

Conserving natural resources: Imperative for survival

Bangladesh is rich in wide variety of flora and fauna as compared to the rest of the world: Five thousand flowering plants; 199 mammals; 567 birds; 120 reptiles; 734 amphibians. Besides, we have large number of unidentified flora and fauna. Bangladesh is uniquely endowed with natural resources. So, it is highly necessary to conserve both renewable and non-renewable natural resources for the sake of present and future generations.

DR MA BASHAR

CONSERVATION is the optimum rational use of natural resources and the environment, having regard to the various demands made upon them and the need to safeguard and maintain them for the future. It is the protection, improvement and use of natural resources according to principles that will assure their highest economic or social benefits.

In ecology, conservation includes those measures concerned with the preservation, restoration, beneficiation, maximization, reutilization, substitution, allocation and integration of natural resources. In the present time, the term conservation has become an integral part of our everyday vocabulary. The term conservation absorbs principles from multiple directions of basic and social sciences; and all the principles make up the theme.

Why bio-resource conservation in Bangladesh is urgent and essential? The answer is very important and significant both for environmental and economic

considerations. In Bangladesh, bio-resource is characterized by 'species richness' and 'population-size shortness'. The population-size per species is very low at present in almost all the cases. We have to go quick for conserving species and their population size for still there is possibility of keeping the ecosystems 'rich in biodiversity'. This value of biodiversity could be utilized for the benefit of the nation.

Forest resources: As resource, services of forest are uniquely important. Among the range of services the most significant ones are ecotourism, watershed protection, protective and habitat functions of mangroves, carbon sequestration, and biodiversity conservation. Forest is the source of wood energy. Woodfuels are a basic need for more than 2 billion people in the Asia-Pacific region only. While woodfuels' share of total energy use is declining, in many countries wood energy is still largely considered a traditional "poor people's fuel." The forest is also the source of industrial forest products. Only

in the region of Asia-Pacific about 280 million cubic metres of industrial roundwood is produced annually. Beyond all the above, the forest is directly used as "forest and tree resources". They are different types of services of forests, socio-cultural roles and nature-based ecotourism, agricultural services, watershed services, carbon sequestration, conservation of wildlife habitats and biological diversity values.

Genetic resources: Genetic resource is the key functional point of origin of all natural and modified bio resources. Genetic resources are used in the field of variability to protect biodiversity as well as environment by utilizing biotechnological application. The subject biotechnology and its application are not new, but recent developments in the biotechnological tools and their application have opened wide opportunities to boost agriculture, medicine, livestock production, forestry, fisheries, health and nutrition as well as management and protection of environment. This frontier technology can provide

substantial benefits to the society in a wide range of sectors for improving the quality of life.

Wildlife resources: The concern for wildlife is, however, the concern for man himself. All forms of life -- human, animal and plant -- are so closely interlinked that disturbance in one gives rise to imbalance in the others. Producers, consumers and decomposers are linked together in food chains. Disruption of any particular link in the chain may lead to imbalance which may threaten the existence of man himself. Nature maintains this vast diversity of animals and plants in a complex organization in which various life processes of production, consumption and disposal of waste are maintained in well balanced cycles.

Aquatic (riverine, marine and estuarine) resources: Water is essential for life on Earth. The ocean fuels the water cycle. It supplies oil, minerals, energy, much of oxygen, and 15% of our dietary protein. Minerals are scarce in much of the open ocean, so most of the phytoplankton, and the world's major fisheries, lie on continental shelves that receive minerals washed down the rivers. Other fisheries lie in parts of the open ocean where upwelling currents carry minerals up from the bottom. Coral reefs are among the most productive of all ecosystems, and they have a diversity of life forms rivaled only by the tropical rain forest. Many prized commercial fishes are inhabitants not of the open ocean but of reefs. Rocky shore supports

much more life than a sandy one.

Coastal wetlands include mangrove swamp, found in tropical and subtropical regions, and salt marsh. These wetlands are hatcheries and nurseries of many important species of marine life. Most experts believe that the oceans could sustain an annual harvest of 100 million tons, but this would require better management than we have so far achieved.

The coastal area of Bangladesh is estimated as 710km long. The country's Exclusive Economic Zone (EEZ) is 14,0915sq km and the estimated total marine water area is 1,66,066sq km. It is uniquely endowed with a wide variety of economically important coastal resources. Bangladesh has a vast network of rivers numbering about 230, about 24,000 km in length and covering an area of 9,380 sq km (6.5% of the total area of the country). Most of the major rivers have linkage with the estuary and finally meet the Bay of Bengal. Fish is the most important fauna of these rivers and considerable number of fishermen depend on river fishing for their livelihood. Bangladesh has one of the largest mangrove eco-systems in the world which also provides a valuable physical habitat for a variety of important coastal species. Fish in the estuaries and the sea constitute a major coastal resource. Unfortunately, reliable data and information on standing stock, potential yield etc. are lacking.

Conclusion: Bangladesh is rich in wide variety of flora and fauna as compared to

the rest of the world: Five thousand flowering plants; 199 mammals; 567 birds; 120 reptiles; 734 amphibians. Besides, we have large number of unidentified flora and fauna. Bangladesh is uniquely endowed with natural resources. So, it is highly necessary to conserve both renewable and non-renewable natural resources for the sake of present and future generations. Management of both renewable and non-renewable resource has to be given top priority. Under the circumstances, any writer may like to suggest the following:

- Comprehensive survey needs to be made to know the exact status of the natural resources. This will help in management of the resources and in promoting environment friendly activities in development intervention.
- Preserving, protecting and developing the natural resource are the main tools for sustainable development. As such promoting participatory, community based environmental resource management and environmental protection; ensuring active participation activities; strengthening the capabilities of public and private sector to address environmental issues; conserving non-renewable resources and sustaining auto eco-generation of renewable resources; promoting sustainable environment management in pursuit of quality livelihood and alleviation of poverty should be undertaken.

Dr MA Bashar is Professor, Department of Zoology and Ex-Dean, Faculty of Biological Sciences, University of Dhaka.



Typical forest full of natural resources in Tangabati (Chittagong).



Forest-cuts as natural resource for livelihood. (Rama Kalenga: Sylhet).



Aquatic ecosystems in mangrove habitat. (Nijhum Dweep).

Save the guest(?) leopards

If we are to save the wildlife in its natural habitat, conservation should become a key word amongst the people of Bangladesh and taught at an early age in schools for the future generation to learn the right meaning and importance of conservation. We cannot afford to risk our heritage sites. Let us not allow Bangladesh to become a killing field of guest birds and wildlife.

RAZIA QUADIR

WITH the onset of winter Bangladesh becomes a busy arena, making the most of the mild temperature, which lasts for merely three months. "The winter birds" start to appear, many sharing our food while many more ending up as food on our plates. This year we had the added attraction of the general election, one of the most iconic events in the history of the country. Amidst this entire hullabaloo the nature lovers were on their tracks chasing their wild dreams in the forests and coastal areas of Bangladesh.

The naturalist are out in the open imbibing the natural beauty that Bangladesh has to offer -- some call Bangladesh a paradise for photographers. But little has been done in the field of awareness programmes on wildlife conservation that our Forest Department (FD)

and development community are so ardently investing their time and money on.

On 1st February last a strayed leopard was killed in the Kurigram area some 4/5 kilometers inside Bangladesh from the Assam border and displayed as a trophy. Further west in the Thakurgaon area, within three days, one more leopard was killed and tied to a tree in one of the villages in Ranishankail. Back in 2004 two leopards with cubs were seen in Dimla upazila, Nilphamari area. One was chased out while the other took shelter in a bamboo cluster. It attacked the panicked villager before the police in Chatnai, Dimla, shot it.

The forest department being the custodian of the forest and wildlife (as per the Bangladesh Wildlife Preservation Act of 1974) are obliged to save the endangered species and take necessary measures. The cases of strayed leopards in the North Bengal region is repeating itself and it should be mandatory for the on-duty

forest department personnel and rangers in the area to trace their point of entry and devise a preliminary action plan, or else the trespassers will continue to meet a fatal end. For leopards to walk around or bask in the sun in wheat/paddy/mustard fields is anything but natural to create panic amongst the residents of the area.

We recently made a preliminary survey of the area and found traces of hair and pugmarks (looked like that of a cub) where the leopard was found lying in the mustard field in Baghdanga village, Kurigram. Whereas, in Thakurgaon, Ranishankail area the leopard was found 12 to 14 kilometers inside Bangladesh from the Indian border lying in the wheat field. The good news is, in both instances the local police were informed to which they responded urgently but refused to shoot the leopards. Had the sensitized policemen been equally trained in managing the situation with dexterity the leopards could have been saved.

According to local public opinion in Thakurgaon... "the leopard was smuggled across the border by some traders in a tranquillized condition and once it gained consciousness the traders out of fear let go of it and the 'bagh' languishing in the area was spotted and killed". Yet the villagers have not reported any loss of cattlehead or any domestic animals in the recent past, said the forest ranger. The question remains what were the leopards feeding on, as guests in this region? Before the sentinels of the forest buy such stories they need to survey the area thoroughly for traces of its habitation. The local people living in a tense environment have lost sleep.

The thinning of the forest area, the felling of large trees, the expansion of the tea gardens on both sides of the border, causing disruption, may have initiated the leopards to stray from their habitat. Given the benefit of the doubt, they may well be living in the Bangladesh border periphery. Adult leopards move as solitary animal and scale trees easily unlike tigers. It's not unlikely that they were seen in the fields, their natural places for stalking.

Our effort should be to create awareness amongst the people not to panic on seeing wildlife because that in turn makes the animal go amok and in self-defence run helter skelter causing destruction. All animals are more afraid of humans than

we can fathom.

We in Bangladesh should feel lucky that the leopards are reappearing in our territory, which disappeared almost 35 years ago due to habitat loss and indiscriminate killing for their skins. The last, our family personally witnessed one, was in the Sylhet Kaliti Tea Estate gardens, in December 1972. Efforts should be made to protect them rather kill. The presence of big cats is felt in the Chittagong hill tracts area. The traces of Bengal tiger and/or leopard along the Burma-Bangladesh border will not surprise the conservationists either.

As recent as January last, it was noted that large trees from the core forest area of Lawachhara been felled under the supervision of one musclem (on a motorbike) in the region. Should one assume that the muscle power has begun to flex again...? The only habitat of the Hoolock gibbons is on the wane. The laying of gas pipeline through the national park, the seismic survey by a oil company followed by an outbreak of fire are good enough disturbance to the habitats of this region. Often Commando Survival Exercise (CSE) is conducted by the Army including installation vehicles and personnel mobilizations inside the national park, which is a protected area. Should we say these do not disturb the flora and fauna of the forest? According to Daily Star report of 23rd

February last, IUCN has clarified that the seismic survey was not harmful to Lawachhara Reserve Forest. In terms of wildlife conservation what is harmful, then?

The unabated human tiger conflict is continuing in the Sundarbans. According to the local media, cases of 1-2 tiger victims during winter were reported almost every month beginning October 2008, the last victim taken was on 17th February last.

If we are to save the wildlife in its natural habitat, conservation should become a key word amongst the people of Bangladesh and taught at an early age in schools for the future generation to learn the right meaning and importance of conservation.

We cannot afford to risk our heritage sites. Let us not allow Bangladesh to become a killing field of guest birds and wildlife. Unless Ministry of Environment and Forest (MoEF) in collaboration with the Forest Department takes a strong stand to protect its forests and distinguish what is damaging for our long-term survival and at the cost of what is irreplaceable, the indiscriminate experiments, exploration and extraction will continue to the extinction of the endangered.

Razia Quadir, development communicator, heads DHARITRI, a Bangladesh agency providing media consultancy services.

A source of energy hiding in plain sight

MARILYN A. BROWN and BENJAMIN K. SOVACOOL

IMAGINE an energy resource so revolutionary it could improve energy security, strengthen the economy and protect the environment simultaneously.

This resource is widely abundant in the United States and, according to some studies, offers more potential than any other known resource. It's commercially available, ready to be utilized without the need for subsidies or further research.

It could provide thousands of high-paying jobs and does not need to be drilled, dug or drained out of the earth. It would not melt down in Pennsylvania, spill into the Prince William Sound, spit toxic sludge into Tennessee rivers, seep contaminants into California's water supply, create Superfund sites in New Jersey, destroy Appalachian forests or release greenhouse gases into the atmosphere.

It would operate automatically, always "on," ready to be "dispatched" without delay or intervention by energy providers. Yet it's existed for years, with multiple time-tested, empirically proven and reliable varieties for use.

This resource is energy efficiency. The term does not necessarily mean "doing less" or "suffering without," but instead what physicist Amory Lovins calls "doing more with less through smarter technologies." It's getting more bang for the buck, more economic activity out of less energy -- with light bulbs that need less power, weather stripping around doors

and windows, hybrid electric vehicles instead of the gas-guzzling behemoths, properly inflated automobile tires, more efficient industrial motors and renewable energy instead of coal and oil.

In just one sector, the electric utility industry, cost-effective energy efficiency measures could reduce national consumption by an astounding 30 to 75 percent. These measures are cheaper to implement than purchasing any form of electricity supply and could save up to three-quarters of the country's power bill.

Energy efficiency is a centerpiece of President Barack Obama's short-term action plan. His goal of reducing electricity demand 15 percent from projected levels by 2020 is a good start, and should be supported.

Obama has also supported investments in energy efficiency through his just-signed stimulus bill to "jump-start" the economy. More than \$45 billion in tax breaks and new spending will go towards alternative energy. Key components include modernizing electricity transmission lines to reduce leakage, doubling the number of wind farms, replacing the federal fleet with more efficient vehicles, and providing financial assistance to low-income families so they can insulate homes and purchase better quality appliances.

These green energy initiatives will expand the US labour force working to make the nation's energy infrastructure more energy-efficient, with new jobs for home energy auditors and inspectors, electricians and linemen, civil and

mechanical engineers, and hybrid electric autoworkers and apprentices. The stimulus bill even includes funds to create Job Corps Centers, where workers will be trained for careers in energy efficiency.

One reason these initiatives will produce so many new jobs is because green energy industries are more labour-intensive than the traditional energy supply industries. For instance, utilities providing natural gas and electricity employ up to five jobs for every \$1 million of spending. But, sectors vital to energy-efficiency improvements support twice as many -- 8 to 13 jobs per \$1 million of spending.

While a good start, Obama's plans do not go far enough.

For example, he hasn't focused on reforming existing laws and policies that place energy efficiency practices and technologies at a comparative disadvantage. Newer, cleaner, more efficient energy technologies face numerous barriers as they compete with incumbent products in the marketplace.

Perhaps the most troubling of these obstacles are those that US legislatures and regulators impose, often as unintended consequences of well-intended policies. Just a few examples:

The Clean Air Act and its various amendments promote continued operation of some of the country's least efficient power plants. Exempting oldest plants from meeting pollution limits enables continued operation of some of the most polluting generators in the country far

beyond their normal life. Pollution controls today are targeted where they're least needed, artificially inflating the value of the oldest, dirtiest plants.

Failure of local and regional agencies to control sprawl, the spreading of suburban areas over rural land, has contributed to growth in vehicle traffic and to energy-inefficient urban systems. The federal government redistributes gasoline tax revenues to states and municipalities based on highway use, doing little to boost public-transit alternatives.

In 2005, the US Department of the Interior's Minerals Management Service was given oversight for developing rules to regulate coastal siting of wind farms. More than three years later, the agency still has not finalized its site-permitting procedures, and the US still does not have any wind turbines generating electricity in its territorial waters.

In most states, natural gas and electric utilities face little incentive to promote efficient use of energy by their customers because utility profits are tied to sales. A utility's rates are typically set based on an estimation of cost of providing services over some period of time, divided by an assumed level of sales over that period. If actual sales are less than projected sales, the utility earns less. Today, profits of most utilities shrink when customers make their homes more efficient by upgrading to Energy Star appliances or generate their own electricity with rooftop solar panels.

Fixing these problems would not be overly difficult. Clean Air Act exemptions could be eliminated. Federal agencies

could design policies to promote public transit and curb suburban sprawl. Electricity sales and profits could be decoupled, and consumers encouraged to use electricity at off-peak hours.

Individuals can also do their part. Homeowners can install geothermal heat pumps, integrate solar panels into roofs and improve the energy efficiency of residences with compact fluorescent light bulbs, appliances, insulation and other devices.

As electricity customers, Americans can demand that their utilities offer green-power programs, sponsor energy efficiency projects or operate cleaner power plants.

As taxpayers and voters, they can write letters, march, and cast a local, state, or national ballot for those candidates that best promote energy efficiency. As shareholders, employers, employees and investors, they can support clean-power companies or changes at the workplace.

As citizens, Americans can participate in meetings to discuss the permitting of wind farms and attend state hearings.

As parents, they can educate their children, and as children, they can educate their parents.

To those who scoff at these ideas, consider that more severe actions have been taken to promote energy efficiency at other times and in other places.

After the energy crises of the 1970s, French regulators created the equivalent of an "energy police" to patrol streets at night,

issuing fines to people who left lights on or drivers who left cars idling when they ran inside.

In contemporary Beijing, China, a 20-member "energy-saving police team" monitors office buildings, schools and hotels to make sure heating and cooling systems do not exceed government standards -- colder than 79 degrees Fahrenheit in the summer or warmer than 68 degrees in the winter.

While these options are extreme, dozens of other countries from Japan to Sweden rely on softer, more effective approaches such as mandates, pricing incentives and educational programmes to improve energy efficiency.

The point is that the country has far more energy efficiency potential than President Obama and his advisors seem to realize. This potential can be harnessed through regulatory changes from the top-down, and further enhanced by simple personal changes from the bottom-up.

Energy efficiency is an easy, if amazing resource, but it does not occur by immaculate intervention. We each need to play our own part in capturing it.

Marilyn A. Brown is professor of energy policy at the Georgia Institute of Technology, as well as a visiting distinguished scientist at the Oak Ridge National Laboratory. Benjamin K. Sovacool is an assistant professor at the Lee Kuan Yew School of Public Policy at the National University Singapore. There, he researches issues relating to energy policy, the environment, and science and technology policy.

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