

# Biodiversity: Nature's medicine chest



MD. ASADULLAH KHAN

**BITTER TRUTH**

**B**ECAUSE of human greed, the world is losing a marvelous diversity of genetic materials that has enabled the plant kingdom to overcome pests, blights and droughts throughout the ages. Moreover, the explosive growth of the world's population forces clearance of forests, causing extinction of species of wild plants. Consequently, potentially valuable food and medicinal sources are being lost before they are discovered.

Diversity of life seems to be on the wane in the emerald rain forests in Madagascar, the Amazonian belt near Brazil or Costa Ric, and in the Sundarbans in Bangladesh. In all these lush green territories, there was hardly a break in the canopy of tall trees and the entire area was alive with the cacophony of all kinds of birds, insects, monkeys and other wildlife including tigers and deer.

But in the late '70s, to meet the needs of population boom that bedeviled almost all parts of the world, there came swarms of settlers, slashing and burning huge swaths through the forests to create roads, towns and fields. Nature's handiwork is so exquisite, so skillfully arranged that humans have no control there. The soil that supported a rich rain forest was not suited for other crops. Humans are destroying entire ecosystems and millions of species of plants and animals that live in them.

Plant breeders have used genetic diversity to help fuel the green revolution and keep agricultural production ahead of population growth. But as the raw material for revolution disappears, the food supply becomes vulnerable. It seems that humans are at war with the plants and animals that share the planet. Scientists warn that during the next three decades, man will drive an average of 100 species to extinction everyday and say that the present rate of extinction is at least 1,000 times the pace that prevailed since pre-historic times.

We can't ignore the importance of these species that are so precious to us. Imagine how our fate is entwined with a South American vine or a fragile pink flower in Madagascar. Many patients facing major surgery rely on a muscle relaxant extracted from an Amazonian vine 'chondodendron tomentosum,' a powerful anesthetic. Ouabain, obtained from an African climbing plant, is used as a heart stim-

ulant. The alkaloid quinine was one of the first treatments and preventives for malaria. Many such plants have been used for thousands of years to treat diseases. All these plants that have healed and soothed millions of people are but are merely samples from nature's medicine chest. Of the 2,50,000 flowering plants believed to be in existence, tens of thousands remain undiscovered and only some 5,000 have been tested for their pharmaceutical attributes.

Now, because of the dire threats posed by the loggers, lumberers and settlers, it has become an obligation for us to protect these precious species whose medicinal values and other utilities are yet to be explored.

Half of the earth's species thrive on the warmth and wetness of tropical rainforests. About ten square kilometers of Amazonian jungle contain about 2,200 species of plants other than the lower plants like lichen and fungi that abound so enormously with such potential benefits accruing from them.

*Many people are asking if there is any need to care about small things like bugs, weeds and fungi. Since we depend on functioning ecosystems to cleanse our water, enrich our soil, and create the very air we breathe, biodiversity is not something to discard easily.*

Only a minute fraction of the species or organisms -- probably, less than 1% -- have been examined for natural products that might serve as medicines. Now scientists and researchers feel a compelling need to press the search for antibiotics and anti-malarial agents. The substances most commonly used today are growing less effective as the disease organisms acquire genetic resistance to the drugs.

The bacterium staphylococcus, for example, has recently reemerged as a potentially lethal pathogen, and the micro-organism that causes pneumonia is growing steadily more dangerous. The age of antibiotics, it has been said, is over. Medical researchers are nevertheless locked in an arms race with the rapid evolution of pathogens that is certain to grow more serious.

The argument to keep live specimens in zoos and botanical gardens does not hold water. The grim truth is that all the zoos in the world can sustain a maximum of 2,000 spe-

cies, out of about 24,000 known to exist, and the world's botanical gardens would be even more overwhelmed by the quarter million species. In such a situation, the conclusion of scientists and conservationists is almost unanimous: the only way to save wild species is to maintain them in their original habitats. Undoubtedly, such habitats are shrinking. Many ecosystems are already lost and others seem doomed. With appropriate measures and will to use them, the hemorrhaging can be slowed, perhaps eventually halted, and most of the surviving species saved.

The 1.52 million hectares of forest area in Bangladesh, that covers less than 10% of the total land area, is exposed to threats from pirates, encroachers, poachers, and land grabbers. According to FAO country report, about 5% of the forest land has been grabbed and converted into agricultural land during the last decade. The country's forest area is far too inadequate to ensure environmental equilibrium, because experts say that a country should have forest on one-fourth of its landmass to maintain natural equilibrium.

The abundant plants and insects in the Sundarbans still remain unexplored. The majestic Royal Bengal tigers and spotted deer population add to the beauty and attract people from all over the world. But the hurried decision of the government to set up a thermal power plant at Rampal, just 14 km away from the forest's edge, exposes this natural forest to serious perils. The government should have assessed the impact of such venture on this natural shield against calamities before undertaking this venture. We have to remember that we can have power plants in many other locations in the country, but we cannot create another Sundarbans.

The world's flora and fauna are paying the price for humanity's population growth. It should be borne in mind that we are destroying a part of creation by accelerating biological impoverishment, thereby depriving all future generations of what we ourselves were bequeathed. Many people are asking if there is any need to care about small things like bugs, weeds and fungi. But now the value of little things in the natural world has become compellingly clear. The fact is, the more species living in an ecosystem, the higher its productivity and the greater its ability to withstand drought, and other kinds of environmental stress. Since we depend on functioning ecosystems to cleanse our water, enrich our soil, and create the very air we breathe, biodiversity is not something to discard easily.

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# Urban land use in Narayanganj

## Dominance of economic activities, squeezed for social space

MOHAMMAD SIRAJUL ISLAM and KAZI NIAZ AHMED

**N**ARAYANGANJ City grew in importance during the British colonial period as a river-port for inter-regional and international trade. In the recent past, it underwent rapid industrialisation, which has led to growing urbanisation to accommodate the increasing number of workers. But most of this has taken place in an unplanned manner. Current land-use pattern in Narayanganj is skewed towards economic purposes. This, coupled with associated informal intermediation in urban land-use, is squeezing social function of urban land and making the city less pleasant to live in.

Forty-one percent of the city's land is used for residential purpose. It increased from 9.44% in 1978 to 38.17% in 2009. This housing expansion is private in ownership and horizontal in nature, causing wastage in land use. The second largest proportion of urban land is used for industrial and commercial purposes (26%).

The amount of land being used as parks, gardens and walkways with public access is seemingly non-existent, as vacant lands have been gradually transformed into profit-making establishments. Disappearance of open spaces through conversion into warehouses and then into factories has been ongoing.

Fifty-five percent (1,052 factories) of the country's total knitwear factories are located in Narayanganj. Knitwear manufacturing started in privately owned residential houses in the mid-1980s without planned industrialisation. When the business started making more profit, hundreds of knitwear industries were set up where space was available.

The growth of apparel factories has created pressure on urban land for housing for workers. More than 0.7 million workers (52.32% of the total 1.4 million) are involved in the knitwear factories located in Narayanganj. Since factory owners do not provide accommodation for workers, slums or privately-owned lands cater to their shelter needs. On the one hand, slum erection leads to illegal encroachment of public land, such as the 3.27 acres of the railway's Gymkhana land; on the other hand, private provision of workers' shelters causes wastage of land through conversion of farmlands into residential facilities.

Such land use pattern for housing has resulted in the reduction of agricultural land in Narayanganj. During 1998-2009 agricultural land decreased from 15.32% to 3% and residential land use increased from 24.51% to 38.17% in Narayanganj Sadar. The number of knitwear manufacturing companies increased from 197 in 1997 to 1,686 in 2010 in the country -- highlighting a positive correlation between growth in residential land use and knitwear manufacturing growth.

Industrial and commercial activities within Narayanganj City Corporation (NCC) provided incentives for illegal encroachment of public land and toll collection. A truck stand was illegally built on the main thoroughfare of the city, rendering it almost unusable (it has recently been evicted by the NCC). About Tk. 1 lac used to be collected every day from this truck stand.

Encroachment on public land for profit-oriented activities is managed through informal intermediaries, and is possible because of the huge amount of khas land and vacant land in the cities. Private vested interest groups or individuals attempt to grab these

lands because of promising economic gains from land use on one hand and demand for informal provision of economic services, e.g. shelter, truck stand, etc. on the other. Their endeavours turn into successful ventures with the support of formal land management authorities and the ruling party's patronage.

Both legal and illegal usage of urban land limits the provision of social space in Narayanganj. High economic returns of urban land use often de-motivate government agencies to create the provision of social space. The NCC has 285.13 acres land in its three zones -- Sadar, Kadam Rasul and Siddhirganj. Eighty per cent of this land has been leased out as markets. However, the NCC has recently taken an initiative to construct a children's park under Public Private Partnership in Panchobati area.

Interestingly, NCC had taken several initiatives to create social space on the lands of other government agencies, which could not be implemented due to legal and procedural complexities as well as vested interests. For instance, the Corporation wanted to use 6.42 decimal khas land under Shitalakhya mouza for the time being as dumping ground for wastes and, later on, to develop it as open space for the city dwellers. But its attempt was not successful due to non-cooperation from the administration.

There had been initiative to build a park and walkways in 16.32 acres of the railway's Gymkhana land when the city was a municipality. In 2004, the communications minister of the BNP-led four-party alliance government agreed in principle to hand over the railway's land to the municipality. But this was stopped due to political rivalry between the ruling party's local MP and the opposition party-backed mayor. The City Corporation applied again to the railway ministry for this land in October 2012 and is awaiting the ministry's decision.

All these have resulted in near-absence of social spaces in Narayanganj City, affecting urban life. In the absence of park and green spaces, 62.78% of city dwellers visit shopping plazas, 17.77% go to archaeological and historical monuments, and 19.45% pass their weekends by visiting the riverside or other temporary open spaces.

We do not criticise the economic activities on urban land; we rather argue for balanced land use in order to make the cities more economically prosperous and environmentally and socially livable. The following steps can be considered for balanced land use in cities:

- A well-articulated urban land use plan including provisions for proper rehabilitation of people affected by the implementation of this plan, which will be approved and implemented by the elected mayor;
- Addressing urban land-based informal intermediaries by changing the existing khas and vacant land-management system -- it is not only important for a balanced land use but also for maintaining law and order in the city;
- A welfare approach for workers' housing -- undertaking social housing projects in conjunction with the employers, BGMEA, BKMEA, and the ministries of industries, labour, finance, and commerce or other concerned authorities; and
- Provision of social spaces by the City Corporation since it is a local issue.

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### BEETLE BAILEY

by Mort Walker



### HENRY

by Don Trachte



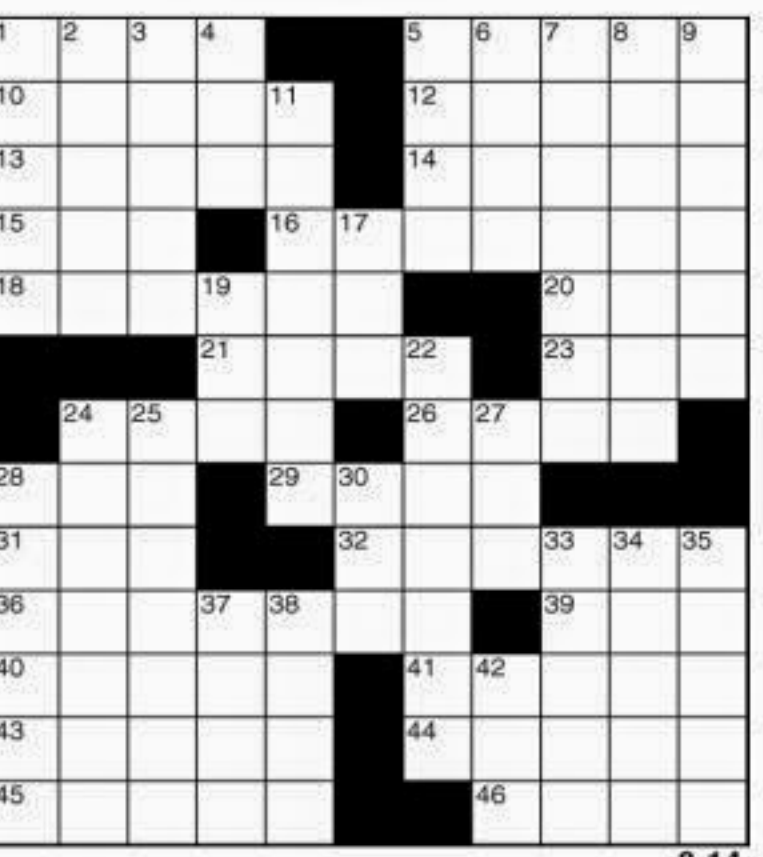
### QUOTABLE Quote

"He who is not courageous enough to take risks will accomplish nothing in life."

Muhammad Ali

### CROSSWORD by Thomas Joseph

- ACROSS**
- 1 Drifting ice
  - 5 NFL pioneer George
  - 10 Mountain group
  - 12 Alaska native
  - 13 Composer Bruckner
  - 14 Yes-man
  - 15 Sgt. e.g.
  - 16 Vibrant
  - 18 Light breeze
  - 20 Presidential nickname
  - 21 Sharif of "Dr. Zhivago"
  - 23 Mercury or Mars
  - 24 Asses
  - 26 Genesis site
  - 28 Penna. neighbor
  - 29 Store event
  - 31 Future embryos
  - 32 Striped equines
  - 36 Pike of exploration
  - 39 Spanish gold
  - 40 Make blank
  - 41 Circus worker
  - 43 City of southern France
  - 44 Wasn't thrifty
  - 45 Mail order pioneer
  - 46 Fluffy wraps
- DOWN**
- 1 Composer Liszt
  - 2 Jousting weapon
  - 3 Victorious
  - 4 Sense of self
  - 5 Millinery wares
  - 6 Heaps
  - 7 Tree greenery
  - 8 Bird painter
  - 9 Designed
  - 11 Digestion aids
  - 17 History chunk
  - 19 Very popular
  - 22 Lets up
  - 24 Daydream
  - 25 Crimson Tide's home
  - 27 Ball girl
  - 28 Egg buys
  - 30 Dye type
  - 33 Famed lover
  - 34 Fight site
  - 35 Classifies
  - 37 Manual reader
  - 38 Reduced amount
  - 42 LAPD issuance



### Yesterday's answer

ITASCAR OIL  
NODEAR UNDO  
SPONGE STOW  
DEARTH  
BIOS ELECT  
ANN FREEBIE  
GAT AUK ALE  
INHALES BLIT  
TEENS BLAH  
WIENER  
FOAM ORATOR  
ELLA DIVINE  
WELL SCOPED

**CRYPTOQUOTE**

NGX FXVQ RXDSVW ZX VFW RXDSVSW RMS  
ZX GSRCSX, RXA NGSQ'MS VFFJZSD AFBS FX  
NGS AFADSMW. - NFOOQ VRWFMAR

**Yesterday's CRYPTOQUOTE:**

THE TREE OF LIBERTY MUST BE REFRESHED FROM TIME TO TIME WITH THE BLOOD PATRIOTS AND TYRANTS. - THOMAS JEFFERSON

**A XYDLBAAXR is LONGFELLOW**

One letter stands for another. In this sample, A is used for the three L's, X for the two O's, etc. Single letters, apostrophes, the length and formation of the words are all hints. Each day the code letters are different.

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**Dr. C M Delwar Rana**  
Director and Consultant of National Healthcare Network (NHN)  
Bangladesh Diabetic Shamity

The very talented and a sincere Urology Surgeon (physician) by profession, Dr. C M Delwar Rana, completed his graduation in MBBS in 1972 from Sylhet Medical College under University of Dhaka. His graduation was followed by the completion of D.Uro in 1982 from University of Vienna and later on FAMS in 1983 from American Medical Association. He has further accomplished FCGP (Bangladesh) and MPH (NIPSOM, University of Dhaka) in 1990 and 1998 respectively. Bearing such a diverse host of knowledge in medical sciences, Dr. Delwar has served as the Assistant Registrar and Registrar of Dhaka Medical College, Resident Surgeon and Junior Director & Consultant of BIRDEM, and as a part time lecturer of Bangladesh College of General Practitioners (BCGP). Currently he is designated as the Director and Consultant of National Healthcare Network (NHN), Bangladesh Diabetic Shamity. In his prolific career, Dr. Delwar received a number of awards from named organizations, among which the award from Indian Academy of General Physician is significant. He was also honoured as a freedom fighter by Sylhet Medical College.

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