

Environment and Development Linkages

by Dr A Atiq Rahman and Dr Saleemul Huq

BANGLADESH is faced with rampant poverty, high population density and recurring natural disasters and a dwindling natural resource base. There are geomorphological and political instability, high level of dependence on foreign aid and donors' domination in decision making. Bangladesh is also in the formative stage of democracy. All these factors make it imperative to integrate environment in all sustainable development concerns in Bangladesh. One of the major intellectual challenges in Bangladesh in the coming years is to enhance the understanding of the complex relationship between environment and development.

Development Challenges

With a population of about 119 million confined within 144,000 sq km Bangladesh's population density is the highest in the world. Over 50 per cent of the population is below 15 years of age and hence in the next 10 years there will be a dramatic rise in the demand for employment, food, clothing, shelter and healthcare. Employment opportunities in agriculture is limited. The other sectors are not creating sufficient new jobs. The urban population was 13 million in 1981, it is now 20 million and it is expected to reach 41 million by 2000. Increasing population growth has created serious problems for sustainable use of resources. A very low land-man ratio intensifies the competition of the very limited resources for different uses.

Main Environmental Issues and Problems

The current situation of environmental management in Bangladesh is one of transition, uncertainty and paradox. The most important issues relating to environment and development are: mass poverty, low resource availability, population pressure, institutional weakness, poor information base and lack of comprehensive planning and implementation. Bangladesh is mostly a delta formed by sediments brought from the Himalayan drainage ecosystem and deposited along river banks and in the floodplains. The location of this country makes water management the key issue in its environmental plans. There is an increase in the use of water for irrigation, often from groundwater sources. There is indication of a lowering of the water table, due to indiscriminate use of ground water.

Recurrent floods cover large areas, often up to 30 per cent of the country. Floods damage crops, seeds, trees, livestock, housing and infrastructure. Floods accentuate erosion by the rivers with consequent loss of valuable land. Devastation caused can be enormous. On the other hand, the Northwest part of the country is vulnerable to drought and Northeast to flash floods. The low organic matter content in soil, high cropping intensity, improper cropping sequences and faulty management practices cause depletion of soil fertility. The bias towards HYV rice also increases agrochemical use in-

cluding fertilizers and pesticides damaging ecological balance.

Shortage of water in the river system during the dry season is thought to be causing the saline belt to move northward. Withdrawal of water from the Ganges by India at Farakka Barrage has major impacts on lean-period water availability; it increases salinity and threatens the ecosystem.

Water pollution is of the increase because of indiscriminate use of pesticides and fertilizers, construction of dams and dumping of industrial wastes in the rivers. This widespread water pollution has a strong negative impact on human health, causing a number of waterborne diseases.

This clearly demonstrates the need for integrated water resource planning. The more surface water is extracted upstream for land-based use the less there is available for water-based uses such as fisheries and navigation. Encroachment of salinity in the dry season has negative impact on cropping patterns and vegetation of the southern Bangladesh.

The removal of surface water reduces countrywide fish

ous loss of valuable mangrove forest in the Sundarbans.

Fish is the major provider of animal protein covering 80 per cent of the domestic demand. An increasing number of poor people rely on fisheries which causes overexploitation of fishery resource. Management and tenurial issues are the main reasons for the very low productivity of ponds and closed waterbodies. Prospects are good for aquaculture and shrimp farming but sometimes, the activities compete with agriculture and forestry, particularly in the coastal areas. Construction of indiscriminate flood control structures impede the flow of water and consequently floodplain productivity. These structures have reduced over 70 per cent of indigenous floodplain fisheries. Industrial expansion might have economic growth for any country but uncontrolled industrial pollution have some serious impact on water resources, air, forests, minerals damaging human health and environment.

However, there are some signs of changes in the environment and development arena. There are increasing

exceeded. The current population pressure argues for careful assessment of the use and management of the natural resources. Many people are using them for their livelihood and damaging the ecological balance of Bangladesh. Any intervention will affect the productivity of the remaining natural resources which would have adverse impact on livelihood of many people.

A careful examination of the relationship between people and resource use and re-assessment of the potential and productivity and equitable use and sharing of natural resources is urgently needed. Though population pressure has resulted in intensive land-use, there may be scope for the development of a more diversified and productive farming system. In Bangladesh, so many people remain landless, whereas a large area of khas land and moderately productive land are not properly managed and intensively utilized.

Like population pressure, mass poverty also contributed a lot to the overuse of the natural resources and hence degrades environmental balance. The poor are forced to satisfy

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production and this encourages overfishing. The uncontrolled withdrawal of ground-water have both led to a lowered ground water table and increased salinity in certain areas of Bangladesh. Water projects, such as, the large embankment schemes though protect certain areas from flooding have led to more rapid siltation of river channels and reduced fish production. The erosion of land has created increasing landlessness and potential overexploitation of common resources such as fisheries and forests.

There are three major natural hazards affecting Bangladesh. Of them, two could be aggravated by man-made degradation of the environment, both regionally and worldwide. The major hazards are increased flooding, cyclones and rising sea-levels worldwide due to global warming. The severity of the 1987 and 1988 floods is said to have arisen out of a reduction of forested land in the watershed areas and increased drainage congestion. The rise of sea-level would have a very severe impact on a delta like Bangladesh. The funnel shape of the Bay of Bengal forces many cyclones to hit Bangladesh. The last major cyclone of April 1991 had a human toll of over 1,30,000 with devastating environmental impact.

Commercial felling of timbers for fuel and other uses together with encroachments for agricultural and settlement purposes has substantially reduced the areas covered by forests. Total reserve forest areas have been reduced by 50 per cent during the last 20 years. There is also a continu-

activities relating to environment, particularly in the last few years with growing NGO involvement, government's initiatives, expert manpower, donor interest and indigenous knowledge base.

Linkages Between Environment and Development

There are at least two major issues relating to environment and development nexus where population plays a vital role. First, population pressure has led to overuse of natural resources causing decline in the productivity of those resources and the second, there should be a definite limit to population growth and development. Then, a environment-development linkages must be considered in the context of people and available natural resources.

So, the existing population and availability of natural resources are to be considered to bring about linkages between development and environment. It is evident that the extremely high population has contributed to the overuse of natural resources such as forest, water, fisheries and soil.

A majority people of Bangladesh are already without sufficient land to grow enough food, to meet their needs. Firewood stocks have been depleted and diminished to the point where 80 per cent of the total domestic energy requirements are met by crop residues and dung with only 16 per cent being met by fuelwood in our country. Forest, fisheries, agriculture and other renewable resources are facing scarcity which imply that some absolute limit has been passed and that the carrying capacity of the environment has been

their short-term needs causing long-term depletion and degradation of the resource base and environment. The poor are often most vulnerable and unable to cope with the environmental changes. Poverty results in high rate of population growth and the poor are associated with lack of health service, social security, education and employment opportunity. They are driven to survival in the most hazardous ecosystem such as coastal areas affected by frequent cyclones, charlands which are often flood prone and unstable and also in urban slums.

The linkages of poverty, environment and development call for a careful analysis of alternative means to alleviate poverty and promote development safeguarding environment. Some NGOs like BRAC and Proshika are examples which have trained and enabled the poor to manage and use these limited resources for more sustainable, and productive livelihood.

Uncontrolled and uncoordinated use of natural resource hamper both environment and sustained development. There is need for long-term multi-sectoral planning based on the knowledge and wisdom of all involved in the development process. Emphasis is to be given on projects and programmes which promote economic development but yet conserve and enhance the productivity of ecosystems and the quality of environment. Any attempt to achieve sustainable resource use must be based on a process which is politically acceptable to the people.

The energy choices and the wisdom, both traditional and recently acquired must be

strengthened for achieving sustainable development in a low-resource but high-population ecosystem. Efforts must be made to use resources with a view to future generation capacity to access and use the same resources. The major problems which are undermining resource sustainability are:

- Low involvement of people in decision making at local and central levels;
- Unrestricted access to resources such as fish, forests, water etc;
- Low capacity of local government to take actions and make decisions;
- Land ownership pattern is inequitable; for example, the wealthy elites own a huge amount of land;
- Lack of public understanding of the environmental problems
- Rapidly expanding population; and
- Inability to monitor sectoral changes and lack of trained personnel along with inability to take any system approach.

If ownership and control of resources remain with the wealthy and the influential, development from bottom-up and improved sustainable utilization of existing resources will continue to be difficult. There is an absence of public awareness about the sustainable resource utilization and conserving the environment. Public and community participation and understanding is essential to reduce overuse of natural resources.

There is a lack of strong institutional mechanism within the government of Bangladesh exercising authority to promote sound environmental development. There is also lack of understanding of the problems and a political will to formulate regulatory and development policies in line with the need for a sustained resource use programme which is environmentally sound. The environment-development linkage will be best served with a better understanding of the people-natural resource linkages. There is a need to build their own capacity to react to the new thinking of sustainable development and reorient themselves to be more responsive and pro-active.

Capacity to address these linkages must be developed in political process, in government and non-government agencies, in private and academic institutions and community or social groups.

Despite these shortcomings, the recent political process of democratisation gives new hope and must take into account the four cornered interactions among natural resource-people-environment and development. It must make institutions more effective and vigorous in pursuing the objectives of sustained development in alleviating poverty and at the same time protecting the resource bases for the future generations. The decreasing rate of population, mobilization of people, their capacity building and, above all, a functional and effective education might play a vital role for sustainable development in Bangladesh.



Hills on the vanishing act: Would you be surprised if a hill that you have seen just the other day is no longer to be found there the day after? You would definitely think that it's a miracle. But this photo above shows that it is no miracle but the greed of man that constantly makes hills disappear in our country. Photo shows hills being unlawfully cut off for the selling of its soil at Khagrachan, Chittagong Hill Tracts. — Star Photo by Mohsin

Sea Wolves Resist 'Disastrous' Anti-pollution Move

John Carr writes from Athens

TALK about protecting the marine environment to the average Greek shipowner and you are likely to get a mixed reception. Though the Greek magnates, who control 120.7 million deadweight tons — the biggest single merchant marine power in the world — have taken vigorous initiatives to clean up Greece's own seas, when it comes to other countries telling them what to do, they feel a distinct pinch in their pocketbooks.

Greek owners have built up their international clout by tramp shipping: shutting car-

goes from place to place wherever they are needed, with no fixed itinerary — rather like a marine taxi-truck service. Aggressive free traders, they were always wary of any rules that could cramp their style.

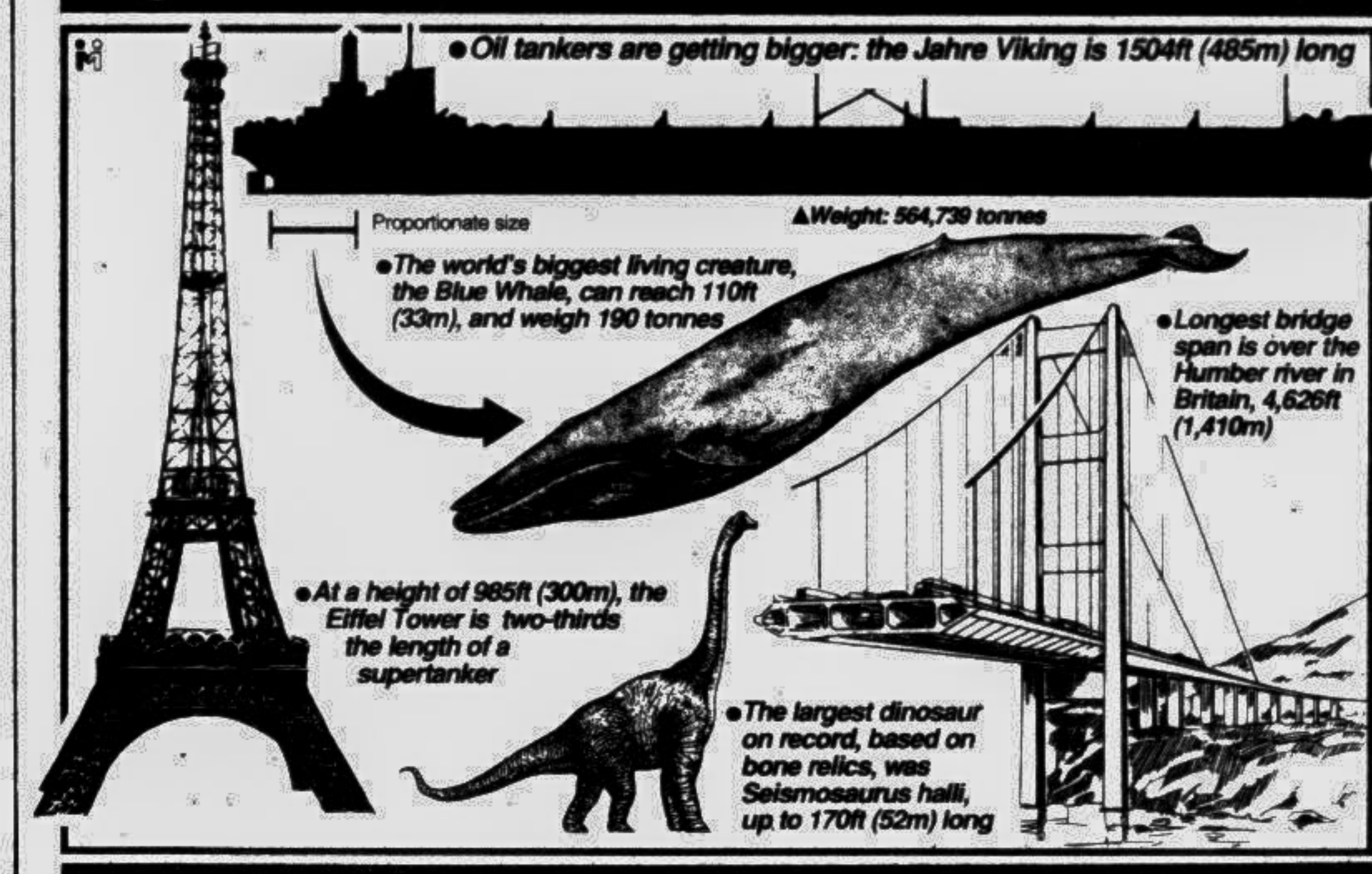
A series of marine disasters involving tankers, however, has turned a critical spotlight on the safety of tanker operations, at which the Greeks are prominent. The three most recent tanker disasters, including a collision in the Bosphorus earlier this year in which dozens of seamen lost their lives and severe pollution threatened Istanbul and its vi-

Greek shipping. A dry bulk carrier of average size carries up to 5,000 tons of fuel in its tanks; it requires that amount because a single day's voyage consumes up to 60 tons. Even the contents of an average ship's fuel tanks could cause severe pollution in case of accident. "A Damoclean sword hangs over every ship entering US waters," says Efthymiou.

OPA 90 requires all tankers approaching US ports to have double hulls to minimise the chances of accident. Some Greek shipowners are reluctant to take on the considerable extra expense of buying

Most Greek shipowners, who handle one out of every six tonnes of the world's cargo-carrying capacity, are resisting a US measure to stem coastal oil spills. Washington legislators, reports Gemini News Service, accuse them of simple greed.

Big is beautiful



Red Marks on Green Plan

Environmentalists call anti-global warming plans prepared by the United States as nothing but hot air. Pratap Chatterjee of Inter Press Service reports.

WHILE US Vice President Al Gore congratulated business leaders bear the White House for their plans to slash greenhouse gas emissions one day in April, his boss Bill Clinton appeared to be outside rubbing shoulders with balloon-blowing Greenpeace protesters.

But it turned to be only a cardboard cut-out of the US president, which was propped up by Greenpeace volunteers with a helium tank they were using to inflate balloons emblazoned with the words: "Clinton's plans are a lot of hot air".

At the 1992 Earth Summit in Rio de Janeiro, Clinton's predecessor George Bush had promised the world, the United States would cut its emissions of gases like carbon dioxide and methane to 1990 levels by the year 2000. The accumulation of these gases is believed to be trapping sunlight and slowly warming the planet.

But Greenpeace spokeswoman Beth Zilbert says far from slowing down, US emissions have risen sharply — hitting 1997 levels this year.

New statistics from the US Department of Energy show that energy-related carbon emissions reached 1,373 million metric tonnes, a 2.5 per cent increase over 1992. These figures are just short of the 1,384 million metric tonnes peak predicted for 1998, says Zilbert.

Before he became vice president, Gore had already made a name for himself as an environmentalist when he pub-

lished his book *Earth in the Balance*.

He has since spent much of his time since jetting around to promote environmental causes. In April Gore was in Marrakesh, Morocco, where he chided free trade negotiators for not taking into account the depletion of the earth's natural resources — such as fish stocks — caused by unchecked trade.

But back home, Gore was less critical of US industry leaders who had gathered one sunny April day at George Washington University a few blocks from the White House, to listen to him at a special conference on Climate Change.

The meeting was part of a new US government package that includes a fund for environmental jobs and subsidising the export of waste water

treatment plants. Outside the white tent that was erected for the purpose, however, was a group of Greenpeace protesters. They were unconvinced by the government's proposals for climate change, which are completely voluntary.

This is precisely the problem, says Zilbert. She asks: "How voluntary actions achieve quantifiable emissions reductions if there is no way to guarantee participation?"

"Isn't this a bit like counting your chickens before they have hatched, or in this case, before they have even been laid?" she adds.

Another major flaw is the fact the plan sets aside US\$20 billion a year for fossil fuel subsidies, 20 times as much as it pays out for energy efficiency, says Zilbert. At the same time,

the scheme says nothing about the transportation sector, which is responsible for most of US greenhouse gas emissions.

Many other environmental groups agree with Greenpeace. Indeed, a new study by the Union of Concerned Scientists says the reason the Clinton administration's plan have failed is because they were based on incorrect assumptions.

"If the administration is really serious about global warming, it has got to introduce stronger programmes and take a higher profile in enforcing them," said Dan Lashof of the Washington-based Natural Resources Defence Council, an author of the study.

Environmentalists also say global warming is not the only programme the Clinton administration has fudged. In a recent survey done by the environmental newsletter Greenwire, two-thirds of people polled gave US Environmental protection Agency administrator Carol Browner the thumbs-down.

Earlier this year, the League of Conservation Voters graded the White House a 'D' for its low environmental budget levels and a 'C minus' for failing to keep its promises.

The League cites as examples the government's backing away from a planned energy tax and a proposal to restrict grazing and mining on western lands. It also lambasts the Clinton administration for not taking a strong enough stance against proposals to weaken existing drinking water standards.

Stop this Urban Pollution, Please

by Aeman Tehseen Ansari

HOW Environment is being polluted? Oil spill from a tanker into the sea or ocean, chemical leakages from the reactor or dumping of chemical wastes are the most serious threat to environment pollution. But in a developing country like ours, environment is mainly being polluted by two different ways. Firstly, migration from rural areas to the urban areas, and secondly, negligence by the city-dwellers or lack of cleanliness drive by the municipal corporation.

Bangladesh is experiencing one of the highest urban growth rates in the region. There are 3 million slum dwellers living in the capital city. There is no urban poor housing facilities for the migrants. Majority of the migrants (slum-dwellers) live below the poverty level. These people live in a very unhygienic condition, eg, no clean water supply, no latrines, etc.

The most serious threat to health in developing countries is poverty. Illiteracy rate is also increasing among the slum-dwellers. Thus, the vast majority of the people in the developing countries are ill-fed, ill-clothed, ill-housed and ill-educated. Poverty is, therefore, the basic malady of a developing country which creates the 'misery' go-round. Thus, poverty alleviation will reduce pollution of environment.

Poverty, natural calamity, increasing landlessness are the main reasons of migration. But this migration process should

be stopped immediately. The government and the NGOs should take some measures, such as, cities outside the capital should be developed. New roads, bridges, schools and colleges, mills and factories should grow in all the regions. NGOs or banks should lend the migrants some money with very low interest rates for rice cultivation, fish cultivation, poultry farming etc.

On the other hand, we, the city-dwellers should have to be more hygienic conscious. We always dump garbage on the roads and footpaths. This is not only indecent but also injurious for the environment around us. It also causes various health hazards. Spitting on the roads or from the moving vehicles should be stopped. Blocked and overflowed sewerage systems should be repaired. Dustbins should be kept at places. Human excreta is a source of pollution and exposes the whole city population to serious health pollutant substances. But people are always using road-side drains as public toilets. More public toilets should be built. Alongwith, should grow the civic sense of the general mass which at present is shamefully inadequate in our society.

Even owners of non-tanker vessels are protesting. "OPA 90 is a disastrous piece of legislation," says bulk carrier operator Nicholas Efthymiou. A map in his seventh-floor office in Piraeus port shows the positions of his ships from day to day. None of them is anywhere near the US coastline. The Oil Pollution Act, the says, has frightened off all

tal waterway, involved ships belonging to Greek interests. The accidents have triggered louder calls for ship safety inspections, which could land heavy fines on Greek shipowners. Already, according to the Hellenic Chamber of Shipping, an advisory body to the Greek government, the average age of ships in Greek hands is 3.2 years older than the world norm.

In the past two years Greek owners have been buying heavily into second-hand vessels. The main motive has been to take advantage of a revival in Far Eastern trade without having to spend too much money: an average 10-year-old tanker, for example, costs about \$15 million, half the price of a new one. And if recession hits the shipping industry, as it did in the early 1980s, older ships can be more easily sent for scrap.

This may make business sense, but to United States legislators it smacks of simple greed. In 1990 the US Congress passed the Oil Pollution Act by which shipowners have unlimited liability for oil spills that seriously harm the environment along the US coastline. Greek shipowners, while conceding the environmental point, are loudly complaining that the enforcement of OPA 90, as the Act is known, could put them out of business.

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new double-hull ships and fitting extra hulls to older ones. They have also commissioned a study that purports to show that a double-hull is not a serious guarantee against oil spillage.

Roger Kohn, information officer with the International Maritime Organisation (IMO), says the organisation's member states consider the double hull to be only one of many possible solutions to the dangers of oil transport. He also believes the double hull promises more than it can deliver.

"If you have a double hull and you run aground on a sandy shoal at four knots then your are fine and so is the ship. But in a gale force wind onto a rocky coastline?"

"It's a solution which is only a solution if you have the right kind of accident. And how often does that happen?" queries Kohn.

But a few major Greek shipping operators such as the Onassis Group have ordered new double-hull tankers that comply with OPA 90 safety requirements. The US is, after all, the largest oil market in the world.

Magnates such as Efthymiou cling to the old school. Ever since the Greek shipping industry got started on the island of Chios at the turn of the century, owners have run their businesses like sea-wolves, successfully fighting off all government attempts to tell them what to do.

All the big Greek shipowning firms are in the hands of a couple of dozen wealthy families. "Take the instinct out of shipping and that will be end of it," argue Efthymiou.

— Gemini News

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