



## İnceleme Makalesi • Review Article

# The Problem of Hunger in the World and a New Model Proposal to Solve This Problem

## Dünya Açlık Sorunu ve Bu Sorunu Çözmeye Yönelik Yeni Bir Model Önerisi

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### ÖZ

Dünyada, birçok kişi yaşamına yetecek kadar yiyeceğe ulaşamamaktadır. Dünyadaki yaklaşık olarak dokuz kişiden birisi açtır. Dünyadaki aç insanların büyük çoğunluğu gelişmekte olan ülkelerde yaşamaktadır. Asya, açlığın en çok olduğu bölgedir, kıta toplamının üçte ikisi açlık içindedir. Sahra altı Afrika, en yüksek açlık oranı olan (nüfusun yüzdesi olarak) açlık bölgesidir. Bu bölgede; dört kişiden birisi yetersiz beslenmektedir. Yetersiz beslenme sonucunda, her yıl doğan beş çocuktan birisi hayatını kaybetmektedir. Gelişmekte olan ülkelerde, altı çocuktan biri açlık nedeniyle hayatını kaybetmektedir. Dünya çocuklarının dörtte biri yeterince fiziksel gelişim göstermemektedir. Gelişmekte olan ülkelerde bu oran, üçte bir oranına kadar çıkmaktadır. Her yıl 66 milyon ilkökul çağındaki çocuktan, 23 milyonu sadece Afrika ile gelişmekte olan ülkeler arasında açlık sınıfına katılmaktadır. Dünya Gıda Programı (WFP, World Food Programme), 66 milyon okul çağındaki aç çocuklara ulaşmak için yılda 3.2 milyar ABD dolarına ihtiyaç olduğunu hesaplamıştır.

### ABSTRACT

Many people do not have access to enough food to survive in the world. Approximately one in nine people in the world are hungry. The vast majority of hungry people in the world live in developing countries. Asia is the region with the most hunger, with two-thirds of the continent's total starvation. Sub-Saharan Africa is the region with the highest hunger rate (as a percentage of the population). In this region; One in four people is malnourished. As a result of malnutrition, one in five children born each year dies. In developing countries, one in six children dies from hunger. A quarter of the world's children do not show enough physical development. In developing countries, this rate rises to one third. Of the 66 million primary school-aged children each year, 23 million attend the hunger class between Africa and developing countries alone. The World Food Program (WFP) has calculated that US\$3.2 billion per year is needed to reach 66 million starving school-age children.

## 1. Introduction

821 million people in the world do not have enough food to live a healthy active life. This number means that approximately one in nine people in the world are hungry. The vast majority of hungry people in the world live in developing countries. 12.9 percent of the world's population is malnourished. Asia is the region with the highest hunger,

two-thirds of the total continent are starving. The rate in South Asia has declined in recent years, but slightly increased in West Asia. Sub-Saharan Africa is the region of hunger with the highest hunger rate (as a percentage of the population). In this region; one in four people are malnourished. As a result of malnutrition, one in five children born every year dies. In other words; Almost half (45%) of 3.1 million children die.

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In developing countries, one in six children die from starvation (around 100 million in number).

A quarter of the world's children do not show enough physical development (or stay dwarf). In developing countries, this rate goes up to one-third. Out of 66 million children of primary school age each year, 23 million join the hunger class only between Africa and developing countries. The World Food Program (WFP) has calculated that 3.2 billion \$ is needed annually to reach 66 million school-aged hungry children.

## 2. Hunger Concept and Definition

### 2.1. The Concept of Hunger

Hunger describes short-term physical discomfort that occurs due to chronic food shortages or a life-threatening food deficiency in severe cases (NRC, 2006).

### 2.2. Definition of Hunger

According to the United Nations Hunger Report (2017), hunger is a term used to describe the periods when the population experiences severe food insecurity. It is the situation where people continue their lives without eating all day long due to lack of money, lack of access to food or other reasons (FAO, 2017). In terms of defining hunger, some of the commonly accepted key terms are:

- Hunger is a problem caused by a lack of food. The lack of food or malnutrition is less than 1,800 calories per day.
- Nutritional deficiencies are used to indicate deficiencies in energy, protein and / or essential vitamins and minerals and go beyond calories.
- Malnutrition refers more to both undernutrition and overfeeding (problems with unbalanced diets) (FAO, 2017).
- Food safety is about food availability, access and use. Food safety is considered if a person always has sufficient accessibility and access to safe and nutritious food to maintain an active and healthy life (IFPRI, 2017).

### 2.3. Who is Accepted as Hungry?

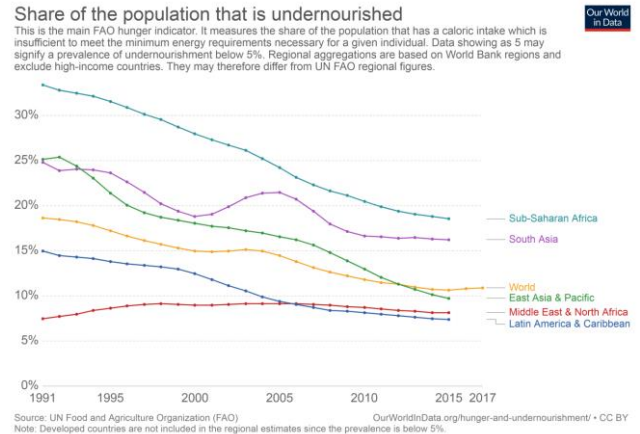
According to the United Nations Report, a large number of families around the world are struggling to give their children a nutritious meal every day. In a world where there is enough food to feed everyone, unfortunately, one in nine people or 821 million people still lie on an empty stomach every night. Same way; One third of the world population faces the problem of malnutrition (Hürriyet, 2019).

## 3. The Problem of Hunger and Its Dimensions in the World and Turkey

This problem; expresses hunger on a global level. The concept of hunger; includes food insecurity and

malnutrition. The situation in terms of the ratio of hunger to the population in the world is shown on the figure below.

**Figure 1:** Share of the Population that is Undernourished



Source: Roser and Ritchie (2019).

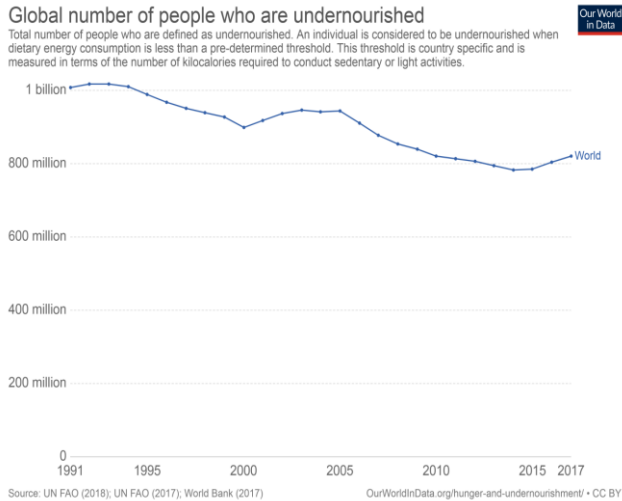
According to the chart; The highest hunger in the world is in Sub-Saharan Africa with 30%. South Asia follows with 25%. East Asia and the Pacific, Middle East and North Africa follow these regions in terms of starvation rate. The hunger rate is lower in Latin America and the Caribbean.

Throughout history, hunger has been one of the greatest concerns of humanity. Therefore; Along with misery, poverty and death, the problem of hunger has been also referred to as "one of the four horsemen of the apocalypse". There are many reasons for this situation: In order for human beings to hold on to life and continue their existence, they need to be fed at a sufficient level. Human beings also participate in economic, political, cultural and artistic activities. In order for people to carry out these activities, they must be healthy, and their health depends on their being well fed (İnsamer, 2019).

If the resources on earth are used without wasting, they can feed all humanity. The developments in mechanization, fertilization, spraying and irrigation techniques in agriculture have led to significant increases in agricultural production. Although the amount of arable land is limited in the world, the number of crops obtained is increasing if the land is used efficiently (ATB, 2019).

### 3.1. The Number and Dimensions of Hungry People in the World

Today, "One out of every nine people has a hunger problem in the world." In the report titled "Food Safety and Nutrition in the World" prepared by WFP, FAO, UNICEF, WHO and IFAD, it is emphasized that the number of people facing the hunger problem in the world has increased. In this report, "The number of hungry people that reached a figure of 821 million in 2017 means" one in 9 people is hungry " (FAO, 2017). The number of hungry people in the world is shown on the figure below.

**Figure 2: Global Number of People Who are Undernourished**

Source: Roser and Ritchie (2019).

### 3.2. The Problem of Hunger and Its Dimensions in Turkey

The problem of both poverty and hunger is a problem that is felt to a certain extent in Turkey. According to the calculation based on the data of the Turkish Statistical Institute (TUIK) and the purchasing power parity, there is no person in Turkey whose daily expenditure is below 1 USD, which is accepted as the hunger limit. However; Poverty also maintains its importance in Turkey. Especially in rural areas, the poverty rate shows a significant increase compared to the cities. The poverty rate increases significantly as the number of people living in the household increases (TurkStat, 2019).

## 4. Food Safety and Nutrition in the World

### 4.1. Hunger is Increasing

In the last three years, there has been a significant increase in hunger in the world. The number of absolute malnourished people, that is, those faced with chronic food deprivation, increased from 804 million in 2016 to about 821 million in 2017 (FAO, 2018).

### 4.2. Food Insecurity

It means limited or unreliable access to safe and nutritionally adequate foods (NRC, 2006; World Hunger, 2018).

### 4.3. Malnutrition

It is a condition caused by insufficient of biologically necessary nutrients (NRC, 2006). Not enough feeding; It focuses on hunger at the global level and refers to malnutrition globally. There are two basic types of malnutrition. First and foremost is protein-energy malnutrition (PEM) or calorie and protein deficiency. Food is converted into energy by humans and the energy

contained in food is measured by calories. Protein is essential for main body functions, including muscle growth and maintenance. Protein-energy malnutrition or malnutrition can have fatal consequences.

### 4.4. Major Growth Deficiency Types

Based on physical measurements, such as weight, malnutrition, SAM is poor, moderate acute nutrition (MAM) and severe acute malnutrition (SAM) (Black et al., 2016; World Hunger, 2018). There are two types of acute malnutrition. Wastage (also called marasmus) is a person with very low weight relative to his height. Nutritional edema (also known as kwashiorkor) is swollen foot, face or leg (United Nations International Children's Emergency Fund [UNICEF], 2015). Stunting is that a person is too short for his age. It is a slow, cumulative process and develops over a long period of time resulting from malnutrition or recurrent infections or both. Dwarf (dwarf) children may have normal body proportions, but they may appear younger than their real age (World Hunger, 2018).

## 5. Methods of Fighting Hunger

Due to the increasing population in the world, the areas suitable for agriculture are limited, biotechnology has been suggested as a solution element in recent times in order to solve the hunger problem. Using biotechnological methods, gene transfer from one species to another species is carried out. In this way, genetically modified plants, animals or microorganisms are called Genetically Modified Organisms (GMOs). While some countries support the spread of GMO agriculture and this area, some countries oppose its production due to important side effects of GMO (İnsamer, 2019).

Some solution suggestions are aimed at eliminating the causes that cause the problem. In this case, the problem of climate change and drought caused by global warming comes to the fore. Besides this question; There are also solvable problems such as intertribal wars, conflicts, wars, waste of resources, armament.

### 5.1. International

How much is paid for the most basic kind of food? A soup, or a simple stew, some beans or lentils, a handful of rice or bread or corn, a slice of tomato sauce? There is very little payment for such a meal in New York. 0.6% of average daily income or up to \$ 1.20. This figure can be much higher in some parts of the developing world. For example; In South Sudan, the food-to-income ratio is 300 times of industrialized countries due to war and internal turmoil. In other words, a New Yorker needs to pay about \$ 350 for these dishes.

How do people in South Sudan meet this? It is impossible to meet. The World Food Program (WFP) and other humanitarian organizations come into play here. They strive to keep people alive in South Sudan and many other

countries every day. Because hunger is a moral scandal and human rights violation. Today, there are 821 million hungry people in the world.

There are many reasons for the lack of access to food and its cost: climatic, natural disasters, poor markets or poor management. However, a primary reason stands out: conflict.

There are 52 countries in the list of countries included in the index, there are 19 more countries than the first one. It is observed that the possibility of purchasing many foods has increased since 2017. However, the situation of some countries, including South Sudan, is getting worse. These countries; almost invariably, are countries in which peace has deteriorated due to instability, insecurity or political tension.

## 5.2. National

Elimination of hunger and malnutrition is one of the biggest challenges of our time. In 2015, the global community adopted 17 Global Goals for 17 Sustainable Development to improve people's lives by 2030. Goal 2 - Zero Hunger - to end hunger, ensure food safety, improve nutrition and promote sustainable agriculture, and the World Food priority Program.

Every day, WFP and its partners work to bring us closer to a world of zero hunger. We provide nutritious food to those in urgent need with our humanitarian support. Meanwhile, our complementary programs address the root causes of hunger by increasing the resilience of societies. So we don't need to keep saving the same lives year after year.

The world has made great progress in reducing hunger: Despite an increase in world population by 1.9 billion, there are fewer than 216 million hungry people between 1990 and 1992. But there is still a long way to go, and if it works alone, no one will achieve zero hunger. If we want to see a hunger-free world by 2030, governments, citizens, non-governmental organizations and the private sector must collaborate to invest, innovate and create lasting solutions. (WFP, 2009).

In the new report of the United Nations (UN) Food and Agriculture Organization (FAO), it was reported that the number of hungry people in the world, which reached 821 million last year, corresponds to one in 9 people. Presentation of the report titled "Food Safety and Nutritional Status in the World" prepared in collaboration with FAO, World Food Program (WFP), UN Child Aid Fund (UNICEF), World Health Organization (WHO) and International Agricultural Development Fund (IFAD), was held at FAO's headquarters in Rome.

FAO Director-General Jose Graziano Da Silva, IFAD President Gilbert Houngbo, World Food Program (WFP) Executive Director David Beasley, WHO Non-Communicable Diseases and Mental Health Deputy Director Dr. Svetlana Axelrod and UNICEF Nutrition

Program Manager Victor Aguayo attended. Speaking here, Da Silva said, "Unfortunately, the news is not good. I have to say that the number of people starving in the world has tripled. Last year, 821 million people were registered as malnourished." Reminding that the focus of the last year's report is conflicts, Da Silva said they are focusing on climate change this year. Pointing out that climate change has powerful effects on food, Da Silva stated that the positive trends in world hunger rates are beginning to reverse.

## "We Must Target Rural Areas in Our Efforts for Zero Hunger"

IFAD President Houngbo also noted that hunger and poverty are closely related. Explaining that these two are seen in rural areas, especially in low income countries, Houngbo said, "If our aim is to reach zero hunger by 2030, our efforts should target rural areas.

"Investments remain critical at this point, in terms of responding to such a big problem." Houngbo emphasized the need for sustainable investments, emphasizing that the effects of climate change and gender inequality must be overcome to ensure food security for everyone.

**"One child dies of hunger in 5 seconds"** WFP Executive Director Beasley said, "Every 5 seconds child is starving. This situation is unacceptable and unforgivable when there is a \$ 300 trillion asset in the world." Stating that the effects of climate change are also extremely serious in addition to the conflict, Beasley noted that around 22-23 million people are affected by climate change and therefore displaced. Expressing that the increase in the number of people who have been starving violently in the past few years is worrying, Beasley stated that the wars in many parts of the world such as Syria, South Sudan, Yemen and Iraq are the driving factors in this regard.

Pointing out that if this problem is not solved at the moment, the population increases in 30-40 years, Beasley pointed out that there may be a problem of finding food in also developed countries, and that together with strategic and effective programs, zero starvation can be achieved. After the speeches, Kostas Stamoulis, Deputy Director of the FAO Department of Economic and Social Development, presented the report. It was stated in the report that one out of every three women of reproductive age struggles with anemia, this situation causes serious health and development problems for both women and their children.

## 6. Proposal of a New Model to Solve the Problem of Hunger in the World

Hunger is one of the greatest disasters that can happen to humanity; therefore, in Turkey, "May God not discipline with hunger" prayer is often done. Problems caused by hunger are too many such as: diseases, deaths, loss of labor and production, inefficiency, mental development problems, mental breakdown, increased tendency to commit crimes and use violence. It is not possible for a society that has not

resolved the hunger problem to provide social peace, to progress rapidly on the path of development, and to follow policies that pursue their own interests in the international arena. So, one of the prerequisites for creating a world of peace and tranquility is to solve the hunger problem. As of 2017, the number of people at the hunger threshold is 821,000,000 (FAO, 2018).

The daily amount that satisfy a hungry person is \$ 1.9 and there is 365 days in a year. So, to satisfy hunger in the world, 569 363 500 000 USD is needed annually ( $1.9 \times 365 \times 821000000 = 569\,363\,500\,000$  US Dollars).

### 6.1. Hunger Fighting Tax

According to World Bank Data (2019), annual GDP in the world in 2017 is 80094857689261 USD. When 0.005 (five per thousand) hunger tax is applied to this production amount, it is 400474288446 USD. When a hunger tax of 0.008 (8 per thousand) is applied to the annual GDP in the world; It costs \$ 640758861514. This figure can eliminate the problem of hunger in the world. For this purpose, there is a need for an organization under the roof and supervision of the United Nations.

### 6.2. United Nations Fight Against Hunger Unit

In this context, the "Fight Against Hunger Unit" should be established within the United Nations and this organization should be undertaken. The Hunger Fighting Unit should undertake the collection and control of this tax, which is mandatory for all countries. The collected taxes should also be distributed to the hungry people, starting from the regions with the most hunger.

## 7. Conclusion

The problem of hunger in the world stands against humanity as a reality. This problem can only be eliminated with humanity's common effort. For this reason, it can be carried out in the organization "Fight Against Hunger" to be established under the roof of the United Nations.

As of 2017, the annual GDP in the world is 80094857689261,6 USD. When 0.008 (8 per thousand) hunger tax is applied to the annual GDP amount in the world, it costs \$ 640758861514. This figure is the amount that can eliminate the hunger problem in the world.

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