

The Prevalence of Severe Food Insecurity: A Comparative Analysis Across Global Regions

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Abstract

Globally, enough food is produced to provide every man, woman and child with more than 2.300 kilocalories per day, which is more than enough. The Sustainable Development Goals (SDGs) require that all nations fulfill 17 broad development goals by the year 2030 but the prospects are not at all good and humanity is not on track to the targets on any of the nutritional indicators established on the 2030 Agenda for Sustainable Development. [1]

Bearing in mind this aspects, in this research paper we aimed to establish the situation of food insecurity, respectively of severe food insecurity which is one extreme of the scale at the global level, on specific global regions and in addition we will highlight the causes that led to these inappropriate situations in the most vulnerable global region.

Keywords: food insecurity, hunger, undernourishment, household.

1. Introduction

Measuring food insecurity is a crucial aspect in understanding and effectively addressing this complex phenomenon. In order to assess the extent and nature of this problem and to develop appropriate strategies and policies, it is essential to have reliable tools and methods to measure food insecurity. The Food and Agriculture Organization (FAO) utilizes the Food Insecurity Experience Scale (FIES) as a global reference scale to assess food insecurity. FIES quantifies the proportion of the population that has encountered food insecurity at moderate or severe levels within the designated interval. Household-level data is gathered through the utilization of a food security questionnaire. The present survey aims to gather

information from families regarding various conditions commonly encountered by individuals experiencing food insecurity [1,2].

It is derived from a set of eight questions. The severity of these eight questions escalates as the initial question pertains to concerns regarding potential food insufficiency at a certain juncture throughout the year. The severity progresses, to situations in which individuals are consuming insufficient amount of food and ultimately, they are abstaining from food for an entire day or longer [3].

As shown in the figure below, the level of questions starts at a mild level of food insecurity and ends at the level of severe food insecurity. Each FIES question pertains to a particular experience and is linked to a varying level of severity of food insecurity (Figure 1).

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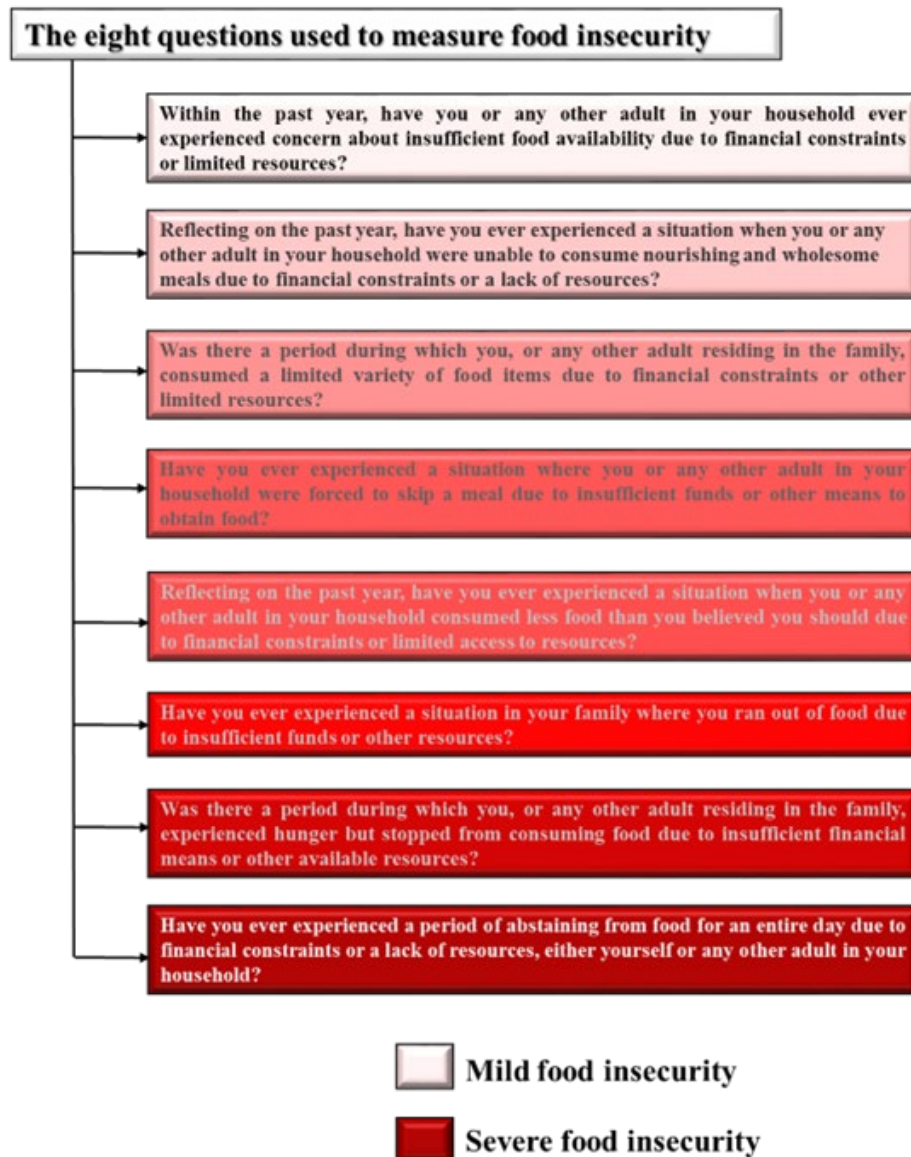


Figure 1. The eight questions used to measure food insecurity and their level of food insecurity *Source: Authors own adaptation by [4]*

2. Materials and methods

In this paper, we analyzed data provided by FAO and by Our World in Data, data from 2015 to 2020. We analyzed the seven world regions the World Bank defines: East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, North America, South Asia, and Sub-Saharan Africa. FAO employs a range of indicators to oversee the diverse facets of these intricate concerns about food insecurity. The Prevalence of moderate or severe food insecurity in the population (3 year

average) is the indicator used in this research paper and it is monitoring the global progress towards meeting the Sustainable Development Goal 2 (SDG2), meaning Zero Hunger. Moderate food insecurity is associated with the inability to regularly eat healthy, nutritious diets. Severe food insecurity is more related to insufficient quantity of food (energy). The FIES estimates the proportion of a country's population that experiences challenges in obtaining sufficient safe and nutritious food for normal growth, development, and an active and healthy lifestyle, based on the prevalence of moderate or severe

food insecurity. [5] The data is gathered via face-to-face interviews, where individuals are questioned about their encounters related to limited availability of food. The FIES has the capacity to evaluate food insecurity at both the individual and household levels, covering varying degrees of severity.

3. Results and discussion

The state of severe food insecurity describes the condition of an individual who for a day or more did not consume food. Also, this form of food insecurity is the extreme of its size. [6] In the next part it will be presented the condition of the seven global regions regarding this issue. Also, in the light of the information presented below, this research paper will continue to support and develop those data by presenting arguments and examples. In doing so, it will be brought a new perspective and a deeper understanding of the subject matter.

The severe food insecurity population of **East Asia and the Pacific** between 2015 and 2020 ranged from 3.8% to 5.1%, meaning the difference between the first year presented and the last one is 1.3%. In the first year, the value of food insecurity was 3.8%, while over the next three years, this value continued to grow and in the last two years it has decreased, recording two years in a row the value of 5.1% (Figure 2).

In **Europe and Central Asia**, between 2015 and 2020, took place both increases and decreases regarding the severe food insecurity population. Between the first two years analyzed, 2015 and 2016, there was an increase of the population concerned, of 0.3%, and subsequently from 2016 to 2017 an increase of 0.2%. From 2017 to 2018 the population in severe food insecurity decreased by 0.2%, but the next two years, 2019 and 2020, recorded increases. From 2018 to 2019 the population in question increased by 0.7% and from 2019 to 2020 the highest growth value was recorded, of 1.1% (Figure 2).

The population of **Latin America and the Caribbean** were also in a situation of continuing growth of severe food insecurity. In the first year analyzed, that is 2015, the lowest number of the population in situation of food insecurity was recorded. The number of individuals in this situation, increased over the years by 4.4%, until

2020, when it reached 12.3% from total population. From the penultimate year presented, 2019, towards the last year, 2020, took place the most significant increase, of 1.6% (Figure 2).

Latin America and the Caribbean have gone through challenging times, and in 2020 they were the most affected emerging and developing region in the world in terms of GDP growth contraction. The impact of this crisis has left the vast majority of countries in the region with negative growth, and GDP per capita brought Latin America and the Caribbean back to levels similar to those in 2009. A drop in GDP can lead to a fall in household income and an increase in poverty. [7] Low-income people may have difficulty allowing themselves sufficient and nutritious food, which can lead to food insecurity. At the same time, the decline in GDP is often associated with rising unemployment. People with no jobs or unstable jobs may have difficulty providing food for their families. [8] Last but not least, the drop in GDP can affect the agricultural sector and food production. Agriculture may be less efficient or resources for modernization and improvements can be reduced, which may contribute to a decrease in food production [9, 10].

In the **Middle East and North Africa**, the population in severe food insecurity in the analyzed period ranged from 18.1% to 19.1%. From the first year, the population increased by 0.6% and then by 0.3% over the next two years. The highest recorded value of the population in severe food insecurity in the Middle East and North Africa was recorded in 2017, at 19.1% (Figure 2).

In **North America**, in the five years analyzed, the percentage of population in severe food insecurity decreased by 0.2%, that is from 1% to 0.8% of the total population. Also, the highest recorded percentage of the population in the state of severe food insecurity was recorded in the first year of study (Figure 2).

In **South Asia**, the population in severe food insecurity from 2015 to 2020 increased by 5.6%. The only case of a population decrease was recorded from 2015 to 2016, of 0.9%, but in the following years, it was in a continuous growth process. The highest values with which the population in severe food insecurity increased were between 2018 and 2019 and between 2019 and 2020, respectively 2.3% and 1.9% (Figure 2).

For the Asian population in poverty already struggling to survive, the pandemic and forced blockages to control the spread of the virus have also halted its ability to work. Without savings and other reserve resources, families were forced to sacrifice most basic necessities, including food. Although it affects everyone, inflation has hit the poorest families the most, making it impossible for them to afford enough nutritious food. Of all the regions in the world, food prices were the highest in Asia [11].

In **Sub-Saharan Africa** over the five years, the population in severe food insecurity has experienced a continuous growth process, therefore, the lowest value of the population in discussion was recorded in 2015.

Since the first year when the population in discussion was 19.5%, it increased by 5.3% until the last year, 2020, when it recorded the value of 24.8%. From 2019 to 2020, the most significant growth of 1.5% occurred (Figure 2).

Since the end of 2019 and throughout 2020, the COVID-19 pandemic has had a significant impact on food security, affecting supply chains, agricultural labor force and food distribution. When WHO declared COVID-19 a global pandemic, scientists expected Africa to be the most affected in terms of incidence, prevalence and mortality [12].

This expectation was undeniable due to the fact that Africa is the least developed region, with almost 13% of the population living in extreme poverty, the continent has the largest share of poor people in the world [13]. In addition, Africa has a young population where previous studies have proven that it would be more vulnerable during a pandemic due to a less developed immune system against infectious diseases. A low life expectancy of less than 50 years in some sub-Saharan African countries is further increasing the largely very young population of the African continent. Africa reported the lowest number of cases and deaths compared to North America, Europe, South America and Asia. But this pandemic has affected Africa from other perspectives. In some countries, lockdowns have led to lower production and higher unemployment. Sectors such as tourism and services have been seriously affected. Food insecurity has been the biggest challenge, with low consumption of a range of basic food in all countries, both rural and urban areas. Rising prices of basic products, vegetables, fruits and animal foods, declining crop production and unemployment have contributed to many respondents describing reduced food consumption and food diversity. Poor people have had difficulty securing basic needs, including food and medical care [13].

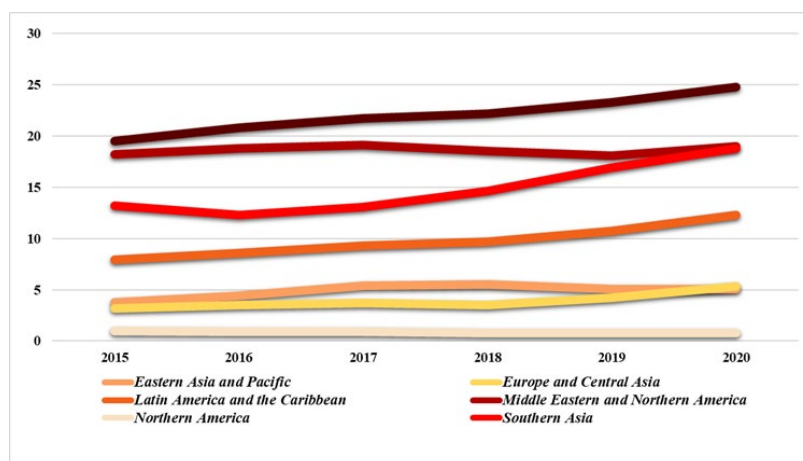


Figure 2. Prevalence of severe food insecurity in the total population from 2015 to 2020, by region [14]

4. Conclusions

Concluding the ones presented with reference to the populations in severe food insecurity in the seven regions of the world, it is to be emphasized that only one of them, namely North America, it

declined by 0.2%. Continuing with unfavorable developments, over the analyzed years, the most significant growth was recorded in South Asia, followed by Sub-Saharan Africa, and later Latin America and the Caribbean.

South Asia had the largest increases in the population in severe food insecurity from 2018 to 2019 and from 2019 to 2020.

In Latin America and the Caribbean and sub-Saharan Africa, 2019-2020 saw the most drastic increases in the food-insecure population.

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