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Global Warming, Climate Change and we the People: The Brunt and Bliss

S K Acharya

Department of Agricultural Extension Bidhan Chandra Krishi Viswavidyalaya Mohanpur, WB, India

Global warming is a fact…not a fiction anymore……..

Far from being some future fear, global warming is happening now, and scientists have evidence that humans are to blame. For decades, cars and factories have spewed billions of tons of greenhouse gases into the atmosphere, and these gases caused temperatures to rise between 0.6°C and 0.9°C (1.08°F to 1.62°F) over the past century. The rate of warming in the last 50 years was double the rate observed over the last 100 years. Temperatures are certain to go up further.

Where is the limit…..is good our good earth enough resilient to sustain civilization even with temperature rises beyond prediction …..and, we the people !

But why should we worry about a seemingly small increase in temperature? It turns out that the global average temperature is quite stable over long periods of time, and small changes in that temperature correspond to enormous changes in the environment. For example, during the last ice age, when ice sheets a mile thick covered North America all the way down to the northern states, the world was only 9 to 15 degrees Fahrenheit colder than today

The greed..not the need of human populace, goes extremely responsible ! If we don't mind to put off a bulb of 100 watts before sinking to bed, and it burns whole night..it will add around 750 mg of Co_2 to cherish the furtherance of global warming..so, it's not just a mistake or luxury either…better be termed as 'merciless ignorance' !

Much of modern human civilization owes its existence to the stability in the average global temperature since the end of the last ice age—a stability that allowed human cultures to transition from roaming, hunter gatherer societies into more permanent, agriculture supported communities. Even the temperature change of a degree or two that has occurred over the last century is capable of producing significant changes in our environment and way of life.

The melting of Himalayan glaciers.., may be 20-30 meters of retreat per year, shall cost severely on supply of sweet water through snow fed rivers, the green will turn grey for million hectares of alluvial agriculture….

Recent observations of warming support the theory that greenhouse gases are warming the world. Over the last century, the planet has experienced the largest increase in surface temperature in 1,300 years. The average surface temperature of the Earth rose 0.6 to 0.9 degrees Celsius (1.08°F to 1.62°F) between 1906 and 2006, and the rate of temperature increase nearly doubled in the last 50 years. Worldwide measurements of sea level show a rise of about 0.17 meters (0.56 feet) during the twentieth century. The world's glaciers have steadily receded, and Arctic sea ice extent has steadily shrunk by 2.7 percent per decade since 1978

In the future, it is very likely that rising temperatures will lead to more frequent heat waves, and virtually certain that the seas will rise, which could leave low lying nations awash in seawater. Warmer temperatures will alter weather patterns, making it likely that there will be more intense droughts and more intense rain events. Moreover, global warming will last thousands of years. To gain an understanding of how global warming might impact humanity, it is one inevitable consequence of global warming is sea-level rise. In the face of higher sea levels and more intense storms, coastal communities face greater risk of rapid beach erosion and damage from destructive storms like the intense nor'easter of April 2007

Impacts of Global warming can go with moderate to severe impacts for the coming 100 years…flood, droughts, cyclone, sea level rise, erosion of soil-biota-diversity and skewed distribution of surviving genes, increased virulence of disease pest incidence..and many more can invite the Miranda of menace….

The most obvious impact of global warming will be changes in both average and extreme temperature and precipitation, but warming will also enhance coastal erosion, lengthen the growing season, melt ice caps and glaciers, and alter the range of some infectious diseases, among other things. For most places, global warming will result in more hot days and fewer cool days, with the greatest warming happening over land. Longer, more intense heat waves will become more frequent. High latitudes and generally wet places will tend to receive more rainfall, while tropical regions and generally dry places will probably receive less rain. Increases in rainfall will come in the form of bigger, wetter storms, rather than in the form of more rainy days. In between those larger storms will be longer periods of light or no rain, so the frequency of drought will increase. Hurricanes will likely increase in intensity due to warmer ocean surface temperatures.

The sociology of monsoon may have a resonance with her vagaries…..a chaos altogether, delayed arrival(on set) and more delayed departure(off set) are throwing humongous challenges to researchers..farmers…extensionists..policy framers…..a spell of just 10 day drought goes harshly equivalent to a loss of

around 360 million man days …and a near lethal effect on market possibility of amon rice

Frequency (or proportion of total rainfall from heavy falls) increases over most areas Likely More likely than not Very likely Area affected by droughts increases Likely in many regions since 1970s More likely than not Likely Intense tropical cyclone activity increases Likely in some regions since 1970 More likely than not Likely Increased incidence of extreme high sea level (excludes tsunamis) Likely More likely than not Likely Potential Effects of Global Warming

The weather isn't the only thing global warming will impact: rising sea levels will erode coasts and cause more frequent coastal flooding. The problem is serious because as much as 10 percent of the world's population lives in coastal areas less than 10 meters (about 30 feet) above sea level. The IPCC estimates that sea levels will rise between 0.18 and 0.59 meters (0.59 to 1.9 feet) by 2099 because of expanding sea water and melting mountain glaciers. Apart from driving temperatures up, global warming is likely to cause bigger, more destructive storms, more widespread drought, and coastal damage from high sea levels.

With some exceptions, the tropics will likely receive less rain (orange) as the planet warms, while the polar regions will receive more precipitation (green). White areas indicate that fewer than two-thirds of the climate models agreed on how precipitation will change. Stippled areas reveal where more than 90 percent of the models agreed. (©2007 IPCC WG1 AR-4.) These estimates of sea level rise may be low, however, because they do not account for changes in the rate of melt from the world's major ice sheets. As temperatures rise, ice will melt more quickly. New satellite measurements reveal that the Greenland and West Antarctic ice sheets are shedding about 125 billion tons of ice per year—enough to raise sea levels by 0.35 millimeters (0.01 inches) per year. If the melting were to accelerate, the rise in sea level could be significantly higher.

Global warming is also putting pressure on ecosystems, the plants and animals that co-exist in a particular climate Warmer temperatures have already shifted the growing season in many parts of the Sea levels crept up about 20 centimeters during the twentieth century. Most of the rise happened because water expands as it warms, though melting mountain glaciers also contributed to the change. Sea levels are predicted to go up between 0.18 and 0.59 meters over the next century, though the increase could be greater if ice sheets in Greenland and Antarctica melt more quickly than predicted. Higher sea levels will erode coastlines and cause more frequent flooding. (Graph ©2007 Robert Rohde.)

A one degree Celsius rise in night temperature may cost around 15-20 per cent yield decline for wheat and 10-12 per cent yield loss for rice as well……is the need imminent to have a change in our food habit……

Shifted the growing season in many parts of the globe. Spring is coming earlier, and that means that migrating animals have to start earlier to follow food sources. And since the growing season is longer, plants need more water to keep growing or

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they will dry out, increasing the risk of fires. Shorter, milder winters fail to kill insects, increasing the risk that an infestation will destroy an ecosystem. As the growing season progresses, maximum daily temperatures increase, sometimes beyond the tolerance of the plant or animal. To survive the climbing temperatures, both marine and land-based plants and animals have started to migrate towards the poles. Those species that cannot migrate or adapt face extinction.

The IPCC estimates that 20-30 percent of plant and animal species will be at risk of extinction if temperatures climb more than 1.5° to 2.5°C. The people who will be hardest hit will be residents of poorer countries who do not have the resources to fend off changes in climate. As tropical temperature zones expand, the reach of some infectious diseases like malaria will change. More intense rains and hurricanes, rising sea levels, and fast-melting mountain glaciers will lead to more severe flooding. Hotter summers and more frequent fires will lead to more cases of heat stroke and deaths, and to higher levels of near-surface ozone and smoke, which would cause more 'code red' air quality days. Intense droughts could lead to an increase in malnutrition.

On a longer time scale, fresh water will become scarcer during the summer as mountain glaciers disappear, particularly in Asia and parts of North America. On the flip side, warmer winters will lead to fewer cold related deaths, and the longer growing season could increase food production in some temperate areas. Ultimately, global warming will impact life on Earth in many ways, but the extent of the change is up to us. Scientists have shown that human emissions of greenhouse gases are pushing global temperatures up, and many aspects of climate are responding to the warming in the way that scientists predicted they would.

Coastal areas are the most vulnerable to coastal erosion and sea level rise, 3-5 mm/year, eg, 760 km coastal lines of India are being posed with threats of becoming perennially inundated , 35-55 per cent with an equivalent of 350 million people needs t5o be migrated elsewhere by 2050

Ecosystems across the globe are already As much as 10 percent of the world's population lives in coastal regions where the elevation is less than 10 meters above sea level. These communities will become increasingly prone to storm damage and flooding as sea levels rise. Among the most vulnerable countries is Bangladesh, which has low elevation, a high population density, and is one of the world's poorest nations. Red areas indicate populations that live less than 10 meters above sea level, while green areas show the population density in areas with an elevation greater than 10 meters would. Ecosystems across the globe are already affected and surprising changes have already taken place.

Polar ice caps are melting, plants and animals are migrating, tropical rain is shifting, and droughts are becoming more widespread and frequent. Since greenhouse gases are long-lived, the planet will continue to warm and changes will continue to happen, but the degree to which global warming changes life on Earth depends on our decisions

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Increasing social entropy may outweigh the magnum opus of global warming…..so, social warming , a new rhetoric is a must be pedagogy for the new generation ecology scientists. Who will take care of our good earth…the world leaders are happy hunter for powerful bombs..may destroy the enigmatic target stationing 200-3000 meters depth below the land surface ..farmers are committing suicides unabatedly to create lethal statistics..for farmers cost are certain..income is certainly uncertain…are not enough to add to our social warming….an unrest society can't take care of unrest environment…so, let's set our priority !!

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