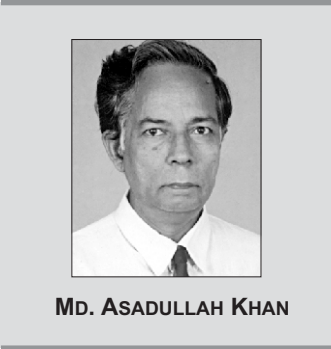


Bangladesh and the challenge of global warming



GLOBAL warming is now a grim reality. There is hot air aplenty partly because of global warming, caused by the galloping increase in carbon emissions by uncaring nations, that has severely disrupted weather patterns across the world. As another Earth Summit gets under way in 2007, the world appears no better a place than it was at Rio in 1992. Till now developed countries refuse to pay to clean up the mess or fund development projects in poorer countries. Carbon emissions doubled in three decades, with global warming becoming a major threat. US carbon emissions are 16 per cent above 1990 levels, making it a major polluter. In consequence, air pollution has now become a major killer with three million people dying of it every year.

James Hansen, head of NASA's Goddard Institute for Space Studies in about 1987 warned that the earth warming effect of excess carbon dioxide (CO₂) and other gases generated by industry and agriculture had crossed the line from theory into fact. Ironically, the greenhouse effect that causes this global warming made earth hospitable to life. Without a heat trapping blanket of naturally occurring CO₂, the planet would have an average temperature of only 0° F instead of 59°F. Reason: like the glass panes of a greenhouse, CO₂ molecules are transparent to visible light, allowing the sun's rays to warm the earth's surface. But when the surface gives off excess heat, it does so not with visible light but with infrared radiation. And since carbon dioxide absorbs infrared rays, some of the excess heat stays in the atmosphere rather than escaping into space. How much heat is retained depends on how much CO₂ is in the air.

With the arrival of the Industrial Revolution in the early 1800s, man suddenly threw a new factor in the climate equation. Carbon dioxide is released in large quantities when wood and such fossil fuels as coal, oil, and natural gas are burned. As society industrialised, coal burning factories began burning oil and gas at prodigious rates. And increasing population led to the widespread

cutting of tree in less developed countries. These trees are no longer available to soak up excess CO₂ and whether they are burned or left to rot, they instead release the gas. By the late 1800s, atmospheric CO₂ had risen to about 290 parts per million. Today it stands at about 400 ppm and by 2050 it could reach 500 to 700 ppm, higher that it has been in millions of years.

But carbon dioxide, once thought to be exclusively responsible for the greenhouse effect, was later known to cause only half the problem. The rest comes from other gases. Chloroflourocarbons dominated the scene till 90s and they have now

been controlled. Chloroflourocarbons or CFCs are not only destroyers of the statosphere's ozone layer but powerful green house gasses as well. So are nitrogen oxides which are pollutants spewed out of automobile exhausts and power plant exhausts. Another greenhouse gas is methane, the primary component of natural gas. Methane is also generated by bacteria living in the guts of cattle and termites, the muck of rice paddies and the rotting garbage in landfills. Each of the sources is fostered by human activity -- even the termites which thrive in the clearings left after tropical or other forests are cut down. Human contributions to the greenhouse effect comes from so many basic activities that man cannot realistically expect to stop the process, only slow it down.

Along with greenhouse gas emissions, the consumption of forests, energy and land by humans is exceeding the rate at which Earth can replenish itself, says a research study conducted by California-based Redefining Progress, a group concerned with environmental conservation and its economics. The study group warned that failure to rein in humanity's overuse of natural resources could send the planet into "ecological bankruptcy." "Earth's resources are like a pile of money anyone can grab while they all close their eyes, but then it's gone," said Mathis Wackernagel, lead author of the study.

Furthermore, according to a recent study report revealed by

Intergovernmental Panel on Climate Change (IPCC), the top UN scientific authority on climate change, by 2050 as many as 150 million "environmental refugees" may have fled coastlines vulnerable to rising sea levels, storms or floods or agricultural lands that become too arid to cultivate. In India alone, there could be 30 million people displaced by persistent flooding while a sixth of Bangladesh could be permanently lost to sea level rise and land subsidence. The IPCC estimated in 2001 that by 2100, temperatures would rise by between 1.4°C (2.5°F) and 5.8°C (10.4°F) compared to 1990 levels

driven by atmospheric carbon pollution which stokes up heat from the sun. The mean global sea level would rise by between 9 and 88 cm (4 and 35 inches).

Global warming will also add significantly to Earth's worrisome water problems. Already around 1.4 billion people live in water stressed areas, a term defined as having less than 1000 cubic metres (35,000 cubic feet) of water per person per year. The world's supply of clean fresh water, already threatened by growing levels of pollution, is growing so scarce in some areas accentuated by climate change in consequence of global warming, that if current trends continue, two-thirds of humanity will suffer severe water stress within 30 years, says a UN report. The situation will not only imperil human health and development on a vast scale, but also the aquatic and terrestrial ecosystems on which much of Earth's life depends. The growing scarcity of water is also hampering the expansion of agricultural production at a time when demand for food is rising with steady population growth.

In some countries, with no exception in Bangladesh, there is now a need to move from food self-sufficiency to greater reliance on food purchases from world markets. The crisis resulting from water shortages due to climatic change may put global food supplies in jeopardy and lead to economic stagnation in many areas of the world, triggering a series of local and regional water crises with global implications. Racked by land

destruction, salinity intrusion, water logging, recurrent floods, and storm surges, people in the south-western part of Bangladesh are now facing a new set of challenges imposed by global climate change, including further rise in sea level, changes in the course of the rivers and increase in temperatures. Many in the region who were dependent on agriculture and fisheries have switched over to other professions due to environmental constraints and destruction of natural resources. The biggest impact of climate change has been to the water supply.

The south-western part of Bangladesh now bears the brunt of the ravages of climate change in almost unimaginable proportions. The water in most of the ponds in villages of Sathkira, Bagerhat, Khulna, and Barisal has turned into saline, while tubewells now fail to yield drinkable water. The saline water has affected cultivation of vegetables, crops, and sweet-water fish. Water supplied by the Sathkira Pouroshava supply plant are now on sale in large containers driven by three wheelers around villages hit by sweet water scarcity. Traditional sweet-water fish are almost extinct due to inundation and saline intrusion in local ponds and wet lands. Farmers and fishermen who were earlier dependent on agriculture and fishing are now migrating to other towns and cities to work as day labourers, rickshaw pullers, and van pullers.

But hope is there on the horizon because environmental awareness is growing. Now efforts are underway to right some of the wrongs in most parts of the world. China, whose factories spew poisons that fall as acid rain on its neighbours, is cutting back on the use of coal and thus reducing sulphur dioxide emissions. In Hong Kong works are going on to clean up city's ever thickening air by replacing diesel fuel for taxis with less noxious liquefied petroleum gas. Dhaka has also made some headway in this regard. Big businesses in Malaysia are heeding the government's call to minimize industrial effluents. Seventeen sites in Singapore, already in some ways an environmental blueprint for much of Asia, have been designated "Nature Areas."

True, if the nations of the world take immediate action, the destruction of the global environment, no doubt, can be slowed substantially. But some irreparable and irreversible damage may be inevitable. Even if fossil fuel emissions are cut drastically, the overall level of carbon dioxide in the atmosphere will increase -- along with the likelihood of some global warming. Even if toxic dumping is banned outright and that ban is strictly enforced, some rivers, lakes, and aquifers will be tainted by poisons that have already been released. Even if global population growth could be cut in half, there would still be 45 million new mouths to feed next year, putting further strain on a planet where capacity to sustain life is already under stress. Sooner or later, the Earth's human inhabitants so used to adapting the environment to suit their needs will be

forced to adapt themselves to the environment's demands. The question that invariably comes is how will societies and people cope out with the long-term changes that are likely to be in store? In countries and regions hit by climatic upheavals people have come up with a variety of solutions that are likely to have broad applicability to the global problems of tomorrow.

How would societies respond, for example, if the oceans were to rise 3 to 5 ft over the next century, as some scientists have predicted? One option would be to construct levees and dikes. The Netherlands, after all, has flourished more than 12 ft below sea level for hundreds of years. Its newest bulwark is a 5.6 mile dam made up of 131 ft steel blocks that remain open during normal conditions, to preserve the tidal flow that feeds the rich local sea life, but can be closed down when rough weather threatens. Venice has put into place 1.2 mile flexible sea wall that will protect its treasured landmarks against Adriatic storms without doing ecological damages to the city's lagoon.

Poorer countries have fewer options. Racked by periodic floods, cyclones and storm surges, especially in the coastal zones, Bangladesh cannot simply evacuate the "chars" in the Ganges Delta where millions of people have set up homes. Launching of such massive evacuation plan that involves forbiddingly high cost, expertise and innovative facilities is a daunting task. However much talked about Saarc summit can deliver the panacea. As Bangladesh suffers the ravages of floods every year, its adjacent as well as Himalayan neighbours must also understand and do something about the root cause of the flooding: the deforestation of watersheds in India and Nepal that has turned seasonal monsoons into "unnatural disasters." The problems of agriculture as mentioned earlier would be critical in the next century, as growing populations, deteriorating soil conditions, and changing climate put even more pressure on a badly-strained food supply system. Hundreds of grass roots organisations in Africa are taking action to cope with the environmental change. Even embattled Somalia has launched a vigorous anti-desertification drive that includes a ban on cutting firewood. In Burkina Faso, villagers have responded to dwindling rainfall by building handmade dams and adapting primitive water gathering techniques.

Plant genetics is another option that needs to be pursued vigorously. Clearly, the once revolutionary technologies of the green revolution now have to incorporate new technologies of Gene Revolution. The Intentional Rice Research Institute has developed rice that can tolerate submergence, a common source of crop loss due to river overflows in Bangladesh and Vietnam. Hundreds of labs across Asia are using biotechnology to improve food crops such as chickpeas with disease resistance and papayas and tomatoes that don't rot easily. Biotechnology also helps protect the environment. Thanks to technology, soybean farmers in the U.S and China have embraced reduced tillage, saving valuable topsoil from erosion. The task of producing more food on the firm is daunting, given the challenges of insects, disease, dwindling water supply, and steadily degrading soils. It is an urgent challenge. Bangladesh can not afford to ignore the scientific innovations used increasingly by the rest of the world.

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CHT: Wildlife in jeopardy

The tribes, the hills, the forests, the streams and creeks and the wildlife of CHT together are unique in bio diversity. Wildlife Protection Act which was introduced in 1973 but has not been implemented effectively until now should be strictly followed for protecting their harmony. If the past is of any indication to what might lay in store for CHT in future then things do look indeed very grim.

SYED SAAMIM FARUK

AS dawn was breaking in the picturesque hill tracts of Rangamati, Langdut, a tribal hamlet by the forest, was so quiet as if the time has stood still there. Just on the edge of the forest a baby elephant was seen shrieking in pain after being badly mutilated apparently by the poachers. The poachers have killed her mother and taken away its ivory and bone particles which are in great demand in black market.

The event has created a great commotion and furor in the area and in the Forest Department itself. However such secret practice of poaching and killing is nothing new in the forests of greater hill tracts area. Rampant killing of wildlife in CHT forest is giving rise to fast dwindling of many wild species. The total failure in implementation of Wildlife Protection Act (WPA) is the primary reason why such frequent poaching and smuggling of many wild animals has taken place in the recent times.

The forest department has proved completely inept and ineffectual in introducing adequate measures to stop such misdeeds. Insiders in the forest department have said that there might be a nexus between the racketeers and a handful of employees of the forest department. A recent survey by the forest department itself has showed that due to secret but pervasive poaching a major portion of wild species in the forest are on the verge of extinction. The study has revealed that in the southern part of the forest area where the poaching is of major concern there are of about 75 types of mammals. Seven types of amphibians, 100 types of birds and 25 types of lizards and snakes adding harmony to the bio diversity and eco system of the area.

A study report published on southern forest division of CHT has disclosed that the poachers are very much active in hunting elephants, wild boar, deer etc. Illegal hunting has already caused great decline in the number of bear,

monkeys, wild pigs, goyals etc.

A section of tribes are adding fuel to the fire by relishing the meat of many wild animals which they consider a part of their longstanding tradition. Many tribes are sticking to the tradition of hunting wild life as a common way of their day to day life. The abundance of firearms both legal and illegal in the name of self defence against wildlife has complicated the matter further.

The tribes, the hills, the forests, the streams and creeks and the wildlife of CHT together are unique in bio diversity. Wildlife Protection Act which was introduced in 1973 but has not been implemented effectively until now should be strictly followed for protecting their harmony. If the past is of any indication to what might lay in store for CHT in future then things do look indeed very grim. However, we should not drive ourselves into total state of pessimism and inertia and should make a concerted effort to protect the unique wild life variety and bio diversity of Chittagong Hill Tracts.

6x3

9x3

5x2

6x3