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## REVIEW ARTICLE

# IMPACT OF GLOBAL WARMING ON AGRICULTURE AND FOOD SECURITY

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### ABSTRACT

The earths claimed have been relatively stable for thousand years. We know intuitively that its hot, humid and rainy in the Amazon and that corn grows well in the us Midwest. We know that at a particular altitude we should plant a crop during a certain week of the year because conditions for it are just right then. for most our memory as humans our claimed have closely oscillated around predictable patterns, and this has allowed as to feed ourselves and flours. When a stable claimed system is modified beyond its "tipping point" it gets out of balance and losses is equilibrium while the system reach around variability and uncertainty are the norm. This in essence, is the nature of challenge that we are not facing.

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## INTRODUCTION

Agriculture's Contribution to Global claimed change. Agriculture is one of the most weather dependent of all human activities .It is ironic then that a significant percentage of Green House gas emission come from agriculture .Fossil fuel-intensive agriculture is contributing to the creation of the unpredictable weather condition that all former will need to battle in the not –too –distant future. The Green Revolution of the 1960s and 1970 allowed us to increase yield by" borrowing "Solar energy from the past in the form of fossil fuel-based fertilizers and pesticides. when one adds in the oil use for processing and packaging foods and for refrigerating and shipping them long distance it's easy to see how the food industry consumes about 20% of all the oil use in the Us. About 1 % of the world's annual energy usage goes in to the production of fertilizers. This might not seem like much, but it ties the price of food to that of natural gases and will make food prices short of once energy supplies start to dwindle.

### Agriculture bracing for Global Warming

We already seem song claimed change that may be Indicative of what's to come for agriculture: Maple Syrup Production in the American northeast is suffering. The climate in which maple trees thrive is expected to move about two dirge (of latitude) north to Canada. Maple Syrup production is already down by about 1% because of warmer and shorter winter. We are also seeing increasing peaks in spring run –off from glaciers melt and snow – fed arrives. Climate changes and

agriculture are interrelated process both of which take place on a global scale. Agriculture is highly sensitive to climate variability and extreme weather conditions such as high temperature, heavy snow fall, floods and drought etc will also affect agriculture directly because of alteration in temperature and rain fall and indirectly through changes in soil quality, pests and diseases. Increased temperature will impact agricultural production. Higher temperature reduce the total duration of a crop cycle by inducing early flowering, thus shortening the "grain fill" period. The shorter the crop cycle the lower the yield per unit is increased temperature also mean increased evaporation and transpiration gates.

Even a smell increase of i.e. could increase the rate of evaporation transpiration by 5 - 15 % with no rain fall to compensate temp rise 0.5 0 C could reduce wheat yields due to heat stress by about 10 % if rain fall does not increase Indian Scientist predict that a temperature increase by 3 0 C will result in 15 – 20 % decrease in wheat yields and also a decrease in rice yields. Rise surface temperature which is already a major constant in achieving higher crop production in India and hence loss a crop as the temperature rises condition's will become more favorable for pests such as grasshoppers to complete a number reproduction cycle thereby increasing population in the higher latitudes in the northern countries agriculture will benefit with the rise in temp. as the winter season will be shorter and the growing season longer. This will also mean that pests that will move towards the higher latitude as the temperature rise temperature over the past century the average temperature of the atmosphere near the earth's surface has risen by 0.74 0 C the scientific consensus is that global temperature could rise b/w

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1-1 and 6.4 °C above 1980 – 1999 levels by the ends of the 21<sup>st</sup> century and there is also changes in the rain fall pattern and 10 - 15 % increase in monsoon precipitation in many regions and simultaneous perception decline of 5-25 % in drought – prone Central India and sharp decline in the winter rain fall in northern India are also projected.

### Impact on Human Health

Climate change is a major problem caused by the increase of human activities leading to several direct and indirect impact on health.

#### *Direct Impact*

The GHG's have been responsible for the depletion of stratospheric O zone, which protects the earth from harmful direct rays of the sun. Depletion of Stratospheric O zone results in higher exposure to ultraviolet rays of the sun, leading to an increase in the incident of skin cancer in light skinned people. It could also lead to an increase in the number of people suffering from eye disease such as contract. It also thought to cause suppression of the immune system. High temperature in cities would lead to an increase in the ground level concentration of ozone thereby air pollution problem

#### *Indirect Problem*

Indirectly changes in weather pattern can lead to ecological disturbance, change in food production level, increase in the distribution of malaria and other vector borne diseases. Fluctuation in the climate especially in the temperature, precipitation, and humidity can influence biological organism and the processes linked to the spread of infectious diseases .high temperature will cause the sea level to rise that could lead to erosion and damage to important ecosystem such as wet land coral seeds. Direct impact of this rise would include death and injury caused by intense flooding.

### Food Security

Naturally these climates change here direct effect on agriculture production. It is anticipated that for moderate global average temperature increases (estimated b/w 1- 30 °C). These will be an overall increases in global food production. Additional temperature increases however, would causes an overall fall in food production. In development countries, agriculture is supported by a complex system of research education, finance & farm supply overlying the agricultural potentials of the arable soils. Public policy and agricultural management will attempt to develop strategies for maintaining crop production in areas with best soils, in spite of shifts in climate.

### Dented Bumper crop

Scientists believe that higher carbon dioxide levels and temp. may actually increase yields slightly as long as the temp increase is no more than a few degrees C. Beyond that the warming effect dominates and crop field increase. Keeping in mind that, So far, observed global warming effects keep surpassing scientists expectations (in a bad way), it seems likely that rising temperatures in farming regions will work havoc on crop fields. Less availability of our most productive farming areas depend heavily on irrigation. Further, there is a local cooling effect in irrigated areas (from evaporating water) that moderates temperatures, helping crops survive withering summer crops summer temperature thus, less irrigation will exacerbate global warming driven temp. Increases in water short areas. And remember-40% of the world's food supply comes from the 2% of land that is dependent on irrigation.

### Conclusion

On the other side of the water issue global warming is expected to increase severe weather events that will be another blow to global agricultural output. So who are likely to be the winners as the climate changes and who are likely to be lose out: in every general term, regions at lower latitudes will becomes hotter and drier with a shortened growing session. Small scale & subsistence farmers will be at particular risk. The AR4 has also confidently predicted that by 2020, rainfed agricultural production will fall by 50% in many African countries overall, by global warming we can expect malnutrition levels to increase in some of the world's most vulnerable populations. Additionally, we need to anticipate more drought, heat waves & floods. This article has focused on the impact of climate change upon food security through agricultural production effect alone. However, the impact of climate change on the sector like human health through changes in infection disease vector will also impact food security but the difficult to quantify.

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