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Climate Change: How Big is the Problem?

There is a wide consensus all around that the problem of climate change stemming from the increasing concentration of greenhouse gases (GHG) in our atmosphere is going to be the biggest challenge to the existence of life on this Blue Planet. And if there were any scruples left, the erratic climatic behaviour all over the globe including the Monsoon Deficit in India has disabused the same. It is also agreed unanimously that we would postpone the solution to this problem only at our own peril.

It is believed that the rise of even two degree Celsius shall mean the collapse of the global ecosystem. The global temperature has already risen by 0.6 degree Celsius since the beginning of the 19th century. The Inter-Governmental Panel on Climate Change (IPCC) believes that global temperature shall rise between 0.5 and 2.5 degree Celsius by 2050 AD with an estimated rise of 1.4 to 5.8 degree Celsius by 2100 AD. An estimated 10 billion metric tons of carbon is said to be pumped into our atmosphere every year.

Even if we go by the most optimistic scenario, the global temperature, because of the sustained anthropogenic emissions and other cognate reasons, is likely to rise between 1.1 and 2.9 degree Celsius by the end of this century. As a result of crossing this critical threshold of two degree Celsius, it is believed that the same shall result in the global GDP loss between 1– and 5 per cent. The sub-Saharan countries are likely to be the most affected. Their economies may get devastated as a result thereof.

There is a real apprehension that melting ice cap of the snow-clad mountains and the melting ice sheet at Antarctica shall result into a gradual rise in the sea level. The IPCC assumes a sea level rise between 7 and 23 inches by 2100 AD. The same is likely to displace millions of population in the littoral and riparian areas giving rise to the phenomenon of the environmental refugees. It is believed that everyone centimetre rise in the sea level results in the displacement of about one million people.

A customised relief and rehabilitation programme needs to be drafted for them to pre-empt the impending catastrophe that may befall the human race in the times to come. Not only this, the resulting large-scale migration would also mean increased tension and discord among the countries of the world. The United Nations High Commissioner for Refugees (UNHCR), the UN

agency concerned with the refugee matters needs to gear up early to face up to the challenge. The phenomenon of environmental refugees may turn out to be one of the biggest human catastrophes of all time.

The aggravating global warming is also likely to result in erratic climatic behaviour including irregular precipitations as is already visible now in the form of deficient monsoon in this country. The meteorological and climatogenic changes shall herald myriad problems. They would vary from flash floods stemming from abnormal precipitations at certain places to storm surges to drought-like conditions at many others. The rainfall patterns shall change forever and so shall change the soil composition at many places thereby negatively impacting agriculture of that region.

All the situations shall uniformly lead to crop reduction or crop failures bringing in a food crisis with very serious implications for the nutritional security of world's 6.75 billion people. Even though it is projected that India may be freed from the clutches of poverty, hunger and malnutrition and would become an environmentally safe country by 2030 AD, we should not forget that there are reportedly about 200 million undernourished and about 300 million people subsisting below the poverty line in this country. One just hopes that our National Food Security Mission succeeds in realising its objectives and should thereby see through the feared food scarcity.

We shall also be confronting a severe water insufficiency as a result of the erratic rainfall. Abnormally high precipitation shall not mean high water table. Most of this hydrological bounty is likely to be drained out as a result of increased run-offs and also due to reduced holding power of the soil because of reduced forest cover. Melting ice cap or ice sheet shall deprive our rivers of a perennial water source. This would make our rivers seasonal thereby making water scarcity severer.

The dreaded sea level rise shall also mean that brackish water shall not only encroach upon the agricultural land making them unworthy of agriculture, but shall also infiltrate the freshwater aquifers thereby further threatening the source of potable drinking water. The resulting water stress or water crisis is told to be serious enough to engender water-related battles, even wars among nations. There shall, therefore, be a need for water use efficiency and a well-drawn water management policy. The watershed development would require special attention. More than that, there is a need for the end-users to use the water as efficiently and as sparingly as possible.

Besides, a serious health emergency is also awaiting us if we fail to respond to the incoming challenge in time. There shall be grave health-related problems in the form of increased incidence of various kinds of known and unknown diseases. They shall be mostly vector and water borne diseases, not to speak of various dermatological disorders and diseases occurring mostly because of hyper-thermogenic disorders. The climatic changes are also likely to affect our rich bio-diversity and physical geography. It is believed that millions of plant and animal species, many thousands already endangered, shall become extinct forever.

The poor and the most vulnerable sections of the society are likely to be the worst affected by the climate change. This is because of their limited capacity, capability and resources at

hand. There shall, ergo, be a need to find alternative livelihoods for these sections of the society. They shall not only lose their home and hearth first, but shall also be devoid of any resource or capacity to cope with the impending calamity. It is imperative today to ensure that millennium development goals (MDG) including halving the number of global poor by half by 2015 AD are realised will in time.

Even today, the per capita emission in the United States is four times that of China and 20 times that of India though China surpassed the United States in terms of emission of carbon dioxide in 2006 itself. India has proposed a 0.5 per cent of Gross Domestic Products (GDP) of the developed countries (reasonably less when compared to the 0.7 per cent recommended by the South Commission during the 1960s) to be contributed to an Adaptation Fund (something like a Green Marshall Plan) to be utilised for the purposes of helping the developing countries in meeting their sundry responsibilities arising out of the climate change problem.

Salient Points

- The rise of even 2 degree Celsius global temperature shall result in the global GDP loss between 1– and 5 %. The sub-Saharan countries are likely to be the most affected.
- Sea level rise is likely to displace millions in the littoral and riparian areas giving rise to the 'environmental refugees'. Brackish water shall make the land unworthy of agriculture and threaten the source of potable drinking water.
- UNHCR needs to frame a customised relief and rehabilitation programme.
- Aggravating global warming is resulting in erratic climatic behaviour leading to crop reduction and resultant food crisis and adverse nutritional security.
- It will create health emergencies and adversely affect our rich bio-diversity.
- The poor and the most vulnerable sections of the society are likely to be the worst affected.
- Problems of climate change should be tackled in a spirit of cooperative globalism, something already underway through UNFCC.

Glossary

Ergo: therefore