Mini Review
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Food and nutritional security: the biggest epidemic in future

Abstract

In this paper we discuss about the effect of various factors on food security *i.e* population, climate change, post harvest losses and their impact on food security. From my point of view if we not sort out the problem of food insecurity in next coming 10 years, it will converted in epidemic of starvation and you can't think that what is the situation will be create in future because food is directly related to human life and life is impossible without the food. The word "epidemic" is used for failure of food security system in present time and many countries where people are hardly suffering from malnutrition due to poor system of food security and distribution of food .In future it will be a biggest reason for epidemic of starvation. Not only epidemic because it is concluded that after some decades if the problem of food insecurity is not solved in future then this problem initiate the struggle between major countries and then struggle is to be converted into war and may it will be a 3rd world war between countries. We not sure about the what type of impact of food insecurity on our world but it is confirmed that our land resource is minimized day to day due to continue civilization and not only land, water is also important for growing of food so that our world is going on that way where it will be converted into field of war and countries are become enemy to each other and fight for possession on natural resourceful areas.

Keywords: epidemic, starvation, possession, resource, war

Volume 6 Issue 1 - 2020

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Received: December 29, 2019 | **Published:** February 05, 2020

Introduction

According to food and agriculture organization "when all people, at all time have physical social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life"(world food summit1996).This definition points to four attributes of food security which is availability of food, accessibility, utilization and stability. Growing of enough food is not needed only because enough food is globally produced but at current time there are yet almost 800 million people hungry in this world.

Impact of population on food security

The global demand for food will increase due to the continuing population and consumption growth at least another 40 years and competition for natural resource such as land water and energy is affect the capability to produce food.[1] Over the next 15 years the food demand is projected to rise by at least 20 percent ,with the largest increases awaited in sub-Saharan Africa, South Asia and East Asia .But the production of food is severely decreased due to effect of climate change and unprecedented rates on natural capital, peculiarly in the world's most food insecure regions.[2] 2016 appraisal found that one out of nine people suffers from inveterate hunger and in 2014,12.9% percent of population in underdeveloped countries was underfed.[3] According to organization for economic cooperation and development (OECD),India ranked lowest in per capita supply of calories, this is the lower then even Indonesia, Brazil and South Africa.

Poor peoples in underdeveloped countries face more problem of food insecurity due to rising of prices of meat and animal products that are more expensive due to unbalanced economy development and rising incomes so that poor people's becomes more poor and rich people's to get progressively rich and the economic gap between rich and poor will be equally fulfill by balanced economy between countries. There is social protection systems such as food safety, school feeding programmed have been organized and complete the requirements of developing countries and they point help where it's needed.[4] It's accounted that in 2016 the number of those people, hardly hinted by hunger and underfed is 815 million, which is above from the data of 2015 that is 777 million .The situation of food security is highly worsened in the part of sub-Saharan Africa, south Eastern and western Asia.[5]

The deterioration of nutrition is found in almost one children out of five under the age of five year and its affects the proper growth and working ability, in adults obesity is another type of malnutrition and many countries observe at the same time increasing rates of child under nutrition and adult obesity.[6]

Climatic effect on food security

GDP of world agriculture decreases by 2020 nearly 16 percent due to global warming.[7] Agriculture activities are profoundly affected by climate change in every part of the world and ecosystem are adapted to the prevailing climate conditions, the recent IPCC report on the evolution as well as its main physical effects that is resulting for land and ocean temperature change, sea level rise etc. According the last report of IPCC "cascading impacts of climate change can now be attributed along chains of evidence from physical climate through to intermediate systems and then to people.[8]

Wallop on agro-ecosystem

Agricultural production system is directly or indirectly affected by climate change .It is observed that the negative impacts of climate are increase in several regions of world and it negatively affected wheat and maize yields in several regions and also at global level, unusually hot nights is main region for damaging of crops with ascertain impacts on rice yields and quality. The impact of climate change on crop production will rely on many parameters which are temperature, patterns of precipitation and atmospheric CO_2 increase the rate of leaf photosynthesis and enhancing the efficiency of water use especially for C_3 crops like wheat and rice. Production is also affected by pathogens which cause disease in plants and impact is also increase due to changes in climate such as uneven distribution of rainfall and unwanted increasing in temperature which increases the population of insect, pest and various types of pathogens which affects the production.[9]

Impact of post harvest losses on food security

According to the food and agriculture organization of U.N, the amount of food which is globally wasted is 1.3billion tons per year.[10] The wastage of food grains in developing countries is not only pecuniary loss but also decrease already low nutritional standard and the disturbed the balanced economy. The problem of controlling of these losses is mainly found in those countries where 70% people's are lived in villages and mainly depend on agriculture.[11] Majumadar and Parpia gave some estimates of losses in different countries as follows in (Table 1).Approximately one third parts of food produced for human consumption is wasted globally and it may be divided in five level of losses such as pre-harvest loss (due to insect, pests, birds rodents etc.), post harvest loss(handling and storage), processing (juice production, canning flour and bread making etc. milk products(cheese and yoghurt), distribution (losses occurs in market system), consumption(waste at the household level).[12]

Table 1 Some estimates of losses in different countries as follows in table given below

Country	Loss% value
World	10% All Crops
Nigeria	46% Sorghum
	41% Cowpea
U.S.A	$500 Million Stored Grain
	$500 Million Packet Food
	$3500 Million All Crops
India	25% Field Loss
	15% Storage Loss All Grains
	7% Handling And Processing
	3% Other Losses
Indonesia	15% Field Losses Rice
Germany	Dm71.4 Million Harvested
Sieraleene	41% Rice
	14% Maize
Tropical Africa	30% All Crops

Amplitude of food losses and waste

Food losses in developed countries are as high as in developing countries while in developing countries more than 40 percent losses are found at post harvest had processing stages but in developed countries same loss of food are found at retail and consumer level . Figures 1–3 shows that the per capita food loss in different parts of world.

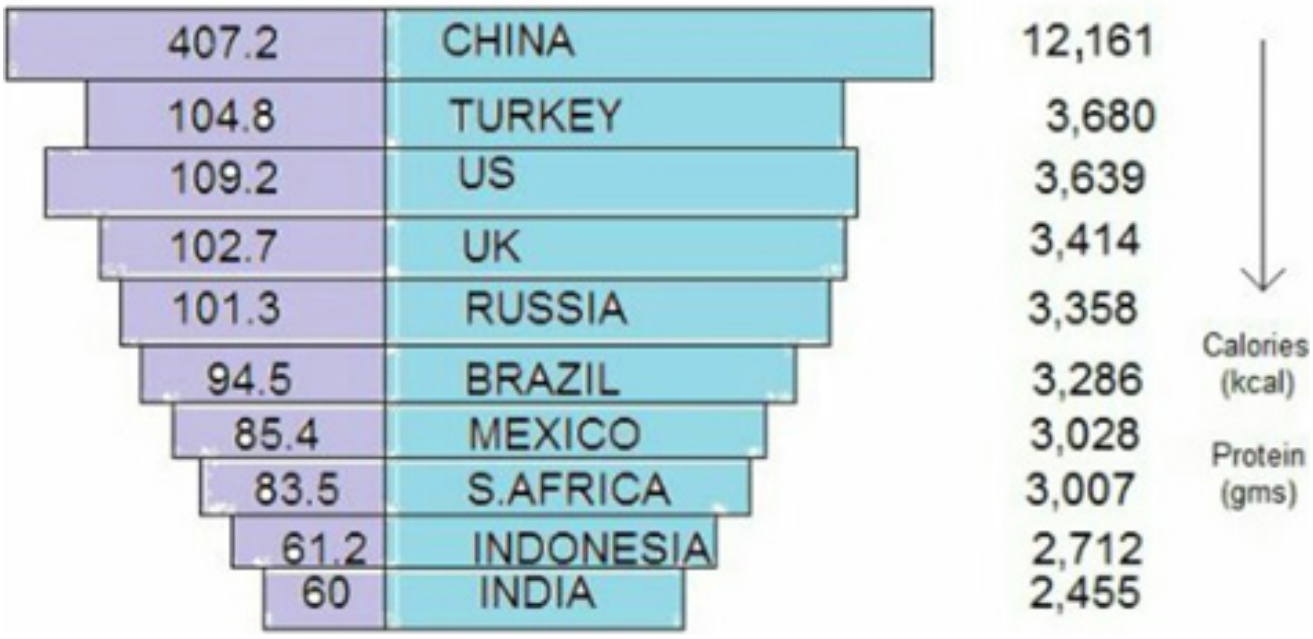

Figure 1 Source: organization for economic and development (OECD).

Citation: Chaudhary V, Sahani P, Mishra VK, et al. Food and nutritional security: the biggest epidemic in future. *MOJ Toxicol.* 2020;6(1):1–4.
DOI: 10.15406/mojt.2020.06.00165

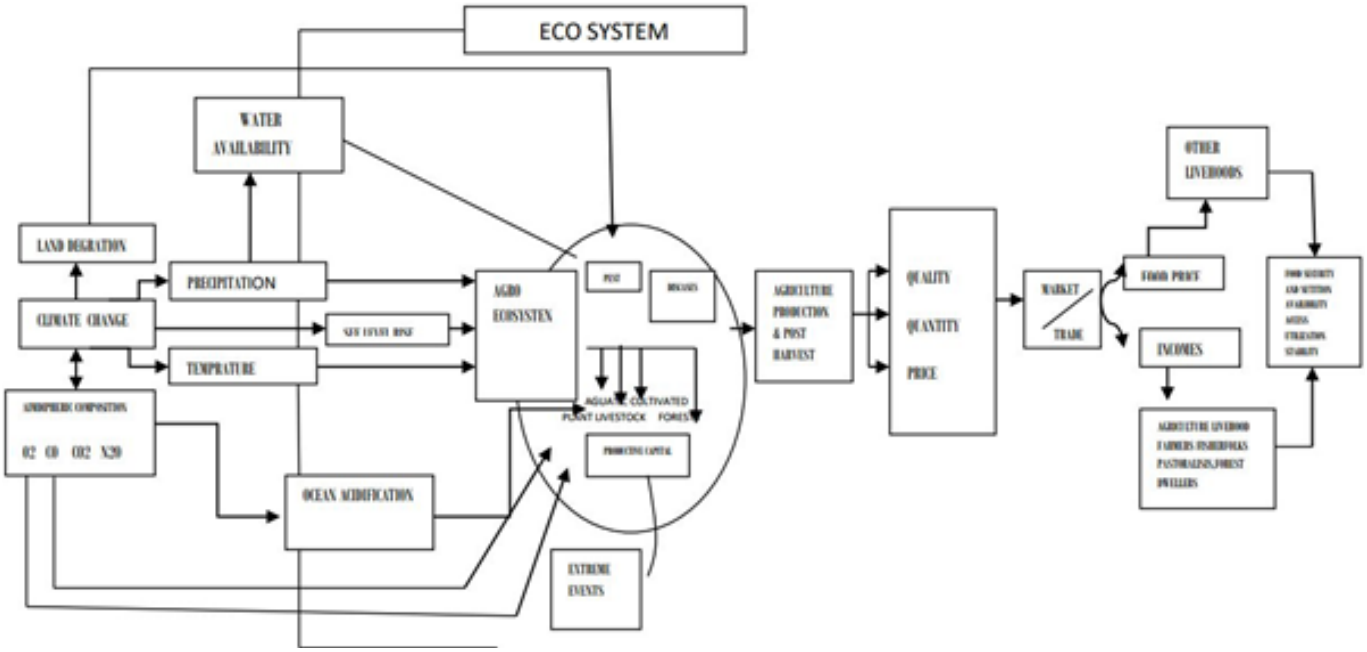

Figure 2 Schematic representation of the cascading effects of climate change impact on food security and nutrition.
Source climate change and food security; risk and responses.

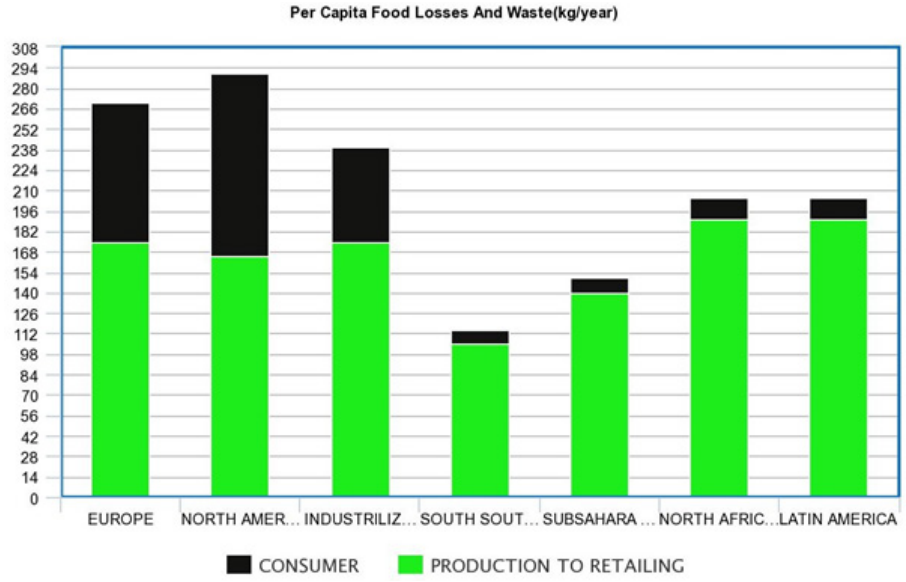

Figure 3 shows that the per capita food loss in different parts of world.
Source FAO, 2011 Global food losses and food waste: extent, causes and prevention.

The above figure show that the per capital food loss is highest in Europe and North America (280-300kg/year)and the lowest per capita loss of food is in South and South East Asia (120-170kg/year). The per capita loss of food by consumer in Europe and North America is 95-115kg/year but in sub- Saharan Africa, South and south East Asia is 6-11kg/year.[13]

Planning and strategies for future

Global peopling deserved and demographic modifies and growth richness and urbanization will lead to emergence in need for food and changing model of need emerging richness is consociate with growth in food consumption and especially of meat and milk products. Much but not all of the enlargement peopling will happen in developing countries improving nutrient security is closely joined with the want to decreased poorness . Growth requirement for food from sub Saharan Africa and Asia will also, via globalised provide range.[14]

Conclusion

From the above discussion we can see that there are so many challenges which we facing in future such as population growth,

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climate change, minimization of natural resources, and post harvest losses in developing countries etc. are the important factors which affect the food security chain and availability of food in many region of the world so that we considered some points which is helpful in securing of food in present and future i.e,

a) Production improvement

b) Population control

c) Climate change

d) Better distribution system

e) Political issues

f) New techniques of cropping pattern (according to the different regions)

g) New researches and information to the farmers

h) Aware the farmers to adopt new technology

i) Sustainable agriculture i.e application of IPM (Integrated pest management), INM (Integrated nutrient management), IWD(Integrated weed management), micro irrigation techniques such as drip irrigation, sprinkler method, judicial use of insecticide and pesticide, Use of bio-fertilizer in field etc.

j) Organic farming

The all above points are necessary for us and most important for farmers who work hard still day and night to produce food grains for billions of people so they are not needy of our sympathies they only want our support.

Acknowledgement

We would like to specially thank Dr Prashant Ankur Jain, Department of Computational Biology and Bioinformatics (CBBI), Jacob Institute of Biotechnology and Bioengineering (JIBB), Sam Higginbottom University of Agriculture Technology and Sciences (SHUATS), Allahabad, Uttar Pradesh, India, and ErVed Kumar Mishra, Vidhyashram Educational and Development Hub (VED Hub), Shree Hanuman Ashram Charitable Trust (SHACT), DihGanjari, Gangapur, Varanasi, UP. India-221302 for support of this study.

Funding

None.

Conflicts of interest

The authors declare that there is no conflict of interest.

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