
A HUNGRIER WORLD- BLAME IT ON CLIMATE CHANGE

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In coming years about 140 million human beings will be born and some 55 million of us will die. That amounts to a net population gain of 85 million – more than 230,000 additional residents of the earth every day of the year. Many of these newcomers will suckle their meals from a mother's breast for a year or so, but after that it will be up to Mother Earth to provide them food and drink. Our fragile, over extended planet and its hard working human population will have to feed those 230,000 hungry people day after day for the next 66 years. A growing global food shortage has caused prices to double in recent years, and a growing consensus of scientists now blames climate change as one factor in an equation that includes a burgeoning population and increasingly scarce water supplies. More people around the planet are going hungry as a result. One in seven people go to bed hungry every night, according to the United Nations World Food Program. Hunger kills more people than AIDS, malaria and tuberculosis combined. The problem is worst in developing countries. Two hot spots has been identified —South Asia and southern Africa—where higher temperatures and drops in rainfall could cut yields of the main crops people grow there. A variable agriculture needs a stable climate. If we cannot anticipate from one year to the next what and when to sow and what sort of harvest to expect because the climate is going through all sorts of unpredictable convulsions, then we are in serious trouble. According to current general circulation models, the worst impact on agriculture will be in Africa, the Middle East and the Indian sub-continent.

Discussion:

On the day you read this, the population of our planet will increase by 230,000 people. Hungry people.

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sorts of unpredictable convulsions, then we are in serious trouble. According to current general circulation models, the worst impact on agriculture will be in Africa, the Middle East and the Indian sub-continent. If we continue pumping greenhouse gases into the atmosphere and we fail to curb our destruction of the world's forest, we can expect our crops to shrivel from increased heat-waves and droughts, get them washed away by unprecedented rainstorms and floods, and be ravaged by the spread of pests and weeds. Climate change is the outcome of the "Global Warming". It has now started showing its impacts worldwide. Either it is in the form of floods, heavy rain or in a form of drought. Climate change induced by increasing greenhouse gases is likely to affect crops differently from region to region. For example, average crop yield is expected to drop down to 50% in Pakistan, sunflowers can be affected by severe drought conditions in Australia.

Droughts caused by global climate change have led to a drop in wheat production, a worldwide shortage and high food prices around the world. Scientists predict that climate change could result in food shortages and poverty for millions who rely on agriculture as a means of income in the Tropics. Researchers found areas that are already experiencing food shortages due to climate changes could become "hotspots" in the next 40 years meaning the areas will have shorter, hotter or drier growing seasons which could devastate people in parts of Asia, Africa, China, India and South America. India's agriculture is more dependent on monsoon from the ancient periods. Any change in monsoon trend drastically affects agriculture. Human interference has certainly made the Indian monsoon fickle. Even the increasing temperature is affecting the Indian agriculture. A recent study by the Indian Agriculture Research Institute found that increase in temperature by about 2 degrees C "reduced potential (wheat) grain yields in most regions", and that "overall, temperature increases are predicted to reduce rice yields", the impact on rice yields being most in eastern India. Even the IPCC, scarcely alarmist, says 0.5 degree C rise in winter temperature would reduce wheat yield by 0.45 tons per hectare in India. And this when Indian agriculture has already pushed into crisis, thousands farmers have committed suicide since 1995.

There has been a major shift in the pattern of rainfall during the south-west monsoon season (from June to September) in recent years. Rainfall over Kerala, Chhattisgarh and Jharkhand has been showing a significant decreasing trend, while that over coastal Andhra Pradesh, Rayalaseema, north interior Karnataka, Madhya Maharashtra, Konkan, Goa and Gangetic West Bengal is showing a significant increasing trend. Due to global warming intensity and number of cyclones has increased. This is damaging coastal agriculture and livelihoods. Due to global warming there is high influx of water in the Himalayan rivers flowing through Assam, Bihar and West Bengal in eastern India in the form of floods due to melting of Himalayan glaciers associated with heavy rains in the Himalayas. These floods annually destroy millions of tons of crops. Drought like situation is also threatening most part of India where scanty and late arrival of monsoon this year is affecting crops and depletion of ground water. Shortage of rainfall coupled with its erratic distribution during rainy season may cause severe water deficit conditions resulting in various intensities of droughts in India. The total food grain production in India has to be stepped up from 212 million metric tons to 300 million metric tons by 2020 to meet the food demands of growing population. Therefore, there is a need for effective monitoring of agricultural drought, its onset, progression and impact on crops to minimize the damages. Shortage of drinking water and starvation for food may be the consequences in coming future. Since agriculture constitutes a much larger fraction of GDP in developing countries, even a small percentage loss in agricultural

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productivity would impose a larger proportionate income loss in a developing country than in an industrial country. A study published in *Science* suggest that, due to climate change, "southern Africa could lose more than 30% of its main crop, maize, by 2030. In South Asia losses of many regional staples, such as rice, millet and maize could top 10%". The Intergovernmental Panel on Climate Change (IPCC) has produced several reports that have assessed the scientific literature on climate change. The IPCC Third Assessment Report, published in 2001, concluded that the poorest countries would be hardest hit, with reductions in crop yields in most tropical and sub-tropical regions due to decreased water availability, and new or changed insect pest incidence. In Africa and Latin America many rainfed crops are near their maximum temperature tolerance, so that yields are likely to fall sharply for even small climate changes; falls in agricultural productivity of up to 30% over the 21st century are projected. Marine life and the fishing industry will also be severely affected in some places.

IPCC projected that in drier areas of Latin America, productivity of some important crops would decrease and livestock productivity decline, with adverse consequences for food security. Climate change could also trigger the growth of deserts in southern Africa. A report published in *Nature* today predicts that as greenhouse gases fuel global warming, the dunes of the Kalahari could begin to spread. By 2099, shifting sands could be blowing across huge tracts of Botswana, Angola, Zimbabwe and western Zambia. Few years ago severe droughts has badly affected crops in Cuba, Cambodia, Australia, Afghanistan, Vietnam, Morocco, Guatemala, Honduras and Nicaragua. According to the UN's famine early warning system, 16 countries, including Peru, Ecuador and Lesotho, face "unfavourable prospects" with current crops. In regions of South Asia and sub-Saharan Africa, an estimated 266 million people considered "food-insecure" live in areas that could experience a 5 percent decrease in the growing season over the next 40 years. That, in turn, could significantly affect food yields and food access for people. Another 170.5 million people in parts of West Africa, India and China could be "food-insecure" do to the impact of rising temperatures on many crops such as beans, maize and rice, according to the study. America's drought threatens a recurrence of the 2008 global food crisis, when soaring prices set off riots and unrest to parts of Africa, the Middle East, and Latin America. Americans face higher food prices at the supermarket because of a drought this summer. Corn and soybean prices on the futures market have surged to record highs amid the worst drought in half a century, with new crop contracts for corn rising 50 percent since early June and soybeans increasing about 35 percent. More than 60 percent of the continental United States has been under drought and extreme heat conditions.

Sri Lanka banned rice exports until its harvest season next March aiming to stabilise local prices as its major rice-producing area struggles with a prolonged drought. Rice is the staple food in the island nation and any price increase could accelerate the \$59 billion economy's inflation. The impact of global warming on agriculture is going to be worse. Indeed, all the indications are that our systems of agriculture will be in serious trouble if we follow a 'business-as-usual' strategy and do not take immediate measures to reduce our impact on the climate.

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