

CLIMATE CHANGE: ALARMING OBSERVATIONS OF THE INTER-GOVERNMENTAL PANEL

The recent observations of the Inter-governmental Panel on Climate Change (IPCC) about the rapidly diminishing snow cover in the Northern Hemisphere and accelerated rise in the mean sea level are quite alarming. According to this report the snow cover in the Northern Hemisphere, in the months of June every year, has reduced by 11.7 percent per decade since 1967, and the sea levels have thereby rose by 19 centimeters on an average, worldwide between 1901 to 2010. These observations in the Summary for Policy Makers (SMP), made by the Working Group I (WG-I) as part of the Fifth Assessment Report (AR-5) of the IPCC need to be taken seriously to avoid from crossing over to such dangerous levels of warming, beyond which the ecosystem feedbacks usually perpetuate further warming, which might make it increasingly difficult to control this fateful process.

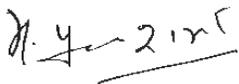
The aforesaid SMP prepared by the WG-I of the AR-5 of the IPCC, has been duly approved and accepted along with underlying scientific and technical assessments in the 12th session of the WG-I, held from 23-26 September, 2013. Yet, the lack of seriousness among the governments of most of the polluting nations of world, liable for such an alarming state of environment, as well as of the people across the globe is all the more strange. Moreover, these observations are not of any singular voluntary or private agency, but, of an official body representing more than 120 major nations of the world. The IPCC is a scientific inter-governmental body, set up at the request of all the member governments. Thousands of scientists and other experts contribute (on a voluntary basis, without payment from the IPCC) towards writing and reviewing these reports. These reports of IPCC are summarized and submitted as SMP and are subjected to line-by-line approval by delegates from all participating governments, numbering more than 120.

The report needs to be taken up more seriously as it says that the warming is more pronounced in the recent years and sea levels are thereby rising by 3.2 mm a year now, vis-à-vis 1.8 mm in the 20th century. Water vapour levels, which lead to extremities and environmental turbulence, have rose by 3.5 percent over the past 40 years. This rise in the water vapour level in these years has been due to the global warming, being caused by human economic activities. Scientific evidence clearly reveals that warmer the atmosphere more is its capacity to hold the moisture. Atmospheric capacity to hold moisture increases, roughly by 7 percent with each degree of its warming. It was this increased atmospheric moisture and higher sea-surface temperature which has recently led to much greater damage to agriculture, coastal infrastructure and homes of coastal population region in Orissa and Andhra Pradesh during the recent cyclone, Phallin. Daily temperature extremities and their frequency, as well as the probability of heat waves are also ascribed to the persistent global warming largely due to increasing emission of Green House Gases (GHGs). In spite of these widespread threats for the sustainability of our ecosystem, the emission of GHGs is growing unabated and no meaningful understanding could be

achieved in the UN Framework Conventions on Climate Change, after the Kyoto Protocol adopted in 1997. The Kyoto Protocol was adopted in Kyoto, Japan on December 11, 1997, entered into force on February 16, 2005 and its first commitment period lasted from 2008 to 2012.

Emission of GHGs can be effectively restricted to a considerable extent by shifting to renewable sources of energy in place of fossil fuels. Almost close to 80 percent of the world's energy supply could be met by renewables by mid-century if backed by the right enabling public policies. A new report of IPCC clearly states this. The findings from over 120 researchers working with the IPCC reveal that enhancing the use of renewable resources of energy could lead to cumulative greenhouse gas savings equivalent to 220 to 560 Gigatonnes of carbon dioxide between 2010 to 2050. According to this report, a cut of around one third of greenhouse gas emissions can help in keeping concentrations of greenhouse gases at 450 parts per million. The report says that it would meaningfully contribute towards goal of holding the increase in global temperature below 2 degrees Celsius- an aim recognized in the United Nations Climate Convention's Cancun Agreements. Therefore, shifting to greener technologies is most imperative today. Carbon dioxide emissions alone from fossil fuels and cement production were nearly 35 billion tonnes in 2011, almost 54 percent higher than 1990. China is the biggest culprit which emits twice the quantum of green house gases being emitted by the US. China has even not been revealing the true data of environment deterioration. So, a strong pressure needs to be asserted upon the Chinese government.

The present non-linear pace of ice loss from Arctic, Antarctica, Greenland, Himalayas etc; due to growing heat has prompted scientists even to predict a little less than one meter rise in sea levels by the end of this century, which is much higher than the earlier estimate of half a meter. This apprehension of rise in sea level is bound to cause further coastal erosion, more frequent flooding, seepage of salt water into underground aquifers and enhanced damage during future storm surges. All these alarming trends are already being experienced from India to US in the coastal regions. Therefore, serious steps have to be taken and it all needs to compel the national governments forming part of UNFCCC to strike a meaningful deal before the end of 2015, by a strong pressure of public opinion. If our future generations have to be assured with an environment, as congenial as our parental generation has given, then it has to be achieved in months rather than in years. Otherwise all our future generations would inherit all the turbulence and pains of deteriorating environment.



(Prof. Bhagwati Prakash Sharma)