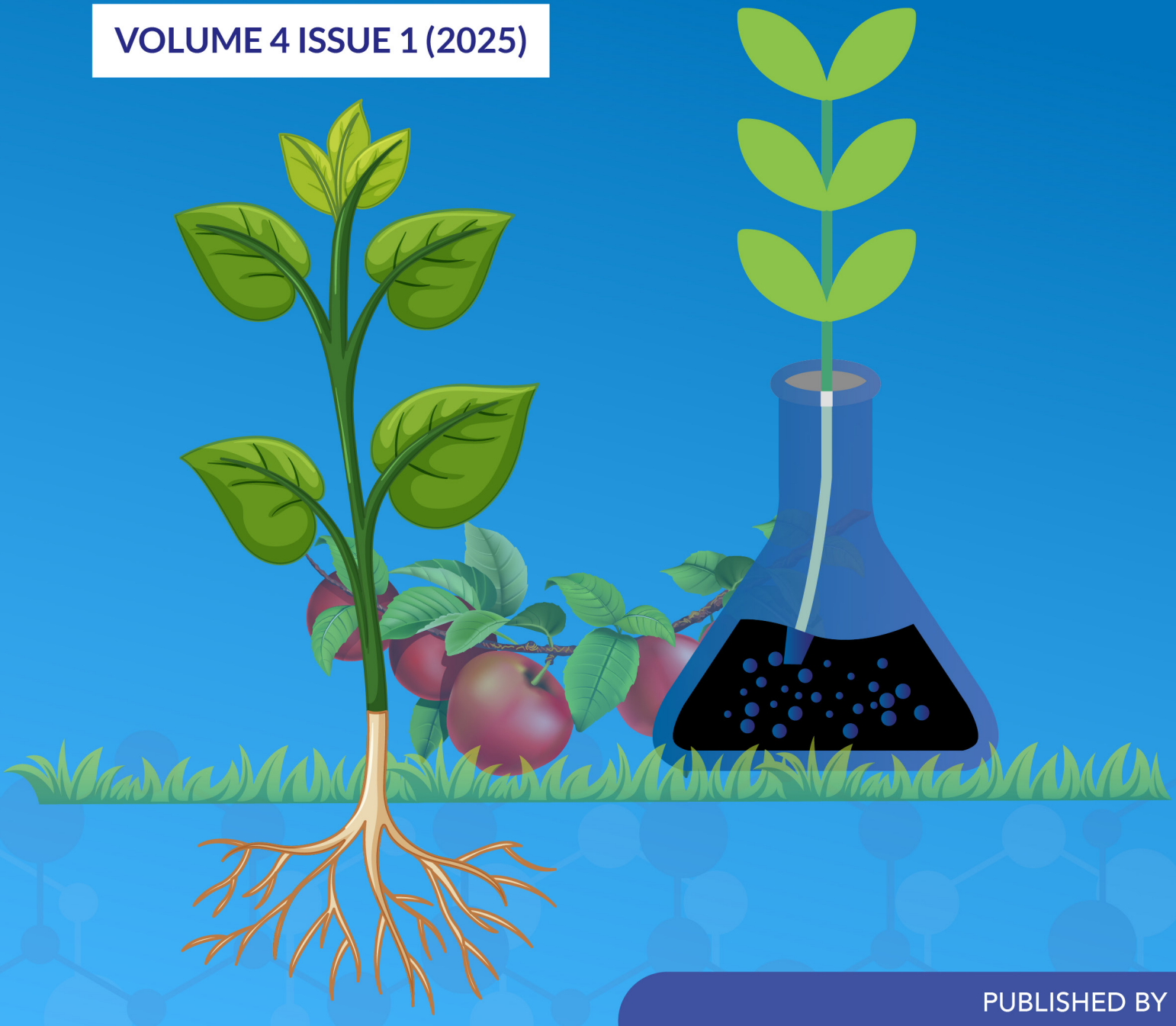
American Journal of Food Science and Technology (AJFST)

ISSN: 2834-0086 (ONLINE)

VOLUME 4 ISSUE 1 (2025)



PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

American Journal of Food Science and Technology (AJFST)

Volume 4 Issue 1, Year 2025
ISSN: 2834-0086 (Online)
DOI: https://doi.org/10.54536/ajfst.v4i1.3622
https://journals.e-palli.com/home/index.php/ajfst

A Review of Food Security Crisis in Uncertain Times

Abdulfatah Said Mohamed[1*]

Article Information

Received: August 10, 2024

Accepted: September 09, 2024

Published: April 25, 2025

Keywords

COVID-19, Food Crisis, Food Insecurity, Food Systems, Nutritional Inadequacy, Sustainable Solutions

ABSTRACT

Hunger and poverty are not the only issues linked to the food insecurity challenge. Increased violence, terrorism, natural catastrophes, climate change, and the most recent worldwide pandemic known as the COVID-19 Pandemic have all drawn attention to the issue of food poverty. Before the world's economy fully recovered from the COVID-19 pandemic, the globe was particularly affected by the Russian invasion of Ukraine and the grain crisis, which intensified the situation to never-before-seen proportions. This article describes the numerous complex issues underlying the food shortage and how it affects the world's least developed nations and individuals. This article analyses the challenges of global food scarcity, especially during the COVID-19 pandemic. The method of study involved conducting a comprehensive literature search on electronic databases, including PubMed, Google Scholar, and Embase. The relevant results were then recorded in a qualitative descriptive form. It examines the impact of the pandemic on food systems, its implications for the worldwide supply chain, and food and addressing the shortage. The review also explores factors contributing to food scarcity, such as the controversial role of biofuels. The article discusses the extent of hunger and food insecurity, emphasizing the moral implications of unhealthy eating practices and the relationship between food security and other global concerns. The long-term impacts of food shortage on political stability are also discussed, emphasizing the potential for unstable political circumstances to arise from food insufficiency. The assessment also covers the Black Sea Grain Initiative and how it has improved food security. The essay provides a greater understanding of the relationship between global issues and food shortages while elucidating ethical dilemmas, financial implications, and environmental elements.

INTRODUCTION

The food security predicament is an intricate challenge aggravated by climate change, conflict, and economic inequality (Barnett & Adger, 2007). Food insecurity can disappear if humanitarian help is given; however, to build a more equitable and sustainable food system that benefits everyone, the core causes of the issue must be addressed. Additionally, crop cultivation is made difficult by extreme weather events like droughts and floods, which are brought on by climate change. This affects food production and distribution. Furthermore, economic inequality exacerbates the gap between the rich and the poor, making it more difficult for the impoverished to buy food (Global Poverty and Hunger, 2018). Poverty refers to the situation due to a lack of resources, which leads to the inability to fulfil basic human needs. People live on less than 1.90 dollars per person per day, which is much less than enough to support a healthy lifestyle; most of these statistics are from India, Nigeria, Congo, Ethiopia, and Bangladesh (Khan *et al.*, 2020). This menace is embarking upon the world in an unending cyclical manner as its effects cause an increase in its causes and effects (Nurrachmi & Review, 2018). The COVID-19 pandemic has been distressing for the global system, resulting in a complex worldwide food crisis. Food systems have seen significant changes since the virus started to spread widely at the beginning of 2020. There are now disturbances and widespread hunger.

The World Food Programme (WFP) estimates that the crisis will cause acute hunger to affect an additional 130 million people. The strategies to deal with this problem include funding sustainable agriculture, cutting down on food waste, offering humanitarian aid, and tackling the underlying causes of the situation. Those experiencing food insecurity would receive necessary supplies if humanitarian assistance were given. It is imperative to tackle the underlying causes of the issue to construct a more equitable and sustainable food system for everybody. Good and nourishing cuisine. Droughts and floods, two extreme weather phenomena brought on by climate change, make it challenging to cultivate crops. Food production and distribution are disrupted by conflict, and the wealth and poverty gaps grow due to economic inequality, making it more difficult for people experiencing poverty to afford food.

LITERATURE REVIEW

The United Nations Sustainable Development Goals (SDGs) and the 2030 Agenda for Global Progress

In 2015, Global Leaders during the United Nations General Assembly decided to initiate the United Nations Sustainable Development Goals (SDGs) Agenda for 2030 as the framework to improve humanity, equality, and inclusivity (Friedman & Gostin, 2016). The SDGs established in 2015 addressed poverty and hunger as the key issues for achieving sustainable development. Even

[1] Global Affairs and Islam, College of Islamic Studies, Hamad Bin Khalifa University, Qatar
[*] Corresponding author's e-mail: Abdulmohamed@hbku.edu.qa

though the problem of continuous rise in global poverty and difficulties in its eradication has been marginalized in the presence of new issues such as terrorism, climate change, resource depletion, access wars, and gender inequality issues (Sustainable Development Goals, March 2020). Only 193 foreign heads of state adopted the 2030 Agenda and the 17 SDGs that go along with it in 2015. SDGs have reclaimed worldwide significance and are organized around people, nature, ethics, development, equality, and collaboration (Leal Filho *et al.*, 2018). With goals of eradicating inequality, promoting sustainable development, preserving sovereignty, and achieving stability, the Sustainable Development Goals (SDGs) have won great praise for their significant political articulation. Most individuals think that the SDGs result from an unprecedented collaborative process in the context of global health apart from its precursor, the United Nations Millennium Development Goals (MDGs), which have been based primarily on assisting poorer areas through international assistance. The SDGs include a wider set of objectives that apply to wealthy and poor states and are thus "buttressed by data and evidence." The 2030 Agenda has received widespread plaudits from academics, activists, corporations, and policymakers for tying "sustainable" and "development" together through the notions of "universality," "integration," and "leaving no one behind." Conversely, the SDGs have been chastised for their lofty goals and lack of focus (Svoboda *et al.*, 2015).

Challenges and Hurdles in Achieving SDGs; Complex Socioeconomic Realities: Global Warming, Food Insecurity, and Development Initiatives

One of the many unresolved issues is how Baltic and confrontation fragile states can schedule, organize, and fund development initiatives consistent with the SDGs and their strategic interests (Ramcharan & Ramcharan, 2020). There are real doubts that several of the poorest countries in the world would be unable to identify initiatives and get the necessary support from the Developed World to improve the SDGs implementation – creating a good position for private investments and the hundreds of billions of dollars in economic opportunities that SDGs reopen. The world is moving farther away from attaining SDG 2, according to the Special Rapporteur on Financial Distress and Individual Rights (Human Rights Council 2019). If global warming continues, many thousand individuals will suffer from malnutrition owing to overall agricultural reductions. The impoverished would suffer greatly from an increase in the frequency of flooding and the ensuing migration. One of the most basic manifestations of impoverishment, poor nutrition, and cognitive impairment in children is food. Africa, the world's most impoverished and consequently hungry area, is confronted with serious health problems, especially those that affect developing children (Sasson, 2012). The number of people living in poverty worldwide is rising daily, with 8.9% of the world's population sleeping on bad food. World Food Programme Hunger Map of 2018 depicts a population of 821 million people facing food deficiency, mostly from Africa and Asia to Latin America and Near East Asia. A notable increase in world hunger shows an increase in poverty and lacking on behalf of institutions and governments to end it. Providing food supplies and donation strategies are not the ultimate solution; they can only be regarded as temporary relief strategies. However, practical steps are needed at higher levels, including policy-making and action at the prevention stages (WFP, 2018). Rewriting strategies and forming interdisciplinary strategic partnerships across various political contexts would be necessary to address food insecurity. Additionally, it would be important to ensure that World Food Programme (WFP) interventions are implemented geographically and ethnically, considering issues such as sexual identity, social inequality, disagreement, and global climate change.

MATERIALS AND METHODS

A comprehensive literature search was conducted on electronic databases, including PubMed, Google Scholar, and Embase. Relevant results were recorded in qualitative descriptive form.

This study utilized secondary data collected through a systematic literature review. Electronic databases, including PubMed, Google Scholar, and Embase, were searched extensively to gather relevant literature. The search focused on identifying peer-reviewed articles, reports, and studies related to food security, global hunger, and the impacts of global crises such as the COVID-19 pandemic and the Russian invasion of Ukraine.

The filtering process involved a multi-step approach. First, the collected data was screened for relevance based on title and abstract, followed by a full-text review of selected articles to ensure that they met the inclusion criteria. These criteria included a focus on food security issues, the socioeconomic impacts of crises, and the global supply chain's response to food shortages. In total, approximately 75 relevant articles and reports were considered for this study.

The analysis of data involved categorizing the literature into thematic areas such as the impact of global crises on food systems, the role of international policy in addressing hunger, and the socioeconomic implications of food shortages. Qualitative descriptive analysis was employed to identify key trends, challenges, and solutions discussed in the literature. Additionally, cross-referencing between sources was done to ensure accuracy and consistency in findings.

RESULTS AND DISCUSSION

Hunger and Poverty Worldwide and Its Impact on Muslim Nations

Poverty and hunger are multi-factorial problems encompassing the issues of health, economics, education, environment, and quality of life. Malnourishment, developmental delays, and nutritional deficiencies are

additionally deteriorating the situation thus negatively influencing the quality of living. Food And Agriculture Organization (FAO) estimated that 1.02 billion people are undernourished, mostly children, who had a poverty-stricken life ("Poverty And Hunger Around The World," 2017). The issue of hunger interlinked with poverty and health sector crises casts damaging outrages on the economy of a country. In an unending cycle, instability between sources and consumption increases; therefore, its results, which are economic failure, lead to poverty, hunger, and lack of basic needs and well-being. The health of a huge community becomes at risk due to resulting malnourishment and nutritional deficiencies, causing further damage to the capacities of people, be it physical, emotional, or mental. Due to the prevalence of hunger and deficient nutrition, Hunger Maps of 2019 and 2020 show prevailing undernourishment in African, Asia, and Latin American countries since 2017, the rate of which has remained constant (WFP, 2019, 2020). There have been surveys showing deaths of around 9 million people due to hunger and related diseases. 3.1 million children die each year due to the same cause. The number of people affected by hunger has declined since 1999, but no further progress has been observed recently. Since 2015, the numbers have escalated, posing a challenge to the SDGs on ending hunger by 2030, as 1 in 9 people go to bed hungry. 20% of the African population suffers from the problem of hunger, especially in Eastern and Southern regions where the percentage is 30%, and a huge number of children population suffer from malnourishment, stunted growth, nutrient deficiencies, and cognitive disabilities ("people who died from hunger," 2021). Among Muslim countries, African countries are the most affected by poverty, hunger, and undernutrition, as Somalia ranks as one of the top Muslim countries with a death rate of 42% due to malnourishment. Other countries as Sudan and Indonesia, also have high rates, and countries like Kuwait and Singapore with the lowest rates of deaths due to malnutrition (World Health Rankings, 2021).

Global Impact of the COVID-19 Pandemic on Amplifying Poverty, Hunger, Uncertainty and Food Insecurity

The COVID-19 pandemic has greatly influenced the world and multiplied the effects of present frailties and vulnerabilities. This unusual and quickly changing scenario will likely precipitate a worldwide recession. According to an OECD study published on March 2, 2020, the global GDP growth rate would fall to 2.4 per cent (from the previously predicted 2.9 per cent) because of the worldwide well-being crisis. In the worst-case scenario, GDP development may drop to less than 2 per cent. The predictions were produced before the latest events of new waves of the pandemic within the European Union and the USA and the recent severe falls in stock and oil markets. Parallels may be made between the effect of previous medical epidemics (such as the Ebola outbreaks) and the 2008 food price crisis, particularly regarding policy suggestions. Previous crises seriously affecting agriculture output, trade, and price volatility(Svoboda *et al.*, 2015) have also caused global distress.

An exacerbating aspect, however, is that the present COVID-19 problem is unprecedented worldwide, and the situation is quickly evolving, with many unknowns. In terms of risk management, every reaction must be indicative of the changing circumstances. In addition to the immediate health effects, there should be short-, medium-, and long-term effects on food production, sustainable development, and sustenance. COVID-19 also has benefits and drawbacks on Food Security and Nutrition (FSN), with the eventual outcomes being influenced by the control period of organizations, countries, and territories, and their tolerance to shocks. In consequence, a deteriorating food scarcity situation may have a detrimental effect on pandemic development by compromising immune systems. In any case, the weakest and most marginalized sectors of the population will be the most impacted (including the refugees and displaced). The poorest and most vulnerable people have fewer resources to deal with day-by-day job segments of people and loss of income, rising food costs, and unstable food supply, and therefore have less capacity to adjust to the crisis. Countries and areas already coping with other crises, such as the desert locust epidemic, which has already exacerbated food insecurity among impacted people, may find dealing with the COVID-19 pandemic more difficult. (Banik, 2019)

Food shortage involves short and long-term terrible outcomes such as hunger, malnutrition, higher death rates, and political instability; therefore, it must be addressed jointly via both emergency and long-term solutions. This is a major global issue, particularly in Sub-Saharan Africa. Economic, environmental, and societal factors contribute to food shortage (Dugger, 2011).

Contributing Factors to Food Shortage and Global Nutritional Challenges

Numerous socioeconomic reasons contribute to food shortages. The rate of population growth is greater than the rate of supply growth. The world consumes more food than it produces, causing food stores and storage to shrink and food prices to rise due to growing demand against a finite supply. Overcrowding, loss of forests for human habitation, and increasing air and water pollution impact the ecosystem and food production (Hallegatte *et al.*, 2021).

One of our age's main challenges is ensuring and providing sufficient, good, and processed foods to everybody while being environmentally friendly and clean, all while addressing the multiple difficulties of undernourishment, excess weight, and overnutrition. As opposed to an objective that includes nutrition for well-being and growth, the food hygiene guideline emphasizes assuring that the world generates and eats sufficient calories to eradicate starvation and guarantee existence. To take the discussion

further, addressing the ethical problems that emerge when integrating food into the food hygiene framework is important. If we do not change our strategy to feed people, the medical, environmental, socioeconomic, and political consequences will be severe. However, addressing this problem has legal and cultural implications(Locke & Henley, 2014). Key ethical issues to tackle would be making social decisions, creating standards about food production that affect produce content and the ethics and compliance between environmental sustainability and fulfilling human nutritional and health needs. Such intricate problems highlight the need to articulate the wider ethical context of the nutrition discussion within the context of global food security.

Nutrition in the Global Food System for Sustainable Well-Being

Surprisingly, little has been published publicly on the values of what we consume and the standards we wish to maintain to create a better, more sustainable global food system. Nutrition is often overlooked in food security planning. Most of the discussion and emphasis have been on elements of the inequitable manner our food is produced. There needs to be more discussion on the disparities in access to high-quality, healthy meals and dietary choices. This leaves the people needing clarification about what ethical personal decisions they should make, who they can trust, and what responsibilities the government should play in resolving the problems. Inequities will continue until a more serious discussion and suggested pathways around health ethics and how it integrates into our globalized food system. Highlighting some of these problems may stimulate constructive conversations and future solutions. Gillespie *et al.* (2013) observed that nutrition is often seen as apolitical, resulting in self-defeating and inadequate accountability to people. Attention and management for nutrition at all levels are required to achieve nutritional gains. Overcoming persistent poverty and impoverishment involves the allocation of resources. If the root causes of poor nourishment are to be addressed, more and more effectively targeted resources and improved cooperation within governments and national and international partnerships are required(Thaler & Africa, 2013). Without strong principles and ethical norms prioritizing nutrition for the betterment of people and their nations, progress toward global food security would be halted.

The Magnitude of Hunger and Food Deprivation

Food shortage has a variety of short-term repercussions. The impact on children, mothers, and the elderly is apparent, as evidenced by malnutrition and hunger-related deaths. This means that school-age youngsters pay less attention in class and less time for social and recreational activities—vital to their development. Mothers have less energy to care for their children and engage in verbal conversation. Children cannot endure extended fasts; therefore, they succumb to hunger rapidly and often die before help can reach them. Due to rebellions and several years of drought, Somali refugees have fled their country to Kenya and Ethiopia in search of safety and food. Since the majority of migrant seniors and children pass away during the journey and within a few days of arriving at the refugee camp, the majority of the children among the Somali refugees are severely malnourished. This shortage has long-term consequences. These include a rise in food prices because of demand and supply factors. Global food prices have increased due to several factors, including growing food production costs, rising fuel prices, and a protracted drought in regions that produce grains (Hasegawa *et al.*, 2019). Transportation of food, industrial agriculture, and fertilizers all suffered cost increases due to the oil price increase. Food prices have increased globally due to the growing middle-class population in Asia, their need for a more varied diet, and declining food supplies. In 2007, rising food prices caused social discontent and political inequality in several nations, including Bangladesh, Pakistan, Egypt, Burundi, Brazil, Congo, and Mexico.

The Need for Immediate Actions

Food shortage may have immediate and long-term repercussions; the short-term effects primarily concentrate on women, children, and older people who cannot tolerate prolonged hunger. The above highlights how abundantly obvious it is that food scarcity is a major global problem with catastrophic consequences for the people and the government. It also requires immediate corrective actions by food industry stakeholders. The causes of food scarcity are established and may be settled if suitable steps to solve the issue are adopted and successfully executed. Laws may be used to address the environmental causes of food scarcity, including pollution from human actions like deforestation, overgrazing, and climate change. Fruits and vegetables, as well as roots and tubers, have the greatest waste rates of any food, at 40-50 per cent —30 per cent for cereals, 35 per cent for fish, and 20 per cent for oil seeds, meat, and dairy (Hanjra & Qureshi, 2010).

Impacts of Climate Change on Food (In)Security

Environmental factors have greatly influenced the food security challenges. Agricultural output has been decreased because of climate change. Human actions, and to a lesser degree, natural activities, are primarily responsible for climate change. Drought is the main cause of food shortages worldwide; in Central America and Africa, prolonged droughts have resulted in significant crop failures and animal deaths. Recent floods in India and other third-world countries have destroyed crops and cattle, forcing many people to escape their homes. The World Bank program's design and assessment must consider climate change and disaster risks to maximise the development advantages. Heat waves may harm buildings, flooding can affect roads, and pests and drought can impair agricultural operations. While projects may be

vulnerable to many hazards simultaneously, it is often possible to plan and carry out projects that are resilient to future effects of climate change. To achieve this, though, these risks must be considered at every stage of the project cycle.

High seed and fertilizer prices, outmoded farming methods by developing-country farmers, and a lack of agricultural research contribute to decreased food output. Food costs have risen due to the 2008 global financial crisis, as have sources of financing for agriculture by people and governments in wealthy countries, resulting in lower food production.(Woertz & Keulertz, 2015).

Biofuel as a Need or Greed and Its Impact on Food Security

Over the last five years, there has been growing concern that crop-based biofuel production will undermine food production and food security, with some arguing that land, labour, water, or other production factors will be switched to biofuel production or that existing amounts of food harvests will be transitioned from food to biofuel markets. Others argue that high demand for sustainable biofuels will spur innovation in agricultural production. There may be collaborations between biofuel and food supply by funding relatively underdeveloped areas with limited access to input and output markets. 'The 'biofuel initiatives' category is poor for predicting food security results. Due to favourable market circumstances, Biofuel initiatives have generated unjustified investment opportunities, considering the high likelihood of project failure. However, research must indicate that biofuel initiatives deserve consideration regarding their effect on local social stability. Instead, a greater emphasis on individualized project design and protection is required (Lasnik, 1995). Projects that take land away from the local population must adhere to best practices in consent-seeking and participation, stressing that safety measures are in place to preserve communities' access to food and income and that compensation payments do not undervalue important resources. In our grower program, it makes sense to let farmers intercrop cash crops with food crops, use the inputs meant for the cash crops for other crops, or purposefully lend these inputs. It is also important to ensure that women have access to the resources they need for any efforts that include using land that women may have previously utilized for a home garden or food crop (Mengoub, 2020)

Food Wastage around the Globe

Germany is one of the world's most populous nations. As a result, food waste is at an all-time high. According to estimates, the typical German wastes more than 80 kilograms of food each year. Household kitchens and commercial restaurants are the largest contributors to waste. Food waste is any solid and liquid food prepared for consumption that is wasted for any cause. Food waste is considered a pervasive issue in the food business, occurring at every stage of the supply chain(Seed, 2015). The entire quantity of food waste generated in the United States is believed to be close around 103 million tons per year. Every year, billions of tons of food are wasted globally. While it has long been assumed that wastage is primarily an issue in developed countries, estimates indicate it is also a problem in developing countries. Even though China and India generate the greatest household food waste each year, the average amount generated per capita in these nations is less than 70 kilos. In contrast, the typical Australian produces 102 kilos of food waste yearly (Verma, 2015).

Food waste (FW) is a significant problem, mostly in Gulf Countries (GCC). Based on thorough research performed on Research Gate in Jan 2020. FW management techniques, such as reduction and distribution, are undervalued. The prospective study highlights the urgent need for additional research on food scraps in the GCC, concentrating on the identified knowledge gap, such as origins and causes, developments, quantity and range, ecological and financial impacts, and the consequences of wasted food in food production processes. Since food waste affects all GCC countries, these relevant studies should be addressed in a global research program. In Saudi Arabia, the biggest member of the GCC, analysts estimate that rice waste alone costs the country SR1.6 billion each year. According to EcoMena, a waste awareness organization, almost half of the trash in Qatar's landfills is food. (Baig *et al.*, 2019).

Ethical Dilemma of Unhealthy Eating Lifestyle

Obesity is expected to cause over 30,000 fatalities each year. Obesity robs individuals of an extra Nine years of life in general, prohibiting many people from reaching pensionable age. Obesity may ultimately overtake tobacco consumption as the greatest preventable cause of death. Obesity increases the risk of several diseases. Obese persons are more inclined to acquire certain malignancies, including colon cancer, which is 3 times more prevalent in overweight people, and they are two and a half times more likely to become obese, which is a risk factor for heart disease and type 2 diabetes which is 5 times as prevalent in males. (Fry, 2012)Anorexia nervosa has the greatest death rate among the different eating disorders, according to most research. Individuals with anorexia nervosa had a standardized death rate of 5.35 in research. Persons with bulimia nervosa and binge eating disorder had a standardized death rate of 1.5 (Tincheva & Reviews, 2019).

The findings of research at the European Congress on Obesity (ECO) in Glasgow in May 2021 revealed that most people with a BMI of 35-40 were almost nine times more likely to develop Type 2 diabetes, and those with sleep apnea were 12 times more likely. Those with extreme obesity (BMI 40-45) were significantly more likely to acquire Type 2 diabetes and had a 22-fold increased risk of sleep apnea. People with a BMI of 40-45 had a threefold increased risk of heart failure, hypertension, and hyperlipidemia. A BMI of 40-45 was also associated

with a 50% increase in the chance of dying early from any cause. Long-term junk food intake exposes a person to a variety of life-threatening effects as well as other health-related problems(Lask & Bryant-Waugh, 2000). Oils, refined carbohydrates, and carbs are abundant in junk food. Junk eating is associated with several issues:

Rich Saturated Fat Content

Fast foods such as pizza, chips, and sandwiches are high in saturated fat. Because lipids are difficult to digest, they accumulate, causing individuals to gain weight, resulting in obesity. This may lead to many heart and blood pressure issues, among other things.

Excessive Salt

Fast food includes more salt than the body needs. Increased blood pressure is caused by salt. Excessive salt consumption is harmful to the body since it may lead to hypertension.

High Sugar Content

Sugar is present in sodas, cookies, and other baked goods. Everyone enjoys a sweet flavour, but too much sugar rots teeth and may cause various dental issues such as pain, among other things. Excess sugar raises blood sugar levels, possibly leading to diabetes (Tincheva & Reviews, 2019)

The Dilemma of Nutrition Amidst COVID-19 Pandemic

The COVID-19 pandemic is already impacting food production, both internally and externally, through impacts on food production and consumption and reducing purchasing capacity to manufacture and deliver food, which will have a distinguishable consequence and unfairly target the underprivileged. The duration of the outbreak and the severity of the preventive measures needed will assess the desired threat to world food production and food costs. Isolated country-level measures are anticipated to aggravate the crisis's global effects on food and nutritional security, especially in developing and food-insecure countries. (Carter *et al.*, 2020) Moreover, the pandemic's potential impact on food production in major food-producing countries (for example, China, the EU, and the United States) might have substantial consequences for world diet production and food costs. The bigger financial disaster arising from the COVID-19 problem poses major challenges for ensuring food security. For instance, labourers, utilities, restaurants, and shops face substantial job losses (partly due to physical distancing regulations and in part to a broader economic crisis), and their salaries will suffer as a consequence. While small farmers may still see the competition in the market, disconnections to agri-food distribution networks and markets may make their living standards less safe; developing countries with strict rules that are directing to a drop in total demand and a significant decrease in farmworkers' ability to move to their jobs, both regionally and abroad. Income cutbacks have a direct effect on people's food supplies. Because of the broader economic slump, which many economists think has already started, the coming global financial crisis is also expected to have long-term implications for food and nutritional security (Naylor & Falcon, 2010). This next crisis will be quite distinct from the last economic catastrophe in that we could not witness a similar increase in agricultural prices that happened mostly during an economic slump. While there might be price gouging at the consumer stores, as previously mentioned, commodities prices have generally been falling due to a lack of demand. Also, due to the extreme oil market battle, which has ended in a substantial drop in the oil price, we are currently seeing different forces leading to increasing food prices. However, food supply and demand shocks seem likely to influence people's agricultural production. (Tsai, 2020).

Food Supply and Demand Chain Imbalance

COVID-19's effect on food production and consumption The impacts of COVID-19 on food production and consumption will influence all fundamental aspects of food and nutritional security, both intrinsically and extrinsically (FSN). It is also expected that the restriction measures taken in several countries would have severe impacts and longer-term ramifications on the world economy. The impact on food production as the frequency of COVID-19 infections rises in countries around the world, agri-food supply systems are anticipated to be affected. Although there may be plenty of foodstuff in the distribution systems at the beginning of the crisis, food chain disruptions have followed outbreaks due to increased fear buying by people concerned about agricultural productivity during potential lockdowns. If pandemics across the globe are severe or persist for a substantial amount of time, there will most certainly be many more big interruptions, which will decrease food supply in markets in the long term. These delays might be the consequence of the economic strain brought on by pandemic activity, or they could raise the danger of workers becoming ill. When demand declines due to a decline in purchasing power, farmers and other producers are less able and inclined to invest in and use suitable technologies, which lowers food output and supply. Beginning with physical segregation measures, the pandemic raises costs due to customers' panic buying and stockpiling of commodities, increasing the short-term need for food. Regretfully, a consistent decline in pricing may have preceded this spike in sales, both in terms of actual purchasing power and in terms of insufficient funds owing to capital market freezes and layoffs. Shifts in narrow tastes due to perceptions of agricultural production or ease may lead to major changes, affecting food production, food manufacturer livelihoods, and dietary diversity(Fan *et al.*, 2021)

COVID-19 Impacts on Economic Decline

Regarding job and income losses, low-exposure (LE) hosts saw a greater decline in economic output than

their more remote, high-exposure (HE) counterparts. According to these financial results, LE hosts have greater difficulty fulfilling basic food requirements during lockdowns and need to borrow money to buy food at a greater percentage. Since March 1st, one out of every seven host families have reported getting help, with three-quarters being new beneficiaries of aid (compared to the beginning of 2020) and the overwhelming majority in the form of regular food. High-exposure families report getting more help from non-governmental organizations (NGOs) than low-exposure households. (Bodrud-Doza *et al.*, 2020) Ninety-six per cent of camp families reported getting WFP food aid, although more than half reported getting less food than normal. While the allowance and caloric value of support offered per capita have not altered, the shift in method to fixed food baskets because of new COVID-19 regulations has temporarily halted initiatives to improve nutritional intake and diet quality by the humanitarian response, which may be driving these negative perceptions. The local economy of Bangladesh began to feel the effects of the COVID-19 problem in early to mid-March 2020, with the first case recorded on March 7. From March 26 to May 28, the whole nation was under lockdown. This brief examines reported consumption habits and dietary coping strategies used before COVID-19 (March-August 2019) and general results on access to necessities and support during the COVID-19 shutdowns (April-May 2020) (Tsai, 2020).

Unstable Political Scenarios Due to Food (In)Security

Food riots in several underdeveloped nations and concerns from numerous international groups about a global economic crisis have followed an increase in attention to the role of meal accessibility and usage in recent times. This increase in interest is expected, considering the century's turbulent humanitarian disaster in Sudan, Ethiopia, Malawi, and Niger. The query of how and to what step starvation circumstances arise in these cases has garnered substantial scholarly, mass culture, and film interest. The dispute over interpretation and levels has had "horrific implications for reaction and accountability in a couple of subsequent food insecurity."Critically, since these dimensions of globalization adhere to the ideology of environmental sustainability as consciousness, they, in daily practice, possess the lowest point of biopower on numerous occasions of the country's uninsured residents, retaining the neoliberal distinction between commercially insured population groups. Because of its many features of a "fragile state" and the significant participation of International NGOs and international groups in its federal agencies, Niger constitutes a region of dependent nationality(Mengoub, 2020). Indeed, many of these foreign actors have a strong record in Niger, such as the acquisition of government duties. Ways to help, as a beginner to Niger and a non-mainstream international Islamic INGO, presents a great opportunity to also assess Duffield's concept of contingent independence in terms of increased productivity and then provide the lacking act of the process by which an international performer supposes a governmental function. The connections of Qatar Charity donations with Niger's government officials assert the previously stated declaration as Qatar Charity's agreements over the provision of clinical care to project respondents reveal the institution's progression against dependent sovereign powers as a difficult and iterative open dialogue with different practices and aspirations – specifically the regional "corruption complex" – instead of a straightforward, one-time commodification. Qatar Charity's ultimate version of situational supremacy does not depend on the autonomous adoption of public services but rather on collaboration with many other NGOs and a private industry actor, suggesting the significance of the institution's fetishization of the justifying characteristics of the organization's "partnerships" to this process. At least in the context of Qatar Charity, global development supports life continuity as normal. (Dugger, 2011).

Brazil is now regarded as one of the twentieth century's major development achievements. The country has significantly reduced its poverty and hunger burdens; it has made the leap from dictatorship to a democratic nation; and it has moved from a marginal role as a "sleeping giant" in global relations to an increasingly one of the "emerging powers" of the twenty-first century. Brazil has many persisting societal issues, the most serious of which is steadily rising levels of inequality, but in its current role as a global leader and aspiring to greater power, the nation has started to shift its focus outside and take an active interest in the development of other countries. Improvements in agricultural productivity were a major factor in Brazil's development during the 20th century since they supported economic growth and helped reduce hunger in the rapidly expanding urban regions of the nation. Brazil has expanded its international participation and is considered one of its unique assets as it seeks to create better foreign ties in the Global South, notably in Africa. Agriculture has become a cornerstone of the country's development aid program and foreign direct investment. Food insecurity in Africa is a continuous worry for African governments and the international world. During the Green Revolution of the 1960s and 1970s, many developing countries in Asia and Latin America greatly expanded agricultural production. Still, the effects of this shift in farming technologies and practices failed to take control in Africa, leaving analysts wondering how and when Africa might also achieve its green revolution. Brazil's experience in significantly expanding its agricultural output has provided it with knowledge that may help African nations meet their food requirements. Brazilian agricultural aid and investment, on the other hand, have not been restricted to food production. Brazil has long been a worldwide leader in biofuel production and use(Mora *et al.*, 2020). However, the Green Revolution has been criticized for increasing agricultural output while preserving and worsening social disparities. Liquid combustible fuels produced from crops or crop waste and biofuels have gained popularity

during the last two decades as one possible solution for addressing global energy requirements while decreasing greenhouse gas emissions. However, serious questions remain regarding the balance of costs and advantages offered by biofuel production from various feedstocks, particularly the impact of biofuel feedstock production on food security.

Food Security and the Black Sea Grain Initiative

Global food scarcity has been under further threat since the Russian Federation's invasion of Ukraine and its aftermath effects in February 2022. Both Russia and Ukraine are considered critical grain and fertilizers exporters, they are among the top three exporters of global grain exports (Food and Agriculture Organization Executive Report June 2022).

Disturbance of agricultural supplies due to the ongoing conflict has impacted agricultural markets and prices severely. At least developed countries such as Somalia have been hit the most and have already been facing a drought and famine for 2 years. The Russian invasion of Ukraine in February 2022 has significantly impacted global food security, as both nations rely heavily on Eastern Europe for essential foodstuffs. The conflict disrupted agricultural production and exports, leading to market shocks, price surges, and increased hunger and malnutrition. These delays might be the consequence of the economic strain brought on by pandemic activity, or they could raise the danger of workers becoming ill. When demand declines due to a decline in purchasing power, farmers and other producers are less able and inclined to invest in and use suitable technologies, which lowers food output and supply. Beginning with physical segregation measures, the pandemic raises costs due to customers' panic buying and stockpiling of commodities, increasing the short-term need for food. Regretfully, a consistent decline in pricing may have preceded this spike in sales, both in terms of actual purchasing power and in terms of insufficient funds owing to capital market freezes and layoffs. Due to the cascading consequences of disruptions in important exporting locations, the Black Sea region's disruption has greater implications for global food security. Through coordinated actions, humanitarian supplies, and political initiatives, the international community is attempting to resolve the problem. Strengthening global solidarity is crucial to address existing hunger crises and prevent future ones. Failure to navigate this delicate choreography could have devastating consequences for millions facing hunger and malnutrition.

Strengths and Future Implications

➢ The study discusses how the Russian invasion has affected food security worldwide.

➢ Adding credible references to reputable sources, such as the Food and Agriculture Organization Executive Report, enhances credibility.

➢ The research delves into the complex effects on prices, agricultural markets, and humanitarian emergencies.

➢ Draws attention to the effects on environmentally sensitive areas like Somalia and drought.

➢ Discusses the mitigation measures and response of the international community, highlighting the importance of international cooperation.

Future Implications

Analyze how nations adapt their agricultural strategies and trade relationships post-conflict.

• Develop strategies for vulnerable regions to build adaptive capacities.

• Explore global governance mechanisms and crisis management strategies.

• Transition nations towards more sustainable and resilient agricultural systems.

•Investigate how geopolitical implications influence global cooperation.

• Explore how precision agriculture and digital solutions can overcome global food supply chain disruptions.

CONCLUSION

This analysis emphasizes how crucial it is to handle disruptions in the world's food supply systems and the serious repercussions they can have. The report emphasizes how critical it is for nations to work together to develop agricultural capacities, investigate sustainable techniques, and adjust to changing trade patterns. In the face of complex problems, maintaining a safe and stable global food system requires focusing on resilience and preventative measures. Sustained investigation and coordinated efforts are essential for managing the intricate relationship between geopolitical developments and worldwide food security. Laws may be used to address the environmental causes of food scarcity, including pollution from human activities like deforestation, overgrazing, and climate change.

Acknowledgements

None

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