GLOBAL WARMING

The planet in peril

The business-as-usual scenario, with 5 degrees Fahrenheit global warming and 10 degrees Fahrenheit at the ice sheets, would certainly lead to their disintegration. The only question is, when the collapse will begin? The business-as-usual scenario, which could lead to an eventual sea level rise of 80 feet, with 20 feet or more per century, could produce global chaos, leaving fewer resources with which to mitigate the change in climate.

JIM HANSEN

IN Sweden and Norway, the treeline is marching northward and uphill as the snowline recedes. In the Arctic, the polar bear finds its habitat shrinking. Elsewhere in the northern hemisphere, animals are slowly moving north to escape rising temperatures. Behind the silent movement hides a disturbing story that we had better take note of before it is too late. If the present warming trend continues, rising seawater will claim coastal cities all over the world.

Animals have no choice but to move, since their survival is at stake. Recently after appearing on television to discuss climate change, I received an e-mail from a man in northeast Arkansas about his observations of the armadillo: "I had not seen one of these animals my entire life, until the last ten years. I drive the same 40-mile trip on the same road every day and have slowly watched these critters advance further north every year and they are not stopping. Every year they move several miles."

The mobility of armadillos suggests that they have a good chance to keep up with the movement of their climate zone, to be one of the surviving species.

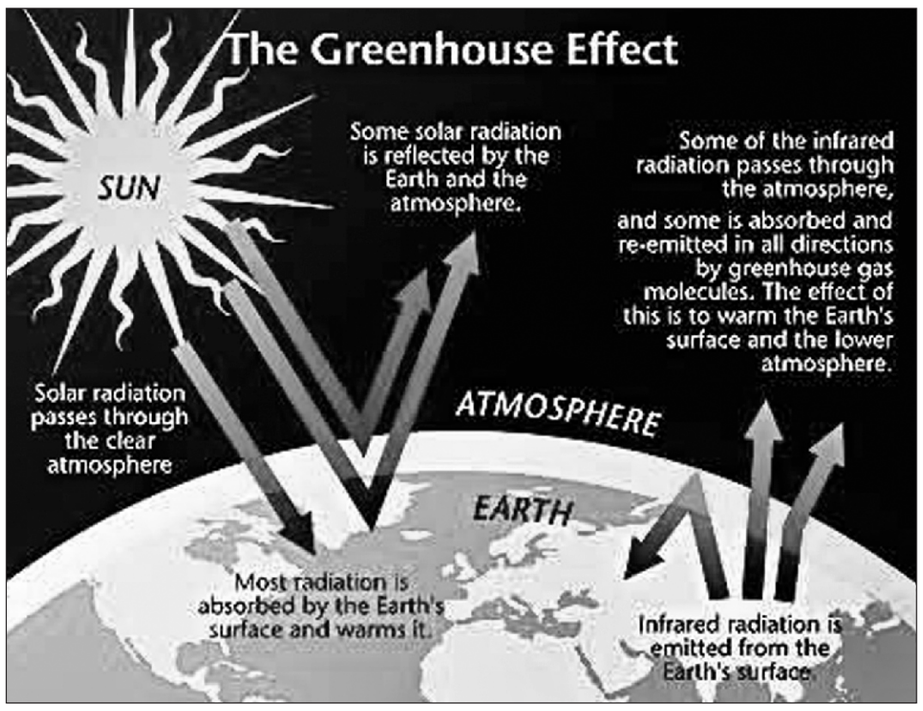
Other species have greater problems. Of course, climate fluctuated in the past, yet species adapted and flourished. But now the rate of climate change driven by human activity is reaching a level that dwarfs natural rates of change. If climate change is too great, natural barriers, such as coastlines, spell doom for some species.

Studies of more than 1,000 species of plants, animals, and insects, found an average migration rate toward the North and South Poles of about four miles per decade in the second half of the 20th century. That is not fast enough. During the past 30 years the lines marking the regions in which a given average temperature prevails, or isotherms, have moved poleward at a rate of about 35 miles per decade.

As long as the total movement of isotherms toward the poles is much smaller than the size of the habitat, or the ranges in which the animals live, the effect on species is limited. But now the movement is inexorably toward the poles, totaling more than 100 miles in recent decades. If emissions of greenhouse gases continue to increase at the current rate -- "business as usual" -- then the rate of isotherm movement will double during this century to at least 70 miles per decade. If we continue on this path, a large fraction of the species on Earth, as many as 50 percent or more, may become extinct.

The species most at risk are those in polar climates and the biologically diverse slopes of Alpine regions, are literally pushed off the planet. A few species, such as polar bears, no doubt will be "rescued" by human beings, but survival in zoos or reserves will be small consolation to bears or nature lovers.

In the Earth's history, during periods when average global temperatures increased by as much as 10 degrees Fahrenheit, there have been several "mass extinctions," when between 50 and 90 percent of the species on Earth disappeared forever. In each case, life survived and new species developed over hundreds of thousands of years -- but the life that survived was dramatically different from that which dominated before. The most recent of these mass extinctions defines the boundary, 55 million years ago, between the Paleocene and Eocene epochs. The evolutionary turmoil associated with that climate change gave rise to a host of modern mammals, from rodents to primates, which appear in fossil records for the first time in the early Eocene.



If human beings follow a business-as-usual course, continuing to exploit fossil fuel resources without reducing carbon emissions or capturing and sequestering them before they warm the atmosphere, the eventual effects on climate and life may be comparable to those at the time of mass extinctions. Life will survive, but on a transformed planet. For foreseeable human generations, the world will be far more desolate than the one in which civilization flourished during the past several thousand years.

The greatest threat of climate change for human beings lies in the potential destabilization of the massive ice sheets in Greenland and Antarctica, a catastrophe that would be as irreversible as the extinction of species.

Future rise in the sea level depends, dramatically, on the increase in greenhouse gases, which will largely determine the amount of global warming.

To arrive at an effective policy we can project two scenarios concerning climate change. In the business-as-usual scenario, annual emissions of CO2 continue to increase at the current rate for at least 50 years. In the alternative scenario, CO2 emissions level off this decade, slowly decline for a few decades, and by mid-century decrease rapidly, aided by new technologies.

The business-as-usual scenario yields an increase of about 5 degrees Fahrenheit of global warming during this century, while the alternative scenario yields an increase of less than 2 degrees Fahrenheit during the same period.

The last time that the Earth was five degrees warmer was 3 million years ago, when the sea level was about 80 feet higher.

In that case, the world would lose Shanghai, Tokyo, Amsterdam, Venice, and New York. . In the US, 50 million people live below that sea level. China would have 250 million displaced persons. Bangladesh would produce 120 million refugees, practically the entire nation. India would lose the land of 150 million people.

A rise in sea level, necessarily, begins slowly. Massive ice sheets soften before rapid disintegration and melting occurs and sea level rises. The Earth's history reveals cases in which sea level, once ice sheets began to collapse, rose 1 meter every 20 years for centuries, calamity for hundreds of cities throughout the world.

Satellite images and other data have revealed the initial response of ice sheets to global warming. The area on Greenland in which summer melting of ice took place increased more than 50 percent during the last 25 years. The volume of icebergs from Greenland has doubled in the last 10 years.

The effect of this loss of ice on the global sea level is small so far, but accelerating. The likelihood of the sudden collapse of ice sheets increases as global warming continues. For example, wet ice is darker; thus, as ice sheets continue to melt they absorb more sunlight and melt even faster.

The business-as-usual scenario, with 5 degrees Fahrenheit global warming and 10 degrees Fahrenheit at the ice sheets, would certainly lead to their disintegration. The only question is, when the collapse will begin? The business-as-usual scenario, which could lead to an eventual sea level rise of 80 feet, with 20 feet or more per century, could produce global chaos, leaving fewer resources with which to mitigate the change in climate. The alternative scenario, with global warming under 2 degrees Fahrenheit, still produces a rise in the sea level, but the slower rate allows time to develop strategies for adapting to the changes.

The Earth's creatures, save for one species, do not have thermostats in their living rooms that they can adjust for an optimum environment. But people -- those with thermostats -- must take notice, and turn down the world's thermostat before it is too late.

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WATER AND SANITATION

Priority for poverty reduction

Though Bangladesh has achieved a considerable success in the water supply sector, this achievement is mainly tube well water or groundwater based. Due to overexploitation of groundwater the water table is gradually lowering, which could be disastrous in future.

MD SAIFUL HAQUE

THE current world population is 6,420 million people. Of this 21.8 per cent lack access to drinking water and nearly one third lack access to sanitation services (4th World Water Forum Secretariat report). Only 1 per cent of all the water in the planet is freshwater, safe for human consumption. Every day, 3,900 children under the age 5 (WHO estimate) die of water related diseases (eg diarrhoea). Life of these people, often among the poorest on our planet, is devastated by this deprivation. Lack of access to water also impedes enjoyment of health and other human rights (eg right to education, right to adequate standard of living, right to food).

The amount of water on the planet remains the same, but it has to be distributed among an increasingly larger population. Concerned by this situation, the recently concluded 4th World Water Forum (WWF) held in Mexico City last March represented the opportunity to establish an international dialogue amongst multiple stakeholders. Under the slogan "Local Actions for a Global Challenge" as a guidance principle, they exchanged experiences on water management and achieved quite a few joint solutions to ensure a more socially responsible behaviour towards the use of water.

Over the recent few decades, the urban-industrial model of life has developed so dramatically that it has generated a serious crisis of rural disintegration and urban saturation, creating public health problems in poor countries. This crisis has been aggravated by factors, such as accelerating population growth, increasing inequalities, national or regional conflicts and the influence of climate change on the water cycle.

To improve the situation in terms of water supply and sanitation, international commitments have been made through the United Nations Millennium Development Goals (MDGs), one of which aims to *halve the proportion of people who are unable to reach or afford safe drinking water, by 2015.* The Johannesburg Declaration adopted at the world Summit of Sustainable Development in 2002, also set a new target to *halve the proportion of people who do not have access to basic sanitation, by 2015.*

Meeting the targets on water and sanitation would also contribute significantly to the realisation of other MDGs, including reducing poverty, promoting gender equality, reducing child and maternal mortality and providing universal primary education.

According to WHO's Report, the costs of achieving the MDG on drinking water and sanitation are affordable; the human costs of failing to do so are not.

As a result, actions to provide access to water and sanitation are underway all over the world. However, this is not enough. It is necessary to prioritise providing and maintaining water and sanitation services. Inadequate attention to water in Poverty Reduction Strategy Papers (PRSPs) illustrates the challenges governments face in making choices and setting priorities with limited means at their disposal.

Bangladesh scenario

Though Bangladesh has achieved a considerable success in the water supply sector, this achievement is mainly tube well water or groundwater based. Due to overexploitation of groundwater the water table is gradually lowering, which could be disastrous in future. Arsenic, a toxic element, has already been discovered in the groundwater in almost all the districts of the country. The excessive presence of arsenic in groundwater that is widely used as drinking water and in other irrigational purposes is redefining water from 'life saver' to a 'threat'. The problem is more acute in the tube wells abstracting groundwater from 10m to 100m depths.

Hence, the nation is looking for alternative sources for safe drinking water. Dependence on groundwater has largely to be reduced, and for this there is no alternative to surface water. Most of the developed countries use surface water to cover 70 to 80 per cent of their drinking water need while Bangladesh uses it only for 1 per cent and 99 per cent of its drinking water comes from groundwater.

The river water must be kept pollution free. It should be filtered, treated, continually tested and delivered through a closed system to provide a safe water for the nation.

In sanitation sector, the government has committed to achieve 100 per cent sanitation coverage by 2010. As per the latest government estimates, the sanitation coverage has reached 72 per cent (as of March, 2006), which considers nothing but latrines in the households. But in many areas the sanitation coverage is yet much below the government coverage figure. And it is below 20 per cent in metropolitan slums. These city slum dwellers even do not have access to drinking water, let alone sanitation. Most impoverished people are illiterate and ignorant. They have a poor understanding of the link between poor hygiene and disease. Many of them do not use soap or ashes for washing their hands after defecation (only 7 per cent use soap). And in this condition they have their meals, feed children and prepare food. Therefore, diarrhoea, dysentery, typhoid, hepatitis, parasitic worm infestation, etc are very common in Bangladesh due to unsafe drinking water and absence of hygiene. Children and women are the worst victims. Over 5 billion taka is spent each year for treatment alone of hygiene related diseases in Bangladesh. Unfortunately, this water and sanitation sector is entrusted with the most corrupt Ministry of Local Government and Rural Development (as per the latest Transparency International, a leading global watchdog organization, report).

In fact, public and donor funds are largely "misappropriated" routinely here in a systemic way. Moreover, poor governance and transparency issues resulting in widespread systemic corruption are the "biggest barriers to the country's sustainable development".

Surprisingly, the government has almost ignored the importance of the safe water supply and sanitation (WSS) sector in the national budget 2006-07, which could aggravate the situation and delay meeting the national water supply and sanitation target (by 2010). NGOs and civil society organisations working in Bangladesh pointed out there is no separate head for WSS sector in the national budget despite it's being a crucial element in the PRSP. WSS chapter has been put in the budget merely as a sub-sector under Physical Planning, Water Supply and Housing.

The Asian Development Bank(ADB)as part of its human welfare activity expects to double the investments it will finance in the water sector over the next five years, according to plans announced at the 4th WWF. The move recognises clear link between clean water and reduction poverty and is intended to make a significant contribution to the achievement of the MDGs.

This new Water Financing Programme will greatly increase ADB's water investments for 2006-2010 and it is expected that such investments will be well over $2 billion annually. This would make water a core business area of ADB's operations.

Despite good progress made, the Asia and Pacific region is still falling short of targets due to rapid population growth and greatly increased urbanisation, as well as low performance in delivering water services. In 2002, about 700 million people in the region lacked access to safe water supply and some 2 billion lacked access to adequate sanitation.

The *Asia water Watch 2015* study commissioned by ADB, WHO, UNDP, and UNESCAP estimates that annual investments of $8 billion will be needed over the next decade to meet MDG targets for safe drinking water and sanitation alone. In addition, investments are needed in irrigation services, river basin management, flood management and mitigation, and wastewater management. A wide range of governance, institutional, social, environmental, and political issues make this an even bigger challenge.

The new ADB programme will focus on the delivery of substantial investment, reform, and capacity development in three key areas -- rural water services, urban water services, and river basin water management.

"As we start the second five years of implementing our Water for All policy, we are ready to step up water investments in the Asia-Pacific region through long term partnerships with ADB's developing member countries and closer collaboration with the private sector and civil society," says Wouter Lincklaen Arriens, ADB's Lead Water Resources Specialist.

Concrete outcomes of the programme will be safe drinking water and improved sanitation for about 200 million people, improved irrigation and drainage services affecting livelihoods of 40 million people, reduced flood risk for about 100 million inhabitants in rural and urban areas, and integrated water resources management introduced in 25 river basins.

Good. But ADB has to ensure that all its investment and welfare benefits reach the hardcore poor.

Md Saiful Haque is a freelance journalist who participated in 4th WWF and also attended IFEJ Stockholm 2006 Congress and World Water Week in Stockholm, 2006.

Rural Tourism: Right time to contemplate

MOHAMMAD SHAHIDUL ISLAM

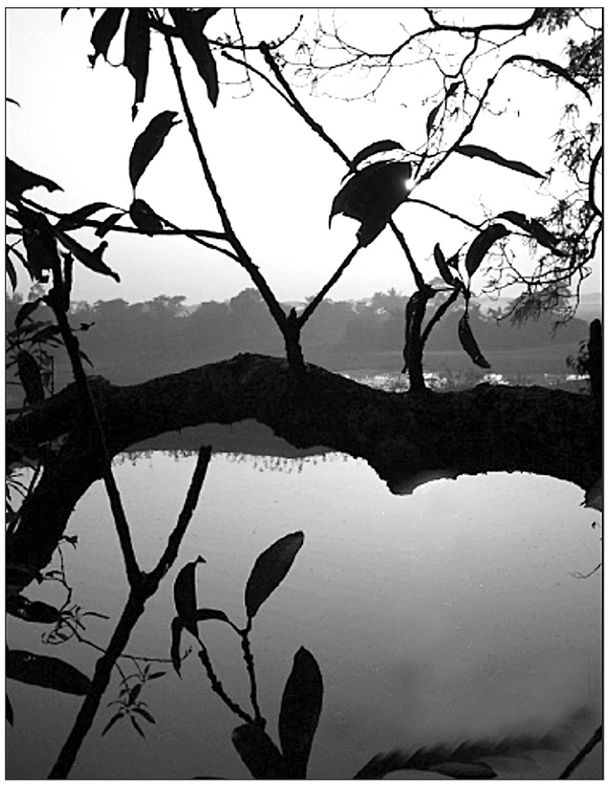
'Poverty alleviation through rural tourism' slogan is very natural and meaningful in Bangladesh. The philosophy of rural tourism is constant in its Master Plan. But it requires extensive preparation with a huge financial backup. It may take time. It is better to kick off an awareness campaign for rural tourism in Bangladesh chapter as it is very less talked about subject.

IN a sense the village landscape, wildlife, community and cultural life, natural heritage are key assets that attract visitors -- and visitor revenue. Tourism is about welcoming visitors to attractive and stimulating places where they would like to spend their leisure time. The countryside, market towns and villages have much to offer the visitors, and are major factors in generating trips from within the country and from overseas. The countryside is enjoyed in the course of a wide range of activities from traditional country life pursuits such as fishing and local festivals, and more active enjoyment, such as walking or horse riding. Many people value the chance to get away from their daily schedule, to relax and revitalise themselves in the tranquillity, space and beauty of natural environs. These can only be enjoyed in the countryside and its great popularity brings significant levels of spending into rural areas, to rural businesses and services.

The concept of rural tourism has become important round the globe at present. It is thought that rural tourism can revitalise the conventional concepts and views on tourism, and bring in a new dimension in the sustainable development of tourism. It has been realised that society based tourism can play a fundamental role in poverty alleviation in countries like Bangladesh. The concept of rural tourism as a product has been given shape in Bangladesh since the Industrial Policy of 1999 that integrated tourism as an industry and termed it as a "Thrust Sector" in view of its stable growth and sustainable development. The government should put emphasis on rural tourism in order to accomplish the goals of alleviating poverty.

Tourism is lagging behind because of the lack of continuity in government strategies. Discontinuity in the implementation of the guidelines and programmes has been one of the impediments to the promotion and development of the tourism industry. Poverty alleviation through sustainable tourism development in Bangladesh should be given importance and priority. Spreading awareness among the common people across the country has also become very important.

It is important to know that the way in which rural tourism is organised and the forms it takes vary from country to country. In some countries the government, or cooperative movement, is the main source of investment. In others it is private enterprise. In Indonesia, rural tourism has been developed mainly in the plantation areas of Sumatra and Java. Visitors stay in hotels, but visit farms to see activities such as rice planting or rubber tapping. In Japan, the most common type of farm tourism is the farm inn, which offers accommodation and usually meals. Korea offers tourism farms, developed by a group of more than five farm households, and home-stay villages near tourist resort areas. In Malaysia, the government has provided most of the funding for more than 30 agrotourism centers.



Bangladesh is a country of thousands of villages. Most of its heritage sites and international tourist spots are positioned around villages. These are intended for education as well as recreation. Sometimes rare plant or animal species are the main attraction, sometimes traditional food, handicraft or historic buildings. A European example of well developed rural tourism is France. Camping and caravans are the most popular form of accommodation in rural areas, many of them on farms. Many farmers have developed camping sites on their farms. Others prefer to invest in various kinds of short-term rental houses known as "gîtes."

Bangladesh has huge potential in the scenario of world tourism. The concept of rural tourism is still overlooked. Now is the right time to think of rural tourism development. Except rural tourism, all general attractions, like archeological sites, historical places, natural beaches are, more or less, getting importance. But ironically, rural tourism can be successful for at least two reasons. First, through rural tourism Bangladesh will positively get rid of poverty, and second, the infrastructure of remote and rural places would be developed.

- Rural tourism is essential for the economic development of Bangladesh. Its benefits will act as a catalyst in the overall development in Bangladesh. Rural tourism development will have the following outcomes:
- Gross Domestic Product growth
- Human resource development
- Poverty alleviation
- Originality in culture and heritage
- Development of riverine tourism and eco-tourism
- Development of rural livelihood
- Education and training for all
- Peace and happiness
- Promotion of local cuisine
- Women employment

'Poverty alleviation through rural tourism' slogan is very natural and meaningful in Bangladesh. The philosophy of rural tourism is constant in its Master Plan. But it requires extensive preparation with a huge financial backup. It may take time. It is better to kick off an awareness campaign for rural tourism in Bangladesh chapter as it is very less talked about subject. Step by step the seed of rural tourism concept will give birth to a sense of urgency, and consequently the tourism campaign across the country will be forceful and evocative.

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Promoting *Nishorgo* programme

FOREST Department's Nishorgo Programme has now added a visitor's information kiosk at Satchari National Park, Hobigonj as an attempt to facilitate community led eco-tourism that would contribute to conservation of the park. Satchari National Park is considered a gem of a forest. Widely accessible from the roadside, this small forest is only 2.5 hours drive from Dhaka, and is a home to many unique species, especially birds.

Tourists arriving at the park are now directed to this kiosk where they can collect the entry ticket, information on the park and the guided trails. Souvenirs are also available. A proportion of revenue generated in this kiosk is allocated to the Committee for uses supporting local livelihood improvement and conservation of the park. Eco-tour guides use the information kiosk as a meeting place when beginning their tours. The Co-Management Committee can use the kiosk to communicate with the general public about its purpose and activities. Through co-management or collaborative management approach with local stakeholders, Nishorgo Programme is supposed to conserve the biodiversity of the Protected Forest Areas. Nishorgo Programme receives financial assistance from USAID through Nishorgo Support Project.

To facilitate nature tourism linked with conservation, Nishorgo Support Project has taken initiative for tourism infrastructure development. These are meant to improve the visitation experience and augment knowledge on nature of the visitors. As part of the initiative, the information kiosk has been established at Satchari National Park. The building is intended to serve as an example of nature-friendly construction befitting our beautiful protected areas.