

# **The political challenges to combat malnutrition**

## **Analysis of food security policy in Guatemala**



**Susanne van der Heide**

**S2169959**

**Master Thesis**

**Latin American Studies**

**Public Policies Specialization**

**University of Leiden**

**Supervisor: Dr. S. Valdivia Rivera**

**Leiden, June, 2019**

# **The political challenges to combat malnutrition**

## **Analysis and effects of food security policy in Guatemala**

*“Strong government doesn't mean simply military power or an efficient intelligence apparatus. Instead, it should mean effective, fair administration - in other words, 'good governance'”.*

(Raghuram Raja)

**Cover photo: Susanne van der Heide, Santa Cruz, Guatemala**

## INDEX

<b>Index</b>	3
<b>List of Abbreviations</b>	4
<b>Introduction</b>	5
<b>Chapter 1</b>	
<b>Food Security and Malnutrition: a theoretical review</b>	7
1.1. Food security	8
1.2. Malnutrition and food security	11
1.3. Poverty and malnutrition	13
1.4. Addressing the issue of malnutrition in public policy	14
<b>Chapter 2</b>	
<b>The development of food security and malnutrition in Guatemala</b>	20
2.1 The emergence of malnutrition in Guatemala	20
2.2. Accessibility, availability and utilization of food	23
2.3. Weak institutionalism	25
<b>Chapter 3</b>	
<b>Food Security Policy in Guatemala</b>	31
3.1 The SINASAN system and addressing the issue of malnutrition	31
3.2 The programs and projects of food security in Guatemala	35
<b>Conclusion</b>	41
<b>Annex: List of Interviewees</b>	44
<b>Bibliography</b>	45

## ABBREVIATIONS

<b>BID</b>	Inter-American Development Bank
<b>CONASAN</b>	El Consejo Nacional de Seguridad Alimentaria y Nutricional
<b>ENCOVI</b>	Encuesta Nacional Sobre Condiciones de Vida
<b>ENPDC</b>	Estrategia Nacional para la Prevención de la Desnutrición Crónica
<b>ENRDC</b>	Estrategia Nacional de Reducción de la Desnutrición de Crónica
<b>ENSMI</b>	Encuesta Nacional de Salud Materno Infantil
<b>FANTA</b>	Food and Nutrition Technical Assistance Project
<b>FAO</b>	Food and Agricultural Organization of the United Nations
<b>GDP</b>	Gross Domestic Product
<b>IFPRI</b>	International Food Policy Research Institute
<b>INCOPAS</b>	Entity for Consultation and Social Participation
<b>INE</b>	National Institute of Statistics
<b>MSPAS</b>	Ministerio de Salud Pública y Asistencia Social
<b>SDG</b>	Sustainable Development Goals
<b>SESAN</b>	Secretaría de Seguridad Alimentaria y Nutricional
<b>SUN</b>	Scaling op Nutrition
<b>UNDP</b>	United Nations Development Programme
<b>UNICEF</b>	United Nations International Children's Emergency Fund
<b>URNG</b>	Guatemalan National Revolutionary Unity
<b>USAID</b>	United States Agency for International Development
<b>WFP</b>	World Food Program
<b>WHO</b>	World Health Organization
<b>WID</b>	World Inequality Data base
<b>ZHPP</b>	Zero Hunger Pact Plan

## INTRODUCTION

Although Guatemala has one of the strongest economies in Central America, at the same time it holds one of the highest numbers of people suffering from malnutrition worldwide. Almost half of the country's population is undernourished and this phenomenon seems unlikely to improve anytime soon. Malnutrition leads to many serious problems in Guatemala such as a high level of stunting among children or an increased vulnerability to catch diseases. Statistics demonstrate that in Guatemala, 47% of the children under the age of five are stunted. The solutions to these problems are difficult to implement and execute because the issue of malnutrition in Guatemala has a complex nature and is highly influenced by food security efforts taken by the government. After the civil war, which set the basis for the malnutrition problem, the weak governance system needed more powerful regulations and law enforcements but these were implemented slowly. Therefore, a strong need developed to create more political dialogue and to strengthen institutional and technical capacities at all administrative levels. However, thus far, the actions taken by the government in strengthening and improving food security have significantly failed to reduce the high malnutrition rates. Therefore, this thesis will look at this enormous problem from a political perspective by analyzing national food security policy.

There are some key factors that need to be tackled in order to create solutions to the issue of malnutrition. Malnutrition and food security are remarkably intertwined as a state of food insecurity is often correlated to higher rates of malnutrition. The high level of poverty and inequality in Guatemala also has a strong link to the issue of malnutrition. In 2006, almost 51% of the citizens in Guatemala were living in poverty and 15.2% in extreme poverty. People living in poverty often do not have access to a proper nutritious diet. Therefore, a lack of accessibility and availability to food need to be addressed in order to combat malnutrition in Guatemala.

Even though these factors should be incorporated into the national strategies in order to ensure and improve food security, they are often found to be absent in the nutrition plans and initiatives. Guatemala has an integrated and properly designed system on food security and nutrition (SINASAN), yet the levels of malnutrition have not been reduced significantly during the last two decades. This system is often blocked from functioning optimally due to a number of institutional weaknesses within ministries in Guatemala. This study aims to create an understanding of this issue by analyzing the SINASAN system and five major programs designed to combat malnutrition. The goal of this latter analysis is to find out why these programs fail to address poverty, inequality and weak institutionalism as the main problems causing the high rates of malnutrition.

Specifically, the main objective of this research is to analyze the effectiveness of food security policy and the actions taken by government institutions in order to reduce malnutrition in Guatemala. In particular, the weaknesses within the national system of food security and nutrition (SINASAN) and the programs emerged from government efforts are analyzed. Subsequently, the failure in food security policy to address the issue of malnutrition raises the following main research question: *What are the political challenges in food security policy to address the issue of malnutrition in Guatemala?* Accordingly, this research was based on the following hypothesis: Although food security policy has made significant progress, political and historical factors led to a structural incapacity among political institutions to take action which has prevented effective and sustainable policy to combat malnutrition.

The methods used to collect information and data in order to answer the main research question consist out of qualitative sources. First of all, secondary sources in the form of academic articles, books and nutrition reports have been examined. They were mostly used for the first and second chapter in order to create an in-depth understanding of the main concepts in this thesis. Scientific publications, such as those from *The Lancet* series on malnutrition, are mostly used to create an understanding of the concept of malnutrition, its causes and consequences. Academic literature from books and articles is often used to discover the relation between food security, malnutrition and poverty. Moreover, a lot of information is also obtained from yearly reports from international organizations such as the Food and Agricultural Organization of the United Nations (FAO) or the World Food Program (WFP). Many of these organizations are situated in Guatemala and are intensively working together with the ministries. They have also been actively designing nutrition initiatives and produced much of the statistics, data and technical knowledge now used by many government institutions. Furthermore, eleven semi-structured interviews were conducted during research abroad in Guatemala. The interviewees are varying from nutrition experts and international organization representatives to government officials working in the area of food security policy. These interviews characterized and gave a thorough perspective to the issue of malnutrition in Guatemala in relation to the actions taken by the government in the area of health and nutrition. The research abroad in Guatemala was realized in the capital of Guatemala City in the period between November 2018 and January 2019.

In the first chapter, the most important concepts are examined which serve as the basic framework and guide in order to conduct this thesis. These concepts include: food security, food security policy, malnutrition, poverty and inequality. The nutritional status of a country can often be detected by looking at its state of food security and the food security policy efforts in order to achieve this. Additionally, poverty and inequality are also elaborated because it is found

they are often inextricably linked to malnutrition. In the second chapter, a contextualization of the research topic is demonstrated. The past and current socio-political situation is exposed by means of highlighting the issue of poverty and inequality in Guatemala. The following section in this chapter describes that poverty and inequality result in a lack of accessibility, availability and utilization of food. The last section demonstrates the weaknesses within food security policy, nutrition strategies and within government institutions. In the third chapter, an analysis of the national food security and nutrition system (SINASAN) is given in which the weaknesses within each of its elements are highlighted. Subsequently, several key programs and projects are analyzed which were established as national strategies to combat malnutrition in Guatemala.

# CHAPTER 1

## **Food Security and Malnutrition: a theoretical review**

Food security and malnutrition are the two key concepts discussed in this dissertation. A review of the literature shows that these two concepts are often found to be inextricably linked to one another. Here, a debate arises, where it is questioned whether a state of food insecurity automatically implies a higher rate of malnutrition. Guatemala holds one of the highest numbers of undernourished people in the world. In order to create a better understanding of this trend, this chapter will examine food security and its influence on malnutrition. The level of food security can reflect a country's nutritional status. The concept of food security will be clarified and subsequently its relation to the concept of malnutrition. Moreover, the following section aims to connect the concept of malnutrition to the concept of poverty, which is an important factor in understanding food security. Finally, this chapter aims to determine how food security is established and who is responsible for maintaining and creating food security within a country. Therefore, a number of views and attitudes on public policy and malnutrition will be demonstrated. This mainly entails a detailed analysis on the process of addressing issues of malnutrition in public policy.

### **1.1. Food Security**

The state of food security in a country or region is an important aspect in influencing politics and society. Analyzing food security can be of important use in order to measure the welfare of communities, households and individuals. According to Pinstrup-Andersen (2009, p. 5), it is essential to highlight the different perceptions on the meaning of food security. The most generic perception of food security merely implies that there is enough quantity of food for all levels of society. However, Pinstrup-Andersen (2009, p. 5) argues that there is a difference between meeting economic demands and meeting nutritional or dietary demands. As stated by Pinstrup-Andersen (2009, p. 5), both of these types of demands can be met when a country can reach a stage of self-sufficiency. Economically, this implies that a country can produce enough food for its own citizens. On the other hand, self-sufficiency of dietary intake implies that the accessibility and availability of citizens to food should be sufficient in order to have a nutritious diet.

Moreover, Pinstrup-Andersen (2009, p.5) highlights the change over time in this basic perception of food security. During the 1996 World Summit, The Food and Agricultural Organization of the United Nations (FAO) brought forward a more inclusive, thorough definition of food security. This was defined as follows: "Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious

food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2012). This definition included the emphasis on ‘food preferences’ in order to include the cultural differences between different groups of society. Different stages of food security or insecurity can be observed because preferences vary between different communities, households and individuals. Another addition to this notion is the emphasis on ‘safe and nutritious’ food. This implies that food security can only be guaranteed when it is nutritional and safe to consume.

Furthermore, Das, Islam & Hossain (2008, p. 137) state that the concept of food security is also defined and examined in the underlying factors in the UNICEF conceptual framework on malnutrition. These factors include ‘household food security’, ‘adequate care and feeding practices’, ‘a healthy household environment’ and ‘inadequate health services’. The framework indicates that household food insecurity is correlated to a lack of accessibility and availability to food at household level. In this context, Black et al. (2008, p. 243) argue that accessibility is the key determinant and it implies that a household is able to reach and afford the food it needs in order to survive. Moreover, Smith and Haddad (2000, p. 8) state that accessibility to food can be achieved when there is sufficient production of food and capacity of households and other actors to purchase food which meet the people’s demands. In addition, Pinstrup-Andersen (2009, p. 5) describes availability of food by looking at the global and national food supply. However, Pinstrup-Andersen (2009, p. 5) also states that enough food available does not directly imply a situation of food security. He emphasizes the importance of accessibility in order to ensure a proper distribution of food.

As a response to this notion, Barret (2010, p.825) states that accessibility, availability and utilization are the three basic concepts that form the fundament of food security and that these concepts are highly dependent on each other. Food security cannot be guaranteed if only one of these factors is in place but instead, they should complement each other. When food is available, it does not directly imply it will be accessible and in turn, sufficient accessibility to food does not directly imply it will be utilized properly. Agarwal (2015, p.273) also argues that “Food security requires both the availability of adequate food and economic and physical access to what is available”. Thus, it is important to recognize the interplay between these three different characteristics of food security and that all of them need to be included when examining food security. Additionally, Barret (2010, p.825) examines access to food as a situation in which a household or community can buy the foods it prefers according to their tradition or culture. It also entails the capacity to respond to sudden happenings such as price fluctuations, loss of essential resources to survive and unemployment. This sociocultural aspect of accessibility is important in determining food security. According to Barret (2010, p.825), “Utilization concerns

foster greater attention to dietary quality, especially micronutrient deficiencies associated with inadequate intake of essential minerals and vitamins” (Barret, 2010). Bühler, Hartje and Grote (2018, p.482) provide a slightly different explanation to ‘utilization’ as a factor of food security. They define utilization as follows: “usage of food consisting of the individual’s ability to absorb and metabolize nutrients as well as health, hygienic, and behavioral components”. Thus, properly utilizing food implies sanitation and safety in order to have a nutritionally adequate diet. Accordingly, Bühler, Hartje and Grote (2018, p.482) add a fourth dimension to the definition of food security: stability. They describe stability as: “continuous food security throughout seasons and across years”. Stability is ensured when all the three other dimensions are working properly and coherently for a longer period of time.

Furthermore, proper health services, such as access to hospitals, and proper sanitation are also indicators of food security. These factors can also be found in the third dimension of food security, utilization. These indicators are present in regions which deliver to the demands of the population to have sufficient and efficient health care. The underlying factor included in this topic is the concept of ‘care’. According to Smith and Haddad (2000, p. 7), care is defined as follows: “time, attention, and support to meet the physical, mental, and social needs of the growing child and other house hold members” (Smith & Haddad, 2000). In other words, the level of care which the family, parents or any responsible caretaker is giving could indicate the level of food security. Bühler, Hartje and Grote (2018, p. 482) build upon this concept and indicates that a lack of care among caregivers is the result of a lack of time, knowledge and a hygienic environment. For example, mothers often feed their young children with other, less nutritious food instead of exclusive breastfeeding. This is the result of a lack of knowledge in terms of proper feeding practices. According to Bühler, Hartje and Grote (2018, p. 482), non-presence of these aspects in a specific region or household, indicates the presence of food insecurity.

As a response to the need for a more focused approach, the concept of household food security will be examined. According to Pinstrup-Andersen (2009, p. 5), “A household is considered food secure if it has the ability to acquire the food needed by its members to be food secure”. However, household food security is not always guaranteed when it has enough food. Even though a household can acquire food, it can also decide to spend its financial resources on other aspects such as housing. Moreover, the needs of one household member can be very different for another. Pinstrup-Andersen (2009, p. 5) also argues that household food security does not directly imply nutrition security. Namely, sufficient accessibility and availability to food does not imply sufficient sanitation, water quality or other non-food factors.

Finally, Levitt, Pelletier & Pell (2009, p.156) provide another perspective on analyzing food security. They apply an analysis of the underlying factors in Afghanistan, where high rates of malnutrition persist. It is emphasized that stakeholders from a variety of administrative levels should be included in such an analysis. This creates a more representative view of the food security situation in a country. Taken this into account, Levitt, Pelletier & Pell (2009, p.156) address the following question: “How is the food and nutrition situation understood by stakeholders at different administrative levels (community, provincial, national)?”. Levitt, Pelletier & Pell (2009, p.156) found contradictory results in terms of food security even within one administrative level. For example, the agricultural region of Balkh had great agricultural potential and was even implemented in the National Development Strategy of Afghanistan. However, even though a large majority of the inhabitants lived out of this agriculture, it was found that a high level of food insecurity was also present. Therefore, Levitt, Pelletier & Pell (2009, p.156) argue that highlighting a specific issue, such as malnutrition, at different administrative levels best exposes the problem definition of food security in a country. Cistulli, Heikkilä and Vos (2016, p.283) also emphasize the different perceptions between all the stakeholders involved and the need to address this. For example, in developing countries, there is often a gap between urban and rural areas from which rural communities are more likely to suffer from food insecurity. It is argued that in countries where a higher level of inequality persists, food security levels tend to be low. Inequality in this context implies that rural communities often do not have access to aspects such as infrastructure, basic or natural resources.

## **1.2. Malnutrition and food security**

All the above mentioned factors which determine food security have an effect and impact on malnutrition. The most common description of malnutrition always looks at the deficiencies of micronutrients in one’s diet (Stein, 2015, p.149). However, a more thorough explanation of the concept of malnutrition should be provided because micronutrient deficiencies are regarded as merely a form of malnutrition. Mahmud and Mbuya (2015, p. 49) define malnutrition as follows: “Various forms of poor nutrition caused by a complex array of factors including dietary inadequacy, infections, and sociocultural factors. Underweight or stunting and overweight, as well as micronutrient deficiencies, are forms of malnutrition”. For example, overweight, as opposed to underweight, can be a form of malnutrition. Moreover, it should be noted that there is a distinction between acute undernutrition and chronic undernutrition. Bergeron and Castleman (2012, p. 242) elaborate on this and describe acute malnutrition as a sudden problem of poor nutrition due to immediate happenings such as natural disasters (hurricanes, earthquakes etc.) and/or seasonal shortages. On the contrary, chronic malnutrition is described

as a problem that persists for a longer period of time due to “latent poverty, chronic food insecurity, poor feeding practices, and protracted health problems”. This latter form of malnutrition will be analyzed more extensively because of its complex nature. In addition, as malnutrition mostly occurs in the first two years of life and during pregnancy (Flood et al., 2018, p.295), the main focus of this dissertation will be on the overall concept of malnutrition and with a focus on children. Additionally, malnutrition has a long-term negative impact on a child’s health and future performances. According to Sahn (2015, p. 141), malnutrition leads to an increase in childhood deaths and mortality rates, damaging cognitive and physical development. Malnutrition will affect the work capacity of a child, increase the risk of failure to reproduce and increase the risk to become chronically sick. Sahn (2015, p. 141) also states that micronutrient deficiencies could lead to stunting, wasting and anemia.

Subsequently, the existence of malnutrition can be analyzed through a food security lens. First of all, Smith and Haddad (2000, p. 5) argue that insufficient dietary intake is often the consequence of a number of underlying factors of inadequacies to food security at household level. This implies a lack of availability and accessibility to food, inefficient utilization of food, an unhygienic household environment and a lack of proper health services. In other words, it is often found that a household with a lack of food security is more vulnerable to obtain a poor nutritional status.

Moreover, immediate causes behind undernutrition entail a situation in which a child is directly exposed to diseases and an insufficient consumption of food. Smith and Haddad (2000, p. 5) build upon this and indicate that a healthy diet requires a balance between an appropriate quantity, quality and diversity of food. When there is no proper utilization of food, the quality of food will decline. When there is a lack of availability to food, the quantity of food will decline. Bühler, Hartje and Grote (2018, p. 482) argue that quality and quantity are guaranteed when there is accessibility to food. As a result, malnutrition is more likely to emerge or continue to grow.

Meyers et al. (2017, p.260) elaborate on this by indicating that an increase in food production, or in other words an increase in food availability, directly decreases rates of malnutrition. Even though agriculture is considered to be a key factor in determining nutrition security, it is also highly susceptible for external factors such as climate change or physical labor. Accordingly, Cistulli, Heikkilä and Vos (2016, p.283) introduce agricultural labor productivity and economic diversification as key factors to guarantee economic development and growth. These two aspects will reduce malnutrition because they generate more income and food availability to households and local families. On the other hand, Cistulli, Heikkilä and Vos (2016, p.288) state

that “Isolation and fragmentation are among the most constraining spatial related factors of smallholder production and productivity in developing countries”. As mentioned before, a lack of infrastructure is an indicator of food insecurity and therefore, also leads to higher rates of malnutrition.

Thus, food security encompasses a large number of factors and determinants. Among these, accessibility, availability, utilization, health services and sanitation will be used as the main dimensions to analyze food security in this dissertation. Moreover, it is not only important to analyze the main dimensions of food security but also to take into account the differences between stakeholders within this area. In this context, it is important to include the fact that not all stakeholders are the same and do not always agree on malnutrition related issues. Therefore, the following chapters aim to identify these different stakeholders and their relation to one another in the area of food security.

### **1.3. Poverty and malnutrition**

Another term which is often linked to food insecurity, along with malnutrition, is the concept of poverty. This section aims to analyze the influence of poverty to malnutrition. The most conventional perspective in relation to problems with malnutrition is often linked to the term ‘hunger’. Stein (2015, p.149) argues that hunger, which he describes as ‘insufficient energy intake’, is a direct indicator of malnutrition. He also states that there is an indirect indicator of malnutrition, which he describes as an insufficient intake of micronutrients or ‘hidden hunger’. Black et al. (2008, p. 243) build upon this notion and indicate that the presence of hunger, which can be caused by malnutrition, reflects a situation of food insecurity. According to Delisle (2008, p.172), poverty is the root cause behind malnutrition and explains to a large extent its persistence in the developing world. In this context, it is argued that food insecure families or poor families are most vulnerable to face problems of malnutrition. According to Kotwal and Ramaswami (2015, p. 301), poverty can be compared to economic development. Without economic development, the level of poverty is higher and therefore, food insecurity is more likely to be present. In relation to this notion, Kotwal and Ramaswami (2015, p. 301) also build upon the concept of food availability as an indicator of food security. Here, they argue that food availability is an indicator of human capital. In a situation where human capital is developing, it is most likely that there will be more economic progress and in turn, less poverty. Therefore, economic development is crucial for creating a state of food security. Mahmud and Mbuya (2015, p. 49) even indicate that: “Reducing undernutrition and micronutrient malnutrition directly reduces poverty, in the broad definition that includes human development and human capital formation”(Mahmud and Mbuya, 2015, p. 49).

Black et al. (2008, p. 243) also state that poverty significantly affects the underlying determinants of malnutrition such as income poverty. Barret (2010, p.825) elaborates further on the concept of income poverty. In order to have access to food, a family or household should have enough income. Therefore, regions where levels of income poverty are significantly high, accessibility to food is low. Income poverty is therefore a direct cause behind food insecurity. Bühler, Hartje and Grote (2018, p. 482) also suggest that income poverty can function as the cause as well as the consequence of malnutrition. Here, it is argued that malnutrition correlates to households with a low GDP. A low GDP affects the ability of households to prevent poor sanitation and poor water quality. It also has a negative effect on the 'public service provision' such as acquiring proper health services. As mentioned in the previous sector, sanitation and health services indicate a state of food security. Therefore, income poverty can be used as another dimension to measure food security.

Furthermore, poverty can also be the result of a country that is neglecting human rights due to poor societal processes and structures. For example, if women's rights are in place in a country, their capacity and ability to prepare and purchase nutritious foods will be better. According to Bühler, Hartje and Grote (2018, p. 482), malnutrition can be detected by looking at a country's social, political and economic structure at macro and micro level. This entails that certain groups within a society do not have access to the most basic resources such as technology, land, employment, education and income. For example, Bühler, Hartje and Grote (2018, p. 482) state that, "Political, legal, and cultural factors shape households' decisions related to income earning strategies and consumption" (Bühler, Hartje and Grote, 2018, p. 482). Thus, there where the rates of malnutrition are higher, a lack of human, financial, physical and social capital is detected. According to Cistulli, Heikkilä and Vos (2016, p.283) also build upon 'capital endowments' as a major contributor to poverty because it influences households capacity to make efficient choices on food consumption.

#### **1.4. Addressing the issue of malnutrition in public policy**

This dissertation will focus itself on the issue of malnutrition by looking at food security policy. This section will examine the different views and attitudes on the relation between food security policy and malnutrition. Mahmud and Mbuya (2015, p. 49) define nutrition policy as the: "laws, regulations, and rules that govern public budget allocation and action to improve nutrition". These can include programs to promote growth and a micronutrient diet, investments in agriculture, water and sanitation programs, optimization strategies etc. Food security and nutrition policies are most effectively implemented when there is political commitment and (management and financial) capacity to do so and knowledge on how to do so. Moreover, proper

policy can only be established when all the involved institutions and agencies discuss and agree on these commitments and capacities. This is necessary in order to create an understanding of the problem. In this context, Mahmud and Mbuya (2015, p. 49) emphasize the importance to distinguish long and short term policies. It is argued that short term interventions, such as food supplementation, are most effective because they need less financial investment. Therefore, in countries where capital, in terms of budget and funds, is scarce, micronutrient interventions have a more direct impact to solving issues of malnutrition. Additionally, this strategy allows for gaining more experience and in turn, more commitment to invest in long term policies such as growth promotion and 'large-scale community-based nutrition programs'. Vel, McCarthy and Zen (2016, p.233) also emphasize the importance of capital in establishing efficient policies. It is argued that without sufficient financial resources, policy cannot be executed properly. The actors who have authority over these material means, are those who can exert power. With material power, a company or any international or national institution can make the necessary investments and apply their expertise. This allows them to influence the food security agenda, food production and decisions on the distribution of land. In this context, it is questioned who will have access to these financial resources.

According to Vel, McCarthy and Zen (2016, p.233), the general definition of food security policy is defined as follows: "covering a variety of processes and strategies aimed at improving availability, access, stability or utilization of food". However, the partial and sectorial character of policy-making could lead to unclear and unspecified policy. Encompassing all the themes of availability, access, stability and utilization, has been challenging for authorities and has made it difficult to set policy directions. Herring (2015, p.4) builds upon this notion indicating that, in many cases, there is a lack of capacity of governments to address issues of food security and malnutrition. In terms of malnutrition, Herring (2015, p.4) argues that there is "a general failure in terms of response by governments, international organizations, and a range of stakeholders; their efforts to purportedly reduce malnutrition have often been inconsistent with existing evidence on what is really required in terms of policy and programs".

Another issue rises which describes a 'gap between the national policies and local practices'. Here, Vel, McCarthy and Zen (2016, p.233) argue that food security policy reflects the 'production and politics of scale'. This implies that the socio geographic processes at global, national and regional level have been shaping social power relations. Currently, these socio geographic happenings have had an enormous effect on the state of food security. Such happenings include nationalistic politics, policies that stimulate decentralization and growing power of international markets. In addition, this has led to a failure in targeting the most vulnerable groups to face malnutrition and food insecurity issues. As a response, McIntyre and

Ataguba (2011, p.174) propose a 'benefit-incidence analysis' to include into policy and should function as solution to this problem. This analysis aims to examine in what way different regions, communities or households actually benefit from health services such as health subsidies. Subsequently, Cistulli, Heikkilä and Vos (2016, p.283) propose a territorial approach to policy making in the area of food security and nutrition. According to Cistulli, Heikkilä and Vos (2016, p.283): "This would require broader territorial planning, not just for remote, sparsely populated rural areas on the one hand, and high-density big cities on the other, but across the whole spectrum from remote rural areas, rural townships, intermediate cities and metropolises". This builds upon the first section in this chapter where the emphasize laid upon addressing the needs of different stakeholders.

Furthermore, Vel, McCarthy and Zen (2016, p.233) indicate that another barrier to establishing proper food security policy is the complexity of institutions. Namely, a ministry could apply specific strategies and programs for the implementation and execution of food security policy which often are completely different from other ministries. Mahmud and Mbuya (2015, p. 49) build upon this by stating that management of nutritional programs and interventions is difficult because nutrition falls under a large number of sectors, ministries and agencies. Appropriate management should include proper distribution of responsibilities, oversight over ministries along multiple lines and willing and committed cooperation with partners.

Additionally, Vel, McCarthy and Zen (2016, p.233), state that in order to solve problems of food security, there should be one common understanding of its concept and causes. If various stakeholders have different interpretations and perceptions of one problem, there will be no consensus and therefore, no proper solution. As mostly stakeholders come from a variety of backgrounds, difficulties arise to obtain a common and coherent policy. The concept of food accessibility can function as a good example to demonstrate this. As mentioned in the previous subsection, food accessibility is one of the key characteristics of food security. However, the concept of accessibility is difficult to define because it entails sociocultural, economic and political determinants. Barret (2010, p.825) argues that this complexity leaves much space for interpretation which is filled in differently by many institutions. As a result, each institution has created its own means and measures to handle issues of accessibility.

As a response, Vel, McCarthy and Zen (2016, p.233) propose four areas of focus in order to distinguish the different debates around food security policy. First, there is a global crisis of supply and demand which requires governments to focus their policy agenda on agricultural production by means of a (international) market-driven approach. Subsequently, targeting this problem is mostly done by means of extensive investments made by large corporations. Herring

(2015, p.4) argues that this trend has led to a large expansion of institutions and programs at national and international level. According to Herring (2015, p.4), this has led to a 'misallocation of resources' which implies that investments in improving food security are not done efficiently and affective. As a result, this has been limiting the ability and capacity of governments to tackle issues of food insecurity. Jarosz (2014, p.168) also criticizes this notion and argues that market driven solutions to food security problems can lead to social and/or ecological damage. For example, it is shown that the people who execute the national policies agenda, are mostly benefitting from large scale land and water use. However, this has a contradictory effect in which the people living on those lands are forced to resettle, making their lives less food secured. Additionally, small scale farmers depend on export but are wiped out by large scale farmers. Due to a lack of local, inclusive and participatory decision-making capacity within countries, national politicians can oppose their national strategies without a counterforce. As a result, increasing supply by deploying more agricultural production might make up for the increasing demands, but does not necessarily lead to better food security.

The second policy area is focused on self-sufficiency within the national borders. This approach emphasized the need of a country, household or municipality to produce its own food. Jarosz (2014, p.168) builds upon this approach and introduces the element of promoting food security in public policy. According to Jarosz (2014, p.168) "Good governance is premised upon increasing the supply and accessibility of food through purchase on the global market or increasing local production triggered by investments in productivist agriculture at the international and national levels"(Jarosz, 2014). In this context, food security can only be ensured when there are sovereign and responsible institutions present at multilateral and national level, or in other words when there is good governance. Therefore, the policy response to food security issues should be to mobilize technological and financial resources in order to make sure there is sufficient food production and food support for citizens. In terms of malnutrition, Mahmud and Mbuya (2015, p. 49) adds to this notion that nowadays, many countries are not self-sufficient because they depend on external financial resources in order to create effective nutritional interventions. This implies that self-sufficiency in government expenditure is necessary to create and maintain sustainability of food security policies.

The third approach exposes the need to include reforms on policies about agricultural production at household level. Poverty and food insecurity among families and households is often the result of a number of factors such as climate change, natural disasters and 'political economy and social structures'. Therefore, food security policy here should be focused on the poor and vulnerable by means of "securing the income of small farmers and providing safety nets for those who spend the highest proportion of their budget on food".

Fourth, food security policy should include the importance of the basic human right to food starting from the concept of food sovereignty. This concept was first introduced by *La Vía Campesina*, an international organization composed of farmers, women, indigenous groups, rural groups, farm workers and families worldwide. Martínez-Torres and Rosset (2014, p.979) define food sovereignty as follows: “The right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems”. This implies that food production and distribution should be controlled by the people themselves instead of by large corporations and other market institutions. Therefore, the fourth approach aims to emphasize the importance of defending the interests of the people, incorporated into food security policy.

Moreover, it is found that many studies often use the conceptual framework of UNICEF on the determinants of child undernutrition as a means of analysis. This includes a general framework which defines and conceptualizes malnutrition. It was first created in 1990 as part of their Strategy on Nutrition where nutrition and infant death were seen as part of a ‘multisector development problem’ (Levitt, Pelletier & Pell, 2009, p. 156). However, it is argued that the framework can cause a biased approach towards making a problem definition and eventually, complicate policy making. Therefore, this framework can function as a representation of the complications to establishing food security and nutrition policy. Namely, applying a universal framework to countries with different sociocultural, political and economic structures, could result in neglecting to address local demands. According to Levitt, Pelletier & Pell (2009, p.156), this has sometimes resulted in conflicts between political institutions because they did not uniformly share the strategy of UNICEF. As a response, Pelletier (2002, p. 4) proposed a more complete explanation of the UNICEF framework. This ‘full’ framework aims to reach common ground on understanding the causes and consequences of malnutrition. First of all, malnutrition should be seen as a ‘larger development problem’ which should be addressed properly in order to tackle its core causes. Secondly, Pelletier (2002, p. 4) states that: “The framework does not imply that food, health and care are inadequate in all settings”. In other words, a household could face problems of malnutrition while at the same time, their municipality offers adequate health conditions. In this context, all possibilities of health, care and food problems should be specified within all sectoral levels of society. In his third point, Pelletier (2002, p. 4) elaborates further on this by indicating that these three components are constantly overlapping. Fourth, the way actors perceive the causes of malnutrition from the UNICEF framework, forms the actions they will take and the resources they will deploy. This allowed for addressing the need to create a common understanding of the concept of malnutrition. However, Pelletier (2002, p. 4) argues that analyzing the political, cultural and economic factors to malnutrition is also necessary in order to create an understanding of malnutrition from all levels of society. These factors will

show the available resources in a country and how they are controlled from household level up to national or international level. This notion should include an analysis of the political actions and decisions that expose a country's commitment to tackle issues of malnutrition. Finally, Pelletier (2002, p. 4) indicates that the framework aims to include vulnerable groups to actively participate in their own development and problem resolution. Levitt, Pelletier & Pell (2009, p.156) build upon this positive perception and state that, "The framework was intended to foster common understanding and provide a guide for assessment, analysis and action". This implies that the framework can be used to determine and analyze the perspectives of different stakeholders from various levels of society such as national, municipal, departmental and local.

## **CHAPTER 2**

### **The implications to food security in Guatemala**

This chapter will provide a contextualization to the research topic. The purpose of this section is to examine the issue of malnutrition in a political context by means of empirical information and concrete facts. This section mostly uses secondary sources which analyze information based on previous analyses. It also uses information from interviews conducted during research in Guatemala. This chapter aims to analyze the issue of malnutrition in Guatemala by looking at the current status and the development of food security in Guatemala. In particular, it will demonstrate this by examining the core causes behind malnutrition in Guatemala. First, the chapter will analyze the current status of malnutrition and how this issue became an enormous problem in Guatemala. This section emphasizes poverty and inequality as the basic factors behind malnutrition and the civil war as the breeding ground of malnutrition. Secondly, the underlying factors of accessibility, availability and utilization to food are analyzed as they are direct consequences of poverty and inequality in Guatemala. Finally, it will be analyzed how government institutions deal with the issue of malnutrition. Therefore, this last section will expose the elements of weak institutionalism present in food security policy programs and projects. The weaknesses in food security policy will be linked to the issue of malnutrition. In short, this chapter aims to give a deeper insight into Guatemala's historical and current stance on food security and malnutrition.

#### **2.1. The emergence of malnutrition in Guatemala**

Guatemala holds one of the highest rates of malnutrition in the world. According to the latest National Survey of Maternal and Child Health (ENSMI) (MSPAS, 2015), 46,5% of the population of Guatemala suffers from malnutrition. This percentage only decreased slightly compared to 1995 where the malnutrition rate was at 55.2% of the population. This section will examine how malnutrition emerged in Guatemala. According to Delisle (2008, p.172), malnutrition is inextricably linked to poverty. This implies that poor households are more vulnerable to live in a situation of food insecurity. This is shown in the National Living Standards Survey (ENCOVI), a national survey which provides data on household expenditure and other socio-economic data. The latest ENCOVI derives from 2014 and exposes the high levels of poverty and extreme poverty in Guatemala. In 2014, 59.3% of the total population in Guatemala lived in poverty from which 23.4% lived in extreme poverty. This percentage has even grown almost 3% compared to the year 2000, in which this percentage stood at 56% of the population (INE, 2015). Kotwal and Ramaswami (2015, p.301) argues that poverty can be compared to the level of economic development in a country although this is not the case for Guatemala as the economy has been

growing since recent years. According to the World Bank: “Thanks to prudent macroeconomic management, Guatemala has been one of the strongest economic performers in Latin America in recent years, with a GDP growth rate of 3.0 percent since 2012 and 4.1 percent in 2015” (World Bank, 2019).

However, these statistics are a false reflection of the real income proportions in Guatemala. Interviewee Diego Recalde, representative of the Food and Agricultural Organization of the United Nations (2018) argues that: “This country can grow 10% per year and people will still be extremely poor because it is an issue of redistribution wealth”. Namely, poverty in Guatemala is the result of a large gap between the rich and poor. Guatemala is a country where high levels of inequality persist. According to interviewee Maritza de Oliva (2018), representative and nutritionist for the World Food Program (WFP), “Because Guatemala is like two countries in one, there is a very small portion of the population that we, because I am Guatemalan, speak about ten families in the country that own maybe 90% of the richness, economic richness of the country and the rest is divided among the rest of the population”. In this context, the majority of Guatemalans can be characterized in the “low-income” group whereas a very small portion of the population is characterized in the “high-income” group. In 2017, Guatemala had a national GDP of €11.503 euros per head of the population (WID, 2019). However, this average income is not representative because more than half of the country lives below the poverty line. The poverty line in 2014 was set at €1,903 euros quetzals (10.218) and extreme poverty was set at €670 euros (5,750 quetzals) (INE, 2015). This number exposes the high level of income inequality in Guatemala. According to interviewee de Oliva (2018), “Because when you take the income per capita and use it among the population, of course we classify for it but without the recognition that we have extremely rich people who are just a small number of the population”.

Moreover, the large gap between the rich and the poor can be seen in the division of wealth between rural and urban geographic areas. According to Poder and He (2015, p.300), income inequality reflects this division in Guatemala. Farmers in rural areas are often forced to hand over a large part of their agricultural profits to landowners who in turn, spend this extra value in urban areas. As a result, economic development mostly tends to occur in urban areas leaving rural areas in poverty. Poder and He (2015, p.300) argue: “There is a longstanding mechanism by which the country’s elite and some segments of the urban population are indirectly subsidized by the exploitation of rural and indigenous workers” (Poder and He, 2015, p.300). This indicated that rural areas in Guatemala are most vulnerable to cope with health issues such as malnutrition. For example, in the rural province of Quiché, 74.7% of the inhabitants live in poverty and in the rural province of Chiquimula, 70.6% of the inhabitants. In the urban provinces such as Guatemala, significantly less people live below the poverty line. In the most

densely inhabited, urban province of Guatemala, 33.3% of the inhabitants live below the poverty line (INE, 2015).

Poverty and inequality are the basic factors that determine food insecurity in Guatemala. This trend can be traced back to the Guatemalan civil war which ran from 1960 to 1996 where these two factors were intensified. In 1966, the Regional Food and Nutrition survey indicated that 63.5% of children under the age of five suffered from chronic malnutrition. This percentage only decreased a little until 1987, where 62.2% of children under the age of five suffered from chronic malnutrition. Brockett (1984, p.479) even indicated that 82% of Guatemalan children under five were malnourished. The civil war created and enlarged the gap between the rich and poor communities which today still remains present in Guatemala. The authoritarian government in place during the war created policy which was only beneficial for the elites for whom it served only their economic interests. The exclusion of certain groups, especially in rural areas, led to the inequality of opportunities. Brockett (1984, p.478) argues that unemployment and landlessness impeded the accessibility to food for the poorer groups. As a result, an unequal distribution of wealth and social exclusion became the incentive for the excluded groups to protest (Chamarbagwala and Morán, 2011, p.41). For example, one can look at dietary intake as a direct indicator of food insecurity (Smith and Haddad, 2000, p. 5). In 1970, the intake of the amount of calories already exposed the high levels of inequality during this period. Among the total population in this year, the 5% upper group consumed 5,234 calories a day whereas the 50% of the poorest group consumed only 1,326 calories a day (Brockett, 1984, p. 479). Moreover, Loewenberg (2008, p.187) indicates that there where the civil war had been most aggressive and affected most citizens, are now the regions where malnutrition rates are highest. Geographically, this is especially seen in provinces such as Quiché, Huehuetenango, Baja, Petén or Chiquimula as mentioned earlier. This disparity still exposes the geographic areas where malnutrition and poverty still persists. The poorest communities in Guatemala are located in the Western Highlands and the Eastern Dry region.

Income poverty and inequality have also been intensified during the civil war. Wages in Guatemala shrank significantly between 1963 and 1984. The poorest 20% of the country earned less than 5% of the national income (Lehoucq, 2012, p.33). First of all, many households lost their means of income during the war and this has led to a decrease in available resources in order to survive. The war also led to the collapse of certain industries and a following decrease in available and skilled jobs. Families redistributed their resources to those with higher incomes but not leaving much left for their own consumption (Pelletier et al., 2012, p.19). Secondly, income poverty decreases the capacity of households to buy food. In other words, the war also led to a lack of accessibility to food. For example, the exclusion and enforced isolation of certain

groups led to a lack of infrastructure making it difficult to access markets and food distributors. Third, due to a lack of capital, families were only able to afford the most basic sorts of consumption making the utilization of food less qualitative. Even though in cases there was sufficient dietary intake, it mostly consisted out of tortillas or plain rice, which does not contain sufficient nutrients (Lehoucq, 2012, p.33).

Chamarbagwala and Morán (2011, p.41) state: “Not only can people living in war zones suffer injuries and have their property destroyed, they may also be displaced from their homes, lose their means of survival, or be unable to attend school, all of which may result in a permanent decline in their productivity and earnings” (Chamarbagwala and Morán, 2011, p.41). It is important to note that the Guatemalan civil war lasted for almost four decades. This has led to deep rooted poverty and has affected the health of many families and households which was maintained throughout several generations. This fact complicated and delayed their development during, but more importantly after the civil war. Therefore, persistent food security problems have made recovery difficult and made sure malnutrition remained. The armed conflict lasted until 1996 when the Guatemalan National Revolutionary Unity (URNG) and the former President Alvaro Arzú Irigoyen signed the so called Peace Accords. These were constructed during extensive negotiations and with the help of the United Nations and the international community. However, according to Loewenberg (2008, p.187), “Guatemala remains a highly dysfunctional society, still badly damaged by the 36-year-old civil war that wiped out an estimated 200.000 people, most of them civilians” (Loewenberg, 2008, p.187). As shown, the violent character of the civil war further divided the population and deepened poverty.

## **2.2. Factors affecting food security: Accessibility, availability and utilization of food**

Poverty and inequality are both important instigators to the malnutrition problem in Guatemala. As the theory demonstrates, poverty and inequality can create and maintain a state of food insecurity. A state of food security needs the presence of enough availability, accessibility and a proper utilization of food (Barret, 2010, p.825). These three components need to overlap and complement each other in order to achieve a state of food security. Pinstrup-Andersen (2009, p. 5) highlights the importance of sufficient availability and accessibility to food in order to have a sufficient dietary intake. Smith and Haddad (2000, p. 5) argue that an insufficient dietary intake is an indicator of malnutrition and food insecurity. We already saw the lack of calorie intake among the 50% poorest citizens of Guatemala during the civil war. Nowadays, this trend has not changed much as an insufficient dietary intake is still at the order of the day among the poorest communities in Guatemala.

First of all, food availability is sufficient when national and local food supply is functioning properly as to meet the demands of the whole population (Pinstrup-Andersen (2009, p. 5). In other words, there should be sufficient quantity of food in order to guarantee food security. In Guatemala, the production of food mostly derives from the agricultural industry. However, agricultural production is mostly owned by large agricultural corporations rather than small-farmers (Méthot & Bennett, 2018, p.1). For example, in order to demonstrate the availability of food in Guatemala, Méthot & Bennett (2018) used the annual corn and bean (staple crops) production and household consumption. Staple crops are measured because other crops such as broccoli are sold and used for monetary gain only. Interviewee Christina Elich, monitoring specialist of the United Nations Development Program (UNDP), argues that this trend is problematic because households and individuals will only have a basic diet without much variation. According to interviewee Elich (2019), "If they grow other crops like onions or vegetables, they are more for selling, they are not for consuming". This contributes to the insufficient dietary intake as household are not consuming more than one or two types of vegetables. Local production is rarely used for local consumption because it is sold again to the market and used for export. As a result, the availability of food is scarce for households living, especially living in rural areas (Méthot & Bennett, 2018, p.14). However, even if there is sufficient availability to food, citizens still need to have access to it (Barret, 2010, p.825).

Secondly, a region with a lack of accessibility to food reflects a situation of food insecurity and is therefore vulnerable to face issues of malnutrition. In Guatemala, poverty decreases the capacity of households to acquire enough food and to buy nutritious food. Cistulli, Heikkilä and Vos (2016, p.283) build upon this notion and indicate that inequality exposes a lack of accessibility to food among low income groups and therefore indicates a higher level of food insecurity. Accessibility to food implies the presence of proper infrastructure, access to land and enough opportunities. Loewenberg (2009) indicates that there is a weak infrastructure in Guatemala, "Poor, or in some cases nonexistent, infrastructure, meaning no electricity or running water, and certainly no clean water" (Loewenberg, 2009, p.187). This is especially accurate in rural areas in which a poor quality of roads is making it difficult for some communities to access basic resources and services. Moreover, interviewee Recalde (2018) indicates, "Poor people here do not have land, land was taken away from indigenous populations like in everywhere in this world". This notion was already seen in the landlessness of poor communities during the civil war in Guatemala. Rural areas are dependent on agriculture as their main source of income and source of food. However, land is taken away from them by large agricultural companies (Méthot & Bennett, 2018, p.1). In other words there is a large inequality in the distribution of land. As there is no land to use for agricultural production, these communities are unable to sustain their

livelihoods. In 2017, the FAO estimated that 57% of the land in Guatemala is owned by only 2% of the commercial producers whereas 22% of the total land is used by almost 92% of the smallholder farmers (HAMEL, 2017, p.3).

Accessibility also implies that there are enough job opportunities to generate income for households and families. Without sufficient income, families are unable to afford a decent amount of food. In Guatemala, there is no other job compensation for the lack of land. Unemployment remains a major cause behind the high levels of poverty and therefore indirectly also behind malnutrition. The current unemployment rate in Guatemala is around 80% of the total male population and 62,5% of the total female population between 15 and 29 years old (INE, 2018). According to Barrett (2010, p.825), a household needs to be able to respond to a sudden loss of employment. However, due to a lack of opportunities in employment in rural areas, households are unable to overcome this loss.

Finally, malnutrition persists due to an inefficient and incorrect utilization of food. According to Smith and Haddad (2000, p. 5), correct utilization implies that food has sufficient quality and dietary diversity in order to be nutritious. Qualitative food should contain essential minerals and vitamins in order to guarantee dietary quality (Barret, 2010, p.825). In Guatemala, children living in lower income households are less exposed to opportunities to having a diverse diet. In higher income groups, children consume more food and therefore have a better quality in dietary intake. In low income households, the financial resources available are often not efficiently used to buy nutritious and qualitative food but are rather used for other non-important aspects. Méthot & Bennett (2018) argue: "Multiple study participants expressed concern that male household heads frequently purchased non-essential items, particularly alcohol, in lieu of nutritious foods (Méthot & Bennett, 2018, p.14). Hygiene and sanitation are also important factors behind food utilization (Bühler, Hartje and Grote, 2018, p.482). In Guatemala, poor hygiene and poor sanitation are at the order of the day in many households and families. Families are not preparing food or taking of their children with the proper hygienic handlings. As a result, these families are vulnerable to face problems with diarrhea because of contamination of foods (Méthot & Bennett, 2018, p.14).

### **2.3. Weak institutionalism**

A lack of accessibility, availability and improper utilization of food are caused by poverty and inequality in Guatemala but in turn, they also deepen and increase poverty and inequality. This vicious cycle has been maintained and kept in place due to weak institutionalism among government institutions in Guatemala. After the end of the civil war in 1996, the following administration led by President Irogoyen faced enormous political challenges to create proper

programs and policies to tackle these issues of food insecurity. The Peace Accords aimed to resolve the structural problems in post-war society but the civil war delayed the process of institutionalizing food security policy. This even worsened in 2001 when food availability and accessibility became extremely scarce due to a large drought which resulted in a coffee crisis. It only exposed the enormous vulnerability of Guatemala's population to respond to issues of food insecurity (Levitt, Pelletier & Pell, 2009, p.156).

The Guatemalan government plays an important role in establishing strategies and policies in order to combat malnutrition. However, government institutions and their activities have been rather weak in improving food security. There are some systematic weaknesses in the implementation of food security policy in Guatemala (Sandoval & Carpio, 2017, p.5). According to interviewee Ochoa (2018), there are specific limitations within multiple sectors and types of interventions throughout all administrative levels. For example, monitoring and evaluating the programs are executed inefficiently and incorrectly. Monitoring and evaluation is crucial because with these means you can check whether experts and other officials are doing their job correctly. Additionally, this also constraints the overall capacity to provide feedback to these actors on what matters should be improved within their job and the program they work for. Moreover, the system of surveillance on cases of malnutrition is not active in Guatemala (Ochoa, 2018). This makes it difficult to measure whether food security indicators, such as accessibility or availability to food, have improved or decreased. Ochoa (2018) states: "Although we have surveillance on a number of cases in San Marcos and all of that and like different counties and departments, we cannot say if those cases are indigenous or non-indigenous, they are not conceptualized like that". Additionally, without a proper evaluation mechanism, all the limitations of food security are difficult to address and detect (Pelletier et al., 2012, p.19).

This can be attributed to a lack of coordination and structure among government institutions and other international agencies. Moncayo Miño & Fiora del Fabro (2017, p.58) argue that all sectors apply a different approach when designing a program to combat malnutrition. They follow different models to conceptualize and operationalize the same problem. This leads to a gap between the programs and as a result, the programs are difficult to combine. This shows that there is a lack of coordination of the programs and among governmental institutions and other agencies involved. For example, one sector could apply the concept of nutrition security for designing a program but the other could apply the concept of food security. The former focuses more on health improvements whereas the latter will focus on aspects such as food accessibility and availability. As the theory demonstrates, coherent food security policy can only be effectuated once there is a common understanding behind its concepts (Vel, McCarthy and

Zen, 2016, p.233). In order to achieve this understanding, coordination between the institutions needs to be functioning properly.

A lack of structure among government institutions and programs is also a major issue behind the weak institutionalism in Guatemala. This should mostly be perceived as a vertical lack of structure between the national and local programs and institutions. In reality, national programs could be in place but due to dysfunctional social power relations and abundant bureaucracy, they fail to target the most vulnerable areas where malnutrition is situated (Vel, McCarthy and Zen, 2016, p.233). For example, in terms of implementing budgets, interviewee Elich (2019) indicates, "There are a lot of steps to get the budget to the health post and there is not a lot of knowledge on how to do that". To transform an idea on how to combat malnutrition into practice at regional level, follows a complex, bureaucratic process that is difficult to follow. This is also emphasized by interviewee de Oliva (2018), "But when you come from the president, the ministers, the vice ministers and finally getting to the communities and the families. Somehow it does not get to the families. It is all here in a big bureaucratic body". Therefore, the national staff experiences difficulties with guiding, planning, decision-making and coordinating nutrition interventions throughout all administrative levels. This has resulted in a failure to properly implement interventions because local staff is unable to acquire the necessary knowledge and skills to coordinate and take action.

Interviewee Elich (2019) argues that malnutrition is highest in areas where there is a low density of states. According to Elich (2019), "There is more poverty in areas where there is no state, so there are no institutional programs to combat challenges on food security". A low density of states has a large impact on the accessibility to food. In rural areas, many communities are situated in an isolated region where no government institutions are present. Without government institutions nearby, it is difficult for the mostly rural communities to access certain services and resources such as education or health services. In these regions, the state is neither present to provide the inhabitants with job opportunities. Moreover, there is no capacity for technical assistance on issues of malnutrition and to help small-farmers. All of these aspects are much more present in more densely populated or urban regions where there is a higher density of states. According to interviewee Elich (2019), "the density of states in urban areas is very high so there are a lot more opportunities to study, to have a profession, to generate income, to learn something, to do your project, to do your small business, small enterprise".

A lack of coordination and structure in the national programs combatting malnutrition maintain problematic due to several causes. First of all, there is a lack of continuity in food security strategies. According to interviewee Ochoa (2018), "The other thing is that we have lack of continuity, our government and administration peers are only here for four years and every new

government begins by designing a new plan for the reduction of stunting”. The changing of authorities is a major cause behind the lack of implementation and execution of malnutrition programs. Every four years, the Guatemalan government changed administration after elections were held. In the first year, plans were made to design a new strategy to combat malnutrition and the aim was to execute this strategy in the following years of the administration. However, in reality, programs took a long time to be designed and once the time came for their implementation, new elections were held. Escobar-Alegria & Blake (2019) also argue, “By the time the government releases new plans and sets new priorities, many policy actors have moved, and the reestablished collaborations are unlikely to be fully restored to the state in which they were when the transition started” (Escobar-Alegria, Frongillo & Blake, 2019, p.196). Escobar-Alegria, Frongillo & Blake (2019) argue that presidential transitions affect the institutional performances of governments. In particular, it could lead to dysfunctional collaboration between all parties involved in food security policy-making.

Secondly, the lack of continuity in political strategies also results in a fast rotation of experts. Experts in this context can be either technical experts in the area of nutrition or political officials in office. According to interviewee Elich (2019), “The parliament has a lot influence on the authorities of sectoral institutions so there is a lot of political movement, always, not only in campaign years”. When an expert, such as a nutritionist or epidemiologist, is not aligned with the political course of the government administration in office, they will be moved to other, differently orientated organizations. This rotation of experts is problematic because there is no continuity in expertise and knowledge building. The overall human capacity decreases because without experience and knowledge, workers do not know how to execute their role. As a result, a large gap emerges between the national program and the actual execution of this program at local level (Ochoa, 2018). This rotation has also created tensions between the political officials and the technical experts. In this context, social power relations have an enormous influence on food security policy. As a result, national government institutions experience difficulties to plan, monitor and manage nutrition efforts due to a lack of capacity in workload and performance.

Third, the lack of coordination and structure in nutrition programs and strategies is maintained due to a lack of political commitment and general will. According to Pelletier et al. (2012, p.19), the level of political commitment to address food security and nutrition issues can be measured according to specific indicators which try to detect the presence of malnutrition as an important issue in laws, speeches, food security strategies and institutional structures. In Guatemala this can be seen by the quantitative targets which are set within food security and nutrition programs. For example, the Zero Hunger Pact Plan which was established in 2012 had the aim of

reducing hunger and malnutrition with 10% by 2015 (FAO, 2012). Another indicator is the establishment of the Secretariat for Food Security and Nutrition (SESAN) in 2005. This is an important governance body which is responsible for coordinating all nutritional efforts and actions between all government institutions. However, the non-existence or lack of these indicators also expose the level of commitment to combat malnutrition. As stated by Pelletier et al. (2012, p.19): “The indicators most rarely observed are the development of concrete operational plans, translation of plans into budgets, allocation of budgets commensurate with the size of the problem, implementation of actions, and active oversight by politicians or senior officials with the authority to take action” (Pelletier et al., 2012, p.22). In Guatemala, concrete operational plans have been developed which will be elaborated on in Chapter 3. Political commitment has to come from the highest level and should be ‘translated into investment’. However, interviewee de Oliva (2018) indicated “The current government institutions fail to address and tackle the core causes behind malnutrition in Guatemala which are poverty and inequality”.

The lack of general will to combat malnutrition can also be identified by the high levels of income inequality which are present in Guatemala. Income inequality is a major contributor to the current state of food insecurity in this region. The small, wealthy group in Guatemala holds the financial power to invest. However, there is a general lack of will within this group to invest into areas such as health, nutrition, infrastructure or food security (Poder & He, 2015, p.285). This also accounts for the private sector which has a large responsibility in promoting and creating an unhealthy lifestyle by advertising products such as Coca Cola, Tortrix and other junk foods. Interviewee Recalde (2018) indicated: “Yes we are fighting for that, we are fighting against the private sector”. It is simply not in the commercial interest of these companies to care for the humanitarian interests of the people. Interviewee de Oliva (2018) states: “In some places you have these corporations which have beautiful social responsibility programs around their own companies but they are not paying the minimum salary you see”.

Moreover, the lack of political commitment to address issues of malnutrition in Guatemala can be attributed to inefficient social mobilization. According to Walsh-Dilley & Wolford (2015), this is the result of the exclusion of certain groups within Guatemalan society. They state: “We argue that social mobilization plays an important role in generating, sustaining and translating this commitment into effective action” (Walsh-Dilley & Wolford, 2015, p.367). Social mobilization is crucial to improve the state-society relations. Civil society and the state need to work together in order to facilitate a proper formation and implementation of programs and projects on malnutrition (Walsh-Dilley & Wolford, 2015).

The result of all of the above leads to a lack of agenda setting of the issue of malnutrition or lack of prioritizing malnutrition on the political agenda (Pelletier et al., 2012). As Chapter 3 will demonstrate, there are a number of programs and strategies established during the last few decades which expose that government institutions are putting in political efforts to solve the problem of malnutrition. They show that the government of Guatemala intends to put food security and nutrition on the political agenda. However, Pelletier et al. (2012, p.19) argue that this does not directly imply that efforts are taken into practice. During the establishment of food security policy in Guatemala, the problem was identified and conceptualized along other important themes, such as poverty, taking away the political attention from the topic of malnutrition. Moreover, the political attention mostly gathered around a small circle of actors without making proper solutions and preventing policy formation at multi-sectoral level. From 2005 onwards, it is often found that government institutions fail to set the political agenda for issues of malnutrition (Ochoa, 2018). Due to consensus decision making at general level rather than at different levels of society, there was less internal frame and policy cohesion in developing food security policy. Interviewee Ochoa (2018) states: "Different programs and authorities have different priorities in the end and they respond to those priorities which are not the same priorities from the last public figure or public authority". Even though the interventions have been targeted at multiple sectors, competing policy priorities are making it unclear to select the topics on the political agenda.

## **CHAPTER 3**

### **Food Security Policy in Guatemala from 2005**

This chapter will provide an analysis on the programs and projects created to combat malnutrition in Guatemala from 2005 onwards. It identifies the main political challenges to food security in Guatemala. Moreover, it will expose the actions taken by the government and how effective they prove to be. This research includes an analysis of the information given by eleven interviewees. Some of these interviewees include representatives of non-governmental organizations such as the Food and Agricultural Organization of the United Nations (FAO) or the World Food Program (WFP). Others include representatives of government institutions such as USAID or the National Secretariat on Food Security and Nutrition (SESAN) in Guatemala. Some interviews are also conducted with experts such as nutritionists or epidemiologists. Secondly, the first section of this chapter will analyze the National Food Security and Nutrition System (SINASAN) which is established in Guatemala as a response to the high level of food insecurity in the country. From this system, the strengths and weaknesses will be discussed in order to create an in-depth understanding of its unsuccessful outcomes. Third, data analysis will also be conducted by means of analyzing the most important programs and projects established in Guatemala to combat malnutrition. The programs analyzed are the National Strategy for the Reduction of Chronic Malnutrition (ENRDC), the Scaling up Nutrition (SUN) movement, the Zero Hunger Pact Plan (ZHPP), the National Strategy for the Prevention of Chronic Malnutrition (ENPDC) and the Alliance of Nutrition, a collaboration of organizations from the private sector. The section aims to expose the successes and failures of these programs as to what extent they have contributed to the improvement of food security and the reduction of malnutrition.

#### **3.1. The weaknesses of the SINASAN system in addressing the issue of malnutrition**

The official Law on the National Food security and Nutrition System was adopted in 2005 by the Congress of the Republic and held the State institutions responsible for ensuring the development of food and nutrition security (Hill et al., 2011, p. S94). Subsequently, the National Food Security and Nutrition System (SINASAN) was officially established in order to guarantee the implementation, monitoring and evaluation of the National Policy (Hill et al., 2011, p. S95). However, it is argued that the SINASAN law and system have been ineffective in improving food security in Guatemala. Interviewee Pamela Ochoa (2018), nutritionist for the Ministry of Health, states: “Right now, the system has been designed and it hasn’t been tested, it hasn’t been evaluated at a deeper level and to say, what we have really answers the problem”. This is also emphasized by interviewee Maritza de Oliva, representative for the World Food Program (WFP, 2018), arguing that the SINASAN system only has a minor impact on the reduction of

malnutrition in Guatemala. Therefore, this section will analyze the SINASAN system by identifying the weaknesses within each of its elements.

First of all, the SINASAN consists out of three important governance bodies which are still active today. These include the National Commission of Food Security and Nutrition (CONASAN), the Secretariat for Food Security and Nutrition (SESAN) and the Entity for Civil Society Consultation and Participation (INCOPAS) (Moncayo Miño & Fiora del Fabro, 2017, p.58). Even though these institutions form the key players in the process of creating food security in Guatemala, they often lack the capacity to act. According to interviewee Ochoa (2018), the tasks of these food security institutions are difficult to execute because there are significant differences between all the ministries to which they have to account to. This trend can be seen in the formation process of nutrition strategies which has proven to be different for each ministry (Bruins et al., 2015). As nutrition falls under a number of ministries, complications arise to form solid and comparable strategies. Pelletier et al. (2012) also indicate that this is shown in the failure among ministries in Guatemala to define and specify the roles, actions and responsibilities within food security and nutrition programs and projects (Pelletier et al., 2012, p.19). This latter notion will be more thoroughly demonstrated in the following section. It is found that this complexity within different governmental institutions leads to ambiguous strategies. For the SINASAN institutions, such strategies complicate the coordination of government actions. As a result, the findings suggest that this causes a displacement in financial and technical resources in the institutions (Vel, McCarthy and Zen, 2016, p.233). For example, the SESAN is appointed with the formal authority to coordinate on food security operations together with the ministries. However, it is found that this authority is limited and the SESAN is often unable to take initiative or collaborate in the implementation process of food security policy (Pelletier et al., 2012, p.20). This is also shown in their limited ability to have authority within ministries to provide progress updates on nutrition efforts. In other words, the SESAN possesses the formal authority to coordinate sector efforts, but lacks the informal authority to do so.

Secondly, due to the lack structure and coordination within these ministries, it is difficult to communicate nutrition strategies (Vel, McCarthy and Zen, 2016, p.233). A number of municipal and departmental commissions on food and nutrition security were installed as part of the framework of the SINASAN (Vivero & Monterroso, 2018). These commissions aim to connect the operational activities from government institutions to local organizations. However, according to interviewee de Oliva (2018), the results expose a gap between the local and national practices when in it comes to the execution and implementation of these activities. It is found that there is a lack of vertical coordination of food security and nutrition programs. According to de Oliva

(2018), this trend can be attributed to the large and complex bureaucracy present in the implementation process but also due to labor and performance incapacities. It is found that this leads to ineffective and insufficient nutrition interventions at local level (Pelletier et al., 2012, p.19). Interviewee Christina Elich (2019), representative for the UNDP, adds another element to the lack of structure and coordination in the SINASAN system: the low density of states. With this notion, Elich (2019) implies that in the majority of the municipalities in Guatemala only a small number of government institutions are situated. Due to the low density of states, the local communities are excluded from having access to basic resources and services such as jobs, health care or water. The presence of state institutions is necessary for these communities in order to obtain experience, expertise and knowledge on how to implement budgets from national programs. Therefore, because of the low density of states, the inhabitants of these remote areas often do not know the procedures on how to obtain the financial resources available to combat malnutrition.

Third, it is found that the incapacities of the SINASAN institutions can also be attributed the weaknesses within the Ministry of Health and Social Assistance (MSPAS). Martorell (2012) states that: “the MSPAS is a weak ministry that lacks technical and financial resources. As such, its programs have low coverage and are of poor quality” (Martorell, 2012, p.5). This trend can be seen in the lack of investments in the area of health and nutrition. A limited budget is given to the Ministry of Health and limited authority to implement this budget. For example in 2015, data shows that only 5.7% of the GDP in Guatemala was spend on issues of health and nutrition (WHO, 2015). Here, an important element which can explain the lack of investments in health is the lack of commitment within higher political levels (de Oliva, 2018). The results show that civil society and politicians spend little interest to implement and execute food security and nutrition efforts (Poder & He, 2015, p.285). Without this legal commitment to reduce malnutrition in Guatemala, the investments in health and other nutrition efforts are unsustainable (Sahn, 2015, p.365). Accordingly, interviewee Ochoa (2018) argues that the Ministry of Health is often considered, among society and government officials to be the main responsible ministry to deal with the issue of malnutrition. Martorell (2012) acknowledges this by stating that the Ministry of Health is one of the main contributors to the displacement of human and financial resources among ministries. With this, Martorell (2012) points to the fact that many ministries do not take the initiative or collaborate to formulate plans to improve malnutrition in Guatemala (Martorell, 2012, p.5). However, according to interviewee Ochoa (2018), food security and nutrition efforts should be taken by all ministries involved and with support from the SINASAN institutions. Ochoa (2018) states, “So we need to work together, guided and coordinated by SESAN, in order to make a big impact because the Ministry of Health is not in charge of doing that, they don’t

have the capacity and they don't have enough money in order to conduct interventions or to do a lot of more things related to malnutrition". This exposes an inconsistency and a lack of solidarity present among ministries.

Finally, interviewee de Oliva (2018) states that a lack of continuity in the SINASAN is one of the main reasons behind the slow implementation of nutrition programs. Interviewee de Oliva (2018) states: "But then a new government came and they prioritized cash transfers before looking at nutrition. Then a new government came and they prioritized 166 small municipalities, the Guate sin hambre plan, and then a new government came and said they want to target it differently, so it is like beginning all over again". This notion of the lack of continuity is also highlighted by interviewee Elich (2019), "So you work to develop knowledge and capacities of a group of people that are here now and a few months later you have to start again". It is found that this is a particularly sensitive occurrence during presidential transitions, "Dysfunctional collaboration among policy actors during transitions can potentially bring negative consequences for policy implementation" (Escobar-Alegria, Frongillo & Blake, 2019, p.196). According to Ochoa (2018), the lack of continuity in the food security system results in the failure to combat malnutrition in Guatemala. Ochoa (2018) states: "They hired I think 10 nutritionists just to cover the area of Huehuetenango but with the change of politicians they started to hire only three nutritionists instead of ten, now we were only having three".

On the other hand, the interviewees have also expressed positivity in the performances and efforts taken by the institutions of the SINASAN system. Interviewee Ochoa (2018) argues that the SESAN is actively taking efforts to work together with the Ministry of Health, such as providing feedback and following up with cases and reports. Ochoa (2018) had positive experiences working with the institutions of the SINASAN, especially with the SESAN. Ochoa (2018) indicated that the SESAN was critical in assessing health reports and they were 'genuinely interested' in the problems. Interviewee Elsa Roque (2018), representative of the SESAN, indicates that communication and coordination of the SESAN with the ministries and the food security institutions is gradually improving. Roque (2018) states: "all the information is collected in an information system of the same food and nutritional security system where the ministries have to cooperate and collaborate with data on malnourished children". Interviewee Elich (2019) also states: "They are trying to do their job in terrible conditions sometimes; it's not so easy to change indicators on food security".

Another positive element found is the creation of the National Surveys on Maternal and Child Health (ENSMI's) conducted by the Ministry of Health (MSPAS). Many programs and

interventions based their tactics and strategies on the information and statistics given in the ENSMI's. For example, in the period between 2008 and 2009, the National Survey of Maternal and Child Health indicated that the prevalence of child malnutrition was 48.9% (Martorell, 2012, p.3). Moreover, the survey from 2002 found that 74.8% of the indigenous population suffered from chronic malnutrition but declined to 65.9% in 2009 according to the 2008-2009 survey. However, until today, only six surveys have been conducted from which the first one derives from 1987 and the most recent one from 2014-2015 (FANTA/FHI 360, 2017, p.2). As the last ENSMI derives from 2015, it is difficult and unclear to identify and observe the current situation (Martorell, 2012, p.3). Interviewee Ochoa (2018) states that: "Currently the system doesn't have current data or data surveillance for chronic malnutrition". As a nutritionist of the Ministry of Health in Guatemala, Ochoa was limited to work with cases of acute malnutrition rather than with cases of chronic malnutrition. Cases of acute malnutrition do not particularly need an active system of surveillance because they are sudden happenings (Bergeron and Castleman, 2012, p. 242). Moreover, Ochoa (2018) states: "Chronic malnutrition is measured in cross-sectional studies conducted by the Ministry of Health and a national survey which is called ENSMI". This situation indicates that surveillance on cases of chronic malnutrition by means of the ENSMI surveys is of high importance in Guatemala but is currently performing poorly. Moreover, the lack of an active surveillance system makes it difficult to do case follow ups. Often, malnutrition is related to a number of external factors which cannot be measured without surveillance. The Ministry of Health is in charge of providing the public with statistics on these sorts of cases but without an ENSMI, they are unable to publish crucial information. As a result, many actors involved such as politicians, criticize and blame the Ministry of Health even though they are incapable of acquiring the demanded data.

### **3.2. The programs and projects of food security in Guatemala**

In 2006, as stated in the Living Standards Survey (ENCOVI), 51% of the citizens in Guatemala were living in poverty and 15.2% in extreme poverty. The most recent ENCOVI from 2014 demonstrated that these percentages even grew to over 59% of poverty and over 23% of extreme poverty. Poverty is a direct indicator of food insecurity in Guatemala (Delisle, 2008, p.172). Interviewee Roque (2018) also indicated: "Because here we are prioritizing the departments that are poorer because malnutrition is marked with poverty". Interviewee Ochoa (2018) appoints this trend to the numerous constraints within the SINASAN system as mentioned in the previous section. This indicates that the food security projects and programs created thus far by the international community and government institutions are ineffective in combatting malnutrition. Therefore, this section will demonstrate the weaknesses of the

SINASAN system by means of analyzing several of these key programs to food security and nutrition.

The first sign of weak institutionalism which can be detected is the lack of continuity in programs (Escobar-Alegria, Frongillo & Blake, 2019, p.196). The abundance of programs and projects which have been created since and even before the establishment of the SINASAN system already demonstrates this notion. As highlighted in Chapter 2, each government administration in Guatemala applies a different approach and strategy towards solving the issue of malnutrition. Therefore, each national program which is designed to combat food security is abandoned when a new government takes place (Bruins et al, 2015). As interviewee de Oliva (2018) stated: "All plans, beautiful plans and they begin from zero again, from scratch". The National Strategy for the Reduction of Chronic Undernutrition (ENRDC) was one of the first of those national strategies. It was established in 2006 under the administration of President Oscar Berger but was already overthrown with a new plan in 2008 by the following administration of President Álvaro Colom. However, his *Mi Familia Progres*a plan was a conditional cash-transfer project which did not had the intended effects on reducing malnutrition (Nelson & Sanberg, 2017, p.28). Subsequently, another new plan was adopted in 2012, the Zero Hunger Pact Plan (ZHPP). The ZHPP was part of the new political agenda of former president Otto Perez Molina. It was established to tackle malnutrition and hunger by setting some specific goals. Among these goals, the ZHPP aimed to reduce malnutrition and poverty among children under the age of five by 10% and to reduce their mortality rate by the year 2016 (Atyeo et al., 2017, 781). However, a large corruption scandal was discovered for which president Molina and his vice president went to jail. According to interviewee de Oliva (2018), due to this corruption in Guatemala in this period, all the actions taken by the Molina administration were swept of the table. This also accounts for the Zero Hunger Pact plan as it was associated with corruption and could therefore, not be taken seriously anymore. As a result, the ZHPP was not fully implemented. Subsequently, the ZHPP was replaced with a whole new strategy in 2015, the National Strategy for the Prevention of Chronic Malnutrition (ENPDC). This is the most recent national plan designed for the period from 2016 to 2020.

Nonetheless, this research shows that the lack of continuity does not affect all food security and nutrition programs in Guatemala in the same way. This accounts for the global Scaling up Nutrition or SUN Movement which the government of Guatemala joined at the end of 2010. This multi-stakeholder movement has the aim of reducing global malnutrition and to improve nutrition governance (Flood et al., 2008, p.295). Namely, the SUN movement is not as strictly dependent on national elections as the other programs because it is a global movement. As opposed to some national programs, the actions and efforts taken by the SUN movement have

generally been successful. This is also highlighted by interviewee de Oliva (2018), “All the learnings from the SUN movement about what should be done, what is effective, what is basic evidence that can work”. The SUN provided food security and nutrition institutions and organizations with technical knowledge on malnutrition. This knowledge is obtained from international organizations which have thorough experience in combatting malnutrition worldwide. For example, the SUN is financed by donations from the World Food Program (WFP) and the Inter-American Development Bank (IDB). Moreover, this research found that the 1,000 day Window of Opportunity program is neither bound to a lack of continuity for the same reasons as the SUN movement. This program aims to target undernourished children in their first 1000 days of life, including during the pregnancy. According to Flood et al. (2008, p.295), this global nutrition intervention is built upon years of experience and knowledge building from international institutions. Therefore, it has already outlined the guidelines and methods to follow in order to be successful in combatting malnutrition for children in their first phase of life. The 1,000 day window of opportunity program was also incorporated into the SUN movement. Thus, both these programs expose that a lack of continuity mostly affects national and local programs.

As the above demonstrates, technical knowledge and expertise are crucial in order to combat malnutrition and implement budgets at local level. These elements are present within the SUN movement and the 1,000 day program but not in the other programs. Namely, there is a fast pace of rotation of experts in the area of nutrition in Guatemala (Escobar-Alegria, 2016, p.15). According to interviewee Antoinette Sullivan, the health team leader of USAID Guatemala (2018), a lack of continuity is also present within in the Ministry of Health. Both older and new employees are often switched from one position to another and in a rapid pace. This trend is inextricably linked to the lack of continuity in the government’s strategy towards combatting malnutrition (Escobar-Alegria, Frongillo & Blake, 2019, p.196). Interviewee Sullivan (2018) emphasized that technical and political workers move frequently from one position to the other throughout different institutions. As a result, there is weak knowledge and expertise building which decreases the capacity to combat malnutrition. This is shown in the ZHPP and the ENPDC programs. Interviewee Elich (2019) also argues that there is a lack of knowledge and expertise among health workers and nutrition workers. This has resulted in an inefficient coordination and implementation of the ZHPP. According to Elich (2019), a lack of knowledge and expertise is also leading to a lack of capacity among civil society workers who are not able to reach the health budget for issues of malnutrition. This latter trend also exposes the lack of structure which is present in most of the programs. This element complicates the implementation of nutrition efforts and interventions. This can be seen in the gap between the national and local

implementation of nutrition policies. According to the Food and Nutrition Technical Assistance III Project (FANTA), “there is a need for continued national-level advocacy and further decentralization of the advocacy process from the national to the subnational level to create momentum for sustained change” (FANTA/FHI 360, 2017, p.2). The lack of structure delays the nutrition service delivery throughout all departments in Guatemala. In particular, this accounts for implementing health budgets efficiently at local level (Vel, McCarthy and Zen, 2016, p.233). The ENPDC also emphasizes the importance to develop an institutional structure between all the stakeholders involved (SITEAL, 2016). However, a lack of budget and other inconsistencies in the implementation expose the gaps within this strategy. Interviewee Roque (2018) states: “But if we find within this government that in the problem, there were some things that were not written in the law and followed anyhow and others that were written in the law and were not followed”.

Third, Chapter 2 also pointed to the historical institutional weaknesses in the implementation of food security policy in Guatemala. Weak institutionalism can be detected by a lack of coordination and structure in the interventions within nutrition programs (Vel, McCarthy and Zen, 2016, p.233). This is shown in the ENRDC program which was established in order to significantly reduce the rates of malnutrition. However, the choice, sequence and priority of the interventions in the ENRDC were not specified including the roles and responsibilities within these interventions (Vivero & Monterroso, 2018). This has made it difficult to create concrete operational plans to formulate policy. For example, the role of fortified complementary foods in the ENRDC had not been defined clearly. Fortified complementary food was part of a multisector strategy whereas at the same time, the ENRDC also designed a women’s empowerment strategy. Moreover, inefficiencies in political coordination are also detected in the monitoring and evaluation system of the ENPDC program. The ENPDC provided a political framework in order to reduce the rates of malnutrition and in particular reducing stunting among children under the age of five with 10% by the year 2020. According to USAID (2018, p.4), “The program areas include primary health care, education for behavior change, water and sanitation, and food availability and access, while the cross-cutting strategies include behavior change, governance, information systems, monitoring and evaluation, and social audits and alliances” (USAID, 2018, p.4). Interviewee Antoinette Sullivan, health and nutrition coordinator of USAID (2018), indicated that the ENPDC lacks coordination because health workers within this program experience difficulties in checking, preventing and controlling micronutrient deficiencies among children. As a result, this problem is delaying the development of the ENPDC in order to reduce micronutrient deficiencies. Moreover, government institutions are also limited to execute the plans of the ENPDC because currently the surveillance system is found to be rather weak.

Martorell (2012) argues that, “Guatemala lacks a culture of monitoring and evaluation (M&E); and thus, it lacks evidence needed to inform and revise policies and programs”(Martorell, 2012, p.8). Surveillance is crucial in order to monitor whether progress has been made in food security and nutrition programs. This was also already emphasized by interviewee Ochoa (2018) indicating that a slow surveillance system is limiting the performance of government institutions.

Finally, the failure of government efforts to combat malnutrition in Guatemala can also be detected by analyzing the level of commitment from government officials and other stakeholders. This is shown by the extent to which the government has put malnutrition as a priority on the political agenda. From the establishment of SINASAN system to joining international programs such as the SUN movement, it is found that the government of Guatemala shows a significant level of commitment to combat malnutrition (Pelletier et al., 2012, p.19). For example, the SUN movement, the 1,000 Day Window of Opportunity Program and the ENRDC were implemented into nutrition policy in the 2012 Plan for the Zero Hunger Pact (ZHPP) (FAO, 2012). The 1,000 day program was implemented officially in 2013 on the basis of Government Agreement 235-2012 which states: ““Window of the thousand days” is declared as a task of national interest for the achievement of the Zero Hunger Plan, as part of the Zero Hunger Pact” (INFILE, 2012). Moreover, the government has also showed commitment because of their efforts to change and revise programs and policies to optimize and improve nutrition outcomes in Guatemala (Sandoval & Carpio, 2017, p.5). After the International Food Policy Research Institute (IFPRI) analyzed the impact of the ZHPP in combatting malnutrition, it found that it was unsuccessful in a number of its interventions. As a response, the current President of Guatemala, Jimmy Morales, modified some important aspects within the Zero Hunger Pact Plan from 2016 onwards. The experiences learned from the ZHPP in the period between 2012 and 2016, also gave ground the establishment of the 2016–2020 ENPDC program (Levitt, Pelletier & Pell, 2009, p.156). Furthermore, the government of Guatemala responded properly to the need for more institutional transformations in order to revise and renew food security and nutrition in Guatemala. Therefore, between 2016 and 2017, the CONASAN proposed legislative proposal 5236 which revised the former Law on Food Security and Nutrition. Complementary to the CONASAN, the Presidential Commission to Reduce Chronic Malnutrition was established to report directly to the president (Flood et al., 2008, p.295). Based on the above points, Guatemala expresses the interest to improve development and stimulate progress in order to achieve these goals because they incorporating these strategies into the national political agenda.

However, for some programs, a lack of commitment is indeed present and delays the implementation of nutrition actions. This is shown in the ENPDC which thus far has been ineffective in reducing malnutrition among children under the age of five due to a lack of commitment from all ministries. It was stated by the current government that this strategy can only be effective when it is followed by all ministries in which they all actively work to prevent malnutrition. However, this notion has proven to be difficult to fulfill because some ministries are failing to execute the ENPDC actions (Moncayo Miño & Fiora del Fabro, 2017, p.58). This also accounts for the multi-sectoral approach towards solving issues of malnutrition in the ENPDC program. Large differences at multi-sectoral levels in the ENPDC delay political interest to address the issue of malnutrition (Pelletier et al., 2012, p.19). Moreover, the lack of effort and commitment taken by ministries is also demonstrated by looking at the private sector's Alliance of Nutrition which was established in 2012. This organization was formed by the private sector and in collaboration with the government of Guatemala and had the aim of addressing and combatting the economic consequences for children who suffered from chronic malnutrition (Flood et al., 2008, p.295). As these organizations are working closely together with the government, it is found that many are sceptic on the motives of the political institutions within this Alliance in Guatemala. As a result, the private sector's interests are constantly questioned for their influence into national politics. It was found that government officials sometimes have close relationships, through family or business ties, with organizations from the private sector. For example, the former head of the Presidential Commission for the Reduction of Chronic Malnutrition had close family and business ties to the sugar industry (Flood et al., 2008, p.295).

In addition, the element of corruption can be detected when looking at whether government officials use their budgets efficiently and for the intended issue. In Guatemala, ministries experience difficulties in the actual implementation of budgets due to a number of reasons from which corruption is a major cause. Interviewee Alefia Merchant, food security coordinator for USAID (2018), indicated that the congress of Guatemala does not often assign budgets to health and nutrition experts in the municipalities. The budget for the health sector keeps being reduced because the government is found to be unable to manage health funds. Priorities to spend these funds are not given to the areas of health and nutrition but rather to other areas. This is also emphasized by interviewee Roque (2018) who states: "But also the subjects of budget are the congressmen, the deputies who decide and some ministries which do not execute the budget". As a result, investments in food security are limited and in turn, only have a minor impact in improving the issue of malnutrition. Therefore, corruption in public spending is another element which uncovers a lack of commitment from political institutions.

## CONCLUSION

This study analyzed the issue of malnutrition in Guatemala by looking at food security policy. As was found in the previous chapters, Guatemala holds a significantly high percentage of people suffering from malnutrition, namely 46,5% of the population. This research revealed that specific failures in the national system of food security are significantly contributing to the problems related to food insecurity. In response to the hypothesis demonstrated in the introduction, it can be concluded that the predictions in the hypothesis correspond to the results found in this study. This study discovered a number of gaps and weaknesses within the national food security system (SINASAN) in Guatemala. From the outside, this system seems to be in place, organized and properly designed to improve food security. However, in practice, it is found that the SINASAN experiences many difficulties in the actual implementation and execution of food security programs and projects in order to tackle malnutrition. In other words, the capacities of the government institutions in food security programs do not reflect what was initially outlined in theory. This false reflection can be attributed to some crucial weaknesses in the political institutions that deal with matters of food security. These weaknesses prevent the execution and implementation of effective and sustainable food security policy and in turn, are one of the main causes behind the persistent high rates of malnutrition. This study also found that there are several key historical and political factors which have created and maintained these structural incapacities in the food security system. As a response to the main research question which aims to expose the political challenges in food security policy in addressing the issue of malnutrition in Guatemala, this study has found several key conclusions.

The SINASAN system was established in 2005 but since then, an abundance of programs, strategies and projects have been designed. All of these initiatives had the aim of reducing malnutrition or hunger. However, even though they all shared a common goal, they did not share the same tactics to achieve this goal. As a result, each individual program or project follows different guidelines, structures and ways of implementation. For example, the ENRDC strategy applied a multi-sectoral approach whereas the following program was focused on conditional-cash transfers as the main strategy to tackle malnutrition. Moreover, the ZHPP program was thoroughly designed and set specific goals to be met by a certain deadline until it fully disintegrated after the Molina administration was accused of severe corruption. This study suggests that this continuous falling and rising of food security programs in Guatemala can be appointed to the lack of continuity in government administrations. This political factor implies that each new government administration applies a different approach to solving malnutrition. During transitions from one administration to the other, the new political officials do not continue with the previous strategy but rather create an entirely new plan. This lack of

continuity leads to a constant switch in food security strategies which in turn, not only reduces the quality of each program but also prevents the actual implementation of each program.

Moreover, this study reveals that experts and other involved employees working in the food security programs are often limited in their work due to a number of implications. Their roles and responsibilities within a certain position are not specified or important concepts are interpreted differently within different institutions. Furthermore, due to their incapacity to monitor or evaluate nutrition efforts, there is no progress and development of food security interventions. For example, the most important tool to do case follow ups is the ENSMI survey but as the latest survey derives from 2015, the data used by experts for current programs is unreliable. It can be concluded that these complications in ensuring an optimal work performance are linked to the lack of structure and coordination present in government institutions. The coordination between food security institutions is not only weak, the conceptual models to achieve certain goals are different for each institution. Therefore, an active system of surveillance remains absent and it is difficult to connect different food security programs. In addition to this, it is found that government institutions in Guatemala are restrained by excessive bureaucracy. In order to implement a national plan at local level, many steps have to be taken and this process can take a long time. As a result, the implementation is delayed and sometimes even gets stuck along the way. This issue delays many programs from reaching the areas where malnutrition should be tackled.

On the other hand, the implication that emerges in the results of this study is that the issue of malnutrition is a multi-causal problem. Malnutrition is found to have a complex nature and many factors affect its persistence in Guatemala. To a great extent, the findings expose that the causes behind malnutrition can be attributed to weak institutionalism in Guatemala. From a political perspective, there are some structural incapacities in the implementation and execution of food security policy. As a result, many nutrition efforts and initiatives do not have the intended effect on reducing malnutrition. However, Guatemala is also restrained and subdued by persisting high levels of poverty and inequality which have been present for decades. The theory suggests that malnutrition is directly linked to these two aspects. Poverty and inequality cannot be tackled by public policy only because they are deeply rooted in Guatemala. From a historical perspective, this issue can be attributed to the long lasting civil war which has laid its scars on Guatemalan society and especially limits the improvement and development of food security. Moreover, poverty and inequality are found to be inextricably linked to a situation of food insecurity. Therefore, even though all efforts are taken within food security policy to combat malnutrition, this policy also needs to tackle the high levels of poverty and inequality to be fully successful. The implication here is that poverty and inequality are caused by many factors and

these problems cannot be solved by food security policy only. As poverty and inequality have a large influence on malnutrition, combatting malnutrition by improving food security policy will not be sufficient enough.

However, this does not imply that food security should not be improved. The ineffectiveness of food security policy is indeed an important factor which delays the reduction of malnutrition. Therefore, efforts should be taken to ensure that nutrition interventions become stronger and more qualitative. This study reveals that this structural problem should first be tackled from higher political levels. A widespread awareness of the negative consequences of the lack of continuity to nutrition efforts should be created. With a constant, coherent and growing national strategy which corresponds to previous strategies, nutrition interventions will be more affective. Moreover, better structure and coordination between food security institutions will ensure knowledge and expertise building among experts which will eventually produce qualitative programs.

## ANNEX: List of Interviewees

<b>Interviewee</b>	<b>Role &amp; Institution</b>	<b>Date &amp; Place</b>
<b>Diego Recalde</b>	Representative of the FAO in Guatemala  Food and Agricultural Organization of the United Nations (FAO) of Guatemala.	November 23, 2018, Guatemala City
<b>Ana Margarita Cordón Juárez</b>	Principal Investigator in Civil Society and Social Change  Wuqu'Kawoq: Maya Health Alliance	December 7, 2018, Guatemala City
<b>Miguel Cuj</b>	Nutritionist/ anthropologist  Vanderbilt University, Center for Latin American Studies	December 13, 2018, Guatemala City
<b>Pamela Ochoa</b>	Nutritionist / epidemiologist  Ministry of Health and Social Assistance (MPSPAS) de Guatemala.	December 13, 2018, Guatemala City
<b>Maritza de Oliva</b>	Policy and Program Officer / Nutritionist  World Food Program (WFP) Guatemala	December 12, 2018, Guatemala City
<b>Antoinette Sullivan</b>	The health team leader and nutrition coordinator  USAID Guatemala	December 14, 2018, Guatemala City
<b>Alefi Merchant</b>	Coordinator off global food security and the leader of the agriculture team.  USAID Guatemala	December 14, 2018, Guatemala City
<b>Alejandra Toledo</b>	Representative of UNICEF in Guatemala  UNICEF Guatemala	December 13, 2018, Guatemala City
<b>Elsa Roque</b>	Representative of Maria Ruano, the Sub Technical Secretary of SESAN  SESAN (Secretariat of Food and Nutritional Security)	December 12, 2018, Guatemala City
<b>Byron Gonzalez</b>	In charge of the FAO School Feeding Program in Guatemala  Food and Agricultural Organization of the United Nations (FAO) in Guatemala.	November 23, 2018, Guatemala City
<b>Christina Maria Elich</b>	Specialist in monitoring, systematization and scalability of the territorial approach of the joint programs on integral rural development  UNDP Guatemala (The United Nations Development Program)	January 31, 2019, Guatemala City

## BIBLIOGRAPHY

- AGARWAL, B. (2015). Chapter 11 Food Security, Productivity, and Gender Inequality. From Ronald J. Herring, *The Oxford Handbook of Food, Politics, and Society* . (pp. 273-280). Oxford University Press.
- ATYEO, N.N., FRANK, T.D., VAIL, E.F., SPERDUTO, W.A.L. & BOYD, D.L. (2017). Early Initiation of Breastfeeding Among Maya Mothers in the Western Highlands. From *Journal of Human Lactation*. 33(4) , pp. 781-789.
- BARRET, B.C. (2010). Measuring Food Security. From *Science*. 327(1), pp. 825-828.
- BERGERON, G. & CASTLEMAN, T. (2012). Program Responses to Acute and Chronic Malnutrition: Divergences and Convergences. From *American Society for Nutrition*. 3(2), pp. 242-249.
- BLACK, R.E., ET AL. (2008). Maternal and child undernutrition: global and regional exposures and health consequences. From *The Lancet*. 391(7608), pp. 243-260.
- BROCKETT, C.D. (1984). Malnutrition, Public Policy, and Agrarian Change in Guatemala. From *Journal of Interamerican Studies and World Affairs*. 26(4), pp. 477-497.
- BRUINS, M.J., ET AL. (2015). Addressing the risk of inadequate and excessive micronutrient intakes: traditional versus new approaches to setting adequate and safe micronutrient levels in foods. From *Food & Nutrition Research*. 59(1), pp. 1-10.
- BÜHLER, A.S., HARTJE, R. & GROTE, U. (2018). Matching food security and malnutrition indicators: evidence from Southeast Asia. From *International Association of Agricultural Economists*. (pp. 481-495).
- CHAMARBAGWALA, R. & MORÁN, H.E. (2011). The human capital consequences of civil war: Evidence from Guatemala. From the *Journal of Development Economics*. 94(1), pp. 41-61.
- CHARY, A., MESSEMER, S., SORENSON, E., HENRETTY, N., DASGUPTA, S. & ROHLOFF, P. (2013). The Normalization of Childhood Disease: An Ethnographic Study of Child Malnutrition in Guatemala. From *Human Organization*. 72(2), pp. 87-97.
- CISTULLI, V., HEIKKILÄ, S. & VOS, R. (2016). Chapter 10 Global Dimensions of Malnutrition: Territorial perspectives on food security and nutrition policies. From *OECD*. (pp. 181-294).

- DAS, S., ISLAM, A. & HOSSAIN, Z. (2008). Predictors of child chronic malnutrition in Bangladesh. From *Proceedings of the Pakistan Academy of Sciences*. 45(3). pp. 137-155.
- DELISLE, H.F. (2008). Poverty: the Double Burden of Malnutrition in Mothers and the Intergenerational Impact. From *Annals of the New York Academy of Sciences*. 1136(1), pp. 172-184.
- ESCOBAR, J.L., FRONGILLO, E.A. & BLAKE, C.E. (2019). Sustainability of food and nutrition security policy during presidential transitions. From *Food Policy*. 83(1), pp. 195-203.
- FANTA/FHI 360. (2017). Reducing Malnutrition in Guatemala: Summary of Estimates to Support Nutrition Advocacy - Guatemala PROFILES 2017. From *USAID*. (pp.1-10).
- FAO. (2012). El Plan del Pacto Hambre Cero. 1(1), pp. 1-34. Retrieved from the Food Security and Nutrition Platform (FNPS), Gobierno de la República de Guatemala: [http://web.maga.gob.gt/wp-content/uploads/pdf/home/pacto\\_hambre\\_cero.pdf](http://web.maga.gob.gt/wp-content/uploads/pdf/home/pacto_hambre_cero.pdf).
- FLOOD, D., CHARY, A., COLOM, A. & ROHLOFF, P. (2018). Adolescent Rights and the “First 1,000 days” Global Nutrition Movement: A View from Guatemala. From *Health and Human Rights Journal*. 20(1), pp. 295-301.
- HAMEL, R. (2017). Analyzing the Impact of Feed the Future in Guatemala. From *Center for Strategic and International Studies (CSIS)*. (pp. 1-97).
- HERRING, R.J. (2015). Chapter 1 How is food political? From Ronald J. Herring, *The Oxford Handbook of Food, Politics, and Society*. (pp. 3-40). Oxford University Press.
- HILL, R., GONZALEZ, W. & PELLETIER, D.L. (2011). The formulation of consensus on nutrition policy: policy actors' perspectives on good process. From the *Food and Nutrition Bulletin*. 32(2), pp. S92-S104.
- INE. (2015). Encuesta Nacional de Condiciones de Vida (ENCOVI) 2014. From *Instituto Nacional de Estadística (INE), Gobierno de la República de Guatemala*. (pp. 1-47).
- INFILE. (2012). ACUERDO GUBERNATIVO 235-2012. From *Gobierno de la República de Guatemala*.
- JAROSZ, L. (2014). Comparing food security and food sovereignty discourses. From *Dialogues in Human Geography*. 4(2), pp. 168-181.

- KOTWAL, A. & RAMASWAMI, B. (2015). Chapter 12 Delivering Food Subsidy: The State and the Market. From Ronald J. Herring, *The Oxford Handbook of Food, Politics, and Society*. (pp. 301-326). Oxford University Press.
- LEHOUCQ, F. (2012). *The Politics of Modern Central America: Civil War, Democratization, and Underdevelopment*. (1-204). Cambridge University Press.
- LEVITT, E.M., PELLETIER, D.L. & PELL, A.N. (2008). Revisiting the UNICEF malnutrition framework to foster agriculture and health sector collaboration to reduce malnutrition: A comparison of stakeholder priorities for action in Afghanistan. From the *Food Policy*. (pp. 156-165).
- LOEWENBERG, S. (2008, July 19). Guatemala's malnutrition crisis. From *The Lancet*. 374(9685), pp. 187-189.
- MAHMUD, I. & MBUYA, N. (2015). *Water, Sanitation, Hygiene, and Nutrition in Bangladesh: Can Building Toilets Affect Children's Growth?* (pp. 1-88). World Bank Publications.
- MARTÍNEZ-TORRES, M.A. & ROSSET, P.M. (2014). Diálogo de saberes in La Vía Campesina: food sovereignty and agroecology. From *Journal of Peasant Studies*. 41(6), pp. 979-997.
- MARTORELL, R. (2013). *Interventions and Policy Options for Combatting Malnutrition in Guatemala*. Washington D.C.: Inter-American Development Bank.
- MCINTYRE, D. & ATAGUBA, J.E. (2011). How to do (or not to do) ... a benefit incidence analysis. From *Health Policy and Planning*. 26(2), pp. 174-182.
- MÉTHOT, J. & BENNETT, E.M. (2018). Reconsidering non-traditional export agriculture and household food security: A case study in rural Guatemala. From *PLoS ONE*. 13(5), pp. 1-22.
- MEYERS, S.S. ET AL. (2017). Climate Change and Global Food Systems: Potential Impacts on Food Security and Undernutrition. From *Annual Review of Public Health*. 20(38), pp. 259-277.
- MONCAYO MIÑO, M. & FIORA DEL FABRO, A.R. (2017). Governance of food and nutrition security Factors for viability and sustainability Case studies from seven Latin American countries. From *FAO, FAO Regional Office for Latin America and the Caribbean*. (pp. 56-65).

- MSPAS. (2015). Encuesta Nacional de Salud Materna Infantil (ENSMI): Programa de la Encuesta Demográfica y de Salud (DGS). Retrieved from *Instituto Nacional de Estadística (INE), Gobierno de la República de Guatemala*. [https://www.ine.gob.gt/images/2017/encuestas/ensmi2014\\_2015.pdf](https://www.ine.gob.gt/images/2017/encuestas/ensmi2014_2015.pdf).
- NELSON, M. & SANDBERG, J. (2017). From perspectives to policy contingencies: Conditional cash transfers as social investments. From *Global Social Policy*. 17(1), pp. 21-37.
- PELLETIER, D.L. (2002). Toward a Common Understanding of Malnutrition: Assessing the contributions of the UNICEF framework. From *UNICEF and the World Bank*. (pp. 1-24).
- PINSTRUP-ANDERSEN, P. (2009). Food security: definition and measurement. From *Springer Science*. (pp. 1:5-7).
- PODER, T.G. & HE, J. (2015). The Role of Ethnic and Rural Discrimination in the Relationship Between Income Inequality and Health in Guatemala. From the *International Journal of Health Services*. 45(2), pp. 285-305.
- SAHN, D.E. (2015). Chapter 16 Is Food the Answer to Malnutrition?. From Ronald J. Herring, *The Oxford Handbook of Food, Politics, and Society* (pp. 407-228). Oxford University Press.
- SANDOVAL, L. y CARPIO, C. E. (2017). Measuring Prevalence, Profiling and Evaluating the Potential of Policy Impacts using Two Food Security Indicators in Guatemala. From the *Southern Agricultural Economics Association's Annual Meeting*. (pp. 1-33).
- SESAN. (2019). Política Nacional de Seguridad Alimentaria y Nutricional: Ley del Sistema Nacional de Seguridad Alimentaria y Nutricional. From *Gobierno de la República de Guatemala*. (pp. 1-61).
- SITEAL. (2016). Estrategia Nacional para la Prevención de la Desnutrición Crónica (ENPDC) 2016-2020. From the *Comisión Nacional para la Reducción de la Desnutrición Crónica, Gobierno de la República de Guatemala*. (pp. 1-55).
- SMITH, L.C. & HADDAD, L. (2000). Explaining Child Malnutrition in Developing Countries A Cross-Country Analysis. From *International Food Policy Research Institute*. (pp.1-112).
- STEIN, A.J. (2015). Chapter 6 The Poor, Malnutrition, Bio fortification, and Biotechnology. From Ronald J. Herring, *The Oxford Handbook of Food, Politics, and Society*. (pp. 149-180). Oxford University Press.

- THE WORLD BANK. (2019). The World Bank In Guatemala. Retrieved 12-03-2019, from *The World Bank*: <https://www.worldbank.org/en/country/guatemala/overview>.
- USAID. (2018). Guatemala: Nutrition Profile. From the *United States Agency for International Development*. (pp.1-7).
- VEL, A.C., MCCARTHY, J.F. & ZEN, Z. (2016). The Conflicted Nature of Food Security Policy: Balancing Rice, Sugar and Palm Oil in Indonesia. From the *Anthropological Forum*. 23(3), pp. 233-247.
- VIVERO, J.L. & MONTERROSO, I.E. (2008). Comer es un Derecho en América Latina. Avances legales y políticas a favour del derecho a la alimentación. From *FAO*. (pp. 1-28).
- WALSH-DILLY, M. & WOLFORD, W. (2015). Guatemala: a Regional Model for Inclusive Food Security Governance. From David E. Sahn, *The Fight Against Hunger and Malnutrition: The Role of Food, Agriculture, and Targeted Policies*. (pp. 365-367). Oxford University Press.
- WHO. (2015). Current health expenditure (CHE) as percentage of gross domestic product (GDP) (%). Retrieved from *Global Health Observatory data repository*: <http://apps.who.int/gho/data/view.main.GHEDCHEGDPSHA2011v?lang=en>
- WID (2019). Evolution of average income, Guatemala. 1950-2017 Retrieved 3-3-2019, from World Inequality Data base (WID): <https://wid.world/country/guatemala/>.