

Food insecurity: A defining challenge of the 21st Century

Outline:

1) Introduction

Thesis Statement: The looming crisis of food insecurity has endangered the socio-economic development and political stability. However, by applying stern positive measures can ensure sustainable food access ~~to all~~. **across the globe**

2) Food insecurity is a defining challenge to the 21st century: ~~Evidence~~

- Reduce productivity of individuals
- Increase healthcare cost
- Deteriorate economic stability
- Rise of conflicts and protests
- Lead to forced mass migration
- Intensify gender inequality
- Deteriorate ecosystem stability

3) Factors contributing to food insecurity worldwide:

- Production of bio fuels
- Constraints on agricultural production
- Fast-paced population growth
- Wastage of food
- Globalization increasing food prices

4) Recommendations to tackle food insecurity

- Maintaining open trade
- Investing in climate resilient agriculture
- Community supported agriculture
- Adopting Ag-tech initiatives

In a bustling metropolis, Sarah, a college student navigates her daily routine with a growing uncertainty. Despite balancing part-time work and studies, she often finds herself standing in front of empty shelves at the local grocery store, her budget stretched thin. Sarah's story is a poignant reminder of the pervasive issue of food insecurity, highlighting the stark reality faced by individuals in the 21st century. Food insecurity is not about the lack of food, it is about inadequate access to nutritious and affordable food. Being a defining challenge of the 21st century, it has far-reaching implications for the people. It leads to reduced productivity of individuals at workplace, thereby reducing their efficiency to perform well. The increasing healthcare cost shocks the economic stability, hence leading to violence and conflicts at a massive scale. Consequently, people are forced to migrate to already food-stressed regions. This exacerbates the ecosystem instability. There are certain detrimental points that are responsible for causing food insecurity such as production of bio-fuels, constraints on agricultural production, global conflicts and fast-paced population growth. Through maintaining open trade, investing in agricultural resilient climate resilient agriculture, and adopting agricultural technologies can effectively tackle this global challenge.

Therefore, in today's world, food insecurity is a defining challenge of the 21st century. It has endangered the socio-economic development and political stability. However, by applying stern positive measures, can ensure sustainable food access to all.

Food insecurity is a large and growing problem around the world. Simply stated, it is the condition of not having enough to eat. According to the United States Department of Agriculture (USDA), food insecurity is defined as a lack of consistent access to enough food for an active, healthy life. This definition encompasses both limited access to food and the quality of food available. According to the World Bank, the issue of moderate to severe food insecurity impacted a significant 29.6% of the world's population, which translates to approximately 2.4 billion individuals in 2020. Among them, 11.3% were in the category of severely food insecure. Fast forward to 2023, the World Food Programme (WFP) projects that over 345 million people are grappling with high levels of food insecurity. This alarming figure is more than double the number reported in 2020.

To begin with, food insecurity leads to reduce productivity among individuals. When people don't have access to nutritious food, it can affect their physical health, cognitive functions and overall well-being of individuals. All of these are crucial for productivity.

in various aspects of life, including work or school. For this reason, there are various instances illustrating a significant drop out ratio of children from schools owing to their stunted growth and malnutrition. A case in point is Ethiopia, where the children drop out ratio exceeds upto 17% of the elementary school owing to their underweight and stunting. This is how food insecurity is the reason for diminished productivity of individuals.

Along with this, food insecurity is closely linked with an increase in healthcare costs within societies. When individuals experience food insecurity, they are more likely to suffer from chronic health conditions such as diabetes, obesity, hypertension etc. As a result, they require more frequent medical healthcare facilities. This increased healthcare needs place a strain on healthcare system and contributes to rising healthcare costs for both the individuals and societies as a whole. In Pakistan, malnutrition costs about 7.6 billion dollars annually, that makes upto 03% of GDP every year (Scaling up Nutrition, in collaboration with UN-WFP report 2022). In brief, food insecurity has increased healthcare costs for the countries.

Furthermore, with an increase in healthcare costs of the societies, food insecurity has resulted in a global.

Economic shortfall when a significant portion of the population lacks access to sufficient and nutritious food, it can have far-reaching economic consequences at both local and global level. The reduced productivity of individuals coupled with various health ailments, culminates to lower economic output and contributes to overall economic shortfall. A recent report published by UN world food programme reveals that the global economic loss due to food insecurity is 125 billion dollars by 2030. Thus, the economic stability is in danger due to food insecurity.

With deteriorating economic circumstances, food insecurity paves the way for the rise of conflicts and protests in the various regions across the globe. In a social setup, where the food sources are equitably shared, tend to be more peaceful and prosperous. Contrary to this, the social setup where the available food sources are scarce, it provides a stimulus to the individuals to compete for limited sources. Resultantly, it disrupts the peace and stability in the region, as the people more likely to come out on the streets and protest against food insecurity. Recently, hundreds of people mostly gathered in Turkmen city to protest food shortages, thus destroying the social fabric of the country. In this way, in the 21st century, the rise of ^{of} conflicts and protests is another outcome of food insecurity.

In addition to this amidst of rising protests due to food insecurity has compelled people for forced migration. As the food insecurity is a severe global challenge, most of the population of the world is experiencing severe food shortages. This scarcity of available food sources has compelled people to migrate to regions where availability of food is abundant. A case in point is Ethiopia. Due to rising food prices, cost of food has risen to 66%, thereby forcing people for rural to urban migration with severity of food crisis, amid Ethiopian war, around 100,000 drought refugees fled to the Tigray region. Hence, a massive displacement of people occurred due to food insecurity.

In accordance with, food insecurity indeed exacerbates gender inequality. Around the world, food shortages put more displaced women at risk of gender-based violence. Due to food insecurity, women are more likely to skip their meals and face restriction on food production. Not only this, it also lead to violence within families. Resultantly, women are undergoing child marriages, prostitution and other harmful practices. It has been reported in Somalia, where about 189,000 girls are at a risk of child marriage and violence annually. In short, the already pervasive gender inequality has been accentuated.

owing to non-availability of food resources. In coordination with, there are various factors responsible for the global challenge of the 21st century. One of them is production of biofuels. Biofuels, also called as agrofuels, are produced from plants like corn and sugar cane. Such biofuels are emerging as a response to tackling climate change. The growing demand of biofuels is responsible for the increase in deforestation, thereby leading to food insecurity. In countries such as Malaysia, and Indonesia, with deforestation rate of historic low of 17%. owing to biofuels, nearly 23 million people are unable to meet their dietary requirements. Hence, it proved that the production of biofuels is at the cost of nutritional needs of people.

Also, climate change has significantly impacted the availability and quality of essential resources for food production, such as water, land and biodiversity. It has also altered the patterns and intensity of natural disasters, resulting in decreased crop yields and reduced livestock productivity. This shift has led to increased volatility in food prices, and a decrease in the purchasing power of vulnerable households. According to the Global Report on food crises, weather and climate extremes were the primary causes of acute food insecurity in 12 countries in

2021, affecting nearly 57 million people. Thus, the looming crisis of food insecurity is attributed due to climate change.

Furthermore, global wars and other conflicts significantly impacted global food distribution, thereby exacerbating food insecurity. Armed conflicts can destroy the agricultural infrastructure in the locations where they happen. Also, they can disrupt shipping channels running through or near the region of the conflict. The war in Ukraine is an example of how wars and armed conflicts can greatly impact food security in the region and beyond. The Centre for Strategic and International Studies recently noted that Russia and Ukraine account for about a third of the global wheat trade and three-quarters of global unrefined oil production. For this reason, in the months following the initial invasion, the FAO ^{Food} price index broke records. Hence it proved that food markets are severely disrupted owing to global armed conflicts.

Not only this overpopulation is another factor responsible for food insecurity. With the advancement of science and technology, modern healthcare facilities are available to the people, thereby reducing the mortality rate. Eventually, the birth rates are higher than the death rates. This growing

population means that there are extra mouths to feed daily. The rise in population with limited availability of food means an increase in food insecurity. In the 1960s, Stanford University biologist Paul Ehrlich claimed in his book "The Population Bomb" that the world would run out of food without taking steps to control population. Moreover, World Food Programme, in recent reports depicts that as the global population had reached 8 billion, the number of people facing significant food insecurity has increased from 135 million to 345 million. This represents the severity of food crisis owing to fast-paced population growth.

In addition to this wastage of food also results in causing food insecurity. Since restaurants and supermarkets are installed in the urban centres, people throw away billions worth of food, mostly in developed countries. The food production level is greater than the consumption of food, meaning thereby, is that food has to be thrown away, yet people are dying of hunger in developing nations. FAO reports that each year, the food wasted globally is about 1.3 billion tonnes, that's about $\frac{1}{3}$ of all food produced for human consumption. This illustrates

that low wastage of food is depriving the population of the basic survival need, the food.

Therefore, it is essential to address the detrimental pointers causing food insecurity.

~~For this~~ it is up to every individual, institution and government to achieve food security before 2030. For this it is imperative to promote sustainable agricultural practices.

Various effective techniques need to be employed such as vertical farming and hydroponics, that are effective to combat soil degradation and food scarcity. Another technique is crop rotation that prevents soil erosion and maintains soil health.

Studies show that rotating crops can increase soil fertility by up to 20%, making it a cornerstone of sustainable agriculture. Hence, sustainable agriculture can pave the way for food secure future.

Secondly, agricultural technological initiatives can also help in tackling the global challenge of food insecurity. From AI-driven soil analysis to IT-enabled irrigation systems, Agtech is revolutionizing the way we grow food. Various technological initiatives such as robots, temperature and moisture sensors, aerial images and GPS technology are available that can provide more profitable, efficient, safe and affordable food resources. So, by applying these

technology in agriculture will increase production and productivity, this in turn will improve food security.

Overall, this essay has discussed the ~~major~~ global challenge of food insecurity in the 21st century. In this backdrop, it is evident that the food insecurity has hampered the cognitive abilities of individuals, thereby reducing their productivity in performing their daily tasks. Also, the shortage of fossil has resulted in the outbreak of various ailments, thereby rising the healthcare costs of the country. Research also found that people facing the acute shortage of food sources are compelled to migrate to nearby regions, hence upsetting the ecosystem stability. The production of biofuels, coupled with various constraints on agricultural production are the contributing factors for this global challenge of food insecurity. There is evidence to suggest that overpopulation ^{and} high food prices have a strong link to ~~unstable~~ volatile the food insecurity. A reasonable approach to tackle this global challenge is the government concerted efforts to invest in climate resilient agriculture and to engage community in sustainable agricultural practices. Therefore, the best safeguard against the defining challenge of food insecurity is to maintain open trade and adopt agricultural technological initiatives.

these initiatives will lead to,
food for every mouth
speech in every life
and joy in every soul ✓

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