

Smothering the wellspring of life

Md. ASADULLAH KHAN

NEARLY 200 years ago, Thomas Robert Malthus said that the world's population was increasing geometrically, but food supplies only arithmetically, so unless population growth was checked, food would run out. Since 1950, the world's population has more than doubled, but food output has more than trebled. There have been famines all right; however, they were brought about by catastrophes such as civil wars and droughts, not the world's innate inability to feed itself. Now over the next few decades, scientists will turn their attention to three resources - grain, fish and water - which are particularly important to developing countries like Bangladesh.

The world's fish harvest has risen from 49 million metric tonnes in 1965 to over 110 million metric tonnes today, but in recent years some worrying trends have emerged. Much of the recent increase has come from farmed fish. Among the catches of wild fish from the sea, fewer have been of high value species like cod and haddock. According to the United Nation's Food and Agricultural Organisation (FAO), around 60 per cent of world's various commercial fish stocks are now being harvested near or beyond sustainable limit. If the oceans are running low on many of humanity's favourite fish, the solution considered most obvious would be to raise more seafood down on the fish farm, expanding the maritime version of agriculture known as aquaculture. That also spells hazards of unimaginable magnitude. On the other hand, as rich countries have depleted their stocks of fish, they continue to import growing quantities from developing countries, who now catch far more fish. In 1995 fish export from developing countries were worth 23 billion US dollars, more than their earnings from meat and cereal exports combined, according to calculations by the Washington-based International Food Policy Research Institute. But if over-fishing continues, it could hurt poor countries like Bangladesh, the Philippines, India, Sri Lanka and the Maldives because people here rely more heavily on fish for protein than do rich countries. Fish, it would seem, are proving Malthus right.

Since 1989, despite a greatly expanded global fishing fleet, the annual catch has declined. Humans have consumed living components of age-old ecosystems in the sea. No one really knows what the consequences will be of over-fishing or

ocean dumping and incredibly little is being done to find out. Through the last one decade, scientists have brought it home to us that without its ocean, Earth might be a lot like Mars: a place quite inhospitable for us and the rest of life on Earth. The sea shapes the character of this planet, governs weather and climate, stabilises temperature, yields to the atmosphere the moisture that falls back on the land, replenishing Earth's fresh water to rivers, lakes and streams and us. Every breath we take is possible because of the life-filled, life-giving sea, oxygen is generated there, carbon dioxide absorbed. Rainforests and other

poisoning the reefs.

"Hundreds of tons of sodium cyanide are being pumped into the coral reefs of South East Asia," reports Robert Johannes, an American biologist now working in Australia. The result, he says, is a vast and expanding ecological tragedy that has gone largely unnoticed. Fishers in Indonesia and the Philippines use cyanide or dynamite to stun live reef fish - highly prized in Cantonese cuisine and the aquarium trade - then smash the reefs apart to pull the comatose animals from the crevices where they hide. Less than one percent of reefs are protected from such practices worldwide, says

long-lines wreak far more havoc on the marine life than spilled oil. Besides, fishing extracts more than 80 million tonnes of sea creatures world wide. An additional 20 million tonnes of unwanted fish, seabird, marine mammals and turtles get thrown overboard dead. Overfishing has depleted major populations of cod, swordfish, tuna, snapper, sharks and grouper. Contrary to popular thinking, most ocean pollution does not come from ships. It comes from land. Gravity is the sea's enemy. Silt running off dirt roads and clear-cut forestland ruins coral reefs. Pesticides and other toxics sprayed into the air and

and bad, the prosperous years serving as a cushion against leaner times that will surely come. When we extract or destroy large numbers, we destroy that population's insurance against disease, poor weather and other natural ups and downs.

No one really knows what the consequences will be of overfishing or ocean dumping and incredibly little is being done to find out. In recent years observations from ships, submersibles, satellites and spacecraft have yielded staggering discoveries: existence of some 65,000km of underwater mountain ranges, knowledge of plate tectonics and the grand earth processes that drive the continents, the presence of the largest concentrations of volcanoes on earth and the profoundly important links between ocean currents and climate, weather and periodic phases of global warming and cooling. Perhaps most stunning of all those are radically different deep-sea ecosystems that have stirred us to think in new ways about the origin of life. Only twice has humankind been to the deepest sea, once in 1960 when two men in the bathyscaphe "Trieste" made a successful round trip 11km down and then in 1996 when Japan's remotely operated vehicle "Kaiko" returned with cameras and recorded the nature of the strange life there. Military interests and the needs of the offshore-oil industry have driven technology to remarkable new capabilities but still, most of the ocean remains unexplored.

The looming question is that how much can we take from the ocean's living systems without disrupting the way the ocean works either as continuing source of seafood or as a functioning life support system? How long can we get away with dumping into the sea through either deliberate waste disposal or the inadvertent flow of contaminants from land and sky? This brings to our notice the depletion of the enormous resources of the Bay of Bengal nearest to our home. The Bay of Bengal comprises the north-eastern part of the Indian Ocean and lies between peninsular India to the West and Myanmar, Thailand and Malaya Peninsula to the east. Unlike other seas in the world, the Bay of Bengal possesses a huge potential of resources like fish, minerals, marine energy, mangrove forests and tourism. The vast expanse of the water of Bay of Bengal with its extensive marine floor remains an unexplored and unrevealed reserve of resource potential. The presence of several mighty rivers to the northern narrow neck and their contribution to huge sediment transportation from a vast catchment area of the Himalayas plays a significant role in the physical environment of the Bay of Bengal.

These rivers carry out about 24 billion tonnes of sediments along with a huge volume of water discharge every year into the Bay. The fish resources of the Bay are mainly exploited by Bangladesh, India, Sri Lanka, Myanmar and Thailand. Until 1995, Bangladesh could raise its marine fish catch up to 150 thousand metric tonnes per year, compared to India's 2200 thousand metric tonnes, Sri Lanka's 2100 thousand metric tonnes, Myanmar's 800 thousand metric tonnes and Thailand's 2500 thousand metric tonnes with the help of modern and mechanised catching equipment and power trawlers. Thailand has been harvesting major share of the Bay. Reports have it that Thailand and Myanmar illegally catch marine fishes from the territorial and exclusive economic zone (EEZ) of Bangladesh. Exploratory survey reports reveal that the marine fish landing can be increased by about three times the present catch with improvements and use of mechanised equipment. The Bay is mostly unexplored, but with limited effort, significant amount of hydrocarbon and some heavy radioactive beach sands have been discovered. Heavy minerals like limonite, zircon, tourmaline, garnet, rutile and monazite have been discovered in some beach sands of the coastal areas of Bangladesh. About 472 species of fin-fish and about 10 species of shells, molasses and crabs have been identified in the Bay fishing grounds.

The world's largest mangrove forest, the Sunderbans has been formed with the tidal influence of the Bay of Bengal in the Southern Coastal region of the deltaic areas of Bangladesh and West Bengal. Bangladesh shares about 6000 sq. km of these swamp forests which contain more than 400 species of plants, 300 species of insects and animals that include the rich treasure of the majestic Royal Bengal Tiger and spotted deer.

The sea is the wellspring of life. Without healthy seas, humanity would be doomed. Yet we keep on destroying, so to say, our most precious resource before we even know what we are losing. The oceans make our planet habitable and the wealth of oceans spans nutritional, climatological, biological, aesthetic, spiritual, emotional and ethical realms. We have the power to eliminate creatures from the sea as surely as we have eliminated creatures from the land. But with each loss the living fabric that makes the planet hospitable becomes weaker, less stable and more likely to evolve in new directions not to our liking.

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Md. Asadullah Khan is controller of examinations, BUET.

ENVIRONMENTWATCH

UN fears return of El Niño

AFP, Geneva

THE likelihood of a return of El Niño, the climate phenomenon that can catastrophically disrupt weather around the Pacific, has increased in recent weeks, the UN weather agency said on Wednesday.

The UN's World Meteorological Organisation (WMO) issued a statement noting that El Niño-type conditions existed in the eastern Pacific near Latin America, but had yet to be recorded on the other side of the ocean.

"The probability of a new El Niño is greater than it has been in recent weeks," Michel Jarraud, deputy secretary-general of the WMO, told journalists.

In the statement, WMO said the development of an El Niño in 2002 is "now slightly more probable than not".

But the agency warned that the following few weeks would be crucial for forecasters.

Meteorologists say the phenomenon -- the name of which means "boy child" in Spanish -- is characterised by the appearance of unusually warm, nutrient-poor water off Ecuador and northern Peru. El Niño occurs every few years, and most typical begins exerting its influence towards the end of the year.

The WMO said recent heavy rains with flooding and landslides in Ecuador had given an indication of a n E l N i ñ o influence, but meteorologists had yet to observe reduced rainfall on the Asian side of the Pacific basin, or a shift in tropical cyclone patterns.

The UN agency confirmed the anticipated appearance of another key ingredient of El Niño -- surface warming of Pacific waters which now extended along the equator towards the coast of Latin America.

"These El Niño conditions are in the eastern Pacific but we are not yet seeing basin-wide conditions," Michael Coughlan, director of climate activities at the Geneva-based WMO, said.

But Coughlan said there was no still no indication of its strength.

The last appearance of El Niño was in 1997-1998. That was regarded by the WMO as the strongest of the 20th century, and it wreaked havoc around the Pacific basin.

Torrential rains and floods drenched Peru, Ecuador, Chile and California, while severe drought in Papua New Guinea and Indonesia caused voracious forest fires.

El Niño gets its name from Peruvian fishermen, who named after the infant Jesus, as it often occurs around Christmas time.

Global warming isn't sinking Tuvalu, but its people are

AFP, Auckland

International environmentalists might have it wrong - global warming is not drowning the Pacific atoll nation of Tuvalu beneath a rising Pacific.

Its fate may be much more prosaic and local: severe over-population, profound pollution and a World War II legacy.

Experts even believe that if the threatening El Niño event occurs in the next six months, the sea level around Tuvalu will actually fall a by a dramatic 30 centimetres (12 inches), as it did during the last big El Niño.

"The historical record shows no visual evidence of any acceleration in sea level trends," Australia's National Tidal Facility (NTF) said in a statement on Tuvalu this week.

Contrast that hard science with the emotional statement of Tuvalu Prime Minister Koloa Talake at last month's Commonwealth Heads of Government

meeting in Australia. He announced there that Tuvalu, its neighbour Kiribati and the Maldives were planning legal action against Western nations who they say are creating the global warming that is raising the Pacific's level.

"Flooding is already coming right into the middle of the islands, destroying food crops and trees which were there when I was born 60 years ago. These things are gone, somebody has taken them and global warming is the culprit," Talake said.

NTF, which has a network of tide gauges across the Pacific, says that is absolutely not so -- the Pacific shows no signs, anywhere, of rising.

NTF deputy head Bill Mitchell told AFP that the absolute contrast between politics and science was developing into a crisis. His organisation was holding urgent talks with the Tuvalu government to sort out the problem.

Their tidal gauge has been on the capital atoll of Funafuti since 1993.

"As at February 2002, based on short term sea level rise analyses... for the nearly nine years of data return show a rate plus 0.9 millimetres (0.03 of an inch) per year," they say.

Mitchell says arguments can be made over the time length and type of scale but he was confident the data showed Tuvalu was no more sinking than Australia was.

So why are the politicians so adamant: "We are not quite sure what is going on there," Mitchell said.

For the record, NTF, part of Flinders University of South Australia, is funded to carry out the Pacific study by the Australian government, and Canberra is unpopular with the Pacific for its rejection of the Kyoto Protocols on global warming.

But like Kiribati -- which Tuvalu was once joined with as the Gilbert and Ellice Islands under British rule until 1978 -- evidence points to the locals creating their own nightmares.

Funafuti is an atoll of 30 islets but with a total land area of just 254 hectares (627 acres) that's about two thirds the size of either New York's Central Park or London's Hyde Park. Much of Funafuti's land is taken up with a runway but the atoll is still home to 4,000 people.

Mitchell said seawater was encroaching into vegetable growing pits but not due to a rise in sea level.

"It could be something as simple as chopping down coconut trees, it could affect the hydrology of the atoll," he said.

The population density, and its associated pollution, might also threaten to destroy the atoll.

Mitchell points to Funafuti's infamous "borrow pits" -- large holes filled with trash and polluted water.

During the war the Japanese reached Tarawa in the then Gilberts. To turn them back the Americans secretly used Funafuti as a forward base and constructed an airfield by simply digging out a third of the main islet of Fongafale.

It's been known for years that Funafuti's water table has suffered because of the pits and while Tuvalu used to appeal to the Americans to fix the pits, nothing has been done.

Mitchell believes the real problem could be with the land degradation which Tuvalu's politicians blame on global warming.

"It's not sea level rise, it cannot be," he said. "It must be some other land use change that is going on."

He admits this is likely to be a unpopular view in the Pacific, now more used to blaming Australia than themselves.

Tuvalu's potential fellow litigant, Kiribati, claims its capital, Tarawa, is sinking.

But when one visiting journalist pointed to the severe pollution, over-population and manmade changes to the islets, Kiribati President Teburoro Tito had the reporter declared an "undesirable immigrant".

NTF is also arguing against the Intergovernmental Panel on Climate Change (IPCC) which has warned of sea level rise.

Says NTF: "...over a major part of the world ocean... the indication is that, over recorded history, sea level rise has occurred, but at a rate which falls significantly short of the IPCC world assessment."