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*Examining the Impacts of Foreign Assistance in Agriculture on Human
Development: A Case Study of the United States Agency for
International Development (USAID) Strategies within Rural
Communities during the Post-seismic Era in Haiti*

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Table of Contents

Abstract	i
Acknowledgments	ii
Abbreviations	iii
I. Introduction	1
II. Methodology	4
Sources	4
Sampling and Strategies	5
III. Literature Review:	6
IV. Discussion	10
4.1. Agricultural Productivity	10
4.1.1. Access to Food	10
4.1.2. Food Productivity	12
4.2. Impacts on Health	14
4.2.1. Percentage of Undernourishment.....	14
4.2.2. Prevalence of anemia in pregnant women	15
4.2.3. Infant and under-5 mortality rate	17
4.3. Employment	18
4.3.1. Rate of unemployment	18
4.3.2. Employment in agriculture	19
4.4. Dependence on Remittances.....	20
4.5. GDP	20
4.5.1. Growth rate.....	21
4.5.2. Value added to agriculture.....	22
V. Recommendations	24
VI. Conclusion	26
References	

Figures

Figure 1. Global hunger score from 2007 to 2019.....	11
Figure 2. Global hunger score compared to USAID funding in agriculture from 2010 to 2019...	12
Figure 3. Haiti agricultural productivity from 2008 to 2016	13
Figure 4. Funding for health sector.....	14
Figure 5. Prevalence of undernourishment	15
Figure 6. Prevalence of anemia among pregnant women (%)	16
Figure 7. Mortality rate	17
Figure 8. Percentage of total unemployment	18
Figure 9. Employment in agriculture	19
Figure 10. Remittances in Haiti	21
Figure 11. Haiti GDP and GDP per capita growth	22
Figure 12. Percentage of GDP and annual growth from agriculture	23

Abstract

Development aid effectiveness is a controversial issue that has been the subject of heated debates. After Haiti received a major hit by the earthquake that occurred in 2010, many developed countries as well as developing ones to provide their support. International Organizations and donors jointed together in the objective to help a nation that was struggling even before the earthquake. The US has been for long the greatest provider of development aid to Haiti, and during the earthquake, it remained the same. Among the various projects that sought to recover and rebuild the country, the US via USAID had implemented the project in different sectors in the hope to improve Haitian citizens' standard living conditions. Agriculture, being a very important field, had received some attention, and had specific funds to develop the sector. This paper examines the relationship that exists between the funds invested in those programs with human development. To measure human development, the study considers some key indicators such as health, agricultural productivity, GDP, remittances, and employment. The study use data collected from World Development Indicators, CIA World Factbook, USAID, and Human Development Index. After analyzing the data, the paper concludes that aid development does not help much the human development index to be better in the country. Most of the indicators used in the study do not improve with the implementation of the USAID agricultural projects. However, the study concludes that the analysis was made on a macro level, and ignores whether the results would be different at a micro-level.

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Abbreviations

FAO: Food and Agriculture Organization

GDP: Gross Domestic Product

HDI: Human Development Indicator

GHI: Global Hunger Index

IDP: Internally Displaced Persons

IMF: International Monetary Fund

MDGs: Millennium Development Goals

ODA: Official Development Assistance

RCTs: Randomized Control Trials

UNDP: United Nations Development Programme

USAID: United States Agency for International Development

WDI: World Development Indicator

WHO: World Health Organization

WTO: World Trade Organization

Chapter One: Introduction

1.1 Introduction

Haiti suffered for centuries one of the cruelest forms of dehumanization, the French colonialism. Considered as the motor of the economic machine of France, the country was responsible for the two-thirds of Metropolitan France and was called 'The Pearl of the Caribbean'. After years of bloody battles, the country gained its independence in 1804. Unfortunately, in its earliest days of freedom, it started to face major issues that would later play a determinant role in the economic, social, and political development of the country. Currently, Haiti is known as the poorest country in the Western Hemisphere and is facing the most challenging issues in the world, such as environmental degradation, high rate of illiteracy, large inequality gaps, high level of corruption, hunger, poor infrastructure, lack of technology, and poor agricultural system. The country has been under a brutal dictatorship of the Duvaliers for 28 years. However, in 1986, Haitian had managed to triumph over the once authoritarian leadership and move towards a more democratic approach.

In 2010, the country experienced one of the saddest events in its history when it was hit by a major 7.0 magnitude earthquake that worsened the country's socioeconomic and political situation that was already deteriorated before. Roughly 250,000 lives were killed and more than 300,000 injured. In addition, millions of people lost their homes and were left with no options than moving to internally displaced persons (IDP) camps (Reid, 2018). The current GDP per capita of the country is just \$765.41 US (Plecher, 2019), and about 58.5% of the population lives with less than \$2.42 US per day (Habitat for Humanity, 2019). In 2018, Haiti was ranked among the countries with the lowest with a Human Development Index score of 0.503 and positioned 169th out of 189 countries (UNDP, 2019). Haiti's political crises along with natural disasters make the country more vulnerable and rely more in more on international aid for development and remittances from its diaspora. According to the World Data Indicators (2019), personal remittances in 2018 were estimated at more than 3.14 billion US dollars and represented about 32% of the country's GDP. Moreover, the net official development assistance and official aid received are evaluated at around 1 billion for the same year.

There was an urgent and pressing need in the international community for emergency response in Haiti, which was still facing economic and sociopolitical crises even before the catastrophe. As a result, many countries provided the country with aid that encompassed not only money but also other goods that would help people survive. The United States, as a great supporter of Haiti, has implemented programs and strategies that are worth millions of US dollars, and some of those programs are still running. These programs have specific goals that target social, political, and economic fields such as health, agriculture, and food security, education, democracy, human rights, and governance, economic trade, environment, gender equity and women's empowerment, nutrition, and so forth. To build more trust between

the two states, the programs are executed under a partnership between USAID and the Haitian government (USAID, 2018). It is obvious that the USAID has been appreciated by Haitian citizens; however, there is a certain ambiguity among the perception of the effectiveness of such aid.

Agriculture represents the lifeblood of the Haitian economy. According to data from the World Bank (2019), nearly 50% of the total employment in Haiti is generated from agriculture. Therefore, the agricultural sector plays a significant role in the development of the human being in the country; any changes that occur in this sector will affect the Haitian population either positively or negatively. The USAID, throughout its various strategies in that sector for many years, has with no doubt brought its inputs in the current situation of agriculture in Haiti. But how do these inputs contribute to human development in Haiti? To answer that question, it is imperative to conduct a study that can present data that indicate the outcomes of the implemented strategies.

The USAID along with the Haitian government has worked together with the ultimate goal of improving citizen's standard of living conditions. However, the tendency to believe that other countries and NGOs come to Haiti to exploit its resources persistently remains in many Haitian citizens' minds. Such a mindset might be a direct result of the news released about other organizations that have come to Haiti and did not effectively implement their programs. For instance, Holley (2015) reported that the Red-Cross was able to build only six homes with about half of a million dollars. In addition, even before the earthquake, concerns were raised regarding the role of NGOs in Haiti, which was later called 'The Republic of NGOs' for the high rate of organizations that kept increasing in the country following the earthquake (Kristoff & Panarelli, 2015). Based on these assumptions, studying the impacts of USAID strategies within farming communities is of a capital benefit as the research will be able to provide the positive outcomes of those strategies on the communities. The research proposes to bring a clearer understanding of the effects of foreign assistance in agriculture on human development in the country. Such a study will be profitable for not only Haiti but also any other developing countries that receive financial assistance from the United States (US), other developed countries, and nongovernmental organizations (NGOs) since it will provide recommendations that can help foster human development in those countries.

1.2 Study Objectives

This research seeks to meet several objectives. First, it will look at the correlation between the foreign assistance on Haiti's development during the period following the earthquake to later see the impacts. Second, it will evaluate the strategies used by USAID in the rural communities to promote sustainable growth. Third, it will study the level in which indicators such as food security, access to education, income level, employment rate, health, and GDP are affected by the USAID strategies in agriculture. And finally, it will develop further recommendations and alternatives that can lead to more effective solutions to the country's everlasting socioeconomic and political crises.

Chapter Two: Methodology

2.1 Introduction

In this research study, the researcher has adopted a deductive approach in which he examined the data from that link the variables together. This research has used both qualitative and quantitative data to have a better understanding of the impacts of the USAID strategies in rural communities in Haiti. The data were taken from primary and secondary sources. Also, while analyzing the data, the research had studied the correlation of the dependent variable and the independent one. The independent variable was considered to be the USAID assistance on agriculture while the dependent variable was the human development, which was measured based on different indicators. To measure the impacts of aid on agriculture in Haiti on human development, the researcher proposes to emphasize the study on an analysis of five of the key components that can determine the impacts on human development: 1) agricultural productivity, 2) health, 3) employment, 4) remittances, and 5) gross domestic production (GDP). In agricultural productivity, the author has considered other sub-sections such as access to food and food production. The impacts on health had been evaluated based on the percentage of undernourishment, the percentage of prevalence of anemia among pregnant women, and the infant and under-5 mortality rate. Employment has looked at the rate of the unemployment rate and employment in agriculture. The section of remittances has considered the dependence of the country on remittances money. And finally, the gross domestic product has taken into account the GDP growth rate and the percentage of GDP from value-added to agriculture. The research was expected to provide a comprehensive report on the impacts of USAID in Haiti while considering further steps or suggestions that must be taken into consideration to notice greater changes in standards of living conditions in the country.

2.1 Sources

This research has used two sources: primary and secondary. According to Northcentral University (2020), primary resources are those that have first-hand information, which means that the information comes from the author's account on a specific topic or event that s/he witnessed and participated in. In this study, the researcher used primary resources such as scholarly research articles and papers that presented data that the authors participated in. For example, he used books that conducted experimental studies in African countries. One of the primary sources that were used in this paper was from the World Bank.

The secondary sources, according to Northcentral University (2020), 'secondary sources describe, summarize, or discuss information or details originally presented in another source'. This implied that the author from a secondary source did not participate in the event that was described or explained in the research. For instance, in this paper, many articles provided information on Haiti but the authors never went to the country to ask questions or to observe the reality. However, they used information and data from primary sources such as the World Bank,

USAID, WHO, etc. The articles, books, and other documents used in this research are from at least within the last 10 years. However, some key books are older than 10 years, and the author realized that the theories found on such documents were critical for the research.

2.3 Sampling and Strategies

Most of the data that were used in this research came from the World Development Indicator (WDI). But additional data from CIA World Factbook, Human Development Index, and USAID were added. Since the study was about human development in the country, the samples that were used were not biased as they came from very trustworthy sources. The author, in the beginning, highlighted the key parameters that he wanted to measure the dependent variable. After identifying them, he collected them to later conduct analysis base on deductions to determine whether those parameters were impacted by the independent variable.

Chapter Three: Literature Review

3.1:

Foreign aid is a controversial field, and it has been subjected to heated debates in the arena of development economics. Zimmerman (2007) classified foreign aid into three specific fields. The first one considers the effects of aid on countries. The second emphasizes the ways aid is allocated; while the third analyzes the determinants of the aid. The literature of this work will only focus on the first field.

In regards to the effectiveness of foreign aid, scholars have taken different positions. For instance, Edwards (2012) believes that there are three camps that emerged from different views on aid effectiveness. The first one claims that foreign aid is not effective, and it hinders the development of developing countries. Some main scholars of this camp include Ayittey, Easterly, Moyo, Elayah, and McNeill. Poverty reduction is one of the areas that those authors tackle to show aid ineffectiveness. Taking Africa as an example, Ayittey claims that foreign aid failed to meet its goal of helping reduce poverty in the world. He mentions that Western countries have invested more than \$450 billion dollars in foreign aid, but negligible results have been observed. The author compares Africa to a “leaky begging bowl” to demonstrate how the foreign assistance funds to Africa are not properly used to solve the problems of poverty. He instead believes that the majority of the funds are always returned to the bank in Europe (Haas, 2009). Niyonkuru (2016) takes the same direction as Ayittey to claim the ineffectiveness of foreign assistance in alleviating poverty in developing countries. In his paper *Failure of Foreign Aid in Developing Country*, he argues that foreign aid to developing countries is a tool of exploitation as the most developed countries want to perpetuate developing countries in dependency. In respect to exploitation, Pronk et al. (2004) share similar position with Niyonkuru suggesting that foreign aid is a way to develop the country to expand dominance over the poor ones. McGrillivray et al. (2001) and Ali et al. (1999) point out that foreign aid decreases returns, and it is a volatile action that is unfavorable to poor countries.

Easterly (2014), one of the most vocal authors of foreign aid criticism, goes to battles against those who believe that foreign aid improves the economic growth of poor countries. In his response to Sachs in his book *White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good*, he argues that foreign aid does not work in poor countries (Easterly, 2006). According to Greene (2008), Easterly's arguments emphasize on two components: the first one is the unaccountability or unresponsiveness of the implementation of the aid to the recipients, while the second considers the bureaucrats in the developing countries that receive perverse incentives through foreign aid. Moyo (2010) does not attack all kinds of aids, such as humanitarian aid, but instead, she criticizes specifically development from developed countries to Africa. In her book *Dead Aid: Why Aid Makes Things Worse and How There Is Another Way for Africa*, Moyo believes that development is very harmful to Africa, and such aid must be stopped. She concludes that despite the astronomical numbers of aid received, no significant improvement has been noticed. According to the author, instead of progressing, the continent regressed although rich countries have poured in more than 1 trillion US dollars in the last past 50 years (Moyo 2010, p. xviii). Through an aid-based development model that she created, Moyo demonstrated the unproductivity and negative effects of development aid at four different levels: social, political, economic, and dependency-related issues (p.48).

Using case studies of countries such as Jordan, Egypt, and Yemen, Elayah (2016) argues that there is a negative connection between foreign aid and development in recipient countries. For instance, he points out that the aid that Yemen has received for reformation and development has not been beneficial to the country. The author also believes that foreign aid is not dedicated to the areas that are most needed in the recipient countries, and he states that the country donors engage in development aid to improve their economy. Taking Egypt as a witness, the author claims that about 70% of the investments from the US in Cairo were made in the gas and oil sectors, so the US can take advantage of the raw materials it needs (Elayah, 2016). This is also the same idea that McNeill (1981) shares when he believes that donor self-interest plays a detrimental role in the ineffectiveness of foreign aid. For instance, he argues that the construction of a new metro system might be more in the interest of the country donor since it can make profits of the economic benefits generated from the commerce of a lot of materials from the donor (McNeill 1981, p.30)

In the field of foreign aid, development assistance has been received major criticisms. Several schools of thought have emerged. However, three of the basic ones include the neo-Marxist, populist, and neo-Liberal. These three antagonistic schools of thought mainly dominated the last 50 years of criticism of official development aid (Carbonnier, 2010).

The authors following the neo-Marxist doctrine are considered as the radical left. Like the contemporary critics of foreign aid such as Damisa, Moyo, and Easterly, the neo-Marxists mainly look at ODA as an instrument for the developed countries to use their power on and dominate the developing ones. According to Gulrajani (2011), the neo-Marxist view of development aid was inspired by the social theory of the French Philosopher Michel Foucault, and this camp suggests that the term of under-development is coined by the Western countries in the objective to maintain the poor countries in need of Western assistance as they showed weakness in their capability to positively transform their social, political, and economic situation (Gulrajani 2011, p. 6). Neo-Marxists also believe that there is a tendency for those industrialized countries to make poor countries more and more dependent, so they can request more help as they will always be in need (Charnoz & Severino, 2007). For instance, in her book *Aid as Imperialism*, Hayter (1971) believes that the multinational corporations such as the World Bank, IMF, and OECD and USAID use development aid as a tool to control Third World countries and automatically convert them as the Western nations' allies (p. 9). She also maintains the perception that development aid is also a way to promote capitalism. For instance, she uses Latin America as an example of how the US and other Western governments use their strategies and foreign policies to combat socialism and economic nationalism and prioritize free trade (p. 6).

At the end of the colonial era, the populist school of thought has emerged and had Raymond Cartier as one of its main pioneers in 1956 (Carbonnier, 2010). According to Carbonnier (2010), populist critiques believe that developed nations should avoid wasting money that will involve corruption in other poor countries and should instead focus on promoting and strengthening the national economic and social priorities through taxpayers' money. Being a very reputed journalist, Cartier has taken several positions against the strategies that France has used to promote neocolonialism through development aid (Foubert 1973, p.717). In their article *How to Save Foreign Aid in the Age of Populism*, Alexander and Thier (2019) claim that leaders who claim to be populists tend to reduce aid and use more money to their country for economic and political

ends instead of helping other countries that are in need. In today's politics, populism becomes very common. For instance, Gulrajani (2019) claims that President Trump believes that patriotism and globalism are incompatible and that the latter would lead nations to focus on the global problems and ignore their national interests. She added that in 2015, UK's Prime Minister James Cameron revealed that the country's strategy related to aid and foreign policies was to tackle global challenges that are in the UK's interests.

Neoliberalism is also present in the field of ODA. The neoliberal development aid ideology is strongly supported and defended by the established Washington Consensus-based International Finance Institutions (IFIs) such as the World Bank, WTO, IMF, and other similar institutions (Jacupek, 2018). One of the pioneers of this school is Peter Bauer, who believes that development aid constraints developing countries as it discourages leaders to come with effective policies that would promote development (Bauer, 1971). According to Carbonnier (2010), neoliberals maintain the idea that 'ODA contributes to swelling the staff of myriad and ineffective public administrations in recipient countries. Furthermore, it serves to support corrupt and non-democratic leaders'. This school of thought has influenced the most vocal authors of development aid criticisms such as Moyo and Esterly.

If many scholars are pessimistic regarding the effectiveness of development aid, some others take the opposite way and claim that development aid is instead effective. One of the most outspoken scholars who support development aid remains Jeffrey Sachs. In his article, *The Case for Aid*, Sachs (2014) points out that foreign aid is an instrument for promoting economic growth. He refers to several events to back up his idea. For instance, Sachs strongly believes that the Green Revolution in Asia as a result of a partnership that included the Rockefeller Foundation's financial support. Besides, he claims that Polio disease was able to be eradicated with the support of international organizations such as UNICEF, World Health Organization (WHO), and Rotary International and US Center for Disease Control (Sachs 2005, p.259-263; Haas, 2009). Since many scholars have addressed the concept of poverty trap to show development aid ineffectiveness, Sachs explained that extreme poor countries get into the poverty trap because they are too poor. As a result, it becomes more difficult to finance their issues. One of the examples he used was trade. He believes that people farm from the coasts are poor because they cannot trade, and since they are poor, it becomes more difficult for them to finance road construction to engage in international trade (Sachs, 2005). Taking the US as a model to show the commitments of developed countries to improve economic growth and reduce poverty, Haas (2009) believes that the Millennium Development Goals (MDGs) can be taken as a tool to show the effectiveness of development. Joseph Stiglitz, another apologist of development aid, believes that development aid is an important action that can promote economic growth in poor countries (Stiglitz, 2002). The author stresses the importance of reforms in international institutions such as the World Bank, IMF, etc. He also considers aid as a complement but not substitute for market-led development such as trade and privatization. As a result, he believes that governments must create institutions that can manage aid effectively to promote economic development and poverty reduction (Stiglitz 2002, p. 241-243). Although he is in favor of development aid, Sachs strongly suggests that development aid is insufficient, and few countries are meeting their obligations (B. Roach, personal communication, 2019).

The third camp that was emerged from foreign aid raised the importance of randomized control trials (RCTs) as an effective tool that can promote effectiveness in the aid given. This school of thought was a result of the confusion on the effectiveness of aid as several macro-level studies show aid ineffectiveness while micro-level studies demonstrate the opposite (B. Roach, personal communication, 2019). Some of the main scholars of this camp include Banjeree, Duflo, Riddell, and Collier. In the evaluation of effectiveness at project levels, Riddell (2007) believe that RCTs can be considered as the most 'rigorous and reliable' tool (p.191). In their book *Poor Economics: A Radical Rethinking of The Way to Fight Global Poverty*, Banjeree and Duflo (2012), shows the importance of RTCs taking the example of various projects in education conducted in Kenya. For instance, they revealed that one project that was intended to improve access to textbooks to students did not really have effects while a significant amount of money was spent on it. However, they found that a project for the treatment of intestinal worms had more effects on students as there was a 25% drop in absenteeism by 25% (Banjeree & Duflo 2012, 72-76, 159). RTCs are having a lot of praises in the field of development; however, some other scholars believe that they are expensive, and results from one study might not be transferrable to another one. Also, some other scholars claim that RCTs often have potential cultural insensitivity (B. Roach, personal communication, 2019).

Chapter Four Discussion

4.1

UNDP (2019) defines HDI as a ‘summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living.’ Those three dimensions are composed of indicators that bring a clearer idea on the level of HDI. In this paper, we will measure the impacts of USAID agricultural strategies on Haiti HDI based on those five indicators: agricultural productivity, health conditions, employment, remittances, and GDP.

4.1 Impacts on Agricultural Productivity

4.1.1 Access to food

Access to food and food security has always been an important topic in Haiti and remains one of the best priorities for Haitians since eating is indispensable for the survival of any individual. In 1996, the World Food Summit suggested that “Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2006). Haiti has been for years in a situation where the domestic demand for food highly exceeds the domestic food production. As a result, the country relies highly on imports to meet a higher percentage of demand.

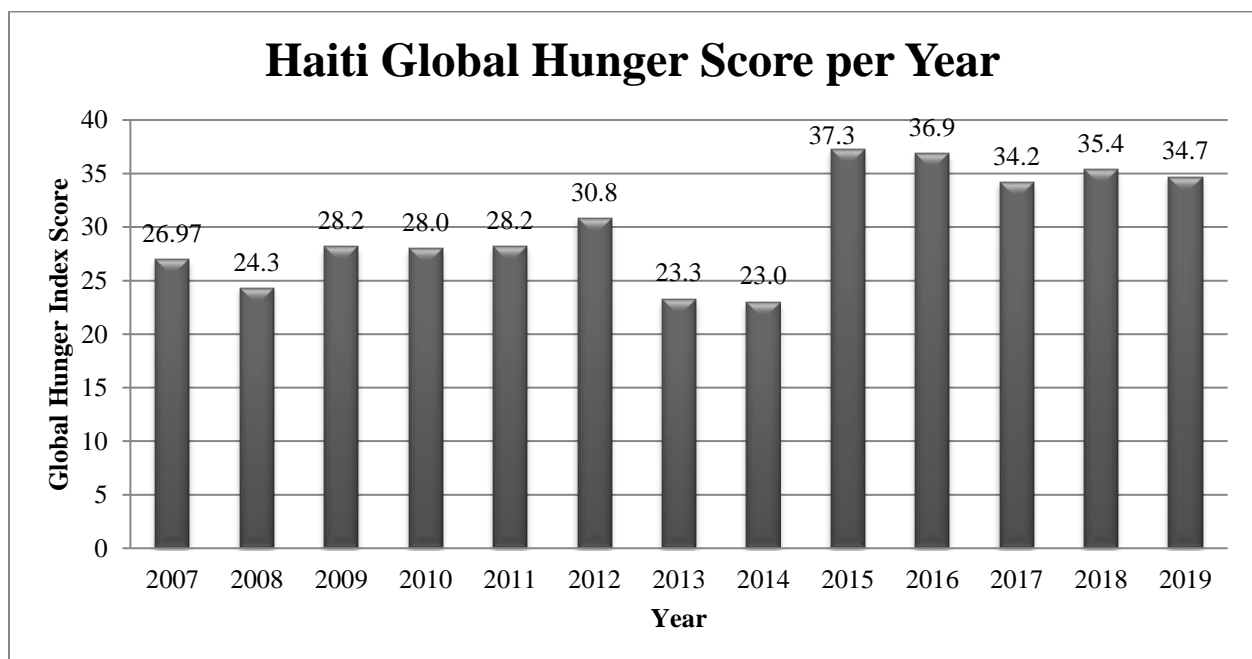
In analyzing access to food, it is important to look at the country's level of hunger. Global Hunger Index (GHI) (2019) refers to hunger as “the distress associated with a lack of sufficient calories.” On the other side, FAO claims it is a food deprivation or undernourishment that is the result of the lack of consumption of calories that can “provide the minimum amount of dietary energy that each individual requires living a healthy and productive life, given that person’s sex, age, stature, and physical activity level.”¹ Many indicators can be taken into account to consider hunger. In this research, we will look below the data from GHI that refers to four aspects of hunger: undernourishment, child wasting, child stunting, and child mortality. Undernourishment is defined as the share of the population which does not consume enough calories. Acute undernutrition can lead to child wasting which refers to the children under five years old whose weight is low in comparison to their height. When undernutrition is chronic, GHI claims that it can result in child stunting that is any child younger than five years old with the height too low for the age. Finally, child mortality looks at the mortality rate of children under five years of age due to malnutrition and another unhealthy environment (GHI, 2019). GHI uses a 100-point Severity scale to determine countries’ levels of hunger. This scale considers 0 as the best score or no hunger at all and 100 to be the worst. In other words, the lower a country scores, the lower is its hunger severity.

It is reported that since the year of 2000, hunger in Haiti releases uneven progress despite many efforts that have been made to improve that sector (GHI, 2019). Figure 1 presents data from 2007 to 2019 that bring a clearer idea on the evolution of the hunger in the country. In 2007 and 2008, Haiti scored 26.97 and 24.3 respectively, which ranked the country among the top 20 worst

¹ The average minimum dietary energy requirement varies by country—from about 1,650 to more than 2,000 kilocalories (commonly, albeit incorrectly, referred to as calories) per person per day for all countries with available data in 2016 (FAO 2017).

countries. Before the earthquake, the country's hunger index worsened with a 28.2. However, it is quite surprising to observe that the score lowered in 2010 with a 28.0 decline in the country was collapsed by the earthquake. One possible reason that can explain that decrease is the presence of many humanitarian organizations and all other forms of aid that the country received to be recovered. Two years following the earthquake, the level of hunger increased, which is hard to explain after so many interventions. It is interesting to notice that 2013 and 2014 are the two years with the best scores of 23.3 and 23.0 respectively. Since that time, the country's GHI has recorded its worse scores in 20 years. We understand that Hurricane Matthew that occurred in 2016 in Haiti and caused damages about \$3 billion USD had a lot of effects on the level of hunger, as the country scored 36.9 in the same year. However, when we look at the previous year, the country had a score of 37.3, which can cause people to raise questions in regards to the real impacts of those aids receive from the international community. Although the current hunger index lowers to 34.7, the country remains very vulnerable.

Figure 1: Global Hunger Score from 2007 to 2019

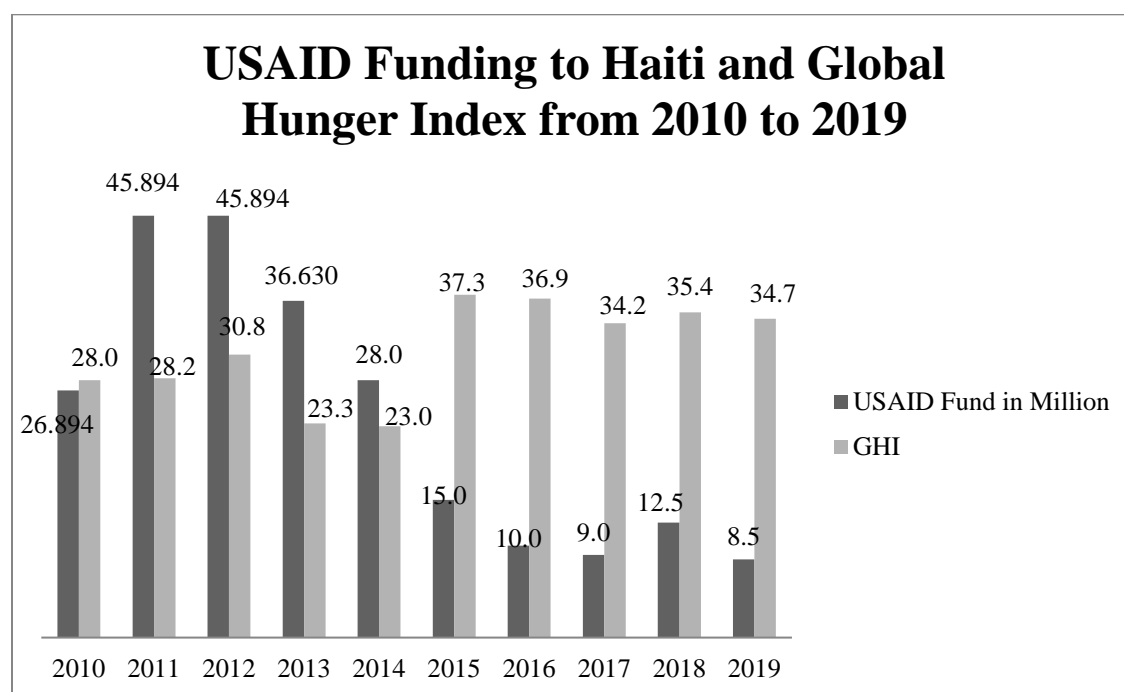


Source Global Hunger Index (2020).

From 2010 to 2019, USAID has spent about \$238.312 million for the agricultural sector in Haiti in the objective to combat food insecurity and improve access to food. However, there is still a blurry picture behind the impacts of those funds on hunger improvement at a macro level. We would expect that the funds invested in different agricultural programs would place the country in a better situation with a lower score in GHI. However, the data do not show such results. Figure 2 demonstrates the changes occurred in Haiti GHI scores in comparison to the amount of funds spent on the sector of agriculture. When we look at the graph, we cannot conclude that there is a relationship between the GHI and the USAID funds spent in agriculture. For instance, in 2011 and 2012, USAID spent about \$45.894 million USD for each year. However, during those two years, the level of hunger in the country worsened. On the other side, when the GHI score was at its best in 2013 and 2014, USAID invested less money than it did in the two

previous years. Would that allow us to conclude that the USAID money does not make any difference in reducing the level of hunger in the country? It would be very difficult to draw such a conclusion as we can notice that from 2015 to 2019, the funds dedicated to agriculture decreased considerably while at the same time GHI scored worse grade. The difficulties to discern the impacts of the funds on hunger may lie in the fact that other factors can alter the programs implemented by USAID. For instance political instability along natural disaster are two components that can play a significant role on how the programs deliver to achieve the desired results.

Figure 2. Global Hunger Score compared to USAID funding in agriculture from 2010 to 2019



Source GHI and US Foreign Assistance to Haiti

4.1.2 Food productivity

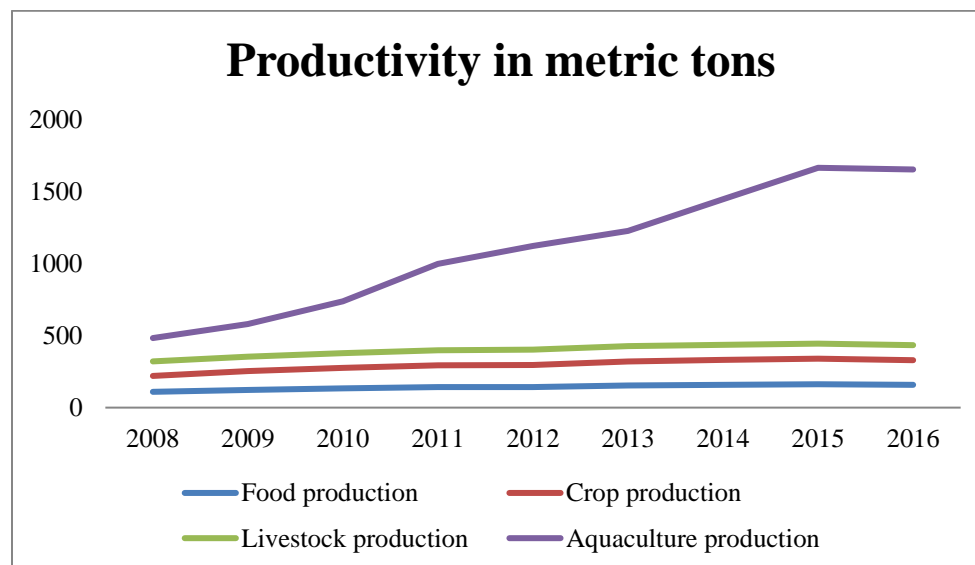
Since Haiti's economy relies on agricultural production which depends mainly on small family farms, USAID emphasizes its projects on improving agricultural development in the country that will provide farmers with economic power to increase food productivity. To evaluate agricultural productivity, we consider four specific areas. The first one is food production, mainly composed of plants cultivated for their roots such as yam, potato, sweet potato, yucca, etc. The second considers crop production which includes grains, fruits, vegetables, and other plants. The third and the fourth look at livestock and aquaculture respectively. In figure 3, it is shown that even before the earthquake, agricultural productivity was in good shape since it kept increasing year after year. Following the earthquake, the growth tendency remained the same. For example in 2011, crop production increased from 141.56 to 150.88 metric tons. And production continued to increase from 2014 to 2015 when it moved from 171.97 to 177.47 metric tons. It is also important to notice that crop production decreased in 2016, which is the year that hurricane

Matthew destroyed a lot of plantations in the Southern region in the country that is one of the most productive areas. Although the progress is not impressive, we should notice that there is an improvement in crop production in the post-earthquake era. Like crop production, food production has increased similarly and decreased in the same year. The sector that presents considerable results is the aquaculture. However, the sector of aquaculture has increased considerably. For instance, the production in 2010 was 360 metric tons to move to 1,220 in 2016. Unlike the other sectors, aquaculture production did not decrease with the hurricane.

We noted earlier that the level of hunger in the country worsens in the post-earthquake era when we look at the GHI, while the agricultural productivity increases. It may look paradoxical that higher food production does not improve the level of hunger. But there is one aspect that can help us understand the reality in a better way: inequality. The World Bank claims that Haiti is the country with the highest income inequality in Latin America and the fourth-most inequitable country in the world with a Gini coefficient of 60.8 (Barton-Dock, 2014; CIA World Factbook). According to Evans (2018), the top 20 percent of the country holds about 64 percent of the country's wealth. International Fund for Agricultural Development (IFAD) (2008) added that the country has up to 60 percent of the population living in rural areas, and 88 percent of that rural population is poor and 67 per cent is extremely poor.

Also the rural per capita income is about one-third of the urban area (IFAD, 2008). Although production can increase, income inequality can still block the country's global hunger index score due to the fact that those people who had the economic power to buy remain the same. As a result, when the food is produced in rural areas, people in the urban areas will be the ones to buy and consume it since they have more money, which does not leave the poor people with no other option than suffering.

Figure 3. Haiti Agricultural productivity from 2008 to 2016

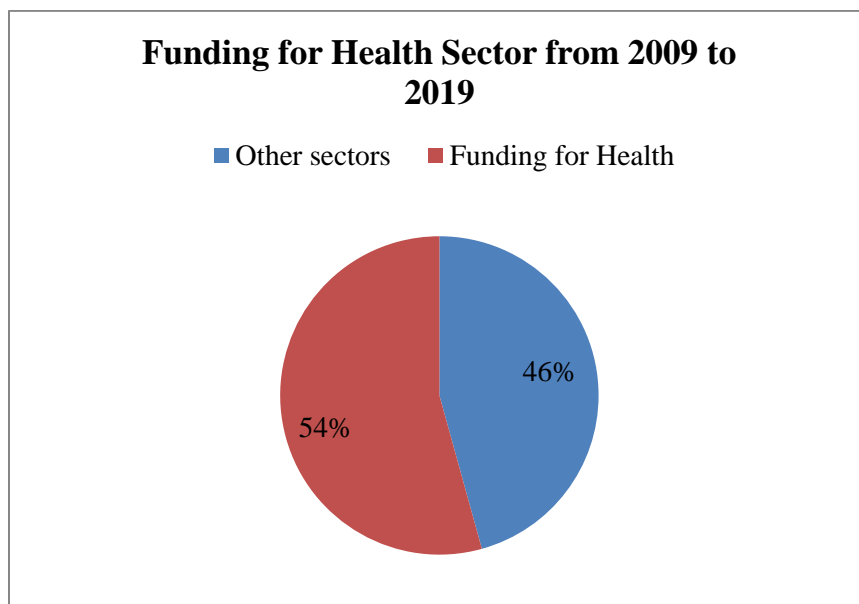


Source WDI (2019).

4.2. Impacts on Health

The sector of health remains the biggest priority for the US interventions in Haiti. From 2009 to 2019, the US foreign assistance fund to Haiti is estimated to \$3,005.96 million, which the health sector has received about 54 percent of as indicated in figure 4. In addition to the strategies and programs implemented in the health sector to improve health conditions in the country, other agricultural programs such as KORE LAVI (Support life) were created to support food security and improve nutrition. According to USAID (2014), this program is a four-year program that started in 2013 and was awarded to Care International with the objective to increase demand and improve access to locally produced food. In other words, the program seeks to encourage and improve national food production. Targeting mainly the most vulnerable people in five different regions in the country, KORE LAVI was implemented to provide food vouchers to households in order to improve maternal and child health and nutrition (USAID, 2014). Since the program has run for many years during the post-seismic period, it would be important to look at its impacts on health conditions in the country. To measure the impacts of this program, we will consider four parameters: Prevalence of undernourishment (% of population), Prevalence of anemia among pregnant women (%), and Mortality rate, under-5 (per 1,000 live births) and Mortality rate, infant (per 1,000 live births).

Figure 4. Funding for the Health Sector.



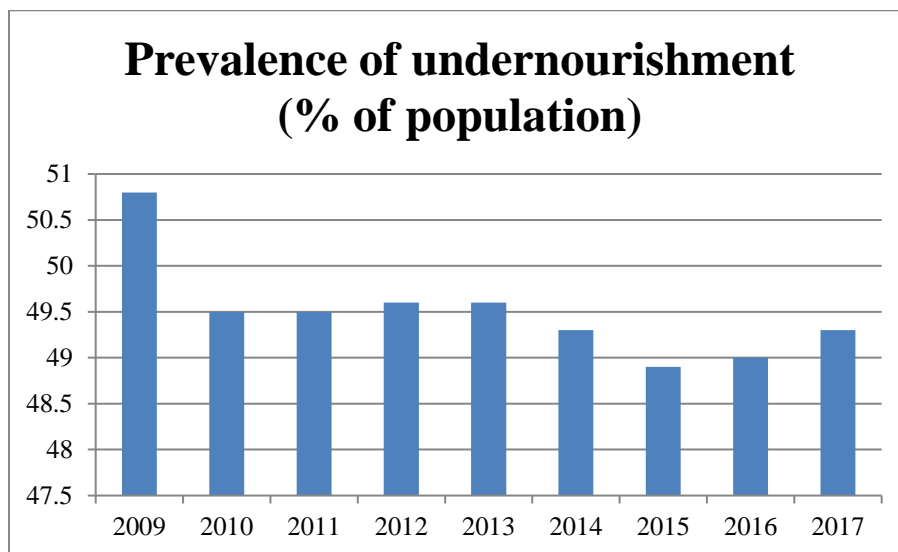
Source: US Foreign Assistance (2020)

4.2.1. Percentage of Undernourishment

Haiti is among the countries with the highest levels of food insecurity in the world, and 'more than one in three people, estimated at 3.7 million, need urgent food assistance' (World Food Programme, 2020). According to Trading Economics (2020), the prevalence of undernourishment refers to the population that is below the minimum level of dietary energy

consumption. We suppose that the implementation of KORE LAVI in five departments represents a major support for Haiti since many citizens had the opportunity to have access to quality food on time that has enough nutrients to improve their health. As a result, we would believe that such an implementation would help reduce the percentage of undernourishment at a national level in the country. Figure 5 shows that the prevalence of undernourishment in 2009 before the earthquake was at 50.8 percent. In 2010 there was an improvement where undernourishment dropped by 1.3% and stayed at the same level in 2011. From 49.5 in 2011, the percentage remained almost the same in the two following years, but there was a slight change of 0.1 percent added to the undernourishment at both years. Since the program was implemented in 2013, we expect to feel the results in the next three years. In fact, in 2014, undernourishment moved slightly from 49.6 to 49.3 percent and continued to decrease in 2015 with a percentage of 48.9. Unfortunately, in 2016 and 2017, the percentage increased with a score of 49 and 49.3 percent. The data presented in the graph show a very slight improvement in the prevalence of undernourishment, but we can predict that it will return to how it was before the earthquake when we take into account how it is growing in the two last years. The greatest drop happened in 2010 and 2011, which can be the result of the presence of a lot of humanitarian organizations that were in the country for emergency response and recovery following the earthquake. We must not forget that the slight increase of undernourishment in 2016 and 2017 can also be affected by the hurricane Matthew that occurred in 2016.

Figure 5. Prevalence of undernourishment



Source WDI (2019).

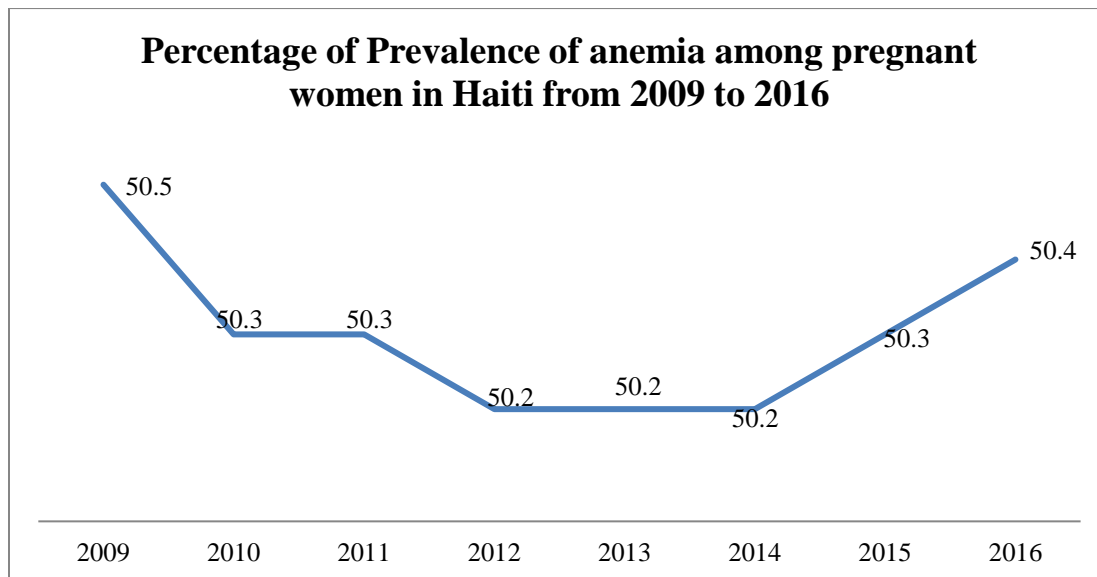
4.2.2. Prevalence of anemia among pregnant women (%)

Gebreweld, & Tsegaye (2018) define anemia as a decrease in oxygen that carries the capacity of the blood. It occurs when the quantity of blood cells is below the normal. During pregnancy, anemia is a very important factor to take into account since it can increase a lot of risks such as neonatal, maternal, and fetal mortality. , besides, there are a lot of other damages associated to

anemia such as poor pregnancy outcomes that encompasses impairment of cognitive development, low birth weight and preterm birth, reduction of learning capacity, lack of productivity in adults, and poor school performance in children (Gebreweld, & Tsegaye, 2018). Many factors can lead to anemia; however, one of the most common causes is the deficiency in iron. According to the authors, about 50 percent of cases of anemia happened due to a lack of iron. In developing countries, anemia is considered a public health issue, and this is how this study needs to look at the data that show the percentage of women who suffered from this disease.

Anemia in Haiti has always been a challenge for pregnant women since their diet lack sufficient iron. Getting better access to quality food can allow pregnant to face fewer risks associated with pregnancy as they would consume the necessary iron and nutrients that will benefit not only them but also their children. When USAID invests its funds in the agricultural projects, it does it to guarantee that the sector can produce enough food for local consumption while improving maternal and child health and nutrition. One of the programs that explain such goal is KORE LAVI, which targets vulnerable women in the households. Since so much money is invested in the sector and specific programs in different regions target the improvement of diet by providing pregnant and lactating women with better access to quality food, we would expect that the prevalence of anemia among pregnant women would decrease. Let's analyze the data shown in figure 6 below.

Figure 6. Prevalence of anemia among pregnant women (%).



Source WDI (2019).

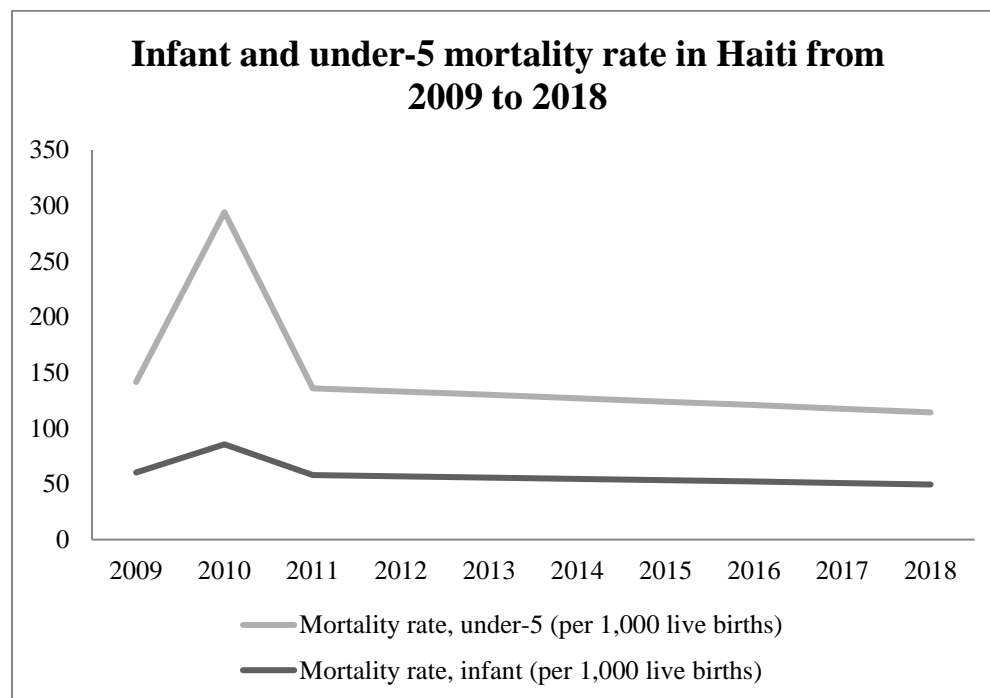
We can notice that before the earthquake, Haiti has a prevalence of anemia in pregnant women estimated at 50.5 percent, which is higher than the worldwide percentage of 42. In 2010, it decreased by a 0.2 percent although the earthquake had impaired all activities including agricultural production. The drop is not surprising since the country relied on many food programs from the international communities. However, in 2011, the prevalence remained the same to later drop by 0.1 percent in the next following three years. The most surprising prevalence comes in 2015 when the prevalence returned to 50.3 percent as it was in 2010 and

2011. The percentage even increased more with 0.1 percent in 2016. We should remember that KORE LAVI was implemented in 2013, and its main targets were pregnant and lactating women. However, it would appear that there would be an inverse relationship between KORE LAVI and the prevalence of anemia in pregnant women since the prevalence increases with the implementation of the program.

4.2.3. Infant and under-5 mortality rate

CDC (2017) defines infant mortality as the ‘death of an infant before his or her first birthday’. The infant mortality rate takes into account the number of infant deaths for every 1,000 live births. With no surprise, the infant mortality rate is very high in developing countries while it is very low in developed countries. According to WHO (2008), global under-5 mortality is estimated at 39 percent, and global infant mortality rate is 29 percent². Considered as one of the poorest countries in the world, Haiti has always faced an infant and under-5 mortality rate higher than the average. Figure 7 brings an idea of the evolution of the infant and under-5 mortality rate in the country. We assume that improvement in agriculture in Haiti can have impacts on infant and under-5 mortality rate since the better access to food can lead to better consumption of necessary nutrients for the infants and children. Although Haiti’s rate is higher than the worldwide average, it is critical to look at how USAID strategies in agriculture affect infant and under-5 mortality rate in the post-earthquake era.

Figure 7. Mortality rate.



² World Health Organization. (2008). Worldwide prevalence of anemia 1993-2005. WHO Global Database on Anemia. Geneva: World Health Organization.

Source WDI (2019).

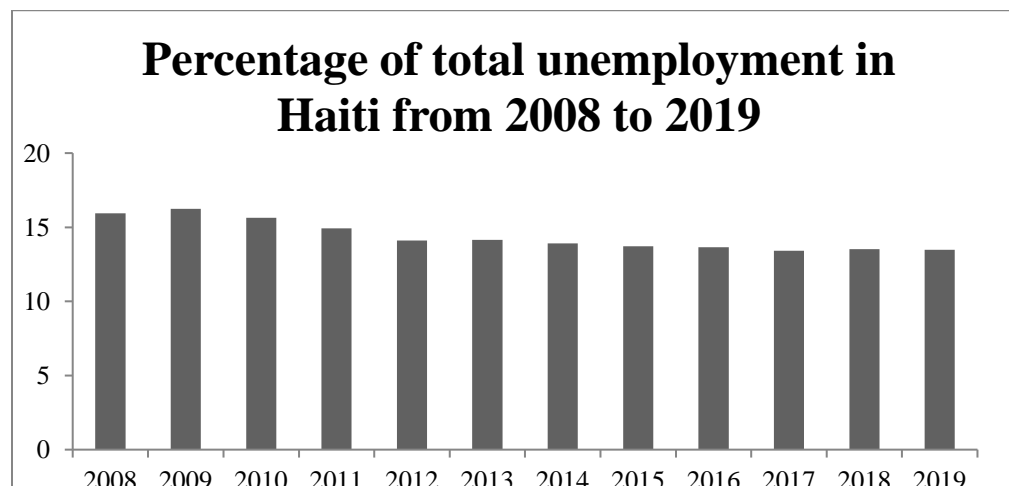
The data presented in the graph above shows a huge increase in the under-5 mortality rate in 2010 moving from 81.5 percent to 208.6 percent while the infant mortality has a lower increase from 60.2 percent to 85.6 percent. Both increases can be easily understood that the earthquake was the main reason since people of all ages died during that sad event. However, following the earthquake, rates for both variables decreased progressively. For instance, the under-5 mortality rate moves from 208.6 in 2010 to lower to 78 in 2011. In the following seven years, the rate decreased every year until it got to 64.8 in 2018. This is the same reality for the infant mortality rate that dropped every year until it reached 45.5 in 2018. Such data allow us to believe that the implementation of agricultural projects had an impact on the infant and under-5 mortality rates at a macro level in Haiti.

4.3. Employment

4.3.1. Rate of unemployment

Employment in Haiti plays a determinant role in how the Haitian society is driven. There is a direct relationship between employment and economic growth. This implies that a society cannot work if there is no employment. Having a work in a society means that there is a higher possibility that the community is more cohesive and secure since people would not care about the most basic needs. Also, work can bring more civic participation and reduce public spending. One of the main characteristics attributed to poor countries is a high level of unemployment. In a country with low economy like Haiti, there is no doubt that the unemployment rate would be very high. As a result, many people with no work turn into thieves, and a lot of young people engage in prostitution and juvenile delinquency. However, following the earthquake, there was a tendency in the country to believe that with all money that was poured in the country for development, there would be very great changes where more people would be able to secure a job. Although it is very slightly, figure 8 shows that the unemployment rate in Haiti declined gradually from 2009 to 2019. Before the earthquake, the unemployment rate was more likely to increase, but we observe that the graph shows the opposite direction for unemployment as it dropped by 2.159 percent from 2010 to 2019.

Figure 8. Percentage of total unemployment.



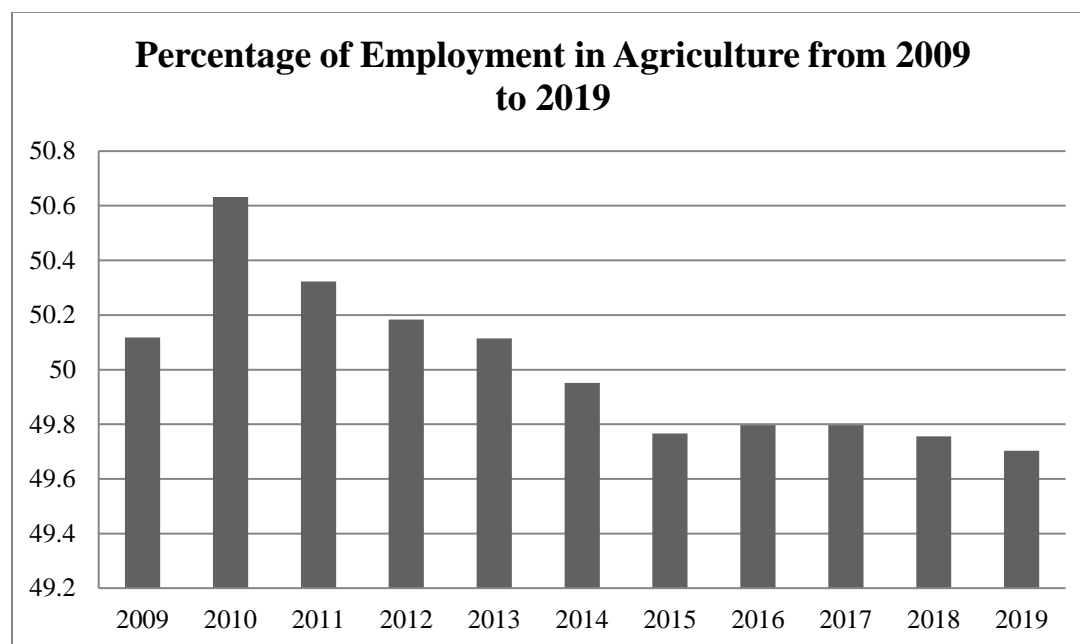
Source WDI (2019)

4.3.2. Employment in agriculture

Haiti is a predominantly agricultural country, where agriculture represents the mainstay of the economy. After the earthquake, the apparel sector started to grow in the country is currently a source of income for thousands of Haitians. According to Williams-Sambrano (2018), the apparel sector is hopeful about future expansion of the sector and plans to have about 300,000 workers by 2026. Although agriculture is still dominant, the apparel sector shows a sign that it can become the one that generates more jobs in the country. The Observatory of Economic Complexity (OEC) (2017) reported that 'Haiti exported \$1.12B and imported \$3.3B, resulting in a negative trade balance of \$2.18B'. While most of our exports are in the apparel sector, a large amount of imports are agricultural products that the country has the capacity to produce. For instance, OEC made a list of the top exports and imports of the country that showed that the top exported products in the apparel sector are worth about 850.9 million while the most imported product is rice that is estimated at 250 million in 2017 (OEC, 2017). This implies that there is a lot of work that must be done to improve the agricultural sector in the country.

With the money invested in agriculture after the earthquake, there was hope that the programs and strategies would help increase employment in the sector. However, the data presented in the graph below does not reflect such hope. For instance, from 2010 to 2019, employment in agriculture gradually dropped from 50.630 percent to 49.703 percent. The only time that it did not decline was from 2015 to 2016 and 2017 with a score of 49.797 percent in both years. We would conclude that although the USAID had invested a significant amount of funds in agricultural projects that sought to boost the agricultural sector and increase employment, the data show at a macro level that employment in agriculture declined. The only two years where agriculture did not keep dropping were in 2016 and 2017 that was the time of Hurricane Matthew that probably generated a lot of works in the agricultural sector. Another fact that can explain the decline in agricultural employment is due to internal migration in the country where most young people do not want to engage in agriculture and instead go to urban areas to live. As a result, many of them end up going to work in factories to find a way to live and meet the most basic needs. In addition, there is a group of people from rural areas who do not have enough patience to wait for months to have money from their harvest. Because the factories in the apparel sector compensate workers on a biweekly basis, some people feel like they can meet with their urgent need faster in those factories than practicing subsistence agriculture.

Figure 9. Employment in Agriculture



Source WDI (2019)

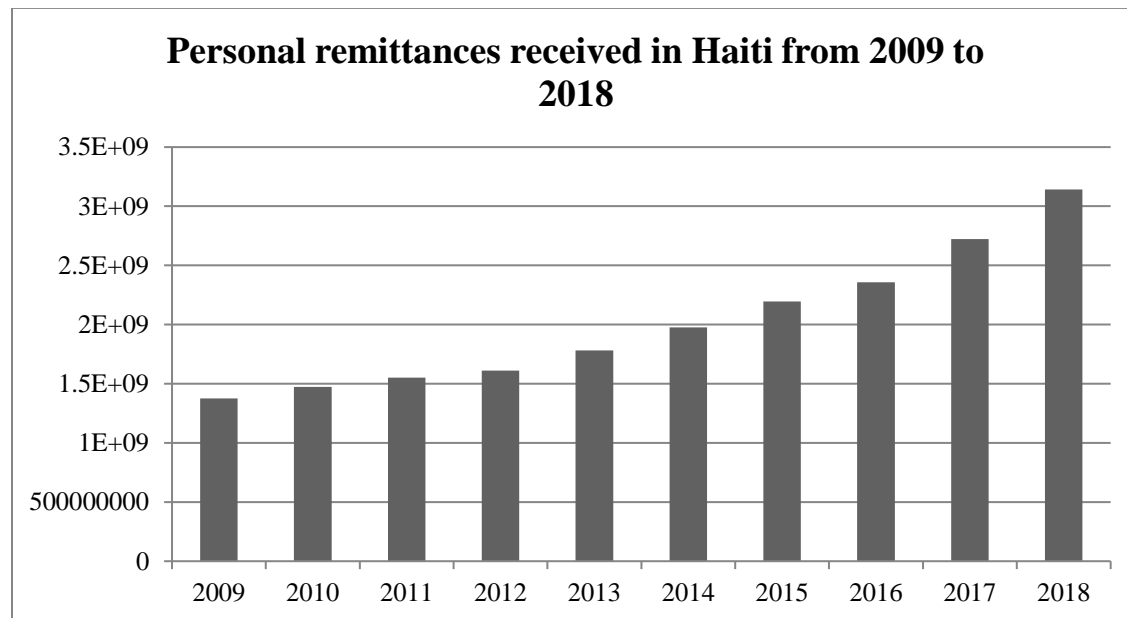
4.4. Dependence on remittances

Haiti is considered to be a nation that has its citizens migrated around the world for different reasons. The two most common grounds behind Haitian citizens leaving their country are economic and political. For instance, during the dictatorship of the Duvaliers, many Haitians had to leave for the US, France, and other countries due to political pressure and persecution. Many others left because they are trying to find a better economic life. This migration seems to affect development as the two are linked through remittances, which are by definition the money or goods that migrant people send back to their families and/or friends. Haiti is among the countries with the highest percentage of remittances in the world. If poverty in Haiti does not show a worse result, it is due to remittances that sometimes represent some people's monthly income. In Haiti, recurring political instability has caused remittances to have a bigger importance. For instance, in 2018 and 2019 the country knew some dark moments as people were in the streets protesting against the president. The whole country was under a lockdown, where people could go nowhere to engage in their economic activities. Knowing the importance of remittances, the protesters allowed Western Union and other money transfer houses to work. As a result, although there were no economic activities, Haitians managed to survive for about three months at home.

In regards to agriculture, remittances play a significant role because they help farmers survive during the time before the harvest since many of them do not have enough savings to take care of themselves and their families. In addition, small scale farmers rely on remittances to sometimes buy or lend lands to increase their agricultural productivity and improve their income. With

remittances, many Haitians find themselves in a circumstance where they depend on remittances to survive. However, we would believe that there should be an inverse relationship between dependency on remittances and income levels. In other words, the lower is the income the higher is the dependency on remittances. With the projects and strategies implemented in the rural areas, we would expect that farmers would be more economically powerful. As a result, farmers would rely less on remittances from migrants.

Figure 10. Remittances in Haiti



Source WDI (2019)

Interpreting the data does not allow us to see the inverse relationship we believed existed between remittances and economic power. In the graph above, remittances grow every year and even doubled in ten years. There can be many factors explaining such an annual increase. First, the money sent to Haiti is mainly sent when the economic situation is in deterioration. For instance, in the last seven years, Haiti has always faced violent protests many times each year. During such moments, protests and riots caused people to face their hardest time, and as a result, they contacted their friends and families to support them. In other words, as long as political instability continues to reign in the country, improvement in agriculture would not prevent remittances to grow up. Second, the fact that farmers are practicing subsistence farming, they are not capable of saving enough money that can meet their basic needs before they harvest their crops. Third, Haiti always faces natural disasters almost every year. Hurricanes, flooding, erosion, heavy rain, and drought are the challenges that farmers face every year. They likely lose their production sometimes, which will cause them to rely more on remittances.

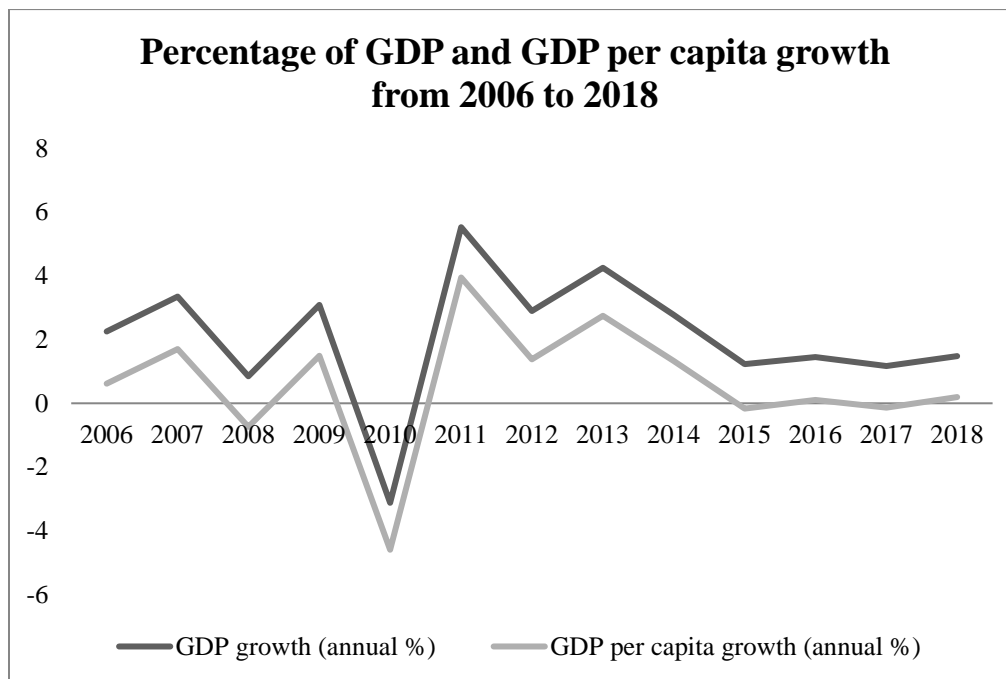
4.5. GDP

4.5.1. GDP growth rate

The GDP of a country can be an important tool to check at a macro level whether the country is scoring well on an economic level. When one sector is working well, it contributes to the

improvement of the GDP of any country. In Haiti, the GDP share of agriculture is very important since the country is a predominantly agricultural country. To look first at the GDP growth and the implication of agriculture in it, we consider looking at the percentage of GDP and the GDP per capita to see how they change over time following the earthquake. Starting in 2006, the graph in figure 11 shows that GDP grows in 2007 to a later drop in 2008. This drop can be the result of the world economic depression in 2008. In the next year, the growth returned to its normal shape to later decline at a very low level in 2010 due to the earthquake that causes damages to more than \$8 billion USD. In the following years, the growth does not stay constant, which does not allow us to conclude that the country's GDP is growing. However, we can notice that some efforts are being made.

Figure 11. Haiti GDP and GDP per capita growth

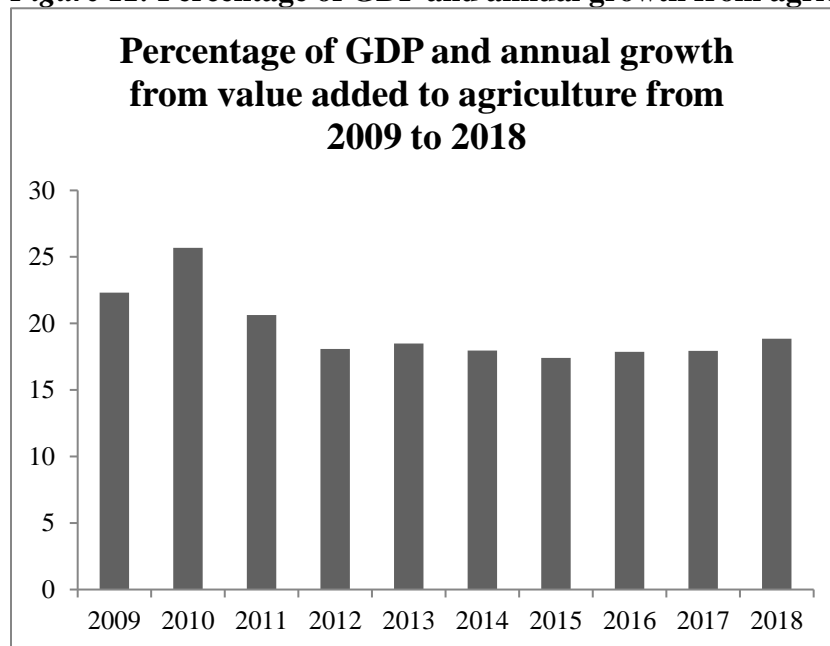


Source WDI (2019)

4.5.2. Percentage of GDP from value-added to agriculture

The second factor we consider here is the value-added. To evaluate the importance of agriculture in the economy of any country, we measure the value-added of the agricultural sector as percent of the GDP. Considering that the country is not only mainly agricultural but also has many agricultural programs following the earthquake, we would assume that there will be an increase in the percentage of the GDP. Figure 12 below shows that the growth has not been constant. The most significant change happened in 2010 when the earthquake occurred. During that year, there might have been more agricultural projects that were being implemented. Although the percentage has dropped sometimes, we should notice that in the last three years, the percentage of growth went up very slightly.

Figure 12. Percentage of GDP and annual growth from agriculture



Source WDI (2019)

Chapter Five: Recommendations

5.1: Recommendations

The strategies and programs used by USAID to improve the agricultural sector in the rural communities in Haiti have brought a lot of surprises as we would expect significant changes in the human index development. However, when we measured the HDI taking into account the indicators such as agricultural productivity, health, employment, remittances, and GDP, we realized that at a macro level there has not been much that was done when we compared the post-earthquake era with how the situation was before. As a result, the following recommendations can be applied to have better results.

One of the first problems that USAID must try to control before even executing the projects is to guarantee the sustainability of every project. For instance, controlling the internal migration can be a good way to start. Many people leave their homes not because they want to but instead to pursue a better life. For instance, Stark (1991) and Bryceson (2004) claim that many peasants migrate to urban areas to seek employment that can help them improve their well-being, increase their sources of income and guarantee a better future for their family. When projects start in rural areas, specifically when young people are engaged in them, they might end up leaving the area since they do not have access to basic needs. As a result, it would be better to attack the problem of agriculture by ensuring that people in the rural areas have access to good infrastructure, so they could stay and do what they do best, producing food.

Farmers in Haiti can produce, but they should make sure that their activity is very profitable to stay in the agricultural system. The USAID agricultural projects are important; however, their other factors that can have greater economic impacts which would later have positive effects on health, employment, gender equity, education, etc. For instance, a project to boost the production of mango Francique could be of a capital benefit for the society. The implementation of the project would also take into account the construction and operation of an industry that can process mango and other fruits into liquid and powder juice, and that would prevent the country from importing products that are easy to make at home.

When it comes to agriculture, it would be safer for projects to focus on the strength of the country to later attack the weaknesses. One of the rare products that Haiti exports in the world are essential oil made of vetiver grass. However, there has not been a focus on the international to boost that production around the whole country, which could have improved the rural population's life while improving the trading balance in the country. According to Negi (2013), entrepreneurship of the food processor is extremely important since it allows the commercialization and diversification of agriculture as well as generating employment, expand the market for export, and enhancing farmers' income.

As a long-term intervention, there must be effective support programs that seek to recover lands in the country since land tenure and land disputes have always been a concern for peasants. In Haiti inequality is found at all levels. In regards to land tenure, there is a group of people that has many lands, while the poor had very little amount. Mario Joseph, a Haitian activist through an interview with the BBC reported that the Haitian government does not show respect to the poor, and unequal land ownership is a central problem for development (Doyle, 2010). Considering the huge gap of inequality, the government should work with international NGOs to create programs

that will aim to bring fairness and equity in the amount of lands people should possess in the countries (Giampaoli & Freudemberger, 2010).

Focusing on programs improving crop production is always good, but such programs would have a bigger impact if they were like auxiliary projects that go together with bigger projects like the construction and operation of an industry of processing.

The last recommendation should take into account the image of USAID in Haiti. Many times Haitians believe that organizations and other foreign aid do not really, and the money returns to where it came. But in part that is due because there is a lack of communication between the institutions and the population. Since it is more difficult for the population to trust information from the government, USAID should have a communication specialist that will have the task of speaking in the media about different projects that are being executed around the country.

5.2 Implications:

Focusing on the production and processing of agricultural production should be a priority for business leaders and for the Haitian government since the economic, social, and political benefits are enormous. For instance, the vetiver grass of Haiti makes the highest quality of essential oil in the world. Producing essential oil is very profitable for the country. According to OEC (2017), exports from essential oils, made mainly of vetiver, generated more than \$47 million USD to the country in 2017. Vetiver grass, which is also called ‘legal cocaine’ according to an agronomist working for Catholic Relief Services in Haiti, is a good source for employment. Coto (2019) reported that the production of vetiver grass employs 15,000 to 60,000 farmers in mostly the Southwestern region, and the harvest comes from only 24,000 acres of lands. For a sector that does not receive much assistance, rate of employment is considered to be very high. As a result, investing more funds to triple productivity can decrease considerably unemployment rate in the country in addition to improvement the trading balance.

Exporting mango has helped the country’s economy a lot. In 2015, Haiti set its record by exporting 2.4 million of boxes (1 box = 4.5 Kg). The production of mangoes could even have a better impact on the country if severe losses were not registered every year. Even though the country counts with more than 100 varieties of mango, only the one called Mango Francique, which represents only 20% of all varieties, is exported due to its high capacity of resistance (Schwartz Research Group, 2020). As a result, the country should not only focus on exporting more, but tackle loss reduction by building industries that can process mangoes into several other derivative products. Edible fruits and beverages are on the top lists of the products imported from Dominican Republic (CFI 2016). Hence the importance for the country to maximize on processing on mango production that will not only encourage and empower the rural communities but also create more jobs that can help improve standard living conditions in the country.

Implementing those programs require a lot of work from the government such as building the infrastructure that will encourage investors. Also, the government must engage in a good campaign to promote the consumption of national production, especially the products derived from fruits. Finally, the legislative branch must enact laws that put restrictions on importations when the country counts with products that are being imported

Chapter Six: Conclusion

6.1: Conclusion

In 2010, a major earthquake hit Haiti and killed approximately 300 thousand people in addition to other damages evaluated at about 8 billion dollars. The country, which was already facing complex challenges at all levels even before the earthquake, had its situation deteriorated like it was never before. As a response to emergency, many countries, including private donors and international organizations came to rescue Haiti. The US, the biggest donor to Haiti, invested a lot of money in the country in the hope to recover and rebuild it. Through USAID, many programs in different fields such as education, environment, health, democracy, agriculture, etc. have been implemented in the country.

After the wave of organizations that went to operate in Haiti, many people started divulged thoughts that raised doubt about the impacts of those organizations in the country. From that perception, many others were driven by the same way of thinking and even though that USAID was not different from those organizations. As a result, it was important to conduct a study that can give people a better idea of the work of the agency. Since the programs implemented were in different fields, this study proposed considered the agricultural field while looking at how the strategies implemented affect human development. In 2018, the Human Development Index was 0.452, and the country was ranked 158th in the world.

The goal of the study was to evaluate USAID strategies in agriculture in Haiti and see how it impacts human development at a macro level. The results were very surprising since they did not meet our expectations. For instance, when we look at an indicator such as access to food, we found out that it was not really improved with the implementation of the agricultural project after the earthquake. Food productivity was increased but very slightly. However, the aquaculture sector increased significantly. When looking at the prevalence of undernourishment, there was a very small decline, but even before the earthquake, similar changes used to happen in the past. During the post-earthquake period, the prevalence of anemia among pregnant women increased instead of decreasing, while infant and under-5 mortality decreased. It was more surprising to observe that unemployment in agriculture declined, while the projects had one of its goals to increase job opportunities in rural areas. Remittances were considered as another indicator since it can give an idea of how people rely on remittances in the post-seismic era. Although those programs were implemented in the country, that did not affect the flow that remittances used to be in the past. In ten years, remittances had increased to even reach its highest level. With the strategies, we were not able to conclude that GDP grew. In conclusion, the data presented in the study allow us to claim that the strategies and programs implemented by USAID to improve the agricultural sector following the earthquake did have impacts on human development.

Implementing projects in Haiti can be quite challenging since Haiti is a country that has a lot of issues to deal with such as natural disasters, political instability, and conflicts. That implies that a project can fail anytime although the intention was good. It is true that indeed, the data shown in this research does not allow us to confirm at a macro level that the projects had significant impacts on the lives of Haitian citizens. However, we ignore what would be the impacts at a micro-level. As a result, further studies should be conducted in order to have a clearer picture of the effectiveness of the development aid on the human development index in the country

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