

# Depletion of forest by the forest lord!

## Indiscriminate exploitation must stop

MD ASADULLAH KHAN

MOST of the news about the environment either here in Bangladesh or elsewhere in the world is distressingly bad. Reports of disappearance of forests, destruction of wetlands, diminishing of coral reefs and extinction of other natural resources come with frightening frequency. While all countries outside Bangladesh celebrate the World Environment Day every year on June 5 with much fanfare by achieving some environmental progress, the environmental situation in Bangladesh unfolds a dismal picture. Against such a backdrop the Chief Adviser Fakhruddin Ahmed while inaugurating the National Tree Plantation Fair at Tangail on June 3 last exhorted every individual in increasing forest wealth by planting trees and protecting these by all means.

Paradoxically the Chief Adviser's inspiring address came at a time when all eyes were focused on Osman Gani, the forest boss of the country who denuded the forest to amass huge wealth through selling both promotions and transfers of forest officials as well as forest resources, now detected by the law enforcers. The week before last a horrified citizenry watched images of the forest lord's plundering of the forest wealth in the country and realised the futility of the move when a protector turns usurper.

Reports allege that while serving as conservator of forests in Khulna, he sold out 368 lots of sundari wood without any auction showing only Tk.33 lakh as the price that would have yielded Tk.3 crore and 51 lakh.. Starting from the Sundarbans to Madhupur to Rangamati to Jugachari reserve forest -- forest lands and forest wealth have been devoured by Osman Gani and his syndicate and all this went on during the last five years without creating a ripple in any quarters of the past government . Unsurprisingly, when he had to buy his promotion at a hefty price of Tk. 80 lakh, that was shared by high-ups in the past government, nothing could possibly stand in the way to his insatiable greed of denuding the forest through rampant illegal logging.

Home to 330 species of plants, over 270 species of birds, and 42 species of mammals including the majestic Royal Bengal Tiger and the spotted deer, the Sundarbans went under assault systematically during the last one decade. The biggest mangrove forest in the world that once comprised 10,000 square kilometers is now left with only half of that. Once the rulers of the forest, the tigers are now prisoners of human intruders and disappearing faster than any other large mammal. Inside the forest, they are succumbing to poaching and relentless pressure of human population around the forest territory. Nearly 60 percent of the world's tropical rainforests including the emerald mangrove forest of the Sundarbans have been lost and what remains is under extreme pressure from logging and human population growth. Precisely true, once a forest is cut down, many of the living things it has harboured will be driven to extinction.

Realizing that it's impossible to guard every tree in every place, Mittermeier, the president of the CI (Conservation International) suggested a focused, two sided strategy. One priority, based on the ideas of British conservationist Norman Myers, is to protect the world's "hot spots," areas that are disturbed by human activity but still exceptionally rich in animal and plant species found nowhere else. CI has identified 25 hot spots throughout the world where preservation efforts could have maximum benefit. The island of Madagascar and the Atlantic forest region of eastern Brazil figure out prominently in their selection because of the vast resources these two places offer. The other priority is to watch over tropical wilderness areas relatively untouched by people. These include the upper Amazon and the Congo basin in Central Africa.

In both hot spots and wilderness regions, CI suggests demarcation of key reserves like the one that was intended to be developed in Jugalchari in the Khagrachari district in our country and which has now been denuded to feed the greed of Osman Gani and his syndicate, the present day human predators. The idea was to keep

these forest regions off limits to agriculture and industry forever. But just as important is the nurturing of other territories where healthy forests and human enterprise can coexist. CI has a message for developing countries like ours: your forests are valuable intact and alive than they are chopped down and dead. Profits could come, for example, from the marketing of exotic foods, chemicals and medicines found only in the rain forests and from the largely untapped potential of ecotourism.

Rangamati that once comprised 60000 hectares have already disappeared. Along with it are gone the massive civet trees, about 150 feet high, and sundari and garjan trees.

Assault has come from many directions as reports suggest. People from the plains were made to settle there in 1983 even after it was declared a sanctuary, and in consequence many plant species of invaluable importance, and trees like Sal and Segun were chopped off and went into the market through

owls and common Mainas remain there. Fish population in the wetlands has also declined. Telapia, an alien species, as we all know dominates the wetlands harming the native species of fish. Indiscriminate felling of trees or plundering the forest without permit and payment of revenue to the proper authorities has been going on unabated with the direct help of the forest officials allegedly in exchange for hefty bribes.

Forest department officials seldom venture out to the ranges

at whose instance and help 17000 cubic feet of teak wood, all properly sized, were being smuggled out from the Baghainat forest and brought to a halt by the intervention of the army in 2000. People feel that the patronage and protection these corrupt officials enjoyed from the high-ups only emboldened them and reinforced their belief that they could carry on such unfair business unhindered.

Speaking about the Sundarbans and its surrounding areas, almost four million people depend directly

amount of stress on the viability of this delicate ecosystem. During my visit to the Sundarbans last year I have seen hundreds and thousands of small fishing boats in the Shela river inside the deep forest area engaged mainly in catching shrimp fries and in the process other fries or small fish that come up are discarded dead or alive because shrimp fries fetch higher price than other catches. While cruising through the shallow canals and rivers flowing deep inside the forest ranges, one feels impressed to see the lush green emerald rain forests that present an unspoiled showcase for the diversity of life.

In lush territory at the mouth of the Bay of Bengal there was hardly a break in the canopy of 150 ft tall trees and virtually every acre was alive with the cacophony of all kinds of insects, birds and monkeys. But beyond the river shore deep inside the forests, I was told by the driver of the launch, there were breaks and empty spaces because forests in this region have fallen to lumbering. Other than slash and burn practices resorted to by a group of criminal gangs of businessmen, illegal quarrying has stripped the earth of its foliage which like deforestation loosens silt that eventually clogs the rivers and waterways and worsens flooding. Environmental reports say silting has caused the bed of China's Yellow River to rise by more than four metres over the past four decades.

In almost all places, including ours, greed, shortsighted environmental policies and corruption cause much of the damage. Perhaps the worst culprit is the indiscriminate logging, much of it illegal, around watersheds. As already mentioned, cutting trees loosens the topsoil reducing the ability to retain liquid. Such indiscriminate felling of trees from natural forests has been stopped in neighbouring India by an order of the Supreme Court.

The recent move by the caretaker government in stopping pilferage of the forest resources of the country through arresting the chief conservator of forests for his unbridled corruption brings hope that situation in Bangladesh may change for the better now. However, people would be happy if the country's apex court played the

role of jungles' messiah.

However, the practice of deforestation as a means to poor people's livelihood is assuming serious proportions throughout the world. Much of the world's land is too rocky, arid or salty for agriculture. Forests that have not already been cut deserve protection: they harbour the habitats of earth's endangered wildlife. This has to be done because we are not yet aware of the full dimensions of the bio-diversity that are hidden in the forests and the problems that lie ahead of us. Fewer than two million species of animals, plants, and micro-organisms have been identified till this date. Yet tens of millions more may exist -- in oceans, rainforests and everybody's gardens. In fact nature does not seek to make a connection with us, nature does not care if we live or die. The hard truth is that we can't survive without the oceans and the forests.

Forests temper climate and capture and store water. Their timber has been a springboard of economic development. Forests store 40 percent of terrestrial carbon and can slow the build-up of carbon dioxide in the atmosphere. Deforestation in mountains can worsen floods in grasslands or agricultural lands below, as was the case in China and Madagascar some years before.

The extinction of forests has come in the wake of unprecedented population boom, especially in the Third World. Much of the land becomes less arable by the minute it is assaulted by urbanisation, chemical pollution, desertification and overuse of limited water supplies. The exhaustion of land in many areas has created a new class of displaced person known as "environmental migrant." While wars have so long been fought over territory, the future may see "green wars" triggered by shortages of such basic resources as topsoil or water or greenery.

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CI set up a private trust fund, with contributions from around the world, to help Suriname (the former Dutch Guyana situated in the north of Brazil), guard and manage the protected area. Outside the reserve, CI has worked with local Maroon tribes to limit farming to certain slash-and-burn areas and not disturb most of the forest surrounding their villages. Coincidentally think of Bangladesh with such a big forest like the Sundarbans with lush green trees intact extending over several thousand kilometres! But who will invest in protecting and developing the forests in a country where much of the 3000 crore taka placed for the purpose were misappropriated by corrupt and unscrupulous forest officials.

The story of the destruction of Rangamati forest is equally distressing as revealed by Dr. Ali Reza Khan, an expert and author of several books on wildlife, in a forum arranged by the Environmental Journalists of Bangladesh in the year 2000. Over the years government effort to turn Jugalchari into a reserve forest by spending about Tk.12 crore has ended in a fiasco through embezzlement of fund and allowing illegal logging and timber trade with the direct patronage and blessings of the corrupt forest officials. Almost 10000 hectares of the reserve forest lands of



No indiscriminate exploitation, please.

devious means as usual. The report further says that out of 80 species of birds found in the Rangamati forest in 1980, only 43 species including

for routine inspection and monitoring because of such unholy alliance. Nobody knows till now what action was taken against the offi-

or indirectly on this forest for their livelihood. Overfishing and over exploitation of plant and wildlife species are placing increasing

# Unilateral withdrawal of Brahmaputra waters?

PROF ENGR MUSTAFIZUR RAHMAN TARAFDAR

M Y attention was drawn to the news item "China plans to divert Brahmaputra waters" in The Daily Star of May 8, 2007. It stated that China plans to construct a dam at Yarlung Tsangpo point on the Brahmaputra river in Tibet to divert 200 billion cubic metres of waters annually to the Yellow river.

200 billion annual flow is equal, on an average, to about 6,000 cubic metres of water per second. This is equal to the recorded low discharge of the Brahmaputra at Sirajganj in the month of April/May. The low flow discharge in the month of December, January, February and March is of the order of 3,000 to 5,000 cubic metres per second. It means that the Brahmaputra will have no flow in the river channel from December to April. In plain language it is clear that the Brahmaputra basin will turn into a desert with direct and peripheral adverse effects in the entire Padma and lower Meghna basins. The average withdrawal of 6,000 cubic metres per second is obvi-

ously expected to increase in the dry months in China which will aggravate the crisis as seasons in China and Bangladesh virtually coincide.

On the average the Brahmaputra contributes to more than 50 percent of the flow of all the rivers combined including the Ganges in Bangladesh. The runoff that will be generated in the Brahmaputra basin between China and Bangladesh will occur during the rainy season and will pass as flood flow with no contribution to the low flow as it will also be equally deprived of the low flow supply from China. The runoff that will be generated within Bangladesh is of the order of 8 percent which is comparatively insignificant. This 8 percent runoff is generated only during the rainy season and will flow through the channel as flood flow with a little or no contribution to the dry season flow.

The data used for the analysis may be updated and analysed and low flow studies may be further refined and revised. But still it would mean that the Brahmaputra channel will remain high and dry for nearly six months (Dec-May) of the

**The possibility of the Brahmaputra being dead is like a kind of death knell for the entire river system and may be a major catastrophe for Bangladesh. This impending man-made artificial multi-dimensional crisis must not happen. The Brahmaputra being a major international river there must be equitable sharing of waters among the riparian countries if such situation occurs. In any international river no unilateral intervention is acceptable.**

year which will turn a major portion of the country into a dry desert. It is unimaginable and the result will be devastating and catastrophic. In the world standard a major international river like the Brahmaputra becoming dry is unthinkable. Obviously there will be adverse effects on agriculture, water supply, fishery, navigation, forestry and environment.

The Padma basin will suffer from low flow, with consequence of siltation and deposition of sediments and the lower Meghna basin will suffer from saline water intrusion, also siltation. As a result of the drastic withdrawal of waters from the Brahmaputra, river channels will be silted up and deposition of sediments will occur. This will severely increase flood and navigation problems. At present the massive upland flow through the

lower Meghna keeps saline water intrusion pushed by the coast. Salinity intrusion survey was conducted by BWDB with UNFAO/SF hydrological survey in Bangladesh in the sixties in the SW region. Though saline water intrusion penetrated many kilometers upstream through the river channels in Khulna area, salinity stayed by the coast in Barisal and further east.

With withdrawal of 6,000 cubic metres of water per second (which is equal to 200,000 cubic feet per second) in the dry months, saline water intrusion through the lower Meghna channel and its branches, tributaries and distributaries and a maze of channels criss-crossing the coastal areas, is apprehended to be drastically increased. Though without a future real-life survey, it

is difficult to determine and forecast how far precisely will the harmful saline water travel upstream, we may reasonably assume that up to Chandpur, even further upstream may be affected by harmful saline water intrusion. It will obviously seriously affect agriculture, fishery, drinking water, navigation, irrigation, forestry, ground water and overall environment of a vast area.

In addition, there will be adverse effects on the minor river system on both banks of the Brahmaputra distributaries and many connecting rivers, like the old Brahmaputra, Dhaleswari, Kaliganga, Sitalakhaya, Balu, Buriganga in the east and river Bangali, Karatoya in the west will turn dry. Hundreds of thousands of low lift pump irrigation projects of BADC and private enterprises will be drastically

affected, in many places they will turn virtually non-existent. For that matter major irrigation projects like Chandpur, Meghna-Dhonagoda, Barisal, Dhaka, Demra and other medium and small irrigation projects on both banks will be affected.

For dry conditions in the Brahmaputra, more or less the whole country will be seriously affected hydrologically, ecologically, environmentally and economically. The active deltaic region will be affected by saline water intrusion while depletion of ground water levels will make shallow tubewells and drinking water tubewells and drugwells dry. Flora and fauna of the Sundarbans, including the famous Royal Bengal Tigers, will be severely affected.

The writer has the experience of river flow and salinity intrusion

study in the SW region of Bangladesh in association with FAO/UNSF hydrological survey in the sixties. In late sixties and early seventies about 12,000 km<sup>2</sup> of land was seriously affected by salinity intrusion through the river channels for drastic withdrawal of the waters of the Ganges upstream in the dry season. The effect might be more severe now as we learn from different sources, including alarming media concerns about the region. The above observations are based upon the writer's studies on rivers, their discharge and sedimentation, saline water intrusion etc. Some papers related to rivers, discharge and sedimentation were published in the proceedings of the several Annual Conventions of the Institute of Engineers and in the print media.

During his work with BWDB, Planning Commission, World Bank in Washington DC and elsewhere as a consultant the writer had gained experiences on rivers, high and low flow, flood control, irrigation dam design and construction, water supply and water development. Some notable names in the field of rivers', flood control, irrigation and water

development and environment are former Professor of BUET, Dr. H.R. Khan and Dr. Ainun Nishat and Prof. MR Biswas of BAU and former PSC Member and Engineer M.A. Matin, former Director, BWDB, who can offer expert opinion on this matter of vital national importance.

The possibility of the Brahmaputra being dead is like a kind of death knell for the entire river system and may be a major catastrophe for Bangladesh. This impending man-made artificial multi-dimensional crisis must not happen. The Brahmaputra being a major international river there must be equitable sharing of waters among the riparian countries if such situation occurs. In any international river no unilateral intervention is acceptable. Any probable future dispute which may arise should be resolved by mature and amicable negotiations between the riparian countries co-inhabiting the common river basin.

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# Greener living to thwart climate change

ABDUS SATTAH MOLLA

OUR planet is surrounded by a blanket of gases which keeps its surface warm and able to sustain life. This atmospheric blanket is getting thicker and greenhouse gases trapping in heat as we release carbon dioxide, sulfur dioxide, methane etc. by burning fossil fuels for energy and cut down forests and replace them with agricultural land, roads, buildings, industries. As a result the climate is changing and the most immediate change is the rise of temperature.

Climate change is the theme for World Environment Day-2007 observed on June 5. Scientific research indicates that, because of climate change, we may experience more frequent extreme weather events.

A gradual increase in temperature also has major implications for ecosystems, animals and their habitats. Some changes to the climate are inevitable -- even if we stop emitting gases now, the gases we have already released will have an effect. However, we must do everything we can to avoid further changes and adapt to the new situation we find ourselves in.

The term "climate" normally describes the average weather we get over a long period of time. When

our climate changes, the weather we experience locally day to day can also change. Over the millions of years of the earth's existence, the climate has changed many times. However, when we use the term "climate change" now, it is to describe shifts in temperature over approximately the last 100 years and the next 100 years or so.

## Causes of climate change

There will always be some degree of uncertainty in understanding a system as complex as the world's climate. However, there is now strong evidence and almost unanimous agreement that significant global warming is occurring. Both natural and man-made causes have impacts on climate change.

Some changes to the earth's climate are caused by the effects on each other of the sun, land, oceans and atmosphere. These often occur over very long periods of time and can be termed sustainable. But most of the recent warming can be attributed to human activities.

Human activity has changed the concentration of greenhouse gases in the atmosphere in two important ways. First, we have cut down forests. Trees absorb carbon dioxide; so, with fewer trees, more carbon dioxide builds up in the atmosphere. Also, the agriculture that replaces part of the forests can often be a source of emissions.

Second, by burning fossil fuels like coal, oil and gas for energy, we release greenhouse gases. Currently, burning fossil fuels emits about 6.5 billion tonnes of carbon dioxide into the atmosphere each year. Since the industrial revolution beginning in the 18th century, concentrations of greenhouse gases have increased by about 30 percent.

## Effects of climate change

We have yet to experience the impact of the greenhouse gas emissions from the last 30-40 years. Scientists have identified some of the likely effects of this warming. Some regions will experience more extreme rainfall while others will experience drought.

The sea level could rise by more than 40 centimeters by the end of the century. There are two reasons for this. First, as the water in the oceans warms, it expands. Second, ice from the polar caps and from glaciers is melting into the sea.

Rising sea levels will completely swamp some small, low-lying island states and put millions of people in low-lying areas at risk. About one-third of lower-riparian Bangladesh may be submerged under sea water with devastating effects.

There will be less water available for irrigation and drinking because there will be less rain, and salt from rising sea levels will contaminate



An undesired effect of climate change

ground water in coastal areas. Droughts are likely to be more frequent. Three billion more people could suffer increased water shortages by 2080.

Northern Africa, the Middle East and the Indian subcontinent will be the worst affected. As temperature increases and rainfall patterns change, cereal crop yields are expected to drop significantly in Africa, the Middle East and India.

As temperatures increase, the areas that harbour diseases such as

malaria, West Nile disease, dengue fever and river blindness will shift. It is predicted that 290 million additional people could be exposed to malaria by the 2080s, with China and Central Asia seeing the biggest increase in risk.

Higher temperatures and reduced rainfall could mean the loss of large areas of Brazilian and southern African rainforest -- on top of the forest that we are cutting down to clear land for agriculture and other uses. These forests

currently act as a "sink" by absorbing large amounts of carbon dioxide which would otherwise be released into the atmosphere.

## What can we do?

We can't stop the effects of the greenhouse gas emissions that have already taken place. But we can influence the future. The majority of scientists agree that to avoid radical changes of temperature in the future, action is needed now.

Many believe that emissions of greenhouse gases, which are continuing to rise, must begin to decline over the next 10-20 years to avoid extreme changes to our climate. Carbon dioxide is the main greenhouse gas that causes climate change. Every tonne emitted into the atmosphere commits the world to more warming. But every tonne we avoid emitting helps reduce the risk.

The good news is that there are lots of ways we can tackle climate change. Many of them will bring other benefits, such as new jobs, improved local environments and economic growth. But the first step is to increase people's awareness and understanding of what's happening. By communicating we'll be able to make sure that there is widespread support for the goal that together this generation will tackle climate change.

## The way is "greener living"

Reducing emissions of the greenhouse gases that cause climate change is probably the biggest challenge facing the humanity. Taking this challenge of cutting greenhouse gas is otherwise termed "greener living." There's a long way to go, but things are moving in the right direction in many countries including Europe where industrial revolution took place first. Following and adapting the success stories there, we can thwart climate change perhaps in a big way.

The problem of photochemical smog that was almost a regular hazard just 50 years ago in the UK was tackled by the introduction of "smokeless fuel" zones, cleaner coal and the use of electricity or gas. Today, the air of the British Isles is cleaner than at any time since the industrial revolution, although challenges remain to reduce emissions further, particularly from car exhausts.

The same way, introduction of low-lead petrol introduced in 1985 helped a steep drop in lead level in the air. Lead in petrol was phased out entirely in 1999 in the UK. Use of chlorofluorocarbon (CFC) is now being phased out internationally. Global CFC use has dropped and the atmospheric ozone layer (that saves earth from excessive UV-rays coming from the sun) is now starting

to recover.

Sulfur dioxide and oxides of nitrogen mixing with rain water cause acid rain. Since 1970, there has been an 84 percent reduction in sulfur dioxide emissions in Sweden and nitrous oxide has been cut by a third. In many sites there are now signs of recovery, although full recovery will take many years.

Parts of the river Thames in 1960s were considered to be "biologically dead" due to water pollution. But because of improvements in sewage treatment river Thames is cleaner now than in the last century. Gradual phasing out of organochlorine pesticides helped increase the number of birds that were under threat in Europe than at any time in the last century. Recycling and reuse of as many things as possible is another way of greener living that helps recover our "only one earth" to live in.

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