

(Prevalence of Hunger despite Advancement in Science & Technology) Date 20
T W T F S S

Marks = 100

Outline :-

1. Introduction

Thesis statement: Despite the miraculous advancement in technology, the world still suffers from a prevailing issue of hunger. The main goal of science always remains to improve the life of men but it fails in the eradication of its prime issue. However, an advancement for the purpose of food security can mitigate the hunger issue.

2. Hunger crisis in the contemporary modern world (an overview)

3. Why hunger still prevails in a scientifically advanced world?

- (a) Revolution in the industrial sector ~~than~~ ^{instead of} agricultural development
- (b) Advancement in weapons of war for state security but not human security
- (c) Modern wars and conflicts have led to mass displacement and food crisis
- (d) Testing of modern techniques worsening climate conditions
- (e) Use of AI in some pockets of the world instead worldwide common use
- (f) Shift to automated jobs increasing poverty and hunger
- (g) A large quantity of food is wasted as people tackle food as commodity

4. The impacts of this prevalent hunger on modern world are devastating

- (a) Problems of malnutrition and stunted growth in children
- (b) Lower life expectancy rates and high mortality rates
- (c) High risk of crimes and terrorism in hunger affected areas
- (d) Hunger affects the human development in children and it later affects the human resource development

5. Mitigation of hunger with science and technology in the modern world

- (a) Advancement of Biotechnology and genetically modified crops
- (b) Development in agricultural technology through smart use of gadgets
- (c) Improvement of food distribution through Artificial intelligence
- (d) Achievement of biofortification of food for nutrient security
- (e) Enhancing global cooperation on hunger-eradication agenda

6. Conclusion



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The purpose of advancement in technology was to liberate the mankind from the burden of labour ^{for food}. But rather it compelled men into the race of power which is being achieved through wars. This chaotic situation exacerbated the food insecurity around the world. Science should tilt its advancement towards the eradication of hunger which is the would be liberation of mankind in true sense. As John F. Kennedy once quoted that the war against hunger is truly mankind's war of liberation. Hence, science's mainly focus on industrial development and weapons of war rather than the agricultural advancement due to which hunger still prevails in this modern world. Due to this development, many conflicts have ^{been} erupted across the world. These conflicts further deepen the food crisis through ^{causing} the people's mass displacement and damage to climate. Recently, the miraculous development of science in the domain of Artificial Intelligence (AI) also doesn't create any positive impact in terms of food security. Rather it enhanced the poverty by generating automated jobs. The impacts of this prevalent hunger are very devastating such as, it causes malnutrition in children & decreases the life expectancy and increases the mortality rate. Moreover, ^{rise} in crimes have been noticed in hunger affected areas. Despite all, ~~in present times~~ hunger still can be mitigated by shifting the focus of science towards agricultural development. Through working on biotechnology and biofortification, crops can be modified and nutritiously enriched. All this can be achieved only through global cooperation on the hunger-eradication agenda. So, despite the miraculous advancement in technology, world still suffers from a issue of hunger. The main goal of science always remains to improve the life of men, but it fails in the eradication of its prime issue. However, an advancement for the purpose of food security can mitigate the hunger issue.

In the contemporary modern world, hunger ~~crisis~~ is the most crucial issue which is actually indicating the failure of science advancement for the welfare of mankind. Food is the essential element for life. ~~an~~ In history, wherever the revolutions and protests against the government have ^{been} seen ~~are~~ ~~be~~ were in the demand of food. Such as, French revolution in which people's demand ~~was~~ So, food has been the key motive behind every struggle of men whether in past or present times. But science failed in tackling such a prime issue of humanity. According to UN

hunger report, 2021; a dramatic jump in figures after 2015, have been seen about the proportion of people affected by hunger. It indicated that hunger rises in 2021 to 9.8% of world's population compared to 8% in 2019 and 9.3% in 2020. Hence, it proves hunger is on rise in the world, despite advancement in technology.

This prevalence of hunger in a scientifically advanced world is mainly due to revolution in the industrial sector than agricultural development. More focus of science is on the development of latest technologies for the big companies. Recently, there is global access to high-speed internet, constantly improving artificial intelligence and companies adopting big data analytics and cloud technology in the industrial sector. In this era of fourth industrial revolution, 85% of businesses are expected to expand their efforts in big data analytics between now and 2022, signaling a larger movement toward new technology and cloud computing (Juan Buis, "The fourth industrial revolution, 2022"). Thus, advancement in the functioning of industries is the focus of efforts.

Further, state security is preferred over human security, for which advancement has been done in the weapons of war. Countries who tried to get power or maintain power over the world try to acquire more and more weapons. Race among the countries for the power results the eruption of conflicts as recently seen between Russia and Ukraine. Because of this, Russia and USA are striving to hold more warheads. According to report, Russia and US have dismantled thousands of their retired warheads, they still own 90 percent of the world's total nuclear weapons (Aljazeera.com, "Infographic: How many nuclear weapons does Russia have?" 2022). That's why, countries consider state security more noteworthy than human security.

Pre-eminently, these modern wars and conflicts have led to mass displacements which further worsens the food crisis. During these conflicts, people displaced and lost all means of earning which created humanitarian crises. For more than a decade, Yemen underwent the civil war between Houthis rebels and its government. This civil war affected millions of people and almost destroyed 60 percent of urban area of Yemen. That Yemen's ongoing conflict has led to approximately 17 million people in need of urgent action in the absence of ongoing humanitarian food assistance. Hence, conflicted situation in many countries ^{Pushed} compelled their citizens into severe hunger crisis.

The testing of modern techniques and dangerous weapons during these conflicts worsens the climate conditions. And the bad climate condition disturbs the normal food production which results in resource depletion. The use of tactical and conventional weapons during the ongoing war between Ukraine and Russia is affecting the *geo* climate of the world. According to one research, the smoke that produces through these weapons pollutes the air and environment. And resource depletion comes out as the negative impact of technology on environment. It refers to the consumption of a resource faster than it can be replenished (edinburgh sensors.com, "Environmental Technology", 2021). So, far these modern weapons are also indirectly affecting the food cycle through damage to climate.

Apart from these negative impacts, technology is also benefits the food production through Artificial Intelligence (AI). But it is not efficiently utilized, because of being limited to certain areas of world. AI is used in some pockets of the world instead worldwide common use. Such as, it is being utilized in the Algerian desert where more than 200 hydroponic units are producing animal fodder which boosts the milk and meat yield of goats. This inturn improves food security for some of the thousands of Sahrawi refugees. Thus, the limited use of technology is not allowing it to create much efficient result in the field of food industry.

On one side, the use of AI is limited but on other side it is extensively utilized in shifting the market to automated jobs which is increasing the poverty and ultimately the hunger. The increasing use of AI in jobs market creates the surge in unemployment which makes people unable to afford essential elements of life such as food. And this situation is deteriorating the prevailing hunger crisis. So, machines and technology are replacing manpower for certain jobs and this is the big reason for unemployment through current trends suggest a maximum of 30% by 2030, depending mainly on the speed of adoption of new technology (finance tribune.com, "race between man & technology", 2022). Hence, AI has become the cause of poverty & ~~hunger~~ hunger.

Along with all these causes of prevalence of hunger, another one is the wastage of large quantity of food by people as they tackle food as commodity. Globally, an inequality is observed in the distribution of food as majority of population suffers from unavailability of food but those who possess this blessing are wasting it. It is

is considered around $\frac{1}{3}$ of food produced is not eaten and got wasted. In the US, the numbers are more staggering. Some experts estimate that as much as 40% of the food produced in the United States is wasted. Therefore, food wastage is the saddening cause behind the prevalence of hunger.

This hunger issue is drastically affecting the society in this modern world, in which one major effect is the malnutrition and stunted growth in the children. In the 21st century with the advanced technology, if world is still facing malnutrition in the children, then it is such a disappointing parameter for the science. Globally in 2020, 149 million children under 5 were estimated to be stunted (too short for age), 45 million were estimated to be wasted (too thin for height), and 38.9 million were overweight or obese. Around 45% of deaths among children under 5 years of age are linked to undernutrition. (WHO Report, 2021). So, hunger crisis is severely affecting the growth of children.

Hunger is not only hostile to the health of children but it also badly affects the adult as it causes lower life expectancy and high mortality among them. Hunger causes the human body weak enough to build efficient immune system. feeble immune system becomes prone to multiple diseases and infections. Not only severe microbes but the simple influenza can not be tackled by the human body with fragile immunity, which results in high mortality numbers. The countries with extreme food shortage faces increased number of deaths. Such as Somalia where around 42 deaths occurred per 100,000 people due to hunger. Thus, hunger lowers the life expectancy rates in the food depleted regions.

Along with this, a high risk of crimes and terrorism is observed in hunger affected areas. Food is the essential element for a life and it is in the nature of every living organisms to struggle for the intake of food. Without food, there is no life, that is why, the motive behind every effort of human is to have food. If food is not available for man then he will go for violent actions. According to one research, a one percent increase in food insecurity leads to an increase in the violent crime rate of approximately 12 percent holding other predictors of violent crime constant. (Jonathon Randel Caughron, An examination of food insecurity & its impacts on violent crimes, 2016). Hence, a surge in crimes is noticed in the food insecure regions.

Further, hunger affects the human development in children and it later affects the human resource development. Insufficient nutrition hinders the physical as well as mental development in children which will ultimately affect the human resource. Impaired development causes many problems which includes diseases, decreased performance of children during in school and some behavioural illnesses. Research shows an association between food insecurity and delayed development in young children; risk of chronic illnesses like asthma and anemia; and behavioural problems like hyperactivity, anxiety and aggression in school-age children (Impact of hunger, feedingamerica.org). Thus, food insecurity adversely affect the human resource.

All these adverse effects can be ~~mitiga~~ prevented through the mitigation of hunger with the use of science and technology, such as advancement in biotechnology and use of genetically modified crops. Biotechnology can be utilized in a wide range of ^{agricultural} applications such as livestock management, storage of agricultural products and sustaining current crop yields, while reducing the use of fertilizers, herbicides and pesticides. Genetically modified crops possessing genes from different species could possibly relieve global food shortages, will provide bigger and better harvests for farmers. Hence, with the use of biotechnology and ~~modi~~ genetically modified crops, overall productivity can be increased which will reduce worldwide hunger.

Moreover, development ~~can~~ in agricultural technology can be done through smart use of gadgets such as drones and mobile phones. Drones can be used to survey crops and monitor their health, helping farmers to identify and address problems early. And mobile apps help farmers to track their progress and input data, as well as access information about crop health and other relevant topics. In Lebanon, for instance, Syrian refugees comprise a quarter of the country's population but still struggle to get food at a reasonable price. To make their lives easier, WFP developed the Dalili smartphone app to guide refugees to shops with reasonable food prices. So far, a smart use of technology can bring a progress in agricultural sector.

likewise, food distribution can be improved through the ~~Re~~ utilization of Artificial Intelligence in it. AI can be used to easily the food distribution, adequately supply the food to those who need it most and reduce the wastage of food. The way food can be distributed rapidly and sufficiently. According to Texas

university research, AI can be used to develop algorithms that optimize food delivery routes and schedule. This would ensure rapid and sufficient food supply. It can help us to meet the evergrowing demand for food while also protecting the environment. So, with this AI can be used for the improvement in food supply system.

Along with use of technology for the increase production and adequate distribution of food, nutrition security can also be achieved through the method of biofortification. Biofortification is a process of making the food more nutritious to help people who don't have access to these nutrients normally. This technique will help to fight malnutrition and related illness in children. Scientists won the World Food Prize in 2016 for their work on creating the biofortified sweet potato in South Africa. It was done to fight malnutrition and childhood blindness in Africa with new varieties of starchy, orange-fleshed sweet potato. The way nutrition security can be ensured in nutrient-lacking regions.

All above steps to eradicate hunger can be taken seriously only by enhancing the global cooperation on hunger-eradication agenda. Globally, countries should join hands to mitigate hunger and take collective efforts towards it such as, eliminating the poverty, giving awareness to people regarding food wastage and investing in the R & D (Research and development) in the agricultural sector. UN world Food program is expediting efforts particularly by developed countries as an obligation and making it transparent. Further, 29th september is ^{celebrated} considered as an international day to & on the awareness of food losses and waste reduction. Hence, these collective steps by the countries can only eradicate the hunger.

In conclusion, hunger is still prevalent in contemporary world, despite such advancement in science. The main reason behind hunger issue is the prime focus of science towards industries, machineries, weapons and other modern techniques rather than investing in the agriculture and food sector. That lack of focus is causing food crisis globally that has vast serious implications on mankind. Hunger causes the malnutrition & stunted growth in children, low life expectancy & high mortality rates among people and impaired human resource development. But all these problems can be solved through the use of science for the purpose of hunger elimination. As Mother Teresa quoted that If you can't feed a hundred people, then just feed one. Similarly, by taking small

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Small efforts with the use of technology can create a major difference. Through advancement in biotechnology, biofortification techniques, AI and modern gadgets, hunger can be eliminated. Of course, all this is possible with enhanced global cooperation on the hunger eradication drives.

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