transformation of food systems is on the agenda of international organizations and institutions, such as the European Commission (EC), which is actively involved in the process. Reducing food waste, supporting sustainable healthy diets, increasing school lunch programs, creating sustainable aquatic systems, scale-up agroecology, achieving zero hunger, investing in sustainable production, and creating food system resilience in crisis situations are all priorities for the EC. (European Commission, 2022)

1.3.3 Food Assistance

Humanitarian assistance is one of the most commonly used practices to fight chronic food insecurity (European Commission, 2013). Food aid is traditionally defined as the provision of food or financial resources in kind to assist countries in crisis or emergency situations (Shah, 2007). Food aid is a form of food assistance; food assistance focuses more on building long-term programs to reduce hunger and increase food security while food aid is more focused on an immediate response (Shah, 2007). Since the late 2000s, the institution's focus has shifted to food assistance rather than food aid because it offers more long-term solutions (World Food Program, 2022a).

There are numerous international organizations, agencies, and governmental bodies that contribute to providing food aid in times of crisis, the most prominent of these is the UN's WFP which provided assistance in 84 countries through food or cash handouts in 2020 (Abdulla et al., 2021). The WFP's efforts focused on a variety of action pathways to reduce food insecurity, the first of which has been ending hunger by facilitating access to food sources (which was how the majority of funds were spent), improving nutrition, supporting the SDGs implementation and obtaining food security, and partnering with other organizations to reach their aims (Abdulla et al., 2021). The WFP successfully collaborates with more than 1000 Non-Governmental-Organizations (NGOs) and international aid agencies (World Food Program, 2014). Among the food assistance stakeholders, there are organizations such as the European Union (EU) and the United States Agency for International Development (USAID), both of which seek to provide assistance in emergency situations while also fostering progress and resilience in the impacted countries (European Commission, 2013; USAID, 2000) The countries that mostly donated towards food assistance programs in 2019 were the United States of America, EC, Germany, United Kingdom, Saudi Arabia, United Arab Emirates, Canada, Japan and Sweden (World Food Program, 2022b). According to FAO (2022), the countries that were in need and received the most assistance in 2022 were 44, of which 33 were in Africa (including Ethiopia), 9 in Asia, and 2 in Latin America and the Caribbeans.

Food assistance is a complicated matter; in fact, there are benefits and drawbacks to the support supplied to local contexts. Humanitarian assistance is based on a universally accepted principle that supports objectives such as ending famines and improving nutritional status among affected people around the world, yet it is also heavily criticized. The principal criticisms of food aid are that it causes overdependence of supported countries on assistance, which leads to a neglect of beneficiary countries' own resources and a fall in domestic prices. Additionally, food aid is suspected of influencing dietary habits away from local and traditional foods. (Singer, 1988)

1.4 Scope of the research

Food insecurity threatens the livelihoods of more than 2.37 billion people (FAO et al., 2021). The causes of food insecurity are numerous and vary by context. Climate change, conflict, a lack of nutritional diets, and food price inflation are all interrelated factors that contribute to food insecurity. There are several measures in place to alleviate the effects of food insecurity, including food aid. However, it has been found that this method has both advantages and risks (Singer, 1988). Ethiopia is among the countries most impacted by food insecurity (Global Hunger Index, 2021c). The country is currently experiencing food insecurity as a result of climate-related shocks, price inflation, and conflict in the Tigray region. Based on the findings, the proposed study's goal is to explore the impact of food assistance on the health of vulnerable groups in Ethiopia's Tigray region, particularly women and children, in order to better understand how to improve the target group's food security.

1.4.1 Knowledge gap

There are numerous studies on Ethiopian food security available, each of which highlights and correlates various drivers and mitigation techniques for food insecurity. However, it became clear after a thorough investigation that the impacts of mitigating strategies are less discussed. When it comes to evaluating the relationship between the health status of vulnerable groups, the effects of relief measures such as food assistance are not explored, which is why the topic was chosen as the focus of this study.

1.4.2 Research Objective and Questions

The objective of this study is to improve the food security status of vulnerable groups in Tigray, Ethiopia, focusing on the contribution of food assistance to the health status of women and children. Based on the research objective the following research question (RQ) is formulated:

"What is the impact of food assistance on the health status of women and children in the Ethiopian region of Tigray?"

Food assistance is one of the most common methods used by international organizations to help people achieve food security, which is why it was chosen as the focus of this study (European Commission, 2013). Women and children were identified as vulnerable groups because previous studies demonstrated that, due to the increased barriers they face, they are the most affected by food insecurity and following unbalanced, nutrient-deficient diets (Gebru et al., 2018). The region of Tigray was selected for the study because it is currently a hotspot for food insecurity due to conflicts. The majority of humanitarian agencies are active in the area; thus, in order to understand the impact of food assistance on vulnerable groups, a region where humanitarian efforts are ongoing was required.

In order to answer the research question, the following sub-questions must be answered:

- 1. Which food assistance measures are being applied in the Tigray region?
- 2. How do the assistance measures take the health status of women and children into account?
- 3. Which barriers hinder food security for women and children in the Tigray area?
- 4. What are the potential benefits and drawbacks of food assistance in supporting the health of vulnerable groups?

2. Research design and methodology

In order to answer the research question different steps, need to be followed. The following chapter will provide an overview of the materials and methods needed to find an answer to the RQ and the sub-questions.

2.1 Research design

In order to achieve the research objective and answer the main RQ, a significant amount of secondary research has been carried out to understand the current status of food insecurity in the world, the main drivers of food insecurity, and the remedies available. Secondary research involved the review and the analysis of existing studies (Bouchrika, 2021), this helped to get an overview of the current data available and to identify a knowledge gap. Primary research was used in the following chapters of the study to help answer the sub-questions. To aid answering the sub-questions, in-depth qualitative interviews with experts in the food assistance sector were included. The qualitative research design is recommended for studies that want to dig deeper into an issue's significance and understanding, as well as the interrelationships with other events, rather than drawing broad generalizations (Dworkin, 2012). Given the nature of the proposed research, this method appeared to be the best fit; in fact, the goal is to explore the relationship between food assistance and the health status of women and children in Tigray, Ethiopia. Generalizations or surveys among residents are limited based on the current state of the region. For the reasons stated, an interview with a target group of highly knowledgeable people in Tigray's food assistance sector was used to aid in answering the RO. The sample size for qualitative interviews often varies from 5 to 50 participants (Dworkin, 2012). The aim of this research was to have between 5 and 7 highly knowledgeable interviewees which are currently involved in food assistance actions in Tigray. The experts were expected to be part of Dutch or European NGOs and relief agencies such as Cordaid, ZOA, Netherlands Food Partnership (NFP), and possibly employees of the Dutch embassy in Ethiopia.

2.2 Methods and Data analysis

Study participants included knowledgeable members of relief organizations and NGOs, as well as Dutch national authorities working in Ethiopia. Experts are defined as individuals who have deep knowledge or advanced skill as a result of their education or experiences in a particular field (The Britannica dictionary, 2022). The experts selected for the proposed study needed to have knowledge or experience in selected fields. These fields included food security, international development, humanitarian aid, and or food assistance. Contact with an NFP representative working in the Ethiopian sector has been formed thanks to the network of the student's internship tutor; the contact put the student in touch with the experts. The interviews were held in English and in Italian through online platforms (in-person interviews will be considered if possible). Qualitative interviews tend to be quite flexible and focus on gaining as much meaning as possible. The research discussion used a semi-structured interview design, which means that there was a discussion plan that the student intended to follow, but there was also room for follow-ups and expansion of the topic if necessary and if the interviewees were willing to go deeper in the conversation (Grimsholm & Poblete, 2010). The interviews were recorded, after obtaining the approval of the interviewees (found in Annex 2, Interview Consent Form), in order to evaluate the responses of the respondents; this guaranteed the accuracy of the analysis. MAXQDA, a software developed to facilitate the interpretation of qualitative and mixed methodologies, was utilized to analyze the responses of the experts. As Maksutova did in his study in 2021, the analysis process incorporated steps such as transcription of the interviews, the grouping of interviewee responses, creation of coding systems such as thematic or color coding, data reduction, and the generation of results

Participants

The participants of the interviews consisted of 5 to 7 highly knowledgeable individuals in the field of food security and/or food assistance. The participants were part of international organizations and NGOs that have activities in the target country.

Data Collection

The interviews were recorded in order to evaluate the responses of the participants; this also helped to guarantee that the analysis is more accurate. The open questions asked to the participants were part of a semi-structured interview and are linked to the sub-questions of the research (found in the Annex). Open questions contributed to the creation of the themes for the data analysis. Additionally, the use of the open questions helped to explore the point of view of the experts regarding food assistance activities, food security, and the health status of the target group (Batdi & Eladi, 2016).

Data analysis

Once the interviews were carried out, the answers of the participants were transcribed by the interviewer. MAXQDA, a software used to analyze qualitative data, was used to have accurate and efficiently organized interviews. MAXQDA helped to individuate themes and patterns thanks to an automated system which highlights recurrent words, themes, and sentences. The system made it possible to create links and correlations between the answers provided by the interviewees and to generate significant data that can be used to achieve the research objectives (Batdi & Eladi, 2016). Once the transcriptions were available and recurring words, and sentences, were highlighted, the analysis started by examining the material of the interviews. The aim of the analysis was gathering the experts' opinions on different issues and group in categories according to the themes brought up by the interviewees (Batdi & Eladi, 2016). The results were reported once the contents of the interview were categorized into the previously selected categories based on recurrent themes and relative sub questions (Mortensen, 2019).

Results

The results of the interview were discussed according to the themes and categories established during the data analysis. Moreover, the themes discussed were presented putting a focus on the link with the related sub-questions. Lastly, descriptive statistics that include either graphs or tables (that for example describe the mode of times a certain theme or issue has been brought up), were used to better visualize the answers of the respondents.

2.2.1 Relationship between RQ and sub questions

This section explains the relationship between the RQ: "What is the impact of food assistance on the health status of women and children in the Ethiopian region of Tigray?" and the sub-questions.

RQ: The first question: "Which barriers hinder food security for women and children in the Tigray area?" is connected to the RQ because it aided in determining which reasons currently prevent women and children in Tigray from being food secure, as well as why the selected group is more vulnerable. To answer this issue, secondary research was conducted on topics such as food insecurity drivers, women's and children's susceptibility, and food security constraints. Moreover, question number 3. "Could you give an overview of the issues you consider most relevant when it comes to food insecurity in the Tigray region?", 4. "Which barriers do women and children face when it comes to food security in Tigray?", and 5. "Do you recognize women and children being the most affected by

the current situation in Tigray, if yes why? If not, please elaborate" on the interview (found in Annex 1) addressed the topic and offered the point of view of experts in regard to the barriers.

To answer this sub-question, the themes highlighted in interviews by experts in the food assistance sector were evaluated and a pattern was developed, with the responses demonstrated using descriptive statistics.

The second question: "Which food assistance measures are being applied in the Tigray region?" is connected to the RQ because it helped to assess the role of food assistance in the area of the study. To answer this question secondary research was carried out by looking for terms such as mitigation measures in Ethiopia, food assistance, and relief agencies. Interviewees reported on the measures implemented in the region as asked in question 6. "Could you describe the food assistance activities that your organization is undertaking in the target area?", 7. "How do they address food insecurity?" and 8. "Which additional measures do you think can be implemented to improve the food security status of the vulnerable group?" of the interview framework (found in Annex 1) to aid in answering the sub-question. To answer this sub-question, the answers to the interview were summarized and grouped into relevant themes, and descriptive statistics were employed to highlight the trends of the responses.

The third question: "How do the assistance measures take the health status of women and children into account?" contributed to answering the RQ by highlighting the current state of women's and children's health and the role of aid agencies in addressing it. Questions 9. "Do you evaluate the health status of the people supported through your activities, if yes how?" and 10. "How do your activities take into consideration the health status of the people supported, in particular women and children?" the interview structure was used to obtain information from interviewees in order to answer this subquestion (found in Annex 1). Furthermore, desk research was used, with terms such as health status, balanced diets, nutritious food, health, food aid, and food assistance measures being researched. Finally, the findings were assessed by identifying recurring themes and visualizing them using descriptive statistics such as graphs and charts.

The fourth question: "What are the potential benefits and drawbacks of food assistance in supporting the health of vulnerable groups?" assisted in answering the RQ by exploring the potential advantages and disadvantages of using food assistance on the health of women and children. Secondary research was used to answer the sub-question by looking for terms like food aid benefits and drawbacks, health status, food assistance, and impact. Knowledgeable figures in the sector provided an overview of the possible outcomes on the relationship between food assistance and the health state of the target group thanks to question 11. "Do you believe the actions carried out by relief agencies contribute to mitigate food insecurity within the vulnerable groups, in what way?" and 12. "In what way do you think food assistance can negatively influence food insecurity and in particular the health status of the vulnerable group?" of the interview (available in Annex 1). Thematic analysis and descriptive statistics were utilized to examine and answer this sub-question.

2.3 Validity

The validity of a study can be of different nature, but it is commonly recognized as the achievement of data saturation. This can be done through the collection of evidence such as interviews, observations, and analysis of existing documentation. Particularly during interviews in qualitative studies, high importance is put on the freedom of expression of the participants according to their levels of knowledge and perceptions. The validity of a study in qualitative analysis is therefore represented by a careful analysis which leads to the trustworthiness of the findings. Trustworthiness is most commonly recognized as credibility, transferability, dependability, and confirmability of the data. (Cypress, 2017)

For the purposes of this study, validity is critical. Qualitative research might be deemed unreliable due to the diversity of viewpoints obtained through interviews or the presence of personal interaction, both of which can lead to biased responses. Generally, validity in quantitative studies is supported by replicable data, however, this method does not suit a qualitative study. For this reason, to ensure the validity of this study, and therefore the replicability of it, all the information utilized throughout the research was part either of the secondary research (at least 10 peer-reviewed or institutional sources) or directly traceable to the experts interviewed using a semi-structured outline. The outcome of the interview was meticulously recorded. Data transcriptions to support the statements made in the research by showing transparent and consistent interpretations were provided. Similarities and comparisons were highlighted to demonstrate that different points of view are taken into consideration (Noble & Smith, 2015). These activities aided in demonstrating the trustworthiness and replicability of the information presented in the study.

3. Results

The purpose of this research is to assess how food assistance responses may impact the health status of vulnerable groups, particularly mothers and children in Ethiopia. The research question, "What is the impact of food assistance on the health status of women and children in the Ethiopian region of Tigray?" was formulated. The objective of the study, to improve food security among vulnerable group can be addressed through the research question. Interviews with professionals in the field of food security and assistance were required to be conducted in order to address the research question. The outcomes of the interviews, which involved five experts from five different organizations, will be covered in this section.

Individuals with extensive knowledge of the food assistance and food security sectors from five international organizations, including Plan International (Netherlands), Tearfund (Canada), Cesvi (Italy), Centro Aiuti Etiopia (Italy), and Save the Children (Italy), participated in the interviews. The interviews took place between the beginning of May and the end of June. The average interview time was 39.5 minutes. The duration of the interviews ranged from 17,45 minutes to 54,09 minutes. Four of the interviews were carried out through online platforms such as Microsoft Teams and Google Meet. Two different experts worked together to provide the answers for an interview that comprised of written responses. The interviews were conducted either in Italian or English, and an English translation of the Italian interviews is provided. The transcriptions of the interviews can be found in Appendix, Annex 3. Interview Transcriptions.

3.1 Participants

Figure 2. Gender of the Experts



Four women and two men from the targeted professional field participated in the interviews (the written responses were filled in by 2 participants) as illustrated in Figure 2. Gender of the Experts. All of the participants are actively involved in organizations that work in Ethiopia and hold positions such as senior program manager, country director, international program director, senior technical advisor, vice president, and manager of international relations and volunteer coordination. The background of the experts includes positions at the UN, Cordaid, Oxfam, Mercy corps, FAO, Mani Tese (NGO), as well, different sectors such as private business. Food assistance, WASH, climate change, sustainable value chain, food security, nutrition and health, and international development are among the areas of expertise of the professionals within these organizations. The majority of the respondents were part of Italian organizations or Italian subsidiaries of international organizations, one respondent was from a Canadian organization, and one from a Dutch subsidiary of an international organization.

3.2 Results Sub Questions

In the following chapter, the results obtained through the interviews led with the experts will be shown. The contents of the interviews were analyzed and coded according to the themes discussed (an example is provided in the Annex 5. Interactive Quote Matrix in the Appendix). The results will be subsequently shown through graphic illustrations portraying the percentage of experts mentioning an issue in their interview (shown in y axis of the tables displayed).

Results of Sub question 1

In order to answer sub-question 1. "Which barriers hinder food security for women and children in the Tigray area?" the experts were asked the following questions from the interview: question 3. "Could you give an overview of the issues you consider most relevant when it comes to food insecurity in the Tigray region?", 4. "Which barriers do women and children face when it comes to food security in Tigray?", and 5. "Do you recognize women and children being the most affected by the current situation in Tigray, if yes why? If not, please elaborate".

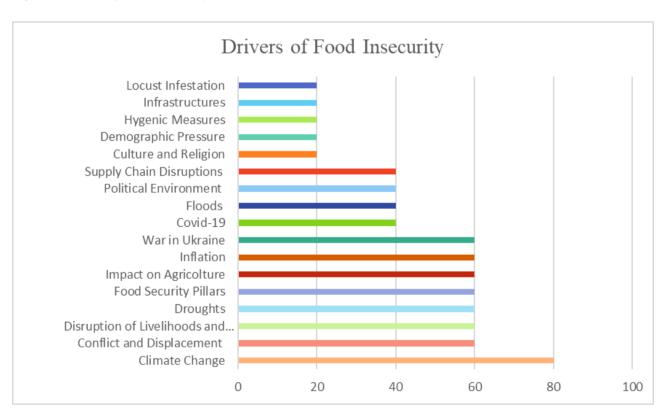
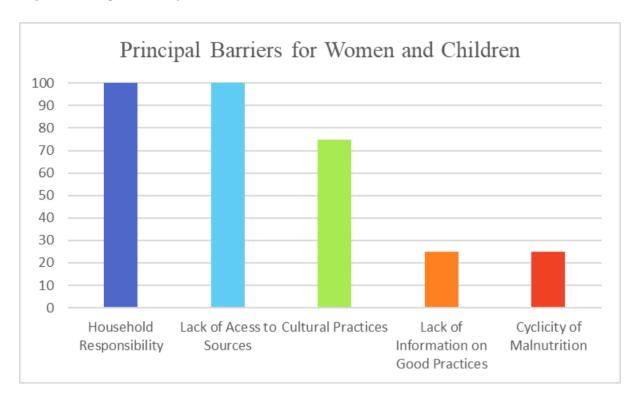


Figure 3. Drivers of Food Insecurity

The issues most often cited by experts when addressing the causes underlying food insecurity in Ethiopia can be found in Figure 3. Drivers of Food Insecurity. The findings indicate that the most frequently cited cause of food insecurity is climate change, which was mentioned by 80% of participants. This was followed by inflation, conflict and displacement, the pillars of food security (namely access and availability), disruption of livelihoods, and economic stability, which were mentioned by 60% of participants. Demographic pressure, culture, and religion, as well as hygienic practices and infrastructures, are among the least discussed subjects, with 20% of the mentions.

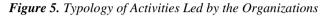
Figure 4. Principal Barriers for Women and Children



When addressing the barriers that women and children in Ethiopia must face in the context of food security, experts frequently mentioned the issues shown in Figure 4. Principal Barriers for Women and Children. The information in the figure illustrates that household responsibilities for women and lack of access to resources were the issues raised by the experts the most frequently. Malnutrition's cyclicity and a lack of information on good practices were mentioned less frequently, receiving only 25% of the responses.

Results of Sub question 2

The following interview questions: 6. "Could you describe the food assistance activities that your organization is undertaking in the target area?", 7. "How do they address food insecurity?" and 8. "Which additional measures do you think can be implemented to improve the food security status of the vulnerable group?" were directed at the experts' attention in order to be able to answer research sub-question 2. "Which food assistance measures are being applied in the Tigray region?"



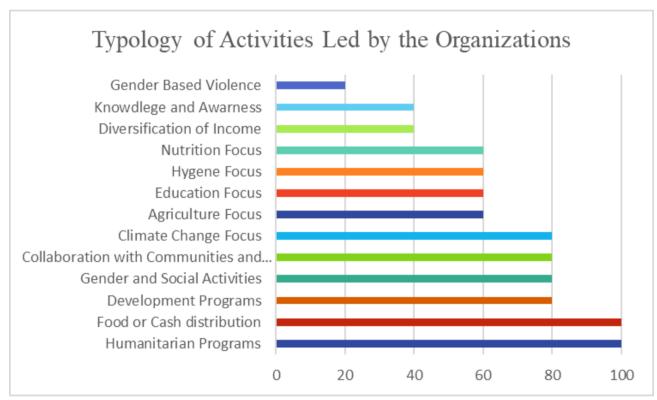


Figure 5. Typology of Activities Led by the Organization outlines the different measures instituted by the organizations in Ethiopia. As illustrated in Figure 5, every interviewee stated that their organization participates in humanitarian programs and distributes food or cash. Development programs, gender, and social initiatives, climate change-focused initiatives, and partnership with communities and authorities are among the activities that 80% of the experts mentioned most frequently. The least often reported activities—mentioned by only 20% of participants—were those that focused on gender violence.

Figure 6. Suggested Additional Measures to Implement

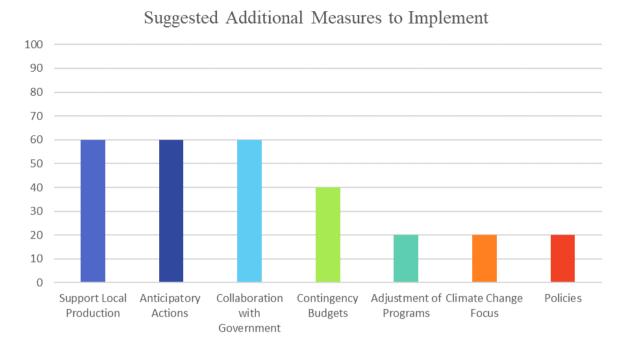


Figure 6. Suggested Additional Measures to Implement, displays the subjects that have received the greatest attention when considering potential additional measures to integrate that might contribute to the status of food security of the study's target group. As shown in Figure 6, 60% of the participants named support of local production, anticipatory actions, and collaboration with the government as potential supplementary initiatives. Adjustments of the programs, creation of policies and focus on climate change were the themes least discussed (each mentioned by 20% of the participants).

Results of Sub question 3

10

Monitoring

In order to answer sub question 3. "How do the assistance measures take the health status of women and children into account?" questions 9. "Do you evaluate the health status of the people supported through your activities, if yes how?" and 10. "How do your activities take into consideration the health status of the people supported, in particular women and children?" of the interview were posed to the experts.

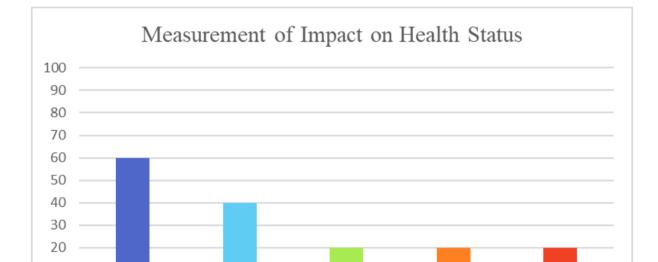


Figure 7. Measurement of Impact on Health Status

Figure 7. Measurement of Impact on Health Status displays how the organizations assess their actions and their impact on the target group's health status. The majority of experts—60%—mentioned that the organization assesses its impact through monitoring activities, followed by 40% who said it assesses the health and nutritional status of participants. 20% of the participants mentioned indicators including numbers of people reached, assessments of improved livelihoods, and no monitoring of activities.

Number of

People Reached

Evaluation of

Livelihood

Improvement

No Monitoring

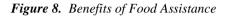
Health and

Nutrition

Evaluation

Results of Sub question 4

To answer sub-question 4 "What are the potential benefits and drawbacks of food assistance in supporting the health of vulnerable groups?", the experts have been asked the following questions in the interview: 11. "Do you believe the actions carried out by relief agencies contribute to mitigating food insecurity within the vulnerable groups, in what way?" and 12. "In what way do you think food assistance can negatively influence food insecurity, and in particular the health status of the vulnerable group?"



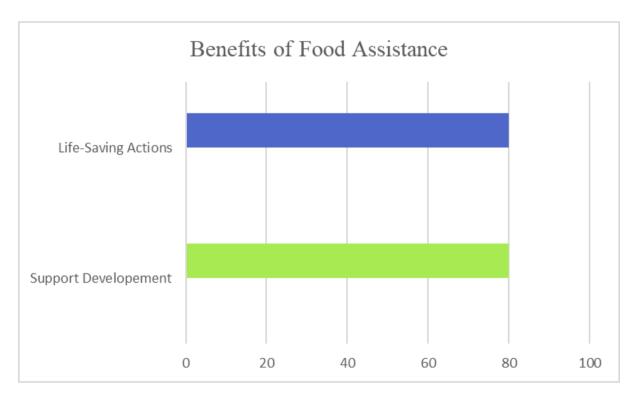


Figure 8. Benefits of Food Assistance illustrates the themes raised by the experts as the contributing actions towards food security. According to 80% of participants, the food assistance activities led by the organizations contribute to the support for the development and offer life-saving measures.

Figure 9. Drawbacks of Food Assistance

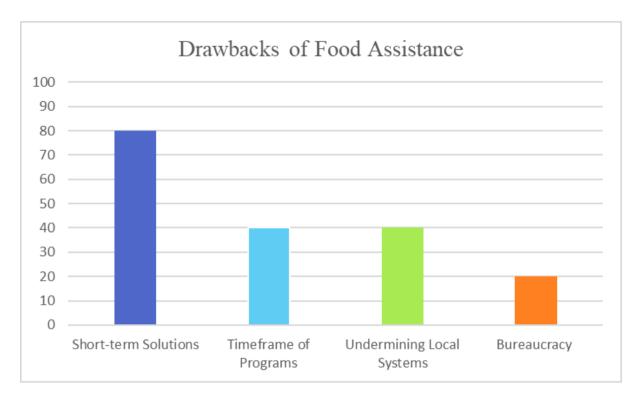


Figure 9. Drawbacks of Food Assistance depicts the issues raised by experts regarding the unfavorable aspects of organizations that provide food assistance initiatives. The short-term impact of the remedies was cited as a disadvantage by 80% of the interviewees. The undermining of the local systems and the duration of the programs were the other subjects that received the most references (40% of the responses each), while bureaucracy received only 20 % of the mentions.

The results show the interconnection among different drivers for food insecurity in the country. Conflicts, both internal and external, inflation and climate change were shown as the main threats to food security among the vulnerable group, composed by mainly women and children. The results show that the barriers that this group faces are linked to household responsibilities put on women, restricted access to resources and cultural practices. Among the activities carried out by relief organizations, distribution of food and cash are the most employed. Development programs are also among the most used strategies used to address food insecurity, focuses on agriculture and climate change are also common among the activities led by the organizations. The activities led by the organizations are proven to be monitored by the majority of the organizations. However, the results show that less than half of the organizations directly assess the nutritional status of the individuals supported.

4. Discussion

The purpose of this study was to investigate the effects of food assistance on the health of vulnerable populations, specifically women and children in the Tigray region of Ethiopia. In order to respond to the RQ, the following sub questions —"Which barriers hinder food security for women and children in the Tigray area?", 2. "Which food assistance measures are being applied in the Tigray region?, 3. "How do the assistance measures take the health status of women and children into account?", and 4 "What are the potential benefits and drawbacks of food assistance in supporting the health of vulnerable groups?" — were created to meet the study objective. To accomplish the study objective — to improve the food security status of vulnerable groups in Tigray, Ethiopia, focusing on the contribution of food assistance to the health status of women and children — five experts in the areas of food assistance and food security were interviewed and desk research was conducted to have a clearer overview of the current situation.

A qualitative analysis has been performed for the proposed research. This study design is recommended to investigate significance and understanding of a specific issue, as well as the correlations with other factors (Dworkin, 2012). Interviews were conducted to acquire pertinent information about the initiatives taken by relief organizations to address Ethiopia's food insecurity. The answers of the experts were analyzed using MAXQDA, that facilitates the interpretation of qualitative and mixed methodologies (Maksutova, 2021). The analysis comprised of the following steps: transcription of the interviews, the grouping of interviewee responses, creation of coding systems based on themes and color coding of the themes, data reduction, creation of graphic illustrations and finally the generation of results (Maksutova, 2021).

The participants in the interviews were professionals with years of expertise in the field of food security. Six participants, including two men and four women from various nations, participated in the interview. One interview featured cooperation between two individuals. The majority of the experts' responses came from Italy; other organizations replied from the Netherlands and Canada.

Sub question 1. "Which barriers hinder food security for women and children in the Tigray area?"

The findings highlight that the most often reported factor contributing to food insecurity in the country was climate change, being mentioned by 80% of the experts. The effects of climate change on food security are relevant as they have an impact on the pillars of food security and can undermine the stability of a country (FAO, 2015). Ethiopia is one of the nations most at risk of food insecurity, the nation's agricultural output depends heavily on rainfalls, which are impacted by changes in climatic patterns (Wendimu, 2021). Experts have also identified droughts and floods as prominent causes of food insecurity, with 60% and 40% of the mentions, respectively. Extreme, recurrent droughts in Sub-Saharan Africa have recently resulted in the loss of up to 60% of the region's livestock (FAO, 2015). Heavy rains and floods in the Sahel region of Africa led to a loss in productivity, endangering the region's ability to feed its people (FAO & WFP, 2022). Conflicts and displacements, which were referenced by 60% of the participants, were among the themes that the experts referred to most frequently when discussing the barriers to food security. One of the primary factors contributing to global food insecurity is conflicts—including Ethiopia—are impacted by food insecurity (Institute for

Economics and Peace, 2020). Ethiopian national conflicts are not the only cause of food insecurity; in fact, 60% of the experts interviewed identified the conflict in Ukraine as a contributing factor. Due to the ongoing conflict, exports from Russia and Ukraine—two of the world's largest manufacturers of food fertilizers—have been halted and prices have increased, endangering not only the two involved nations but also those nations that depend on their exports (Security Council, 2022). Inflation was also considered by 60% of the participants to be a driver of food insecurity. A clear connection between the rise in prices and drivers of food insecurity such as climate change and conflict has been observed as the number of people capable of being able to afford nutritious food decreased (FAO et al., 2021 & Summers, 2022). The pillars of food security were also identified as a cause of food insecurity by 60% of experts. The inability to access and acquire meals with a variety of nutrients in Ethiopia also affects an individual's chances of being food secure and eating healthy (Ethiopian Public Health Institute, 2013).

Each expert acknowledges the role of women and the responsibility placed on them in order to achieve food security. Access to resources is another common theme among the respondents when discussing the obstacles that women and children in particular have to overcome when it comes to food insecurity. Women encounter numerous obstacles to achieving food security as they have restricted access to essential resources, which places them in a vulnerable position (FAO, 2015). Additionally, it has been established that there are several barriers women and children must overcome in order to achieve food security (Gebru et al., 2018). The experts included cultural customs and traditions as barriers to the achievement of this goal as well.

Sub question 2. "Which food assistance measures are being applied in the Tigray region

All interviewees indicated humanitarian programs and the distribution of funds or food as activities conducted by the relief organizations they work for in the targeted area. One of the most common approaches used to promote food security is humanitarian aid (European Commission, 2013). Traditionally, aid in the form of cash or food is sent to countries in a situation of emergency as a form of immediate response (Shah, 2007). Development programs are one of the topics addressed by experts the most during the interviews, accounting for 80% of references. As food assistance offers more long-term solutions and is funded on creating long-term programs that can help increase the status of food security and minimize food insecurity, there has been a transition from food aid actions since the late 2000s (Shah, 2007 & World Food Program, 2022a). The majority of the interviewees (80%) mentioned climate change as the focus theme on which their organization is working. The WB made significant investments in the development of programs that support countries that are struggling with climate change and have increased poverty; these programs focus on adaptation and mitigation to climate change with the aim of preserving local biodiversity (The World Bank, 2021). The experts (60%) highlighted agriculture as one of the thematic focuses of their activities in the area. Since countries with fragile food systems depend so significantly on natural resources, increasing autonomy and enhancing resource utilization represent effective adaptation measures. (FAO, 2015).

One of the various programs that organizations have been proposing as an adaptive response to food insecurity is strengthening agricultural systems (FAO, 2015). This system involves measures such as crop management and resource diversification which are meant to boost productivity and lessen the impact of food insecurity and poverty (FAO, 2015). Collaboration with communities and local authorities was mentioned as one of the activities carried out by the organizations by 80% of the participants and was also mentioned as one of the most recommended activities that organizations

should implement (60% of the experts mentions this issue). Investing in resilient food systems allows people to become more resilient and less vulnerable to threats of poverty and food insecurity, therefore collaboration with national and international authorities is essential when implementing mitigation activities (FAO, 2015). Supporting local production is another recommended action that 60% of experts believe is crucial to include in organizations' plans. Food assistance programs are linked to the increased reliance of recipient nations on imports, which leads to a neglect of local production as well as local resources and traditions (Singer, 1988). The introduction of policies was another issue that the experts (20%) recognized as a crucial step to take in order to support food security. The development of policies that assist mitigation measures should be encouraged by national and international authorities (FAO, 2015). In order to assist and improve the development of more effective food systems and networks, policies are also essential (FAO et al., 2021).

Sub question 3. "How do the assistance measures take the health status of women and children into account?"

The interviewees were questioned about the kind of evaluations the organizations conduct on their programs, and how explicitly they address the health status of the target group in order to respond to this sub-question.

Relief organizations that provide food assistance use a variety of strategies to try to lower the exposure to food insecurity, one of which is providing an opportunity for people to access food sources, improving nutrition, and supporting the SDGs (Abdulla et al., 2021). The common objective of the relief efforts carried out by national and international organizations is to support communities, for instance by enhancing nutritional status (Abdulla et al., 2021). The majority of the experts, 60% stated that their organization implements monitoring activities on the results of their programs. Among the participants, 40% stated that the nutritional status of those assisted was evaluated, while 20% claimed that the number of people reached was taken into account. The same number of experts claimed that attention was given to assessments of the livelihood's progress. More than 2.37 billion people's livelihoods are at risk due to food insecurity (FAO et al., 2021); one action adopted to improve food security is food aid (Singer, 1988). Food security in regions like the Sahel has improved as a result of actions such as resource management that helped create greater tolerance to shocks (FAO et al., 2021). Lastly, 20% of the participants stated that their organization does not have the possibility to evaluate their operations.

Sub question 4 "What are the potential benefits and drawbacks of food assistance in supporting the health of vulnerable groups?"

To be able to respond to the sub-question, the experts were asked about their views on the potential advantages and disadvantages of food assistance initiatives.

Among the benefits of food assistance, 80% of the experts mention life-saving actions. In an effort to assist countries that are in a crisis or emergency, relief organizations deliver food aid and food assistance measures (Shah, 2007). Food aid is more focused on immediate response, whereas food assistance is more concerned with long-term objectives (World Food Program, 2022a). The primary objectives of humanitarian aid are to improve nutritional status and put an end to famines in struggling nations (Singer, 1988). Regarding the advantages of food assistance initiatives, supporting development has also been consistently mentioned, as expressed by 80% of the experts.

The drawback most mentioned by experts (80% of mentions) with regards to food assistance was the short-term solution offered by food aid activities. Food aid activities are used by relief organizations in times of emergency and crisis as they offer an immediate response (Shah, 2007); however, since the 2000s relief organizations shifted their activities towards long-term solutions (World Food Program, 2022a). Food assistance intends to develop long-term solutions to eliminate hunger (World Food Program, 2022a), hence the program's timeframe constraints were also seen negatively by 40% of the experts. The possibility to undermine local systems with the relief activities provided was a further concern raised by 40% of the interviewees. The influence of food assistance operations on local resources is one of the main criticisms raised against organizations; it has been demonstrated that relief efforts can result in an overreliance on assistance and a disregard for the country's own resources (Singer, 1988). This leads to modified dietary habits and a drop in local prices, which have an impact on the country's levels of food security (Singer, 1988).

Limitations

The objective of this study is to improve the food security status of vulnerable groups in Tigray, Ethiopia, focusing on the contribution of food assistance to the health status of women and children. The study was designed around the RQ, "What is the impact of food assistance on the health status of women and children in the Ethiopian region of Tigray?". Different sub-questions have been developed and incorporated into the formulation of a qualitative study to be able to answer the RQ.

In order to respond to these sub-questions and reach the study's objective, a sample size of experts comprising 5 to 50 participants was required (Dworkin, 2012). A NFP representative acted as an intermediary for the research and facilitated the connection with the professionals in his network. The professionals included people from organizations like ZOA and Cordaid. The aforementioned organizations, however, were unable to offer an interview as they could not divulge any information for safety reasons. Tigray, the research area, is currently facing a humanitarian catastrophe as a result of conflicts between government forces and the TPLF (Zelalem, 2021). Relief organizations operating in the area found themselves in a highly dangerous and complex situation, and they deemed safer to withhold any information to not jeopardize their ongoing operations. Relief organizations in several countries were forced to halt their operations due to violent acts inflicted on their workers (FAO & WFP, 2020). Since the experts in the intermediary's network were unable to provide answers, numerous international organizations were contacted to ask to take part in the interviews. However, this posed challenges as few specialists were willing to conduct the interviews, additionally some of the people contacted lacked the level of expertise in the required field of the study. Eventually, 5 experts who were willing to participate in the interview were found; however, this number represented only the minimum sample size. Since one of the five specialists recently assumed leadership of the country division, they were only able to provide partial responses, which represented a barrier for the study. An additional drawback of the study is reflected by the fact that one interview received written responses, which limited the opportunities to have a more in-depth dialogue and acquire more information.

As was already established, Tigray, the target region of the study, is currently experiencing a humanitarian crisis due to ongoing conflicts in the area. The research area was chosen, relying on the assistance provided by the NFP representative to facilitate the connection with organizations active in the area. However, for safety reasons, this was not feasible. The already difficult task to locate organizations that offered food assistance in the area became unattainable when safety concerns were

added. Considering the inherent circumstances, the scope of the research was widened, the focus moved on the country rather than just the region of Tigray. This made it possible to conduct interviews and collect pertinent data for the entirety of Ethiopia. Three of the organizations the experts represented, confirmed that they were providing food or cash to Tigray as emergency response; they did not, however, offer any additional details. The answers provided by the professionals are representative of the impact of food assistance on the health status of women and children in Ethiopia as opposed to the initial objective which focused on Tigray.

The complexity of the issue under discussion represents an additional limitation to the study. Food insecurity is characterized by a variety of variables that cannot easily be separated from one another and are, therefore, inextricably linked (Summers, 2022). Climate change, conflicts, inflation, and nutritional habits all contribute in a specific way to the effects of food insecurity; each of these factors additionally have an impact on each other (Singer, 1988). This aspect could be observed in the results, food insecurity was hardly only addressed under the perspective of health status; the interviews with the professionals provided evidence for this claim by bringing up issues like climate change, conflict, poverty, and cultural customs in relation to food insecurity.

5. Conclusions and Recommendations

5.1 Conclusions

The research focuses on the impacts of food assistance on the health status of the vulnerable population in Tigray, Ethiopia, which is comprised of women and children. There are several sources that illustrate the relationship between the factors responsible for food insecurity and the responses adopted in Ethiopia. However, it has been revealed that the correlation between food assistance and the health status of the vulnerable has not been investigated, which is why the topic has been selected as primary area of interest of the research. The objective of the study is to improve food security of the target group. Due to challenges encountered during the research process, the target region has been expanded and conclusions will be drawn at the national rather than the regional level. In order to answer the RQ, "What is the impact of food assistance on the health status of women and children in the Ethiopian region of Tigray?" an answer to the sub-questions will be provided.

Sub question 1. "Which barriers hinder food security for women and children in the Tigray area?"

Investigating the underlying causes of the levels of food insecurity, and how they particularly affect women and children, was vital to be able to respond to the RO and achieve the objective of the study of improving food security within the target group. The answers provided by the experts in the interviews, demonstrated that the main driver of food insecurity in Ethiopia is climate change. This issue has been mentioned by 80% of the participants, and its repercussions are acknowledged as one of the primary causes of global food insecurity (FAO, 2015). Due to the significant reliance of Ethiopia's agricultural yield on climatic conditions, the country is particularly vulnerable to food insecurity as a result of climate change (Wendimu, 2021). The results demonstrate that Ethiopian women and children face a barrier to food security as a result of climate change. Conflict represents another obstacle to the target group's ability to achieve food security, whether it occurs domestically, as in Ethiopia, or internationally as in Ukraine. Conflict is one of the primary causes of worldwide food insecurity (FAO, 2021a). Conflicts in Ethiopia and Ukraine were identified by the experts as factors contributing to food insecurity among the target group (respectively 60% and 40% of mentions). Additionally, 60% mentioned inflation as a barrier to women's and children's access to food security. As demonstrated, the increase in prices makes it increasingly challenging for people to become food secure and consume nutritious food (Ethiopian Public Health Institute, 2013). The target groups are faced with a more challenging situation due to the higher number of barriers they must overcome, which include factors such as greater household responsibilities for women, limited access to resources, and cultural customs prominent in the target location.

Sub question 2. "Which food assistance measures are being applied in the Tigray region

A comprehensive picture of the activities being carried out in the country was required in order to be able to respond to the RQ and understand how food assistance impacts the health status of women and children in the target area. The respondents' recommendations for additional measures that should be implemented were also addressed. The organizations from where the experts operate implement a variety of strategies to tackle Ethiopia's food insecurity. All of the participants confirmed that their

organizations run humanitarian programs, distribute financial support, and provide food aid in the nation. In countries facing emergencies, distribution of cash and food is a common form of humanitarian assistance (Shah, 2007). The information offered by the specialists supports this claim. Other forms of activities carried out by the agencies are development programs, which are characterized by the implementation of long-term strategies designed to maximize food security (Shah, 2007 & World Food Program, 2022a). 80% of the experts agreed that their activities include development programs. With 80 % and 60 % of the expert references respectively, the organizations' efforts in Ethiopia have a special emphasis on issues such as climate change and agriculture. The World Bank provides significant funding to aid organizations for the development of climate change-focused programs (The World Bank, 2021). Since countries with fragile food systems rely heavily on natural resources, it is critical to use those resources effectively and put adaptation measures in place.

Collaboration with local authorities and communities, which was mentioned by 60% of participants, support for local production (60% of quotes), and the introduction of policies that support the overall national development and take climate change into consideration in specific, are among the activities that the experts recommend implementing in the area. In an effort to fight poverty and food insecurity, collaboration with international bodies is essential (FAO, 2015). These entities should promote the development of policies to ensure that the mitigating measures taken by relief organizations do not lead to the disregard of local resources (FAO, 2015 & Singer, 1988).

Sub question 3. "How do the assistance measures take the health status of women and children into account?"

Understanding how the organizations measure the impact of their work on the population was essential to evaluate how food assistance activities affect the target group's health status. The interviewees provided information regarding the evaluation procedures used by the relief organizations. The majority of respondents (60 percent) stated that the operations of the relief organizations are monitored. Only 40% of the participants specifically indicated their assessments' focus as being on nutritional status. 20% of the respondents indicated measuring the number of individuals reached by the organizations' activities as another type of evaluation that is currently being used. One of the answers mentioned the operations' absence of assessments.

Sub question 4 "What are the potential benefits and drawbacks of food assistance in supporting the health of vulnerable groups?"

Expert views on the perceived advantages and disadvantages of food assistance activities have been collected in order to assess the efficacy of the procedures implemented by relief organizations. The majority of experts, 80%, claimed that the actions taken by the organizations play a crucial part in delivering life-saving actions. The same number of participants also indicated that the assistance provided in fostering the development in the countries where the organizations operate, is a benefit of food assistance. The short-term impacts that food aid in particular can have on those assisted are among the disadvantages most frequently noted by the experts; 80% of the participants have raised this concern. In times of emergency and crisis, relief organizations use food aid activities as mitigation measures since they provide a rapid response (Shah, 2007). The timeframe of the programs, which are required to focus on long-term solutions to be effective, was another drawback mentioned by the experts. Food assistance aims to create lasting remedies for food insecurity (World

Food Program, 2022a). Lastly, 40% of the interviewees mentioned the threat posed by food assistance initiatives to local systems. One of the main complaints of food assistance programs is the impact on local systems, which can lead to the inability and unwillingness to rely on domestic resources due to the perceived advantages of relying on the support of relief organizations (Singer, 1988).

What is the impact of food assistance on the health status of women and children in the Ethiopian region of Tigray?

Food insecurity in the target area is being addressed by the steps undertaken by relief agencies, which include humanitarian and development programs that provide food assistance. Food insecurity in Ethiopia is strongly related to issues such as inflation, internal and external conflict, and climate change, all of which are interconnected. These issues are particularly detrimental to women and children, who encounter more hurdles as a result of their hefty household roles, limited access to resources, and ties to cultural practices. The core of the activities carried out by the organizations involve development programs and humanitarian aid, which is characterized by the distribution of food and money. The effectiveness of food assistance programs is generally tracked by humanitarian organizations. Despite the majority of institutions having some level of operational review in the form of the amount of people reached and the improvement of livelihoods, less than half (40%) of the institutions directly assess the health status (with nutritional levels assessments) in relation to the activities performed. The experts involved are aware of the impact of food assistance as they are familiar with the benefits (which include life-saving activities such as provision of food and cash and support of livelihood development) and drawbacks (such as short-term solutions, and possible undermining of local systems) provided by the activities undertaken in the country.

5.1.1 Relevance

Through the stakeholders involved in food assistance and food security, the relevance of this study can be addressed. Vulnerable groups, national and international organizations, policymakers, and manufacturers of food products are among the key parties highlighted within this study. Understanding the effects of food insecurity on the vulnerable group, which experts have identified as being more at risk, is relevant when taking into consideration the research objective of improving food security for the target group. By providing relevant data about the mitigating actions taken by relief organizations to address food insecurity, the study will assist the vulnerable group and help to meet the goal of improving food security of women and children in Ethiopia. National and international organizations are encouraged to use the information as a common perspective of the activities conducted in the target area, which can serve to validate or evaluate their programs in comparison to those of other organizations. Policymakers are urged to use the perspectives of the experts to implement policies that prioritize protecting the vulnerable group's health and tackling concerns such as climate change, barriers for women and children, and collaboration with local and national authorities. Finally, the study's findings can be used by producers and food aid providers, to help ensure that their operations do not undermine the domestic balance by offering the target population the inappropriate kind of assistance. Both a focus on the needs of the population, as recognized through collaboration with local communities, and a focus on nutritious foods that are consistent with existing circumstances and traditions are emphasized.

5.2 Recommendations

The study's findings will be taken into account in the recommendations for the stakeholders, as well as the recommendations for researchers interested in further exploring the topic of the impact of food assistance on the health status of women and children in Ethiopia.

The short-term recommendations the stakeholders include advice for national and international organizations, such as ensuring that resources are provided in compliance with people's needs and fostering engagement with local communities and authorities. In order to create policies that support the development and health status of the vulnerable group, policymakers should first become attentive of the present circumstances in the nation. The association between the causes of food insecurity and the barriers the target group faces should guide policymakers as they develop policies that address food insecurity from several perspectives. Finally, food manufacturers and suppliers must make sure that the foods they use are culturally appropriate, high in nutrition, and able to sustain the target group's food security without undermining national sources and traditions.

The achievement of food security in Ethiopia is the focus of longer-term recommendations. Special attention should be posed to the health status of the vulnerable groups. To achieve this objective, it is important to implement programs that address food insecurity under different aspects. The study highlighted the interconnection among different factors that contribute to food insecurity in the target area. Therefore, a fundamental recommendation is to focus on addressing these issues as a way to improve the food security and health status of women and children. The research highlighted the difficulties that the target group faces to achieve food security, due to several barriers currently present. The research wants to emphasize the work being done by the national government and the relief organizations to improve the current situation with the aim that in long term these barriers could be more widely addressed and overcame. National and international organizations should strengthen their partnership with local communities and authorities to ensure that their work is in line with the needs of people and in particular the vulnerable group. Additionally, taking into consideration the results of the research, the need to maximize program assessments while paying close attention to the health status of those assisted became evident. The long-term recommendation specifically for the organizations is to implement stronger monitoring systems that can help assess the impact of the overall health status of those assisted and food security levels. The study underlined the need for effective policies with an aim for internal growth, sustainability, and gender equality. In the long term the recommendation is to put in place policies that reflect the needs of the population and to keep adapting to the evolving environment present in the country. Lastly the research underlined the importance of not undermining local systems by providing exported foods with the aim of improving food security. Based on the study results it is advised to limit the provision food exports to emergency situations, to guarantee the support of national development.

The main recommendation for those who would want to do further studies on the topic is to choose a target area after having contact with experts willing to participate in the study. This will allow the material to be specifically tailored to the working areas of the organizations. Additionally, it is recommended for the research to involve a larger number of participants, including both specialists in the subjects being investigated and members of the vulnerable group.

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Appendix

Annex 1: Color-Coded Interview structure

- 1. Can you please introduce yourself specifying your age, gender, and academic background?
- 2. Can you describe the agency you work for and your role within the organization?
- 3. Could you give an overview of the issues you consider most relevant when it comes to food insecurity in Ethiopia?
- 4. Which barriers do women and children face when it comes to food security?
- 5. Do you recognize women and children being the most affected by the current situation in Tigray, if yes why? If not please elaborate.
- 6. Could you describe the food assistance activities that your organization is undertaking in the target area?
- 7. How do they address food insecurity?
- 8. Which additional measures do you think can be implemented to improve the food security status of the vulnerable group?
- 9. Do you evaluate the health status of the people supported through your activities, if yes how?
- 10. How do your activities take into consideration the health status of the people suppoerted, in particular of women and children?
- 11. Do you believe the actions carried out by relief agencies contribute to mitigate food insecurity within the vulnerable groups, in what way?
- 12. In what way do you think food assistance can negatively influence food insecurity, and in particular the health status of the vulnerable group?

Sub-questions

- 1. Which barriers hinder food security in women and children in the Tigray area?
- 2. Which food assistance measures are being applied in the Tigray region?
- 3. How do the assistance measures take the health status of women and children into account?
- 4. What are the potential benefits and drawbacks of food assistance in supporting the health of vulnerable groups?

Annex 2: Interview Consent Form

Standard EUR Informed Consent Form template

Version 0.2 M. Nariman and M. Domingus, March 2017

Project Title	Impact of food assistance on the health status of women and children in Ethiopia
Purpose of the Study	This research is being conducted by Carola Golino. I am inviting you to participate in this research project about the impact of food assistance on the health status of women and children in Ethiopia. The purpose of this research project is to improve the food security status of vulnerable groups in Ethiopia.
Procedures	You will participate in an interview lasting approximately 40 minutes. You will be asked questions about yourself and your role within the organization you work for, food security and the role of food assistance, and the health of women and children in Ethiopia. Sample questions include: "Do you believe the actions carried out by relief agencies contribute to mitigate food insecurity within the vulnerable groups, and in what way? In what way do you think food assistance can negatively influence food insecurity, and in particular the health status of the vulnerable group?
Potential Risks and Discomforts	There are no obvious physical, legal, or economic risks associated with participating in this study. You do not have to answer any questions you do not wish to answer. Your participation is voluntary, and you are free to discontinue your participation at any time.
Potential Benefits	Participation in this study does not guarantee any beneficial results to you. The broader goal of this research is to understand the impact of food assistance on the health status of women and children in Tigray.

Confidentiality	Your privacy will be protected to the maximum extent allowable by law. Moreover, only Carola Golino will have access to your answers. The answers will only appear in the thesis of the interviewer. The results will be available for assessors to evaluate the student. Within these restrictions, the results of this study will be made available to you upon request. As indicated above, this research project involves making audio recordings of interviews with you. Transcribed segments from the audio recordings may be used in the thesis discussion of Carola Golino. The audio recordings, forms, and other documents created or collected as part of this study will be stored in a secure location in the researchers' offices or on the researcher's password-protected computers and will be destroyed within 5 years of the initiation of the study.
Compensation	N/A
Right to Withdraw and Questions	Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalised or lose any benefits to which you otherwise qualify. The data you provided before you stopped participating however will be processed in this research; no new data will be collected or used. If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the primary investigator: Carola Golino

Statement of Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your Consent satisfaction and you voluntarily agree that you will participate in this research study. You will receive a copy of this signed consent form. I agree to participate in a research project led by Carola Golino. The purpose of this document is to specify the terms of my participation in the project through being interviewed. 1. I have been given sufficient information about this research project. The purpose of my participation as an interviewee in this project has been explained to me and is clear. 2. My participation as an interviewee in this project is voluntary. There is no explicit or implicit coercion whatsoever to participate. 3. Participation involves being interviewed by Carola Golino. The interview will last approximately 40 minutes. I allow the researcher(s) to take written notes during the interview. I also may allow the recording (by audio/videotape) of the interview. It is clear to me that in case I do not want the interview to be taped I am at any point in time fully entitled to withdraw from participation. 4. I have the right not to answer any of the questions. If I feel uncomfortable in any way during the interview session, I have the right to withdraw from the interview. 5. I have read and understood the points and statements of this form. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study. 6. I have been given a copy of this consent form co-signed by the interviewer. NAME PARTICIPANT NAME PRINCIPAL INVESTIGATOR **Signature and Date SIGNATURE SIGNATURE**

DATE

DATE

Annex 3: Interviews Transcriptions

Interview 1: Gerdien Seegers, Plan International

(54:09 minutes)

Can you please introduce yourself?

Name Gerdien Seegers, works for Plan international for 2 years, at the moment not working in food security but more focused on WASH and climate change but worked at the UN and in food security for Cordaid for the value chain in particular organic sustainable value chains. Now 3 years in plan international. In Ethiopia, there is an integrated program focused on stunting. The approach looks into climate change, agriculture, food security, and nutrition with the most attention on climate change.

Can you describe the agency you work for and your role within the organization?

Plan international is an organization structured like a federation, there are UK HQ, national offices such as the one in the NL, and offices in the country where they work such as in Ethiopia, called plan offices and there are colleagues. National offices are more in charge of funding for country offices and the country offices are in charge of the implementation of the programs. The company works mainly on children and focuses on girls (young to adolescents). They work to avoid child marriage, gender-based violence, trafficking, crisis situations, the mental health of all people, and education (important to give instruction).

Could you give an overview of the issues you consider most relevant when it comes to food insecurity in Ethiopia?

It is about the availability of food and accessibility and quality of food that is not nutritious. Also, Without proper hygienic measures, food insecurity can go worse, which is why they integrate the WASH system. People can eat healthy food but if they have diarrhea the impact is great. Hygiene is also very important to focus on. Crucial for food security.

In Ethiopia culture, habits and religion as well, influence food security. The Christian Orthodox Church is the dominant church, and on many occasions, religion encourages fastening that can of course influence women if pregnant or have young children. So that's also something Plan international takes into consideration. They do not go against it but try to convince people, from local leaders to national leaders, and religious leaders, how important it is for pregnant women and women that are lactating, that they are not fasting and that they can go on eating healthy foods and in some places in Ethiopia some healthy food are not allowed when they are pregnant, lactating or during periods for example fruits and vegetables such as cabbage, red pepper, egg, milk, cheese and yoghurt, linseed and honey. There are also cultural barriers that they try to overcome because it's just in the moment that a woman needs to help with the food, not always have access to it.

They wanted to work in the area affected by war but it was not possible so they had to move their programs these are the working areas Shebel Berenta, Goncha Siso Enessie, Enebssie Sar Midir all in Ahmara. They run a gender and social inclusion program as well and do an assessment to get all those cultural barriers for a woman or children to understand what is culturally not accepted or traditional and how is it harming the nutritional situation of women and how to overcome those barriers. So that's also why we do the case ACL assessment to learn about thle local situation because it can also vary from the north-south and Amarha.

How do people receive the programs?

Well, it's a process and when you start in a new area what it helps that besides that we have the office in others we also have local offices to use we call them and that is a really good staff. So, they make sure there is local knowledge from the region. So they know they know what the area that we come to start to work. But therefore, it's also important when we start in villages that we involve the traditional leaders that we talk to them and explain to them the whole process, but we involve also very active in the government being the national but also the local level. We even have a government-provided staff from different ministries from health to education from other ministries such as climate and environment, etc. They have a project team that's actively involved in the implementation of this program which is quite unique. Not only do you talk with the government, and you train them but the staff paid by the government really is involved in the implementation. That's that helps to raise acceptance and help to overcome cultural barriers. They participate in training, so they learn more about nutrition KC gender equality, etc.

In Tigray, a humanitarian program is being led not a development project. But for political reasons, it cannot be mentioned and had to move to other areas. The political area is quite hard and there needs to be a lot of attention if the works want to keep going on. Of course, it's a working area right thereby providing emergency aid in that area and our humanitarian department is working there. But just providing food and water etc. But you cannot do a development program. We have to be a dual organization. So, we have a humanitarian department and we have to fill the department and our program is under the development department.

Which barriers do women and children face when it comes to food security? Do you recognize women and children as being the most affected by the current situation in Ethiopia, if yes why? If not, please elaborate.

More specifically on this, which barriers in specific children and women face when it comes to food security as opposed to men? You talked about having restrictions on what they eat during feasting times or availability and access. But is there something else that particularly stood out like are there different opportunities for women or for children?

Yes, what it is and until then you have to make a distinction between boys and girls. But to see a lot of cultures also in Ethiopia, boys if there is food available get it first. It is like, first men and the boys can eat and then the girls and a woman last and normally if they have plates, they can clean them. That's the only thing that's left for them. Also, male children are breastfed for longer compared to female children who are often offered cow milk or a mix of water and milk.

Gender assessment (GESI). This is also more about awareness focusing on women. Do that know how important it is to provide six months of breastfeeding. But also, are they able to provide breastfeeding Are they well fed themselves? So there are others to give them to and we focus a lot on awareness that they know and because that's the start it's not only that the food is available but also that people understand why a pregnant or lactating woman needs that these additional foods, do not need to fast and they have to eat all the time. Also, there is a focus on children's hygiene they need to have access to clean toilets so that they can wash their hands and that they don't eat the feces of the animals. But it's not a whole package of hygiene measures.

But about the food is also that in Ethiopia, the health the tradition that eating those pancakes (Injera) which are made of teff it is similarly nutritious as quinoa in Latin America. Teff is also a very

nutritious food so it's important that they can keep consuming it. Usually, they make a pancake, and they'll fill it with vegetables and meat. Teff is important, and it is important that they don't do not switch from it, because if they get a little bit richer, and have more wealth then they want to consume white rice or other kinds of foods. You see in other countries also if people have more money they tend to consume fast food because that is you show how rich you are. Some studies show that teff is really a rich food in iron, and vitamin B, but it's not enough to be food secure.

This is why the organization also focuses on agriculture. We also want to look with Wageningen about what nutritious foods are and what is needed to grow them. Wageningen (The agricultural and ecological part of it) wants to utilize fertilizers enriched with zinc. I think it's enough to get healthy soil in natural ways. But at least the women need adequate food and need enough vitamin A, also enough iron, and zinc. So that's what we're looking at with Wageningen. We will test the soil we will test the most important food products coming off the soil and what you can do to improve them. Wageningen has a long tradition of product tests and also in Ethiopia we can use that knowledge to introduce not new products because that's tricky. But the same products they eat but then more nutrition, and ingredients.

Could you describe the food assistance activities that your organization is undertaking in the target area?

How do they address food insecurity?

To fight insecurity, you want to focus during the development plan on having more nutritious foods?

That's part of it. It's quite an integrated project. The production of food is important. But it is also that people are more knowledgeable about what is nutritious foods. So that it's not only that they have healthy tomatoes or whatever they're producing there, but that people know why they need to eat it and also how to produce it in a healthy way. And so, it's health its food, its food security, but also nutrition its hygiene. It's also dependability of water because that's that comes in the climate part. If it is an area that the first area where we were working, was water-scarce, then you have a problem.

Where they are working now there is more rainfall and more availability of water. But then it's whether the water is clean enough, and does it cause diseases. So, we are looking at that part also. So, it's not only the foods.

We also setting up home gardens because normally men are the owners of the agriculture lands. So, we also focus on women and their home gardens. So that at home and they also can produce healthy food. But you also work in schools, school gardens, also in the lessons they talk about organic agriculture or production as well as what is a nutritious food. How do you cook a healthy meal? What is necessary to stay healthy as a child that they learn and those lessons that can bring it home, we call it Life Skills. That is for life. If you have this, this knowledge it's for life. The hope is that they when they are adults they eat healthily and know why they have to eat healthily. So, as we see it as a long-term investment. Programs are for 5 years but they are not enough so that's also why we involve the government we want them to be able to continue. And Ethiopia has some laws, and also some funds for this kind of initiative because they see stunting and they want to reducing stunting.

In Ethiopia the government is very eager to reduce stunting rates because they know that like this your intellectual capacity and your workforce is affected. It's not only a problem for the families but also for the country. This influences the progress to get economic development. So that's why they're also very eager to support this program. I'm happy that the program it is hard to implement all the aspects, every issue is interconnected and cannot be separated.

Do you evaluate the health status of the people supported through your activities, if yes how? How do your activities take into consideration the health status of the people supported, in particular of women and children?

The program checks every year, the same group of people more or less. So, you have an evaluation? And this of course takes into consideration as well the health status?

Monitoring evaluation is also something I think is interesting in this program. We are doing an input study during the whole period of the implementation of the program. So, what the colleagues made a set of indicators. They want to measure, and it is in the WASH, food nutrition, agriculture. So during the whole process and implementation phase, they go back to measure. Monitoring is done by a separate institute, because it's such a heavy task. It's very hard to prove that your intervention reduces stunting because it can also be influenced by other aspects.

So, we want to be able to prove if our intervention is working, we think it is. It has been proven in Bangladesh, where a similar project has been implemented so we can scale up afterward. It's interesting to know if this approach working, and if we can we use it to scale it up in other countries or in other parts of Ethiopia for example,

We do an impact evaluation or impact study, at start and then every year, they go back to gather data to really get a good idea of the process. They are working with not really a control group in the sense of putting people in an isolated laboratory. But yes, there are the estimated people who are not directly involved in the program. And to follow up also, what's happening in churches that are nearby. More or less the same situation, but they're not involved in the program.

Yes, they look at everything. It's all all the issues. All the integrated support. You notice that children are measured are even greater are measured. So those data that are available, the health Institute do that, but they're also looking at all those integrated issues are really delivering the end result of reducing stunting. And it is it's not enough to follow five years because you need to follow those children like 15 years. So of course, we hope we can continue in lighter form afterward. But at least we want to set the basic basis and then if we cannot continue that local government can continue because then it's just a question of continuing with what we are doing now. And then you discovered it to implementing and if those children on 15 or 20 years, then you really notice they are not stunted then you know you did something, but it's hard to prove that to contribute to stunting.

So at the moment, you will say that there is not a clear indication of whether your activities are functioning or not. It's an overview more or less?

Yeah, we think because our consortium partner did something similar to the program in Ethiopia in Bangladesh, which was successful.

We did something already in Ethiopia but not as complete as we are doing it now. There was no climate assessment in Bangladesh, there was not a gender assessment, but you can say that experiences from those two big programs are the basis for the development of this program, and we

think both in Bangladesh we could not prove 100% watertight but there you could see that next 20,000 children less per stunted than in the cultural area. But we think with doing an impact study, we can learn. We can also share data with research institutes so they can also profit off this and in the end, we hope we can prove Yes, that this approach that reduced stunting, we are not sure but that's always it's error and trial. So, I'm happy that this is the first time I see a program so complex but also complete, more complete than this I cannot imagine.

Which additional measures do you think can be implemented to improve the food security status of the vulnerable group?

I wanted to ask you first and foremost, you said the program is already very complex. So you do you believe there are still other measures that you will be implemented to address food security, or is the program so complex?

We think it's good and it's a good way to go. I think besides all the technical stuff, the involvement of local government, of community leaders of the local organizations, woman groups, youth groups, I think that is really the condition that people are willing to work with you too because it's new and an innovative approach. I think yeah, that's already your enabling environment, your basis for the implement. I can imagine that after halfway and after two, three years, and you say, well, we should do more this or less that. That's always that's good. For the midterm evaluation, at this moment of reflection, they think that we still cannot reach people with a handicap in those areas. People are so poor, we can so that that's not a problem then. You go to reconsider. And also, that moment, we have more data we know more practically. Is it possible to convince people that women need meat if they're pregnant, etc.

Look, I think this program approach on paper is it's perfect, but you have always the influence from factors you even cannot imagine beforehand. So yeah, we are very aware of this ans we did some risk analysis and risk mitigation, but then unexpected things can always happen. So we are always willing, honest, and open to change, to tweak, and invest in interventions. But I'm not expecting that we going to change a lot, because I think it's well thought. It's the preparation of more than a year.

We developed a new proposal for the postcode, the zip code lottery and that is let's record something in the in the project area. It's working with a selection of nine schools, the concept is a circular model. So, you have to school you catch the rainwater in huge tanks rainwater harvesting tanks, you set up eco toilets so the fecal sludge will be captured in plastic containers and every day, the caretaker of the schools put in basins human manure and that will be turned into compost for small school gardens. We cannot provide a complete school meal with that. So, what we do is make nutritious food as much as possible, and then install climate smart cookers, and then with the children and the person was in charge of school with funds from the government, they work in the garden, they prepare together, healthy food and they learn about how to prepare it and we also give them the information about the nutritious value. So that's the circular pot so you have no waste. And when we were discussing this with Ethiopia digitally, you may have a lot of animals in the project area and they're walking around but you can also close them in a gated area so that we can also capture their feces or can turn it in compost, but you can also make biogas of it. Then we can cook clean on biogas. So that's I think that can happen, they don't have funds for it, but I can imagine that they come up with those innovative ideas and then we are going to help them to together with them look for additional funding.

Women are cooking on wood, so the deforestation there is also high. Also it means that to cook women have to walk long distances to collect the wood and it's time consuming, the same happens for water collection and it's dangerous as well. It keeps the girls from school because they don't have time to go to school. And it's not healthy if you cook with wood as the emissions come in your face and women are more susceptible to get cancer or lung problems. So that's that's it's an add on.

I really also would like to hope we can do it because it is so time consuming. It is so bad for the environment and it's it's one of the girls we interviewed. He said, you know I have to go every day. I have to work one hour and a half to get fuel and to get water. And then I complained in school and then I get punished and go I must stay longer, and you have to clean the toilets of the school.

And when we were discussing this with Ethiopia digitally an idea was brought up. There are a lot of animals in the project area and they're walking around but you can also close them in a gated area so that we can also capture their feces or can turn it in compost, but you can also make biogas of it. Then we can cook clean on biogas. So that's I think that can happen, they don't have funds for it, but I can imagine that they come up with those innovative ideas and then we are going to help them to together with them look for additional funding.

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One of the girls we interviewed said "You know I have to go every day. I have to walk one hour and a half to get fuel and to get water. And then I come late in school and then I get punished and go I have to stay longer, and you have to clean the toilets of the school."

We see a lot of absenteeism from girls because of the water problem they have to work for for water. Schools in Ethiopia generally don't have access to water, so hygiene is affected by this. Those girls are a lot of them are not going to school also when they're menstruating because they don't have pads, and also they needed in house that's also why we focus a lot on gender transformation. That on all levels. There's not an equal situation for women or girls, all these factors affect their chances to develop themselves. There is also gender based violence against women. So that's also why gender and inclusion is so important to focus on.

Also, since we were talking about using trees to cook, I was also thinking, Yeah, this is also caused deforestation. And then of course this causes climate change and climate change can cause the patterns of agriculture.

Will the program start soon (with animals and biogas)?

Yes, they already started with an inception phase (clarifying the scope and project objectives and solutions) last year. And then we did all the assessments but yet unfortunately, when we were ready with all those assessments, we had to move project area. So all of those assessments we have to do that again but we decided now we do it parallel. Wageningen already did the workshops, they are going to introduce what they call the PIP plan. That's what we are going to introduce in the in the area. So they already did the workshop, the event to Ethiopia. And now it's to really what we see is that people that attended the workshop, but now they don't know how to start as it's new. We have

local people who are working on that. So yeah, there are already activities in the field lining up the health centers. Preparations on a local level are full. People are really always in the field now of the staff to work with the locals, there is a lot of work, and it is a huge project area. But it's that the implementation started.

Do you believe the actions carried out by relief agencies contribute to mitigating food insecurity within the vulnerable groups, and in what way?

In what way do you think food assistance can negatively influence food insecurity, particularly the health status of the vulnerable group?

I'm personally I am quite against every year those that organizations like the World Food Program, are distributing emergency food packages (FOOD AID). Because I think in a lot of cases by setting up programs like healthy village and taking climate change in consideration, you can anticipate and you can take measures to avoid food insecurity, not 100%, but much more than we are doing now. And humanitarian projects is really working as my personal opinion.

I worked on humanitarian projects with Cordaid, they are living in a separate world, and they are enthusiastic when there is a crisis, and they can come in action. And I think much more should be done on prevention. How do we prepare for the next famine? How do you avoid it, to know you have metrological information you can anticipate on this?

Having said this the positive impact, I think of this program? Yes, of course we hope to reduce stunting, but I think by involving the governments so much making them responsible for the results, I think that is also very important. They did not do this enough with programs. So if we really manage to to get them involved for the five years and after then we have really a positive impacts not only on stunting, I think the stunting we can manage with or without government but the sustainability of the intervention will depend on the involvement.

And negatively maybe also the same is that after five years if you're not ready or did not manage to really anchor the program in the program area in which you have invested a lot of effort and money then you wasted resources.

I can also imagine; we promote gender transformation. We are not forcing it. We try to create space, more space for women and girls and hope to take they can take it and grow the diamond from there. So, they really have a safe space but that will take more than five years. We are realistic in that, we set the first step, but I've seen programs with the gender component that it works against women. It can happen that there's more gender-based violence at home. Women go home and say I want my rights and that can happen. But I trust in my colleagues for Plan Ethiopia that they know how to manage this. So that's that's I don't expect that to be a problem, but I said that it is not as sustainable as we hope it will be.

If after five years you're not done with the program. You cannot make it longer?

Let me be honest, if you have only five years then you have to act as if it is only five years. So that's also why we involve the government we train them, also be set up a system with manuals, training materials, awareness materials. So, we hope that by setting up the system but also by involving

actively government, and they are willing to be involved, that they can continue with this approach. We hope that time should be enough to get people up and running and knowing what to do and working also with the health centers. They know about the stunting. They already measured the children that you hope that they also understand that they should promote much more breastfeeding and not formula milk, that's the industry that's coming in, also for Dutch. They're selling those powdered milk, baby formula they promote it. So yeah, that is all about awareness with within health centers and schools at the household level. I think we can manage more or less to between the ears and that government is willing to continue it and that is enough knowledge and awareness to continue. It is a challenge, but I am not convinced, I think we can do it, there is always a little doubt, but I think maybe but it should be possible. Maybe I'm too optimistic.

There's also a lot of progress with Ukraine, probably Ethiopia will be hungry. As supply chains are interrupted and maybe they're (Ethiopian) are going to sell the local produce (Teff) to the highest person who wants to buy it for a lot of money. So maybe they sell their own food to get money. That's that's really a risk, we have to we cannot avoid it but that can happen. Strange things will happen because people will suffer from famine in the Horn of Africa because of the war in Ukraine. And that's really a realistic scenario. I'm afraid for them to sell their own products to get the money.

Do you believe that they're going to sell it for money? Rather than having food security, they have the money, but they don't have the food?

It is my expectation, the risk exists because the land for agriculture is in hands of men that decides, and men are not normally caring about the family's food security. Food security in the family is a woman's task and it's already normal there that after that the harvest is sold, if they have a surplus on of money, they go first to the bar to drink some beers. So they're already taking more advantage of the family income. So, I'm not 100% convinced that they will not do it (sell the harvest). Maybe they are forced to and if they are because people are still in the corona crisis, the COVID crisis, and those countries are already impoverished because of the corona crisis. They don't have any meat on the bones. So, it's already challenging for them. So I would not blame them. If they are getting poorer, that they are going to sell everything they can sell that even they can sell the children. It is happening already in Tigray; they are selling the children. It's not bad parenting, there's really no other solution. Survival. Yeah, it's it's you cannot blame them. But it's challenging working in such an environment. So that are the external, the external factors that can really negatively influence our program. Yeah, more external because yeah, it's influencing, and it can influence everything. It's of course the climate change, but we try to cope with that as much as possible. But then a year before the climate change in Canada also influences the food security of Ethiopia. Canada has huge drought, so the wheats harvest has failed. I think there's 20% left of wheats left. This will influence also Ethiopian food prices and world market prices. The fuel is expensive. Transport, everything. We are complaining in the Netherlands we will survive; we will not become poor. But you will not die of Hunger. Ethiopian yes, they will, and that's why I'm hugely worried about the what's going to happen. Between now and three months, three, four months,

The impacts are already there, we see already the first refugees from Egypt coming to Europe. Egypt has run out of breads, they eat a lot of bread, but it's not wheat, or it's expensive. So poor people cannot afford simple breads. And young people are trying to enter Europe and not because they want to become refugee. But yeah, it's the first country really affected by the high prices and scarcity. And that will go over to other countries the horn of Africa will be affected, the whole world but they especially because they are dependent much on imports (Russia, Ukraine) for their food sources

Interview 2: Frewengel Wolde-Michael, Tearfund Canada

(45 minutes:13 seconds)

Can you please introduce yourself specifying your age, gender, and academic background?

My name is Frewengel Wolde-Michael in shorts Fre. I'm originally from Eritrea East Africa. I currently work for Tearfund Canada as an international program director who's responsible for all our food assistance and long-term developments in Sub-Saharan Africa mainly. My background and why I am working the way I'm doing the things I'm doing now is myself being grown-up actually caught up by poverty. I have that experience. So, I was inspired actually by people who have been assisting us during my childhood and you know, they don't know us but they were really unconditionally helping with food assistance, with, with water with shelter, with health services, so I was inspired actually by those experience in my early childhood. That drives actually where I am today. It is only one year I joined in March 2021 (Tearfund Canada). But for the last 20 years, I've been doing the same thing that I'm doing now.

You have been working in another company with another organization with similar objectives?

That is true. So yeah, I've been working in other organizations like Oxfam, Mercy Corps, ACA, and many other organizations for the last 20 years, mainly in Sub-Saharan Africa, but with some experience in Afghanistan in the Middle East.

Can you describe the agency you work for and your role within the organization?

So, my interview today actually represents my own opinion, it doesn't represent Tearfund I'm just like doing this interview with my independent opinion. Tearfund, we are a faith-based organization. So we work with church-affiliated local partners, we don't implement ourselves, but we assist local partners to deliver programming. Our mission is to see people freed from poverty; we define poverty in a broader sense. We don't see only the economic term, but we see like, more broadly, because in most cases, poverty is being described, as people need the physical needs, but it's more than that. So, we see that very broadly including the physical, the emotional, the spiritual, and the social needs. So, all our programs are designed to address these complex needs, so our programs are integrated. So, our main focus is food security.

Could you give an overview of the issues you consider most relevant when it comes to food insecurity in Ethiopia?

Yes, actually, you know, I was just doing something for our board meeting next week. So you know, like, the poverty is caused by multifaceted problems. But of course, climate change is one of the major drivers of poverty. Why because you know, especially people in the global south in the Sub-Saharan Africa. All their lives are dependent on agriculture, and agriculture is one of the most prone to climate change, because of drought and, flooding. And then, you know, climate variability and erratic rainfall and so on and so on. So, we see because of its rippling effect on health systems, on foods and food systems, on socio-economic systems, so we see climate change as a major driver of poverty, especially for people that are like, who live at the edge of poverty. So with this, a slight change or climate change can completely drive them into extreme poverty, displacement and conflict,

and loss of life and livelihoods eventually. So yeah, that is even you know, like, I think you know, many countries in the world have been going through a multi-global partnership like the MDG, SDG. And I know that I mean, like, there was some good progress in the last 25 years in addressing poverty However, now, the result is being reversed because of climate change, and then the pandemic, the COVID pandemic. So, you know, we understand climate is one of the major drivers of poverty, and even in Ethiopia that's very evident is very visible.

Do you recognize other main drivers of food insecurity in Ethiopia? If yes, would you be able to give me a short description of which other drivers of food insecurity there are in the country?

Drought, East Africa has been hit, you know, like by recurrent droughts like every 10 years we see catastrophic, catastrophic droughts in East Africa, particularly in Ethiopia. Maybe you may remember, like, only may have heard about the famous Ethiopian famine of 1974 and then 1984. And then it's like every 10 years, we witnessed severe drought in East Africa. So Ethiopia has been hit by those droughts. But in addition to drought in Ethiopia, the other driver of food insecurity is the conflict is one of the drivers because it displaces people, it destroys livelihoods it somehow undermines the economy, the stability all that kind of thing. So in addition to that, you know, Ethiopia actually depends on imports for most of its agricultural inputs. Like fertilizer. So basically, anything that happened in the supply chain somewhere else directly impacts the production, and the food security situation in Ethiopia, Typically the war in Ukraine, actually has a direct impact on the fertilizer imports that are important in Ethiopia. So fertilizer is actually the price of fertilizer is three times when you compare it with the price of last year. So it's very unaffordable for farmers. So that's why we are promoting more conservation agriculture, where people can use compost and like green manures instead of depending on imported chemical fertilizers. So, you know, like, these are some of the major otherwise. The situation is very compounded by so many local, regional and global factors. So, like, the other thing is the locust infestation, you know, like last year in Ethiopia and the greatest Horn of Africa has experienced an outbreak of locusts that conceives much of the crops. So, you know, it's a compounded effect of many, many factors. But more than that, you know, like the vulnerability, smallholder farmers are very vulnerable. So if something happened, then it affects the entire land and homes, and food system.

As you mentioned, the prices are going up. This also represents a barrier to affording healthy foods and nutritious food for people. Do you reckon this to be true?

Well, yeah, that's very true, you know, like, because of the conflict and the internal conflict and the conflict between Ethiopia in the conflict in the region, that the conflict in Ukraine has actually driven the cost of even food commodities, extremely high. So, as of now, I think it's about the inflation rate standing at 34%. So the price of oil is actually extremely, very expensive, same with food commodity as a commodity, so it's very undoubtedly that the inflation is causing food insecurity, especially for the poor. Yeah, so I completely agree because prices are really skyrocketing in Ethiopia, I was actually there last month, and within the last, I can easily compare prices of a few months ago, so you can see doubled or tripled in a few months.

I can imagine that people living in rural areas will have even more issues in having access to food when there is not so much connection between the different infrastructures.

That is to you know like it's, it's not only about availability, is access is also always an issue, if there is conflict. Anywhere else, you know, the supply chain is broken. So where especially like in Ethiopia the infrastructure is not so developed and most of its need is imported and with a break of the supply

chain, like a war in Ukraine and internal world like in the north. Yeah, it is. It's a major issue and access is a major issue due to the breakage of the supply chain.

Do you recognize women and children as being the most affected by the current situation in Tigray, if yes why? If not, please elaborate

Which barriers do women and children face when it comes to food security in Ethiopia?

It's very true. Yeah, Yeah, especially, you know, Tearfund with our local partners we are responding with food assistance for refugees in the north. Like IDPs north, so you don't like our assessment indicate that the most cut social categories which are affected and the women and children and people with disabilities. Why, because first of all, they are the big teams they are just like defenseless, you know like they have a very patriarchal society, so they don't have possession in the first place. You know, they are already very vulnerable. They don't have positions and they don't have power even in a normal situation. Where it's a very patriarchal society. And then this compound was, was conflict, and drought you know, like, it drives the vulnerability much, much worse than it was ever their situation. So, we have seen, children and women especially lactating and pregnant women and children under five. We have seen them like being malnourished and complaining about their main counterpart actually, you see the adult men and the adult women who lactate and breastfeed at the same time pregnant the rate of malnutrition is high among children and women. Why? Because of access and control and then complete this compounded with conflict and displacement that worsen the food security situation.

I also heard about the culture and the religions as well. Barriers that sometimes women are required to, for example, feast due to religion or do not have access to certain kinds of foods that will actually help to have a more nutritious diet. So, this also can impact their health status?

Yeah, that's that is true, you know, like the cultural, the cultural practice, like the religious practice in Ethiopia, actually, that concept is both men and women, so everyone has to pass every Wednesday and Friday. You don't eat animal protein. And then the major the late season, you know, like the Easter the fasting, that's the 14-day fasting. That conserves, actually same for everyone. So most people, they do fast in Ethiopia. So but basically, and that affects, you know, like, definitely the nutritional intake of who are fasting, including women in men. But particularly, it couldn't be disproportionately impacting women because they have to feed the kids, they have to breastfeed their children. So that may disproportionately impact women for sure. But on the other hand, you know, the cultural tradition, like access to sources is more favored for men than women. So that also could contribute to their food security situation as well.

What is your opinion? Of course, what do you think can help to? I know, it's, you cannot really change the tradition but how can this be pushed into a more inclusive direction?

You know, like, of recent Ethiopia, the government is taking like very practical actions to empower women like government offices. So the government is trying its best, you know like to represent women at different levels of government. The private sector, and also other farming levels. So, I would say this could be like a very motivating and first step actually to empowering women and challenging the cultural practice. Because women are at policy level, they can influence policies that really favor both men and women. If women are participating in the economy, you know, like, as

private investors. For sure women are very capable, especially in Ethiopia, you know, like where they take the majority of the household responsibility. They are actually active in the informal economy. And then if the government favors, you know, like, with loans, with access to loans access to resources like land, they can do, they can better so, yeah, I would say the commitment from the government was very, very positive to really empower women. And that's what I see as a development age.

Could you describe the food assistance activities that your organization is undertaking in the target area?

So how do we do that? Actually, first of all, we have our programs that are humanitarian, and then development. So under the humanitarian program, we normally support people in emergencies to save their lives. So this is basically like people in emergencies like conflict and disasters. So our humanitarian program is actually life-saving. So we do that through direct food delivery. And then our long-term development is actually, basically, we support people to produce enough to feed themselves and their families. So our core sector is agriculture. So we support we facilitate farmers with training on agronomic practices in post-harvest handling and marketing. So basically, we promote conservation agriculture as a way for farmers to adopt the best practices, because we believe in the areas where we work there are climate prone. So, we take into consideration, how the environment is very prone and fragile to drought. So we promote conservation agriculture where there's minimum tillage and soil coverage. So that we improve the soil fertility and we at the same time, in a way we help farmers to produce, we also had the environment you know, to protect and flourish actually. So along with our agriculture program, we have self-help or the BSL, village savings, and loan associations. So under this, we facilitate, especially women farmers to organize themselves, into savings and then get access from the savings and do some income-generating activities as an individual and as a group. So, they are also involved in aggregation and collective selling, so they do purchase cereals and animals when the prices are low and they sell when the price is high. In our development program we have also a component called Church community Transformation CCT, what does it mean, at Tearfund, we understand the power and the influence of the church. So we try to involve the church to take broader responsibility for community transformation beyond...Evangelical ministry, so we call it integral ministry where the church would incorporate social development into its evangelical mandate.

So these are the three components of our development programs. So the cross-cutting into our development programs are climate change adaptation and mitigation. We do that through, as I mentioned, earlier our conservation agriculture where we take care of the environment, we promote, restoring the environment the degraded land, forest, and soil moisture. So this is a cross-cutting, in the other cross-cutting across all our programs is the woman empowerment. So we support actually women's economic empowerment where they become self-sufficient. And the same time we support, we promote actually women's representation in leadership in their households and in their communities. Yeah, so the local news, so these are like a cross-cutting. So all our programming. And the other components that which, as I say, you know, like we don't directly implement, we under support our local partners to do the implementation. So, our role is actually to facilitate capacity building with local partners. Basically, we look at the institutional capacity building, which are the governance, the financial systems, the processes and so on and so on. And technical support, basically on program implementation. So, yeah, this is how we do with our partners.

How do they address food insecurity?

So surely know, like, the process we follow, you know, our program determination. What do we do? Why do we do the things we do is actually encoded by an in-depth situational assessment. Normally, we assess the situation, what are the situation looks like? From the perspective of food systems, what is the cause of food insecurities? What is the extent? The severity and who's effect who is affected much more is the women, the children, the elderly, and the minorities, so we have to really establish all these parts. And after that, actually, we design you know, like, we move into action plans. So what do we plan to really address those identified needs? So based on the action plans, we set up you know, like, this will this is what what you want to do, and this is what you want to achieve. And then these other sources we need so we do we design; you know like it's more of a program design. And from the design actually, we move into the, but at the same time, we set the benchmarks, you know, like during the program design, what do you want to achieve by the end of our intervention? So, we set this a benchmark like a baseline and then targets, and normally an ongoing base we wager progresses towards a target. So, this is a common practice otherwise we don't find programs, especially our longterm programming, without having those benchmarks and indicators of success. For our humanitarian intervention, we normally know how many people we have reached, you know, so and how many people with what commodities and also, we monitor you know, like if people use the food they received or how much have they sold, how much have they share? So, you know, like we monitor you know like to assess if the right people have received the right amount, especially this is on already programming, but with our long term programming, we track progresses, like one on one base, rate of production, diversity of production, income and income levels change, a change in nutritional intake, food data from diversity on are these are the indicators that we measure through our programming,

Which additional measures do you think can be implemented to improve the food security status of the vulnerable group?

You know, like basically, as I said, people in South Africa like Ethiopia. Their main livelihood is agriculture and agriculture is very prone to climate change. So we cannot address food security without addressing the issue of climate change. So climate change, the agenda of climate change has to be seriously taken and then, you know, like the government policies strategy should also favor you know, like the food system, like for example sometimes, you know, policies should look at encouraging local production, maybe import, import relying on foreign aid or foreign importantly, undermine the local production. So, you know, like I would say, for us, what we do is we facilitate farmers at the grassroots but there are broader issues. That can be addressed just to support the direct activities, you know, the prosecutor intervention, basically at higher level policies that favor local production and smallholder farmers and the issue of climate change. We cannot really ignore climate change and try to address food production and food security. So yeah, that is something that I would say.

Do you evaluate the health status of the people supported through your activities, if yes how?

How do your activities take into consideration the health status of the people supported, women and children?

So from what I understood, you also take into consideration the nutritional levels so you also measure the health status of women and children, by measuring for example, where they started from and after your work, what was the impact? Do you have any, if you can share this, do you have any examples of programs that you led that had positive results or that you could say yes, we prove that thanks to our program, we were able to improve the health status of women and kids.

We don't do a hand directly, but we contribute you know, like indirectly through our food security programs. How do we do that actually by helping farmers to produce enough and diverse crops. So that means that would increase the food consumption and then even the diversity. So for me is an improvement, the nutritional status of households. So, we do track with our long-term problem we see a very positive change on the people that we serve, so like in Ethiopia, we have put security program in Wolayita in the South. So the results we had actually is very positive. So, people have imported diverse food consumption and they have important like, number of meals they consume, and they have witnessed actually, they have increased the number of months that they would have food from their own production. So well, you know. So these are like proxy indicators to the health status of women, but we cannot directly claim yes, we have changed from this to this on the health status. These are kind of indirect indicators that can contribute to the health status of women and children.

While for the humanitarian help, you don't have a way to track is that correct? You can only say we reached these many people. I don't know if you can answer because I understand the very hard situation going on. Have you been also leading humanitarian missions in Tigray or is it not an area you can reach currently?

Yeah, we have been responding to IDPs who cross to the neighboring regions. Yeah, so we do respond with emergency food assistance. Comprising wheat, flour, cooking oil, and beans, and also nutritional supplement the nutrition supplement is particular for lactating women and children. Yeah, so we do respond not inside Tigray but basically on the neighboring regions.

Do you believe the actions carried out by relief agencies contribute to mitigating food insecurity within the vulnerable groups, and in what way?

In what way do you think food assistance can negatively influence food insecurity, and in particular the health status of the vulnerable group?

Yes, it is. Everything has its positive and negative side. So the child you know, like my experience, I grew up being caught by a disaster, you know, like a war on one hand and drought it on the other hand. But I can see myself now, because maybe probably because of that assistance and who I am today. So, if properly aid is done in a very ethical way. It doesn't only save lives, but it can transform lives. But it has to be done ethically and responsibly.

Could you define ethical way because maybe different people interpret it in a different way? So I would like to have your opinion on what is ethical.

It's a kind of the way it's actually it. Has to really focus on the local, the local people in the local system. You know, don't slip don't provide something that people don't want. You don't give something that impacts the local system, you know, for example, providing grain sending grains to two countries would definitely undermine internal local food production because prices will be dropped. I have seen this in some African countries, where the import is cheaper than the production. So, farmers, abandon their farming and do nothing. So in a way we have to really plan that relief programs do not undermine local systems and production. So we have that is what its responsibilities we have to really start with from the locals. And then does it really, like I mean, what the positive side yeah, because you know, like normally, relief programming is carried out to fill a gap. You know, they're not they're not taking the government's responsibility for that. It is actually a real gap filler. Gap fillers. So if you don't do that, you lose something. So it's just like because the local resources or local capacity cannot meet those needs, then we step in. So in that situation Relief Program can save lives and save livelihoods for the short term. And then they can support local development or the long term because, you know, eventually, through programs you save human life and livelihoods, human capital is the prime means of production. So if you don't save lives, don't save the human capital, which is the prime means of production. There is no way that you can save you can actually ensure food security, so you know like it's all how you do that. It's very even the medication we take it's it could kill us if we don't do that properly, according to the instruction, but we didn't have you know, like with relief programming, you know, like, there are so many initiatives that protect you know or do the check and balance. You know how relief organizations should practice their relief activities. So, yeah, like the standards where it actually determines, you know, like the minimum daily needs, like it could be shelter, it could be food, it could be water, it could be a latrine. How many latrines for how many people, how many kilograms of food for how many, so, like the other requirements are the guidelines or the core humanitarian standards where we talk about the rights of people you know, like, the rights for the right kind of support the entitlement and the right to complain the rights to provide feedback, the right to get quality services. So you know, like, aid agencies have now tools and systems in place to really guide their interventions and also for the participating communities or beneficiaries. They do have more rights and their rights their entitlements are coming up very clearly. So these are good initiatives and that guides you know, like aid programming in your communities.

I've seen as I've seen, also, when I was doing my research, there was a faster switch from food aid to food assistance, which is more based on the long term. And I think this is like the feedback has been received and like there's been involved in this change, and I think it's very positive and I hope in the future, I can contribute to that. As well.

Interview 3: Interview Giulia Donnici, CESVI

(17 min: 45 sec)

The underlined questions are answered by documents and sources provided by the interviewee

Can you please introduce yourself?

My name is Giulia Donnici and I work for Cesvi. In recent years I have been involved with a lot of interest and enthusiasm in a laboratory on sustainability at the Catholic University, and I want to help students. I know what it means for students to find people willing to help them and that is why I wanted to respond and try to help as much as possible. I made myself available, not because of my experience in the sector, but because I know how difficult it is to find people to help with the thesis. I have been working in this sector of international cooperation since 2008, but I have never dealt directly with food security. During my time at Mani Tese, however, has been part of my activities. The idea of the project was to respond to food and nutrition problems through agroecology. Agroecology was the strong point of NGO A Mani Tese, therefore based on family farming, agroecology and we have carried out projects in Mozanbico. Now I'm here in Ethiopia, and I'm back to work with Cesvi. I had already worked with Cesvi in Brazil from 2008 to 2013. I have been in Ethiopia for a year and two months, and it takes a long time to understand a country, its dynamics, and problems. Even having been here for more than a year, I still don't feel capable of giving answers as an expert in this area. Here in Ethiopia, especially in the first year, we dealt with the structuring of the NGO and starting the first projects. A project is in the Borena area on the border with Kenya and focuses on farming, which is always a response to food security, especially in contexts such as that of Borena, where agriculture is almost absent. The population is pastoral or agro-pastoral.

The food security problem in Ethiopia is certainly still lacking from the point of view of response structures, despite substantial investments by donors. In Ethiopia, there are many investments, many NGOs, and many United Nations agencies. I will send you the GHI report (Global Hunger Index), an Alliance 2015 initiative, if it specifically deals with the agency Concern of which Cesvi is a part. Organizations such as Cesvi carry out the promotion and dissemination of this initiative at a national level. This year we had the opportunity to do 2 presentation launches in Ethiopia. Two deputy ministers of health and agriculture were present. During this event, data were presented worldwide and with a focus on Ethiopia. The data are on the state of hunger and in particular on food security in the country. The country that presented the worst data was Somalia this year. We have all the data, and I will send them to you before Wednesday, all the GHI data, even at the level of Ethiopia that they have data on women and children. Also, I can send you the presentations of the various speakers of the GHI where you will find interesting information about the country of Ethiopia.

Can you describe the agency you work for and your role within the organization?

I am Country Director, in 2018 Cesvi started its activities in the country, and we started a project in Tigray; then there was Covid and there were several Country Directors, so our businesses remained very localized and didn't grow much. Since 2021 we have gone from 0 projects to 5, some of these projects are underway while others are about to start. The Italian agency for cooperation and development finances some of these projects. Projects are still being developed in the country, but the

areas of intervention will be Borena on the border with Kenya, Benishangul-Gumuz, Dire Dawa Harar, and Amhara (where the conflict took place). We do not work directly with food security and malnutrition, although we presented a project last year on reducing hunger, we do not yet know if it has been approved. If approved, we will focus on this area. I am not an expert, but I can share all available information with you. Surely based on my experience, an interesting thing that I have noticed is that the focus at the moment in the country is on the repercussions of the damage that will be caused by the war in Ukraine, especially in terms of prices and inflation. In all the latest events, such as the GHI meeting, the national day of the European Union, and internal meetings the focus is on the repercussions of the war in terms of prices and inflation. At the moment there is an inflation of 42% in food prices and this is dramatic it is already assumed that there will be very big problems and a further worsening of the situation. Everything is shifting to this.

Could you give an overview of the issues you consider most relevant when it comes to food insecurity in Ethiopia?

Before the war with Ukraine, the biggest problems related to food security were related to internal problems. For example, the war in Tigray, and all the conflicts in Ethiopia, there are conflicts not only in Tigray but in different areas. The government is not quite stable, so it affects. The difficulty of production especially in some regions, due to natural factors and the local geography, are all internal factors that you can find in the reports. While there are now more external causes.

Livestock is source of food and source of livelihood for the pastoralist. Recurrent drought (from 5-10 years to 3-5 years) cause loss of livestock and food shortage (access & availability). The existing postrisk response mechanism (e.g., emergency livestock feed supply & restocking) are slow, inadequate, and expensive (14 times higher than provision of feed). Conventional commercial insurance is not viable to address vast pastoralists due to high transaction cost.

<u>Do you recognize women and children as being the most affected by the current situation in Tigray, if yes why? If not please elaborate</u>

- Disaster prone communities receive timely and effective emergency interventions linked with rehabilitation and development.
- Vulnerable communities are effectively supported and achieve sustainable food and nutrition security and attain gender transformative resilience.

Could you describe the activities that your organization is undertaking in the target area? Sectors

Food and Nutrition Security
Water, sanitation, and hygiene (WASH)
Climate change, environment, and natural resources
Market and Financial inclusion
Livelihoods
Education
Gender equality, child protection

Kind of action

Emergency Response Early recovery Nexus Resilience building Development Advocacy

Activities

- Collaborating on joint strategic initiatives to achieve our thematic goals, building on our synergistic strengths.
- Transforming systems by contributing to and facilitating local and national level dialogue based on evidence generated from our individual and joint programming.
- Shared learning and resources for improved efficiency and impact.
- Joint Emergency Preparedness and Response plan; Increasing engagement in humanitarian response; joint strategy
- Joint programming, both humanitarian and development (new initiative- one team approach); joint advocacy
- Coordination on crisis response through shared situation report, regular joint collection of Early warnings, and A2015 Emergency working group, security network
- Joint Assessments
- Shared infrastructure and resources
- Assigned A2015 coordinator, A2015 regular learning sessions

Working principles

Do no Harm
Disaster Risk Reduction
Local Governance
CSO empowerment

How do they address food insecurity?

All 7 members of the A2015 have a presence in Ethiopia; out country thematic goals include supporting timely and effective emergency response linked with rehab. Effectively supporting sustainable food security and nutrition security with a focus on resilience and gender equality, and thirdly being an active stakeholder in promoting food systems that are fair inclusive and sustainable.

Which additional measures do you think can be implemented to improve the food security status of the vulnerable group?

Link humanitarian development and peace work using flexible approached and funding mechanisms to build community resilience and ensure that humanitarian needs are met and transitions are made efficiently.

The government and donor organizations should support development programs that can pivot to humanitarian responses as needed. Long-term livelihood development supports the resilience of vulnerable communities to shocks and stresses, but now more than ever, a conflict-sensitive approach and built-in peace-building aspects are crucial to contribute to preventing conflict from breaking out.

Mechanisms such as early warning/early action or crisis modifiers can help programs not only prevent conflict-affected communities from sliding further into poverty and vulnerability but also transition efficiently from humanitarian assistance to development while building peace.

Include contingency budgets in programs given the high probability of disruption in settings prone to conflict and shocks.

A multisectoral, multistakeholder approach can help ensure that all stakeholders are pulling in the same direction to achieve the full scope of the Sustainable Development Goals (SDGs) and to meet priorities set in relevant national plans and strategies. To ensure efficient implementation at all levels—particularly at the local level—government and development actors should work jointly on implementing the new 10-year national food and nutrition strategy.

Local markets are vital for sustaining communities affected by shocks and can help ensure the food and nutrition security of communities affected by conflict. Where markets are functioning, avoid handouts that can harm the livelihoods of those who depend on selling their goods in markets. Instead, provide cash or digital vouchers that recipients can use to purchase food in markets. Where markets are not functioning, work towards market functionality while providing food in kind that is appropriate to the local community as a temporary measure

In each setting, it is critical to understand conflict dynamics, available markets, and community preferences, while striving to reduce dependency and contribute to local economic development. This will help ensure that interventions are flexible, prioritized, need-based, and sustainable so they address the challenges faced by members of the whole community, many of whom are not part of conflicts, but victims. Provision of food items must be appropriate to the specific context of the targeted beneficiaries.

Do you believe the actions carried out by relief agencies contribute to mitigating food insecurity within the vulnerable groups, and in what way?

In what way do you think food assistance can negatively influence food insecurity, and in particular the health status of the vulnerable group?

Then the positives are seen more in emergencies. For example, now in Afar, during the GHI, a representative of the area made a very important event and reported that the situation in Afar is very serious, people are starving. Afar is close to the Tigray and in that case, we talked about the intervention of the WFP and how we must be careful with the food that we bring in emergency cases. For example, sometimes there may be foods that are culturally inappropriate or foods that need water to be used, but there is no water so we need to study how to proceed. Despite this, the help of organizations is certainly essential during emergencies. Development programs, it is more complex, because there are help dynamics that sometimes achieve excellent results while other times less. Ethiopia is still in an emergency situation, so in such a situation it is important, also from the point of view of organizations such as the United Nations to collaborate with the government. To collaborate with local authorities, even if it is mandatory here. So if an agency wants to work in a region, you need to have agreements with the local authorities, it is a country with many bureaucratic practices, this on the one hand is a negative aspect. Sometimes during emergencies, you have to wait to make agreements with the region, but it is also good because you cannot help without considering a collaboration with the local authorities.

I guess being more controlled helps to carry on the projects started and planned?

Yes, in my opinion, there are pros and cons regarding this important presence of the authorities, and of the government.

Interview 4: Save the Children, Elisa Pozzi

(40 minutes: 48 seconds)

The underlined questions are answered by documents and sources provided by the interviewee

Can you please introduce yourself and your role within the company?

I would like to start the interview by possibly asking you to introduce yourself and describe your role within the organization so that I can get an overview of who you are and how came to work at Save the Children.

My name is Elisa Pozzi and I have been working with Save the Children Italia since September 2015, I am the Senior Technical Advisor, therefore the responsible and thematic contact person for food security and livelihoods for Save the Children Italia. I am also co-lead of the organization's global technical working group for food security and livelihoods, which is responsible for offering strategic direction in the field of food security in both the humanitarian and development fields. In the past, I have worked with FAO the United Nations organization for food and agriculture for 6 years based in Rome, focused on less program-related work than what I do today but more to influence food and nutrition policies in about 60 countries facilitating the strengthening of multi-stakeholder alliances bringing together the private sector and the public sector and community-based organizations or in any case small NGOs. Thanks to that work I made an intermediate step between FAO and Save the Children, working for 3 years between the two roles, for Scaling Up Nutrition. A global movement born in 2010 on the initiative of the Irish and US governments to let's say ride the momentum that had been created on the prioritization of strategic priorities related to nutrition, thus promoting effective practices for a work area called Nutrition-Sensitive complementing the existing nutrition-specific (health related) interventions. So, all that programming, even if not necessarily linked to intervening specifically on the physical determinants of malnutrition, could contribute to the improvement of the nutritional status, especially in the first years of the child's life, therefore in the first 1000 days (from pregnancy through to the 2nd year of life of a child). Previously I worked in the field, coordinating public health and nutrition projects and other roles in other organizations. The easiest way to enter this sector is to have experience in the field through volunteering, and internships

Do you have experience related to Ethiopia, and if you do could give me information regarding your role in this country?

So, we have collaborated with Ethiopia on several occasions, it is a country to which Save the Children Italy has given priority. My experience in Ethiopia refers to 3 different types of interventions.

One linked to a program funded by the European Union is called *Recovery* in which I mainly supported the component related to the development of skills of young people, it was a poverty reduction broader intervention aimed at the economic empowerment of young people in the Afar area, this project was in 2015.

Then, other programs that I supported were related to emergency interventions. Generally, in emergency response interventions, we respond through cash transfers, the preferred response method,

regardless of the sector of intervention because it is a method that restores the dignity to the individual to prioritize their own needs. Combining cash transfers with messaging on expenditure on what is important to spend money, raising awareness, and offering messages to the population receiving this type of assistance, also suggestions about the importance of using the funds to improve children's nutrition or to achieve relevant goals for children's nutrition, education and protection needs. This type of response is called cash plus, therefore it is a normal cash response but with the addition of a plus dimension that is characterized by this component of messaging linked to nutrition, or important issues. Another intervention was for a development program, therefore more long-term. The focus was on education, which had a small component of food security and livelihoods for a portion of the assisted population, composed mainly of a sub-set of families (within the broader targeting) at higher nutritional risk. We have offered interventions of livelihood supports, mainly linked to beekeeping, and interventions to diversify the sources of income.

Could you give an overview of the issues you consider most relevant when it comes to food insecurity in Ethiopia?

Ethiopia is a particular country, and there are many important contexts to consider when it comes to food security in the country such as entitlements, and Amartya Sen everything starts from what has been recurrent food insecurities that have been studied in the country for many many years. There is always a political component, unfortunately, food insecurity is always combined with issues of internal policies of the countries. And countries like Ethiopia are always very reluctant to admit that their country has a high incidence of food insecurity. This clearly delays food aid. Timing is important, livelihoods are climate-sensitive and seasonal, so timing is key. Looking at the causes, just beyond the macro-political economy, there are also causes linked to the type of climatic variability, often the food crises in Ethiopia are more linked to drought and climatic variability which often alternates periods of drought and floods in some areas because obviously, there are very localized climatic phenomena like those related to El Nino an laNina. This climatic variability is certainly among the important causes of food insecurity and as well environmental degradation that deteriorates the natural resources base that are vital for food production. For example, climatic variability is furthermore linked to crop production and agricultural production but also to pastoralism, which is one of the most important forms of livelihood in the country. This often also causes conflicts within communities, for example, herd dynamics may create competition over resources between the communities that at that time are located in a specific territory, where resources are scarce due to environmental degradation. Another cause is conflict, unfortunately, Ethiopia is a country that has many ethnic groups that often have conflicts in different parts of the country as we see now in Tigray. Then there are also demographic trends, demographic pressure is one of the characteristics that influence food security, and as we know Ethiopia is growing rapidly so in the context of migration from rural to urban areas there are additional complexities.

For my research I also read that population growth and having children can help contribute to guaranteeing economic income for families and/or jobs, at the same time this impacts the food resources available in families, can this be a component that affects food security?

I don't know if the goal is, as in the past, to have more working family members. The householding size of families is small, so I don't think there is this thought behind it, even if I have not investigated

it but it is more related to birth control policies, sexual and reproductive health is not highlighted enough, which causes the demographic trend. The causes are complex and different but probably not related to the worker's job, clearly having a large family implies a larger family consumption and more economic pressures on the family than indifferent ones. For this reason, when we know that there are crises and shocks that affect families, one of the most common coping strategies is precisely that of giving girls as brides. Food security is a topic in which there are many factors of complexity and there are many thematic priorities, which are taken into consideration within Save the Children's strategies related to children and recurring problems.

<u>Do you recognize women and children as being the most affected by the current situation in Tigray, if yes why? If not please elaborate</u>

Our failure to respond in time to the food crisis in East Africa is exposing the existing flaws in food systems, many of which stem from gender inequalities and unjust treatment of women and girls. Women, men, girls and boys, transgender and non-binary people living in poverty face multiple, interconnected shocks and stresses yet they have differentiated vulnerabilities, meaning that they are exposed differently to risks and uncertainties and are affected differently by them. It also means that the distinct capacities of individuals to face and cope with risks and shocks are shaped – and often limited – by a system of power and privilege.

Existing gender-based discrimination and inequalities limit women's and girls' access to key information, economic, strategic decision-making opportunities, and the resources they would need to adequately adapt to changes, including education, employment, and financial resources. This is no accident: it is due to deep-rooted gender-based inequalities and unequal power relations.

Food insecurity affects women in all its dimensions: availability, access, utilization, health, and stability. Women suffer the most from macro-and micronutrient deficiencies, especially during reproductive years, with long-term negative development impacts on society as a whole. Food price spikes have particularly negative repercussions for female-headed households. Gender inequalities are very visible in the agricultural sector, where women farmers are particularly at risk of hunger and landlessness which is increased when a crisis strikes. Women living in rural areas account for nearly half the agricultural workforce in developing countries. Despite their crucial roles in household food security, women face discrimination, violence, and limited bargaining power, which deepens their poverty and undermines their right to food. This position within the household means they frequently eat last and eat least. In times of crisis, they frequently reduce spending on nutrition and family wellbeing and shift to cheaper, less diverse diets. Women tend to buffer the impact through extreme strategies: reducing their own consumption to feed others, collecting wild food, selling assets, and taking on insecure jobs or migrating which place them at higher risk, especially of gender-based violence as conflict increases over resources. Women who own land are often pressured to sell it to pay for food and other needs of the family. Many times, the sale of land is done by their spouses and male relatives without their consent, leaving women without land.

Which barriers do women and children face when it comes to food security in Ethiopia?

Surely among the vulnerable categories for many reasons, there are children and women. There are certainly significant specific vulnerabilities to nutrition, children and women tend to be at a higher nutritional risk than other categories. Especially pregnant or breastfeeding women, and children under 2 and 5 years old but also young women are at a higher risk and adolescent girls who will be mothers in the future have very high levels of risk for nutritional security, not just food necessarily. Adolescence offers a second window of opportunity to catch-up stunted growth, and this is particularly important for girls in view of their becoming mothers in the future. Malnourished mother is at higher maternal health risk and are more likely to have low birth weight children thus perpetrating the continuum of malnutrition and trapping the future generations in the vicious cycle of poverty. Nutrition and food safety are linked, the caloric intake in these categories is different from the caloric needs necessary for growth for children, or for pregnancy for women who are logically important and put them at risk. But there are also cultural practices, in which perhaps groups are prioritized rather than others so even for example in the same household there are nutritional and food practices that favour some members of the family, for example in virtuous cases children or in other cases those who have to work. There are intra- and extra-family dynamics that intervene and put the most vulnerable categories at risk from a nutritional point of view.

Could you describe the food assistance activities that your organization is undertaking in the target area?

Save the Children has operational presence across the three regions: Tigray, Amhara, and Afar with integrated programming in health and nutrition, WASH support, NFI and food distributions, and education by partnering with education authorities on children's needs in schools such as WASH, education and learning materials and school feeding, and child protection through case management and child-friendly spaces. We have reached close to 1.2 million people, with more than 600,000 children through the abovementioned assistance.

Our climate crisis response intervention aims at building a more resilient population by supporting children, caregivers and communities to adapt to climate change impacts. We are also working closely with local government officials and communities supporting them to design context-specific climate change adaptation livelihood activities that will have a long-term impact on reducing climate vulnerability. Recently, Save the Children completed large-scale feasibility assessments for cash and voucher assistance across the hardest-hit areas of Somali and Oromia regions. Through the assessments, Save the Children determined the priority areas and modalities of cash transfer as well as integrating child-sensitive components linked to food security, nutrition, and protection.

Forced displacement response. There are ongoing localized hostilities in the regions of Oromia, Somali, and Gambella, which are forcing families out of their homes, disrupting livelihoods and schooling. Save the Children is also heavily affected by the insecurity but in areas accessible, we continue the implementation of our support on the roll-out of COVID-19 vaccinations, children's education, nutrition screenings and treatments at health care and community facilities, and training staff and volunteers on child safeguarding. Context-specific interventions will continue to address the needs of affected communities in areas of return, relocation, or local integration aiming towards providing durable solutions for displaced populations. Save the Children continues to implement conflict-sensitive interventions that are effective and efficient such as using food and multipurpose cash incentives to bring communities together by mitigating tensions due to the limited available

resources, as well as livelihoods' protection and support community-based rehabilitation or construction of essential basic services

Across Ethiopia, Save the Children has been a long-time partner with schools and local school bureaus. We implement various support from regular school feeding, especially in areas where levels of food insecurity are consistently high, i.e., areas affected by drought. In areas affected by conflict-induced displacements.

Save the Children has also been reprogramming multiple development projects across Ethiopia to support populations affected by conflict, drought, and displacement. This has enabled us to rapidly employ scale-up support during sudden significant population movements, by providing critical lifesaving items from food, essential daily items such as emergency roofing, kitchen wares, water containers and purification tablets, and toiletries.

How do they address food insecurity?

Save the Children across its sectors continue to build and strengthen local capacities -we are working with communities, training frontline protection workers with key protection skills and tools to help them identify protection risks that children face and ensure their access to services through strengthened referral pathways for protection services. Save the Children is also supporting local governments in the coordination of child protection case management across agencies. Save the Children understands that primary caregivers will carry the main burden of protecting children in times of crisis. Because of this, we are providing key skills and resources to parents and caregivers on how best to protect both themselves and their children's mental health and psychosocial wellbeing. Parenting sessions are facilities for parents/ caregivers through trained social workers within the target communities, targeting the most vulnerable households in internally displaced and other emergency-affected communities.

Infant and young child feeding is a priority for Save the Children in emergency contexts. This is where we promote, protect, and support safe and appropriate (recommended) feeding practices for both breastfed and complementary feeding infants and young children while minimizing the risks associated with artificial feeding, whenever possible, especially when under 2 years of age. Our activities also include promoting these practices including cooking nutritive food for families through counseling, whether one-on-one or as peer groups across the communities we serve. In hard-to-reach areas, we provide free quality healthcare through mobile and static health clinics to prevent and treat common childhood illnesses, including malnutrition. Aside from our emergency health specialists, our initiative is being implemented through training health extension workers, improving community health-seeking behaviors, strengthening linkages among community health workers and local health facilities, and better-informed decision making.

Through these two approaches, Save the Children can prevent, mitigate, and treat malnutrition, especially among the most vulnerable children under 5 years old and pregnant and lactating women.

Which additional measures do you think can be implemented to improve the food security status of the vulnerable group?

When we talk about food security we are certainly talking about families, and the work we try to do is within the family. The new programs are geared towards events focused on smaller areas but with targeted responses, and to try to work to promote policies that promote anticipatory actions. There are all the tools to prevent, Save the children have these tools and one is called Household Economy Analysis (HEA), a tool used to prioritize interventions that are not only lifesaving but also livelihood saving. Then it is important to use the tools that are present in advance of unexpected shocks and try to work with the government as much as possible to coordinate the type of intervention that is offered and locate the response as much as possible. Trying to link the humanitarian response to developing programs that go towards supported social protection programs. Social protection is a very important field of intervention. We work a lot with the government through these predictive means we have, such as the HEA which helps us understand how a certain shock will impact the access to food and income of different types of families based on socio-economic categories, and families led by women varies according to a given shock. These tools are shared and entrusted to the government and local authorities so that they can use them to understand how they can use their tools and how they can be extended to make the users receiving assistance or the number of resources transferred greater.

Do you evaluate the health status of the people supported through your activities, if yes how?

Save the Children uses a Household Economic Approach to assess households' vulnerabilities to shocks based on livelihood patterns and market information. We also use it to monitor food security and adaptation to inform relevant interventions and adjustments to ongoing support. The response is prioritizing the immediate and short-term lifesaving activities in multiple crisis scenarios from emergency to longer-term recovery.

Child protection Save the Children is working closely with mandated government offices and community-based structures to deliver comprehensive case management services for children. We are systematically tracing families and supporting the identification of alternative care arrangements for children separated from their families as a result of displacement whether it be conflict or drought induced.

Yes, we generally do. We take (monthly) anthropometric measurements of children under 5 and support regular growth monitoring and promotion so that the cases of acutely malnourished children can be either followed up at the community level or be referred to health services if they require medical attention.

Do you believe the actions carried out by relief agencies contribute to mitigating food insecurity within the vulnerable groups, and in what way?

Surely in the immediate timeframe, help is given. We always combine programs with monitoring and evaluation actions, therefore what does not work is most likely discarded. Surely yes, because if the targeting is done well, and if we reach people particularly affected by food insecurity, the objectives are achieved and therefore there is mitigation. But the goals that need to be met are crisis prevention-focused, which is why I, like my colleagues, mention the importance of prevention. In this way, families can be economically resilient too so that they have the tools not to be recurringly in need of

assistance. Agencies certainly have an important role but are certainly limited to small areas of intervention. Prevention is also a good value for money, there is an estimate that says that for every dollar spent to preventive measures, 7 are saved for the response, also from the point of view of how to spend the money that people donate this is very important. And we try to design programs with Contingency funding that can be used in emergencies. It is important to have flexible funds in case of shocks and to be able to respond.

I guess it was the case with Covid and the war in Ukraine (talking about contingency funds)

When it comes to the covid response in Ethiopia I was not involved, but where we had the contingency funds, they were all activated. Because of covid, many people in rural areas where daily labor was the source of income could not access funds, and this caused very difficult contexts.

In what way do you think food assistance can negatively influence food insecurity, and in particular the health status of the vulnerable group?

Each action is plaster on an open wound.

Food aid, which has traditionally been the assistance type used in the country (before there was a change of mentality favouring cash assistance) is no longer the type of favoured response nowadays. We have now moved on; we don't transfer food but cash. However, cash and any response that does not take long-term objectives into consideration (therefore responds only to temporary needs and that does not build for the future) makes us go back to seasonal hunger and brings us back every year to respond in the same way. Possibly creating a dependence system in the aided countries. Instead, it is important to work to support the strengthening of local institutions so that they can be as independent as possible from aid.

Interview 5: Centro Aiuti per l'Etiopia, Flavio Casiraghi and Giovanna Minoggio

After a brief meeting, the interviewees preferred to send written answers to the questions.

Can you please introduce yourself specifying your age, gender, and academic background?

Flavio Casiraghi, born in Milan on April 22, 1957, retired. I have been married to Miriam since 1988 and we have three children, one of whom is adopted from Ethiopia, a reason that brought us closer to this association. I have a degree in Chemistry, and I have carried out material development activities in a multinational company that produces cables of all kinds (Prysmian Group) for 37 years.

Giovanna Minoggio, born in Domodossola (VB) on 16 August 1978. I have been working in the CAE since 2007. I have a degree in Communication Sciences.

Can you describe the agency you work for and your role within the organization?

Since 1983 we have been fighting every form of poverty in Ethiopia on a daily basis by promoting development, education, and social and health assistance. Changing the world is possible. If we do it together.

Our commitment is aimed at translating the solidarity of many friends into concrete, verifiable and above all responding to the needs of the local population.

Areas of intervention

CHILDHOOD: we protect the rights of children and fight to improve the living conditions of the most vulnerable categories: orphans and the disabled.

EDUCATION: we support the educational and vocational training of young people at all learning levels.

HEALTH: we improve basic health services, promote access to medical care and implement prevention programs with particular attention to maternal and child health.

PRODUCTION ACTIVITIES: we support income-generating activities and promote agricultural and artisanal development.

HUMANITARIAN ASSISTANCE: we carry out first aid interventions by providing aid in emergency situations and we ensure access to drinking water by building wells and water infrastructures

Flavio: I am a counselor and vice president of the EWC, I also take care of the activities of the central office, and I do fundraise activities on various occasions.

Giovanna: I have been working in the association since 2007; to date, I deal with Relations with Ethiopia and the Coordination of Volunteers.

Could you give an overview of the issues you consider most relevant when it comes to food insecurity in Ethiopia?

Climate change has led to an imbalance of rainfall which is concentrated only in the rainy season (July and August) and has been significantly reduced at the time that would be most favorable (from February to May) for crops.

Large increase in prices, doubling to date and further significant increases are expected, in grains and food in general which is not offset by a corresponding rise in workers' wages.

Lack of stable work: there are many precarious day workers.

Weak economic situation despite the country's GDP being among the highest on the African continent.

Do you recognize women and children as being the most affected by the current situation in Ethiopia, if yes why? If not please elaborate.

They are certainly the most affected as they are the most vulnerable part of the population and with fewer means of subsistence. The severe food crisis affects not only children but also the elderly.

Which barriers do women and children face when it comes to food security?

Women have to find a way to recover the money they need for food to buy and this is difficult if there are small children to care for. Children are more prone to diseases and may be more affected by them. If there is a lack of money, the family can send even very young children to work, so that they will have growth problems due to the lack of adequate food and excessive efforts for their structure. Furthermore, in this way they are deprived of the possibility of educating themselves and feeding the phenomenon of child labor and illiteracy.

Could you describe the food assistance activities that your organization is undertaking in the target area?

We assist families mainly with distance support, which guarantees the 40,000 children supported a constant source of income that allows them to face even periods of food crisis, such as the current one, which are intensifying. Continuous aid allows families to have a secure financial base on which to build their food and economic stability.

When needed, like right now, we assist people with supplies of corn to support them in times of extreme poverty.

How do they address food insecurity?

The families we assist use the money to buy the food they need immediately to meet their daily needs.

Which additional measures do you think can be implemented to improve the food security status of the vulnerable group?

Agriculture in Ethiopia should have more advanced production methods to be able to guarantee the stocks it needs and return to being the "granary of Africa" as in the past. The economy should grow adequately to the needs of the population by finding the best ways to guarantee work and dignity to the population.

Do you evaluate the health status of the people supported through your activities, if yes how?

We do not have the resources; we follow people who have special needs and ask us for help by paying their medical bills. Due to the status in which they find themselves, these people would not have the financial means to bear the costs related to drugs, visits, and medications.

How do your activities take into consideration the health status of the people supported, in particular of women and children?

Our activities take into account the fact of saving the lives of people in need, beyond particular health conditions that are eventually followed up as special cases.

Our intervention is mainly aimed at safeguarding the life of people in a state of indigence.

Do you believe the actions carried out by relief agencies contribute to mitigating food insecurity within the vulnerable groups, in what way?

We are not specifically aware of all the actions carried out by the relief agencies; if they were limited only to providing food aid in times of emergency, they are certainly insufficient, as they should have longer-term objectives such as, for example, the improvement of agricultural techniques.

In what way do you think food assistance can negatively influence food insecurity, and in particular the health status of the vulnerable group?

Food assistance without economic and social development programs only serves to buffer serious emergency situations but does not help the population to emerge autonomously from these difficult structural situations in which they find themselves.

Annex 4. Code Coverage, MAXQDA

Code System	Plan International Gerdien Seegers	Tearfund Frewengel Wolde-Michael	Save the Children Elisa Pozzi	Centro Aiuti per l'Etiopia Flavio Casiraghi and Giovanna Minoggio	Cesvi Giulia Donnici	TOTAL
Life saving actions		46%	9%	31%	14%	100% (562)
Support of development	30%	32%	25%		13%	100% (1,520)
Bureaucracy					100%	100% (148)
Undermining local systems		71%	29%			100% (214)
Timeframe of programs	61%			39%		100% (368)
Short-term solutions	16%	20%	32%	31%		100% (826)
No monitoring				100%		100% (120)
Number of people reached		100%				100% (264)
Monitoring	45%	41%	14%			100% (1,360)
Health and nutrition	36%		64%			100% (485)
Strenghtening agricultural practices		100%				100% (713)
Climate change focus	17%	41%	36%		6%	100% (857)
Education focus			78%	20%	2%	100% (493)

Collaboration with communities and authorities	41%	12%	38%		9%	100% (1,711)
Hygene focus	70%		20%		10%	100% (377)
Gender and social activities	62%	16%	15%		7%	100% (1,053)
Gender based violence	100%					100% (272)
Humanitarian programs	16%	33%	17%	21%	13%	100% (426)
Food or cash delivery	8%	15%	48%	25%	4%	100% (1,940)
Development programs	29%	26%	29%		16%	100% (523)
Diversification of income		65%	35%			100% (385)
Agriculture focus	43%	48%		9%		100% (1,280)
Nutrition focus	28%		61%		11%	100% (897)
Knowdlege and awarness	45%		55%			100% (992)
Collaboration with government	23%		39%		38%	100% (598)
Policies		100%				100% (86)
Anticipatory actions	36%		37%		27%	100% (1,053)
Contingency budgets			52%		48%	100% (261)
Climate change focus		100%				100% (167)
Support local production		26%		46%	28%	100% (455)

Adjustments of programs	100%					100% (201)
Cyclicity of malnutrition			100%			100% (107)
Household responsibility	14%	24%	38%	24%		100% (549)
Lack of access to sources	7%	30%	37%	26%		100% (892)
Lack of information on good practices	100%					100% (333)
Cultural practices	37%	25%	38%			100% (1,009)
Demographic pressure			100%			100% (80)
Political environment			65%		35%	100% (136)
Inflation	34%	40%		26%		100% (343)
Locust infestation		100%				100% (193)
Supply chain distruptions	44%	56%				100% (581)
War in Ukraine	13%	57%			30%	100% (364)
Covid-19	61%	39%				100% (286)
Conflict and displacement		57%	13%		31%	100% (413)
Disruption of livelihoods and economic stability	41%	45%		14%		100% (420)
Impact on agriculture		31%	37%	32%		100% (339)

Floods		15%	85%			100% (61)
Droughts		60%	26%		14%	100% (325)
Culture and religion	100%					100% (281)
Hygenic Measures	100%					100% (220)
Food security pillars	38%	38%			25%	100% (261)
Infrastructures		100%				100% (83)
NOT CODED	32%	25%	23%	7%	14%	100% (71,520)
CODED	29%	28%	27%	8%	9%	100% (26,105)
WHOLE TEXT	31%	26%	24%	7%	13%	100% (97,625)

Annex 5. Interactive Quote Matrix

	Interview Gerdien Seegers	Interview Frewengel Wolde- Michael	Interview Save the Children_Elisa Pozzi	Interview Centro Aiuti per l'Etiopia, Flavio Casiraghi e Giovanna Minoggio	Interview Giulia Donnici, CESVI
Sub question 1	food and accessibility and quality				
Barriers for women and children					
Cyclicity of malnutrition			Malnourished mother is at higher maternal health risk and are more likely to have low birth weight children		
Household responsibility		where they take the majority of the household responsibility	Food price spikes have particularly negative repercussions for female-headed households	way to recover the money they need for food to buy	
			Despite their crucial roles in household food security, women face discrimination, violence, and limited bargaining power,		

	Ι	1	I	T	1
Lack of access to sources	woman needs to help with the food, not always have access to it.	Because of access and control like access to sources is more favored for men than women	Existing gender-based discrimination and inequalities limit women's and girls' access to key information, economic, strategic decision-making opportunities, and the resources they would need to adequately adapt to changes availability, access, utilization, health, and stability.	in this way they are deprived of the possibility	
Lack of information on good practices	About awareness focusing on women				
	people understand why a pregnant or lactating woman needs that these additional foods, do not need to fast and they have to eat all the time				
	if they get a little bit richer and have more wealth then they want to consume white rice or other kinds of foods.				

Culture	some healthy foods are not allowed when they are pregnant, lactating or during periods distinction between boys and girls. But to see first men and the boys can eat and then the girls and a woman last male children are breastfed for longer compared to female children	cultural practice, like the religious practice in Ethiopia that concept is both men and women	by a system of power and privilege. But there are also cultural practices, in which perhaps groups are prioritized rather than others		
Drivers					
Demographic pressure			demographic pressure is one of the characteristics that influence food security,		
Political environment			political component		government is not quite stable
Inflation		cost of even food commodities, extremely high.		increase in prices,	
Locust infestation					

Supply chain disruptions	So basical anything happened the supplication chain somewhere else direction and the fraction security situation Ethiopia	that d in y ere ctly he n, cood	
War in Ukraine	Typically war in Uk actually he direct imports to are imports to are imports to the feet imports to are imports to are imports to the feet imports to are imports to are imports to the feet imports to t	traine, las a pact rtilizer nat rtant	the war with Ukraine
Covid-19	COVID pandemic	3 .	
Conflict and displacement	displacer and confl and loss and liveli eventuall	ict, communities of life hoods	For example, the war in Tigray
	the other of food insecurity the confliction one of the drivers because displaces people	v is ct is e	
	conflict.		

Disruption of livelihoods and economic stability		It destroys livelihoods it somehow undermines the economy, the stability all that kind of thing		Lack of stable work: there are many precarious day workers.	
Climate change		climate change is one of the major drivers of poverty.	climate-sensitive	Climate change	
Impact on agriculture		dependent on agriculture, and agriculture is one of the most prone to climate change	linked to crop production and agricultural production	for crops	
Floods		flooding.	floods		
Droughts		Drought,	drought		drought (from 5- 10 years to 3-5 years
Culture and religion	culture, habits, and religion				
	fastening				
	some healthy foods are not allowed when they are pregnant, lactating or during periods				

Hygienic Measures	hygienic measures			
	WASH system			
	focus on children's hygiene they need to have access to clean toilets so that they can wash their hands and that they don't eat the feces of the animals			
Food security pillars	availability of food and accessibility	it's not only about availability, is access		(access & availability).
Infrastructure s		infrastructure is not so developed		