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Food Nationalism and Turkey

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Abstract

Hunger problems around the world are deepening and increasing. Today, 854 million people live at the brink of starvation—one in every seven people is hungry. By 2050, the world population is expected to approach 10 billion. With the rapid population growth, the drastic increase in food inflation will make access to food more difficult. This means a worsening of the current global hunger crisis. In contrast to the reality of hunger, there are 887 million obese people and 1.778 billion people who are overweight worldwide. Even though access to food is becoming more difficult day by day, 1.3 billion tons of food are wasted every year. In this study, countries experiencing hunger, obesity, and food waste, the effects of their economic structures, the causes of hunger, and the food nationalism arising from global problems are examined through a literature review method.

Keywords: Food Wars, Climate Change, Migration, COVID-19, Food Waste.

Introduction

Hunger and thirst have been among the greatest fears experienced by humankind. Food and water are two indispensable elements for the survival of humanity [1].

The United Nations defines hunger as the days spent without eating during periods when people experience severe food insecurity. A shortage or lack of food leads to hunger. The daily calorie intake required for an individual is 1800 calories. When this intake falls below 1800 calories, the person experiences food deprivation, meaning they are undernourished.

According to the UNICEF 2020 report, the number of people suffering from hunger in 2019 was 690 million, while in 2018 it was 680 million. From 2013 to 2019, the number of people experiencing hunger increased by approximately 10 million each year. In 2022, this number rose to 727 million [2].

Causes of Hunger

Population Growth

One of the main reasons people experience hunger is population growth. As seen in Figure 2, until 1950, the global population increased by approximately 200 million per decade. However, after 1960, the increase rose to 700-800 million, and between 1980 and 1990, it reached 900 million [3].

More than 90% of the world's population lives in developing countries, mostly in rural areas. By 2050, the world population is expected to reach 10 billion, with 60% of it concentrated in Asia—particularly in China, India, and Southeast Asia.

Since 60% of the population will reside in urban areas, this will result in increased per capita food consumption and greater demand for housing. The rising need for housing often leads to the use of agricultural lands, thereby decreasing the amount of arable land available per person. To preserve existing farmland, it is necessary to develop currently unproductive rural areas instead [4].

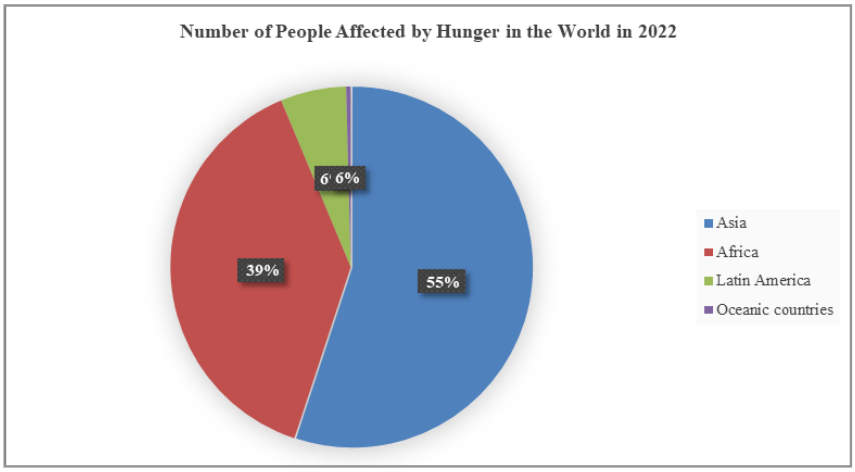

Figure 1: Rate of Hunger Impact by Continent (%).

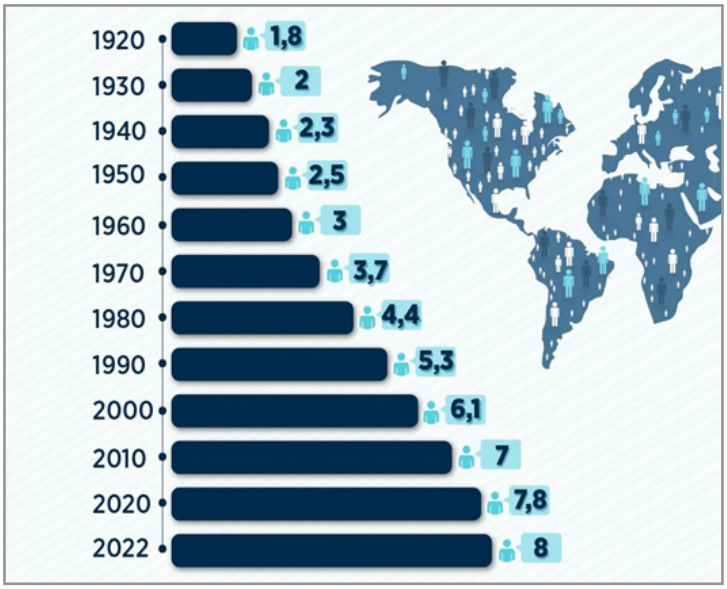

Figure 2: World Population in the Last Century (Billions).

Since 2017, the consumption of cereals has increased. This indicates that agricultural production has not been able to keep up with population growth. While the population grows geometrically, food production increases only arithmetically [5].

Table 1: World Cereal Production and Consumption Amounts (Million Tons)

Years	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Production	1879	1829	2043	2092	2058	2187	2142	2139	2185	2226
Consumption	1862	1841	1956	2045	2013	2126	2152	2164	2190	2235

Regional Wars

Two world wars have taken place, which reshaped countries both politically and physically. The root causes of these wars were the desire for control over oil, energy, and political power. However, the Russia-Ukraine war has raised the question: Could a third world war break out?

During the early stages of the Russia-Ukraine war—between two major producers of wheat and sunflower—wheat prices skyrocketed within the first 20 days, and serious supply shortages emerged. Monthly prices increased by 19.7% for wheat, 27.1% for barley, 19.1% for corn, and 23.2% for vegetable oils. As is known, during this period, Turkey, the United Nations, Russia, and Ukraine signed the Black Sea Grain Corridor agreement [6]. Russia and Ukraine together account for 15% of global agricultural production and 80% of global sunflower oil production. Russia exports 35 million tons of its 77 million tons of wheat production, while Ukraine exports 24 million tons out of 33 million tons of wheat. Together, they meet 20% of the world's corn demand.

Even a regional war—let alone a world war—demonstrates how critical such conflicts are to the sustainability of global food supplies. During wartime, agricultural lands cannot be cultivated, and existing farmland is often destroyed, reducing food availability. In Ukraine, 30% of farmland could not be cultivated due to the war, leading to a corresponding decrease in global food supply. In addition, the inability to distribute stockpiled food

products to consumers during war times contributes further to global food shortages. This highlights that even a regional war can have profound implications for global food security.

According to the 2022 Global Report on Food Crises by the Global Network Against Food Crises (GNAFC)—a coalition that includes the UN's Food and Agriculture Organization (FAO), the World Food Programme (WFP), the European Union, and various NGOs—even though many agreements were signed before the war, the Russia-Ukraine conflict has revealed how interconnected and fragile the global food system truly is. Countries that depend heavily on food and agricultural imports are particularly vulnerable to price shocks, which accelerate and deepen hunger levels [7].

Food has historically been used as a weapon in wars. Military history is full of examples where hunger was intentionally used as a strategy to weaken enemy armies or civilian populations. During the U.S. Civil War, Union forces fought under the Lieber Code, which allowed them to "starve the hostile belligerent, armed or unarmed." During World War II, Nazi Germany prepared a "Hunger Plan" that, if fully implemented, would have led to the starvation of over 20 million people in Soviet-controlled territories. Additionally, during the Siege of Leningrad (now St. Petersburg), hundreds of thousands of people died from starvation [8].

In the ongoing conflict in Gaza, satellite analysis by FAO and UNOSAT revealed that over 80% of the agricultural land has been damaged. Only 688 hectares (4.6%) remain cultivable. Due to the drastic reduction in farmland, around 2 million people are now facing hunger. Similarly, in Sudan and Yemen, internal conflicts have led to the burning of farmlands, exacerbating food insecurity [9].

Pandemics

The coronavirus pandemic caused disruptions in the supply chains responsible for the production, distribution, and consumption of food in many countries. Due to interruptions in these processes, access to food became more difficult, increasing the risk of hunger. In the first years of the pandemic, the number of people suffering from hunger increased by 118 million.

The economic impact of the pandemic has especially affected the African continent. The Human Development Index (HDI) in Sub-Saharan Africa is as follows:

Table 2

Year	Human Development Index (HDI)
2010	0.503
2015	0.534
2018	0.547
2019	0.552
2020	0.549
2021	0.547

The HDI had been rising until 2019 but declined due to the impact of the pandemic. During this period, millions of Africans lost their jobs, and 50 million people were driven into hunger [10].

Climate Change

The most important cause of climate change is global warming. The major effects of global warming include droughts, wildfires, storms, floods, and heat waves, which cause sudden climate changes. There has been a 100% increase in climate-related disasters. In March 2025, the hottest March of the past century was recorded, with temperatures reaching 28 degrees Celsius. Due to frost events in April, fruit trees were damaged, leading to a decline in fruit production. The reduced fruit supply caused a sharp increase in fruit prices.

According to the FAO, floods have affected more than 2 billion people in recent years and caused approximately $2 billion in global losses in 2021. In Africa alone, floods resulted in 2,000 deaths in 2022. In the same year, devastating floods in Pakistan submerged agricultural lands equivalent to one-tenth of Turkey's size, damaging more than 80% of the country's crops and pushing the nation into a food crisis. In 2023, Argentina, Australia, and Spain faced scorching heat and droughts. In Australia, wheat production fell by 34% last year.

In recent years, improper practices such as excessive use of nitrogen fertilizers and uncontrolled irrigation have led to loss of fertile soil and increased soil salinity, causing 35% of productive agricultural land to become barren. These negative factors have narrowed the limited food production capacity in proportion to the lost fertile land.

By 2050, temperatures are expected to rise, causing an 11% decrease in rice yields. In January 2021, drought in Somalia forced 1 million people to leave their homes and face hunger.
Due to drought caused by climate change in Turkey, the wheat yield forecast for 2024/2025 has been revised downward from 20.8 million tons to 18.6 million tons.

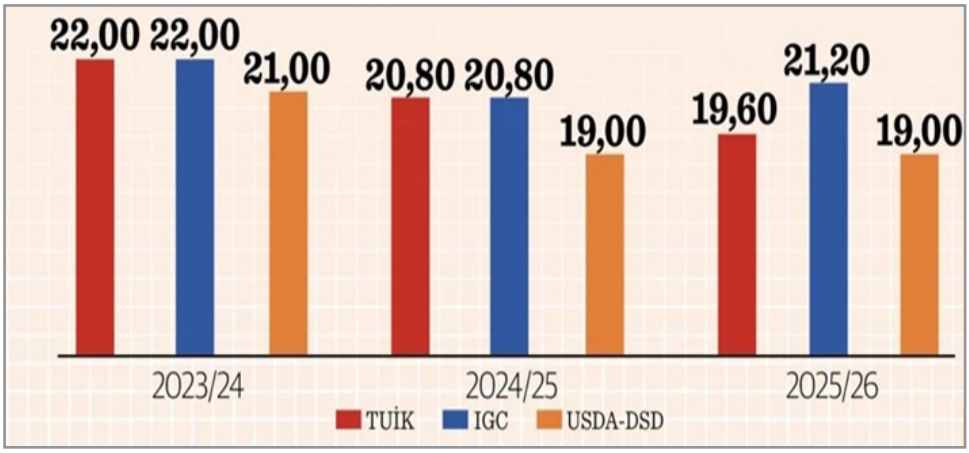

Figure 3: Turkey's wheat production estimates from international institution.
IGC: International Grains Council, USDA: United States Department of Agriculture, TUİK: Turkish Statistical Institue.

Obesity and Food Waste

Obesity

Obesity has many different definitions, but it is more accurate to define it based on the Body Mass Index (BMI). A BMI over 30 is considered obese. The BMI is calculated by dividing a person's weight in kilograms by the square of their height in meters. Especially due to technological advancements leading to a sedentary lifestyle, changes in eating habits and food quality, the increasing consumption of ready-made and unhealthy foods, as well as carbohydrate- and fat-rich diets that are not balanced with physical activity, the number of overweight and obese individuals is rising [11].

Obesity has traditionally been viewed as a health problem among low-income groups, but in recent years, it has also become a health issue among high-income groups, especially in the United States, where obesity rates have increased significantly.

In less developed countries, individuals with higher incomes are more likely to be obese, whereas in developed countries, obesity risk is higher among those with lower incomes. Low-income individuals tend to consume cheaper, calorie-dense foods, which increases their risk of obesity. This trend is spreading in Africa and Asia [12].

Conversely, healthy foods that are high in fiber and low in calories tend to be more expensive and harder to industrialize in production. Higher-income individuals are better able to afford these foods.

In Turkey, the obesity rate was 15% in 2008, rising to 17% in 2012, 20% in 2014, and 21.2% in 2019. In recent years, due to food inflation, access to safe and healthy food has become more difficult, which has led to carbohydrate-heavy diets [13]. Conversely, healthy foods with high fiber and low calories tend to be more expensive and their production cannot be easily industrialized. Higher-income individuals are better able to afford them.

Food Waste

Food waste refers to the disposal of food that is thrown away without being consumed during the process from the field to consumption, including harvesting, post-harvest handling, processing, supply chain, retail, and consumption stages [14].

Globally, 1.3 billion tons of food are wasted each year. Fruits, vegetables, and bread are the most commonly wasted foods. In developed countries, the cost of wasted food amounts to 680 billion dollars, while in developing countries, this figure is 310 billion dollars.

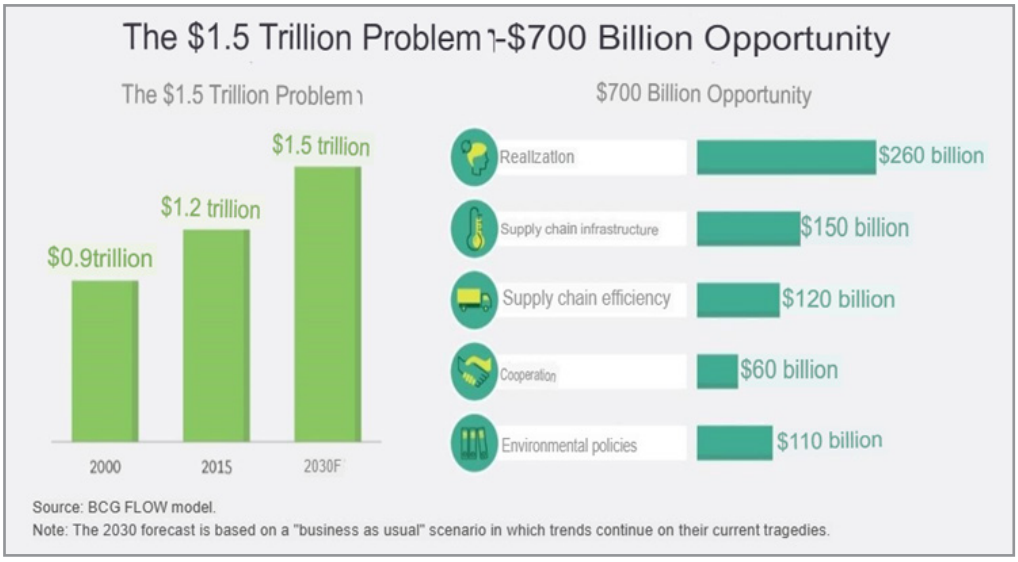

Figure 4: Cost of food waste and savings achieved through preventive measures.

If food waste continues to increase at this rate, the amount of food waste will reach 2.1 billion tons by 2030, with a cost of $1.5 trillion in wasted food [15].

With measures taken in the five main areas where waste is identified, a total of $700 billion worth of food can be recovered. Among these five main groups, particularly in the area of awareness, raising waste awareness among consumers, food service providers, hotels, and restaurants can lead to the recovery of $260 billion worth of food.

According to Figure 5, the amount of food wasted by consumers alone in wealthy countries is 230 million tons, which is equal to the total food produced by African countries [16].

In Europe and North America, the amount of food wasted by consumers ranges between 95 and 115 kilograms. In contrast, in African and South Asian countries, this amount is only 6 to 11 kilograms, which is about one-tenth of that in America and Europe.

As seen in the graph, the food waste in America and Europe today could solve the hunger problem faced by the 850 million people suffering from severe hunger worldwide [17].

Figure 5: Waste Rates by Continents.

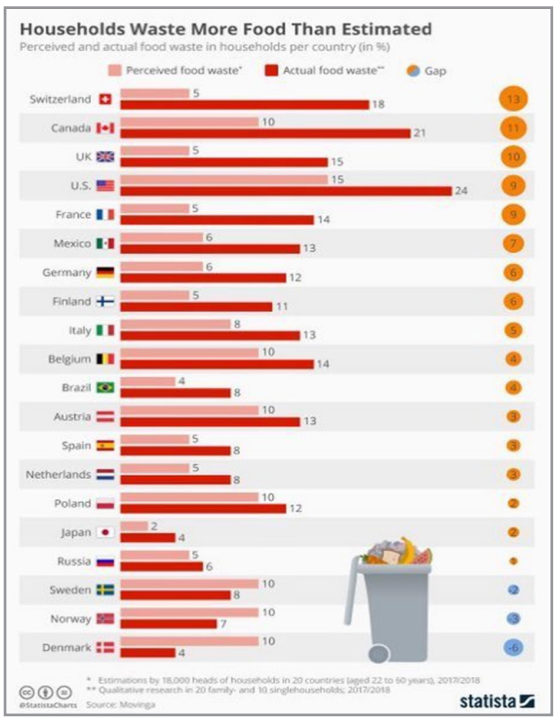

Figure 6: Food Waste per Household by Country.

As seen in Figure 6, there is a significant difference between the estimated and actual rates of food waste, suggesting that household food waste is expected to increase in the coming years. This increase can be attributed to rising consumer incomes in developing countries and easier access to food [18].

In Turkey, the amount of food wasted annually is 26 million tons, with a cost of 214 billion Turkish Lira. Out of the 49 million tons of fruits and vegetables produced in a year, 12.5 to 19.6 million tons are lost or wasted. The cost of the 12 million tons of wasted fruits and vegetables amounts to 25 billion Turkish Lira. As shown in Figure 6, the large gap between estimated and actual food waste indicates that household food waste will likely increase in the future. This rise is due to increased disposable income among consumers in developing countries and easier access to food [19].

Conclusion

The deepening of food protectionism evolving into food nationalism began during the 2019-2020 coronavirus pandemic and intensified with the Russia-Ukraine war. During these periods, many countries imposed restrictions or bans on the export of products they considered strategic. During the war, Egypt banned the export of wheat, cooking oil, and corn for three months, which caused a shortage of vegetable oil in Turkey. Previously, Egypt had temporarily banned the export of lentils, pasta, and flour. Countries that imposed export bans on basic agricultural products such as pasta, flour, vegetable oil, and wheat include Argentina, Algeria, and India. Argentina banned exports of soybean meal and oil, while India imposed an export ban on wheat [20].

Food nationalism, exacerbated by climate change and wars, along with soaring food inflation, will make access to food even more difficult for people living on the African continent. Factors affecting food security and access—including population growth, climate change, pandemics, and conflicts—are causing human migration.

In Pakistan, which suffered severe flooding due to climate change, 33% of agricultural land was submerged, forcing 8 million people to migrate. Human migration, as a negative impact on food security, changes the demographic structure of countries [21].

Particularly, rising input costs in agriculture, declining production, population growth, deepening food protectionism, and increasing energy prices have driven food inflation higher. This situation will make food access increasingly difficult for people living in poor, import-dependent countries.

While some parts of the world struggle with hunger, others waste food. If high-income countries could reduce post-harvest losses by half, the nutrition problems of 63 million people would be solved. The amount of food wasted by the United States and European countries alone could feed three times the global population [22].

Reducing food waste is the simplest solution that will not only decrease the number of hungry people and alleviate hunger but also improve global food security.

In developed countries, obesity rates are higher among low-income individuals, whereas in less developed countries, obesity is more prevalent among high-income groups [23].

Global powers that prioritize meeting their own people's food needs share the world's agricultural lands by renting or purchasing them. To avoid risking food security, these global powers deepen food nationalism but remain indifferent to developing solutions for global food security.

The countries leading in leasing agricultural land are the United Kingdom, the United States, and China. Germany, India, Saudi Arabia, Singapore, the Netherlands, and Qatar follow China. Recently, Turkey leased land in Sudan for 78 years through a project managed by TİGEM but abandoned it after three years. The lands leased and purchased by the UK in Africa are two and a half times the size of Israel [24].

Among countries that generally lease out their lands, the Republic of Congo, Indonesia, the Philippines, Sudan, and Ethiopia are at the top of the list.

Ukraine leased 5% of its land area to China for 50 years [25]. In future pandemics similar to the coronavirus and wars, global powers will prioritize food produced on leased or purchased agricultural lands for their own populations. As a result, hunger rates will increase in Asia, which currently suffers 55% of global hunger, and Africa, which accounts for 35% [26].

To avoid facing a food crisis, Turkey must protect its agricultural lands. These lands should not be opened to development or tourism; forests, olive groves, and all agricultural areas must be preserved. Sustainable agriculture should be supported. Drip irrigation methods should be adopted, and water problems in the 4 million hectares of fallow agricultural land should be resolved for more effective use. Additionally, climate-resilient crops should be developed to withstand drought caused by climate change [27].

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