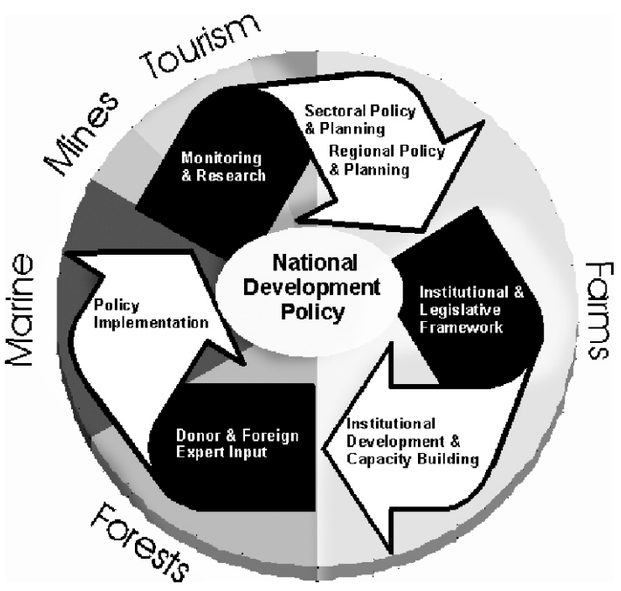
Sustainable development needs to be environment-friendly

MD. SAIFUL KARIM

MANKIND is a part of nature and life depends on the uninterrupted functioning of natural systems which ensure the supply of energy and nutrients. Civilisation is rooted in nature, which has shaped human culture and influenced all artistic and scientific achievements, and living in harmony with nature gives man the best opportunities for the development of his creativity, and for rest and recreation.

Humans have changed the natural environment from the very beginning of civilisation through uncontrolled and unplanned utilisation of natural resources. For the sake of very existence of human civilisation on earth we have to ensure that development process is carried out in a sustainable manner through sustainable utilisation of natural resources.



World Charter for Nature

Although offsprings of nature, human beings can alter nature and exhaust natural resources by their action or its consequences. Therefore, we must have to recognise the urgency of maintaining the stability and quality of nature and of conserving natural resources. At the same time we must have to recognise the role of natural resources in our continued economic, political and social development. The role of natural resources as natural capital should not be undervalued. We should appreciate the role of mineral, plant, and animal, formations of the Earth's biosphere as means of production of oxygen, water filter, erosion preventer, or provider of other environmental services.

For the betterment of present and future generations we must have to marry the principle of sustainable development, with sustainable utilisation of natural resources and environmental sustainability. The notion of sustainable development, in some sense, includes within its ambit the concept of sustainable utilisation of natural resources and concept of environmental sustainability.

Defining sustainable development, however, is a difficult task. Over the years researchers from varied backgrounds tried to define the term while the most commonly cited definition comes from the Report of the United Nations World Commission of Environment and Development, popularly known as "Our Common Future Report". The report states that sustainable development is development that "meets the needs of the present without compromising the ability of future generations to meet their own needs". In 1987, this report, which is also known as Brundtland Report, brought the concept of sustainable development to the forefront of international agenda. Sustainable development was the central feature of the 1992 Rio Declaration on Environment and Development. Moreover it has been a focus of attention in all discourses relating to development in the developing countries.

The focus of the sustainable development, however, does not solely fall on environmental issues. Sustainable development equally deals with economic, environmental and social issues. The elements of sustainable development may include sustainable utilisation of natural resources, integration of environmental protection and economic development, the right to development, inter-generational equity, intra-generational equity and some procedural elements such as environmental impact assessment and public participation in decision-making.

Over the years, through its universal recognition, sustainable development becomes a globally accepted norm of international law. As the former Vice President of International Court of Justice Judge Christopher Gregory Weermantry observed in his celebrated separate opinion in the case concerning Gabèíkovo-Nagymaros Dam (Hungary/Slovakia): ..... I consider it [sustainable development] to be more than a mere concept, [it is] ..... a principle with normative value.

He also observed:

After the early formulations of the concept of development, it has been recognised that development cannot be pursued to such a point as to result in substantial damage to the environment within which it is to occur. Therefore development can only be prosecuted in harmony with the reasonable demands of environmental protection. Whether development is sustainable by reason of its impact on the environment will, of course, be a question to be answered in the context of the particular situation involved.

It is now well established that sustainable development is a fundamental principle of international law, widely accepted in multilateral treaties, international declarations, establishment documents of international organisations, practice of international financial and other institutions and state practice. As Judge Weermantry observed:

The principle of sustainable development is thus a part of modern international law by reason not only of its inescapable logical necessity, but also by reason of its wide and general acceptance by the global community.

Economic development of many developing countries is still directly dependent on utilisation of natural resources. In some cases natural resources are the main driving force for economic, social and political development. Although, in recent years, some of the developing countries' achievement in economic development is remarkable, their environmental initiative is not unquestionable and rather mixed. Sometimes these nations responded to the global environmental protection movement with several reservations which can be easily understood from a comment of the former Malaysian Prime Minister Dr. Mahathir Mohamad. He observed:

"[now] the developed countries have sacrificed their own forests in the race for higher standards of living, they want to preserve other countries' rain forests -- citing a global heritage -- which could indirectly keep countries like Malaysia from achieving the same levels of development."

Apart from the pressure of unplanned development it is a common phenomenon for many developing countries that high-level corruption has plundered the natural resources where resources are badly needed for reconstruction and development of states. Corruption, poverty, human rights abuses and destruction of natural resources are indivisibly interlinked with each other. Most people in the developing countries suffer from the effects of environmental degradation resulting from poor environmental management practices and inadequate governance rather than utilisation of natural resources for development activities. Several institutional and legal factors are hindering the domestic compliance of internationally recognised environmental management norms in developing countries.

Undoubtly, in the 21st century natural resource will be one of the main driving forces for development of the least developed countries. For wellbeing and welfare of the millions of poor people in these countries' process of economic development cannot be stopped or halted. At the same time environment cannot be destroyed, otherwise the very existence of human civilisation will be jeopardized. We must have to find an amicable solution to this problem. Ensuring sustainable development may be the answer to this problem.

The global ecosystem is under stress and strain. Natural resources are already burdened with sustaining a rapidly growing world population. The most rapid population growth is occurring in the third world, in Asia, Africa and Latin America where a huge number of people live in a condition of absolute poverty. These people are often deprived of basic human needs, caught in the every day struggle for survival. Situation forced them to cut the tress for firewood, clear the forest for agriculture, over-fish in seas and rivers, over-hunt wildlife, practise unsustainable agricultural process. A vicious circle of overpopulation, poverty and illiteracy is the catalyst for the third world's contribution to global natural resources degradation. As the World Commission on Environment and Development stated in "Our Common Future Report":

"The Commission believes that widespread poverty is no longer inevitable. Poverty is not only an evil in itself, but sustainable development requires meeting the basic needs of all and extending to all the opportunities to fulfil their aspiration for better life. A world in which poverty is endemic will always be prone to ecological and other catastrophes"

On the other hand, contribution of rich developed countries in the process of degradation of global natural resources is hundred times higher than that of third world countries. The emissions of the industries and their effluent, the release of greenhouse gases from transportation and disposal of huge amount of nuclear and other wastes are contributing to global warming, and damaging biosphere.

Humans have changed the natural environment from the very beginning of civilisation through uncontrolled and unplanned utilisation of natural resources. For the sake of very existence of human civilisation on earth we have to ensure that development process is carried out in a sustainable manner through sustainable utilisation of natural resources. In this juncture I may venture to conclude with some words from the Nobel Lecture of 2004 (Nobel Peace Prize) Wangari Muta Maathai:

"I reflect on my childhood experience when I would visit a stream next to our home to fetch water for my mother. I would drink water straight from the stream. Playing among the arrowroot leaves I tried in vain to pick up the strands of frogs' eggs, believing they were beads. But every time I put my little fingers under them they would break. Later, I saw thousands of tadpoles: black, energetic and wriggling through the clear water against the background of the brown earth. This is the world I inherited from my parents. Today, over 50 years later, the stream has dried up, women walk long distances for water, which is not always clean, and children will never know what they have lost. The challenge is to restore the home of the tadpoles and give back to our children a world of beauty and wonder."

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Hot air is not enough

DAVID G. VICTOR

PRESIDENT George W. Bush averted a nasty rift when he agreed in the final hours of the recent G8 summit to "consider seriously" the need to halve the world's emissions of global-warming gases by 2050. Canada, the European Union and Japan had already embraced that goal, leaving America the dirty stand-out. The deeper truth is that these eight industrial countries control

Only part of the world's emissions, and the industrial activities that cause emissions are slow to change. Coal will be the hardest to tame because it is so cheap and abundant. Many coal-power plants coming online today will still be in service by 2050, and advanced plants that store effluent safely underground won't be used widely for many more decades. The geopolitical hurdles are also high. The plan introduced with much fanfare earlier this month by China, which next year will become the world's top emitter of greenhouse gases, contains nothing beyond what Beijing already had in place. The world, therefore, is in for some warming.

Pessimism about stopping global warming is leading some scientists to wonder out loud if it is possible through "geo-engineering" to force the Earth to cool. The idea is not entirely new and is fraught with dangers, but it is likely to get more attention in coming years. At least since the 1950s, weather makers have dreamed of steering clouds and rain to crops (though they failed in practice). From there it was a small step to dreaming on the global scale. Indeed, when the thesis of global warming was first proposed a few decades ago, some analysts envisioned putting mirrors in space or on deserts to deflect a small fraction of sunlightjust enough to offset, crudely, the buildup of warming gases in the atmosphere. These premature plans were wildly costly and faltered also because climate is sensitive to a lot more than just the gross amount of sunlight that warms the planet.

Today's plans are looking more practical, though still fraught with danger. One would spread iron, a nutrient for algae, in the ocean to stimulate photosynthesis, a natural process in which plants absorb carbon dioxide. Injecting iron in parts of the ocean where it is scarce could trigger algal blooms and help remove even more CO2. Experimental "iron fertilization," as well as careful measurement around natural iron sources, offers tantalizing support for the theory, though nobody knows what biological horrors might follow from messing with the ocean ecosystem on a large scale. Nobel laureate Paul Crutzen helped touch off the current pondering about geo-engineering with an editorial in the August 2006 issue of the scientific journal Climatic Change. He revived a Russian idea from the 1970s to inject sulfur particles into the stratosphere with balloons, artillery guns or jumbo jets. (Full disclosure: I am on the journal's board of editors.) Sulfur, in turn, can produce aerosols (particulates) and clouds that reflect some sunlight back to space.

The plan has some drawbacks. Nasty chemistry, including that which caused the hole in the ozone layer, might follow -- nobody is sure. Sulfur can also cause acid rain and respiratory diseases. But such ideas are worth a close look, says Crutzen, because unchecked changes in climate might be even worse. And nature already does this -- through volcanoes such as Mount Pinatubo, which cooled the planet for a while after it erupted in 1991. None of this is ready for prime time, and the mere mention causes environmentalists to shudder because it distracts from the urgent need to reduce emissions. But it will get more attention as the difficulties in making deep cuts in emissions and adapting to climate change become more apparent.

Geo-engineering will raise at least two awkward questions. First, it turns the geopolitics of global warming on its head. Cutting emissions requires many nations to cooperate. Geo-engineering can be done by just a few, or even one. Who will determine if geo-engineering is safe, and what if the rest of us don't like the consequences? The second is humanity's relationship to nature. Climate warming is already causing stress on natural ecosystems, and it is a small step to imagine engineering rare and special ecosystems to help protect them. But if mankind extends management to the whole planet, do we, in effect, turn Earth into a zoo?

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China aims for bigger share of South Asia's water lifeline

BRAHMA CHELLANEY

SHARPENING Asian competition over energy resources, driven in part by high growth rates in gross domestic product and in part by mercantilist attempts to lock up supplies, has obscured another danger: Water shortages in much of Asia are beginning to threaten rapid economic modernization, prompting the building of upstream projects on international rivers. If water geopolitics were to spur interstate tensions through reduced water flows to neighboring states, the Asian renaissance could stall.

Water has emerged as a key issue that could determine whether Asia is headed toward mutually beneficial cooperation or deleterious interstate competition. No country could influence that direction more than China, which controls the Tibetan plateau -- the source of most major rivers of Asia.

Tibet's vast glaciers and high altitude have endowed it with the world's greatest river systems. Its river waters are a lifeline to the world's two most-populous states China and India -- as well as to Bangladesh, Myanmar, Bhutan, Nepal, Cambodia, Pakistan, Laos, Thailand and Vietnam. These countries make up 47 percent of the global population.

Yet Asia is a water-deficient continent. Although home to more than half of the human population, Asia has less fresh water -- 3,920 cubic meters per person -- than any continent besides Antarctica.

The looming struggle over water resources in Asia has been underscored by the spread of irrigated farming, water-intensive industries (from steel to paper making) and a growing middle class seeking high water-consuming comforts like washing machines and dishwashers. Household water consumption in Asia is rising rapidly, according to a 2006 U.N. report, but such is the water paucity that not many Asians can aspire to the lifestyle of Americans, who daily use 400 liters per person, or more than 2.5 times the average in Asia.

The specter of water wars in Asia is also being highlighted by climate change and environmental degradation in the form of shrinking forests and swamps, which foster a cycle of chronic flooding and droughts through the depletion of nature's water storage and absorption cover. The Himalayan snow melt that feeds Asia's great rivers could be damagingly accelerated by global warming.

While intrastate water-sharing disputes have become rife in several Asian countries -- from India and Pakistan to Southeast Asia and China -- it is the potential interstate conflict over river-water resources that should be of greater concern. This concern arises from Chinese attempts to dam or redirect the southward flow of river waters from the Tibetan plateau, where major rivers originate, including the Indus, the Mekong, the Yangtze, the Yellow, the Salween, the Brahmaputra, the Karnali and the Sutlej. Among Asia's mighty rivers, only the Ganges starts from the Indian side of the Himalayas.

The lopsided availability of water within some nations (abundant in some areas but deficient in others) has given rise to grand ideas -- from linking rivers in India to diverting the fast-flowing Brahmaputra northward to feed the arid areas in the Chinese heartland.

As water woes have been aggravated in its north due to environmentally unsustainable intensive farming, China has increasingly turned its attention to the bounteous water reserves that the Tibetan plateau holds. It has dammed rivers, not just to produce hydropower but also to channel waters for irrigation and other purposes, and is currently toying with massive interbasin and inter-river water-transfer projects.

After building two dams upstream, China is building at least three more on the Mekong, inflaming passions in Vietnam, Laos, Cambodia and Thailand. Several Chinese projects in west-central Tibet bearing on river-water flows into India, but Beijing is loath to share information.

The first phase of China's South-North Project calls for building 300 km of tunnels and channels to draw waters from the Jinsha, Yalong and Dadu rivers, on the eastern rim of the Tibetan plateau. Only in the second phase would the Brahmaputra waters be directed northward. In fact, Beijing has identified the bend where the Brahmaputra forms the world's longest and deepest canyon just before entering India as holding the largest untapped reserves for meeting its water and energy needs.

Following flash floods in India's northern Himachal Pradesh state, however, China agreed in 2005 to supply New Delhi data on any abnormal rise or fall in the upstream level of the Sutlej River, on which it has built a barrage. Discussions are on to persuade it to share flood-control data during the monsoon season on two Brahmaputra tributaries, Lohit and Parlung Zangbo, as it has done since 2002 on the Brahmaputra River, which it has dammed at several places upstream.

The 10 major watersheds formed by the Himalayas and Tibetan highlands spread out river waters far and wide in Asia. Control over the 2.5 million-square-km Tibetan plateau gives China tremendous leverage, besides access to vast natural resources. Having extensively contaminated its own major rivers through unbridled industrialization, China now threatens the ecological viability of river systems tied to South and Southeast Asia in its bid to meet its thirst for water and energy.

Tibet, which existed independently up to 1950, comprises approximately one-fourth of China's land mass today, having given Han society, for the first time in history, a contiguous frontier with India, Myanmar, Bhutan and Nepal.

Tibet traditionally encompassed the regions of the central plateau, Kham and Amdo. After annexing Tibet, China separated Amdo (the present Dalai Lama's birthplace) as the new Qinghai province, made the central plateau and eastern Kham the Tibet Autonomous Region, and merged the remaining parts of Tibet into the Chinese provinces of Sichuan, Yunnan and Gansu.

The traditional Tibet is not just a distinct cultural entity but also a natural plateau, the future of whose water reserves is tied to ecological conservation. As China's hunger for primary commodities has grown, so too has its exploitation of Tibet's resources. And as water woes have intensified in several major Chinese cities, a group of ex-officials have championed the northward rerouting of the waters of the Brahmaputra in a book enlighteningly titled: "Tibet's Waters Will Save China."

Large hydro projects and reckless exploitation of mineral resources already threaten Tibet's fragile ecosystems, with ore tailings beginning to contaminate water sources. Unmindful of the environmental impact of such activities in pristine areas, China has now embarked on constructing a 108-km paved road to Mount Everest, located along the Tibet-Nepal frontier. This highway is part of China's plan to reinforce its claims on Tibet by taking the Olympic torch to the peak of the world's tallest mountain before the 2008 Beijing Games.

As in the past, no country is going to be more affected by Chinese plans and projects in Tibet than India. The new $6.2 billion Gormu-Lhasa railway, for example, has significantly augmented China's rapid military-deployment capability against India just when Beijing is becoming increasingly assertive in its claims on Indian territories. This hardline stance, in the midst of intense negotiations to resolve the 4,057-km Indo-Tibetan border, is no less incongruous than Beijing's disinclination to set up, as agreed during its president's state visit to New Delhi last November, a joint expert-level mechanism on interstate river waters.

Contrast China's reluctance to establish a mechanism intended for mere "interaction and cooperation" on hydrological data with New Delhi's consideration toward downstream Pakistan, reflected both in the 1960 Indus Waters Treaty (which reserves 56 percent of the catchment flow for Pakistan) and the more recent acceptance of World Bank arbitration over the Baglihar Dam project in Indian Kashmir.

No Indian project has sought to reroute or diminish trans-border water flows, yet Pakistan insists on a say in the structural design of projects upstream in India. New Delhi permits Pakistani officials to inspect such projects. By contrast, Beijing drags its feet on setting up an innocuous interaction mechanism. Would China, under any arrangement, let Indian officials inspect its projects in Tibet or accept, if a dispute arose, third-party adjudication?

If anything, China seems intent on aggressively pursuing projects and employing water as a weapon. The idea of a Great South-North Water Transfer Project diverting river waters cascading from the Tibetan highlands has the backing of President Hu Jintao, a hydrologist who made his name through a brutal martial-law crackdown in Tibet in 1989. In crushing protesters at Tiananmen Square two months later, Deng Xiaoping actually borrowed a leaf from Hu's Tibet book.

The Chinese ambition to channel the Brahmaputra waters to the parched Yellow River has been whetted by what Beijing touts as its engineering feat in building the giant $ 25 billion Three Gorges Dam project, which has officially displaced a staggering 1.2 million citizens. While China's water resources minister told a Hong Kong University meeting last October that, in his personal opinion, the idea to divert waters seems not viable, the director of the Yellow River Water Conservancy Committee said publicly that the mega-plan enjoys official sanction and may begin by 2010.

The Brahmaputra (Yarlung Tsangpo to Tibetans) originates near Mount Kailash and, before entering India, flows eastward in Tibet for 2,200 km at an average height of 4,000 meters, making it the world's highest major river. When two other tributaries merge with it, the Brahmaputra becomes as wide as 10 km in India before flowing into Bangladesh.

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While some doubts do persist in Beijing over the economic feasibility of channeling Tibetan waters northward, the mammoth diversion of the Brahmaputra could begin as water shortages become more acute in the Chinese mainland and the current $1.2 trillion foreign-exchange hoard brims over. The mega-rerouting would constitute the declaration of a water war on lower-riparian India and Bangladesh.

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