

NSU green reflections

a newsletter by earth club



why am I an
environmentalist ?



the time to act
is now



the green
column



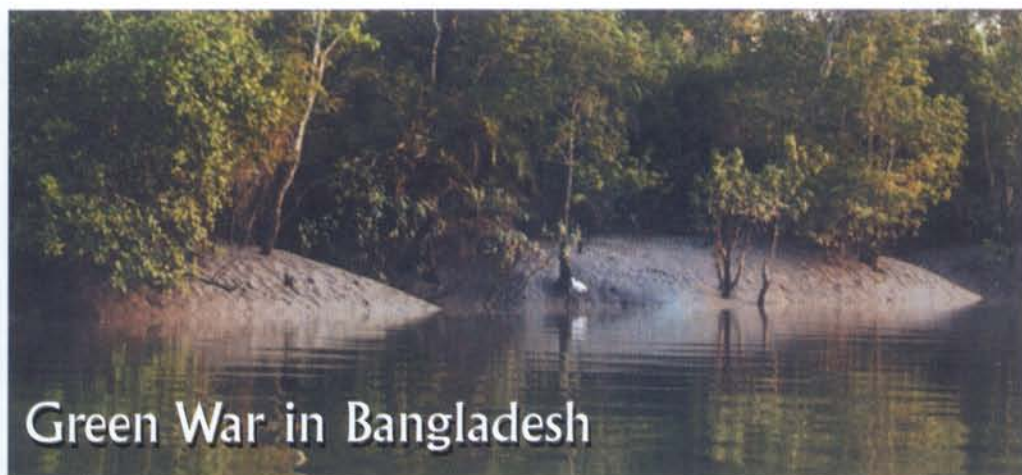
interview with
Dr. Ainun Nishat
country representative
IUCN bangladesh



eco-tourism in
sundarbans



the tree



Green War in Bangladesh

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Over the last few years, there has been much dispute among the environmentalists about whether a poor nation like Bangladesh can adopt expensive environment-friendly technologies (i.e. 'green industrialization'), such as producing recyclable products, controlling industrial emission, treatment of waste prior to disposal, etc. At the present stage of development, the nation is striving for high economic growth within a short time span to maximize economic profits by relying heavily on foreign investments. Along with the dispute over operating the industries in an eco-friendly manner, there has been the issue of preserving flora and fauna for the ecological wellbeing of the environment. The last remaining forests, which are less than 6% of the total area of the country, are providing habitat to threatened terrestrial, aquatic flora and fauna.

Message

I am delighted that North South University (NSU) Earth Club has undertaken the task of publishing a newsletter. This student-sponsored venture will be a bright example of environmental concern and care on the part of our young progeny. The need for consciousness and raising the awareness of environmental degradation in a densely populated country like Bangladesh is of paramount importance. The members of the NSU Earth Club are doing their part to highlight the problems and hopefully suggest remedies and mitigating measures.



NSU actively encourages and resolutely emphasizes participation of students in meaningful extra curricular activities. Among the assorted student activity clubs, it is difficult to see how the purpose and mission of any can be more meaningful and substantive than that of the Earth Club. I hope that members will learn, practice and preach sound environmental policies, practices and prerogatives to keep our surroundings pleasant and livable for all God's creations.

I wish everyone connected with the newsletter the very best of luck, and I wish this NSU Earth Club fitting project and noble venture a great success.

Dr. Hafiz G.A. Siddiqi

Pro Vice Chancellor
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Global Questions

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One interesting, and pleasing, feature of globalization is increased international awareness of the predicament of human beings in faraway places. For example, more than ever before, there is widespread international awareness that the plight of victims of aggression, wherever they may be, should be of concern to people everywhere. The recent arrest of Milosevic is a manifestation of this growing international consensus that the scope of human sympathy should extend not only to our fellow citizens and our co-religionists, but to all people everywhere.



This ideal is of course seldom adhered to faithfully, often violated, and at best pursued selectively. Nevertheless there is an unmistakable trend in this direction.

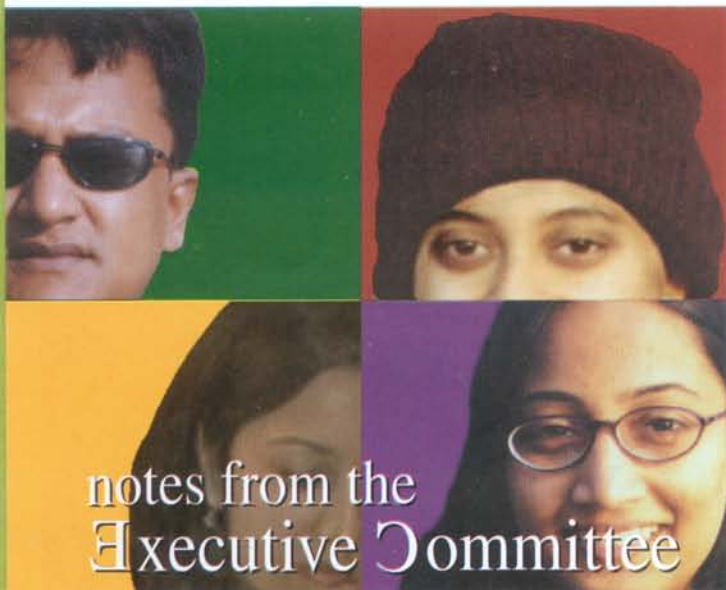
A similar, and related, expansion of human consciousness is occurring with respect to environmental matters. There is increasing

Continued on page 2

The government is initiating policies that are primarily focused on economic and social benefits. Though these policies seem encouraging for a poor nation like ours, many local and multinational companies are directed towards generating 'quick-money' without adopting green technologies. As a result, numerous private organizations are now involved in extraction of natural resources and expansion of urban areas, and moving away from agro-base industrialization. These activities, resulting from modification of the national economic policies and the 'leap-frog shift' from one occupation to another, are producing harmful

Continued on page 3





notes from the Executive Committee

Well, here it is. In your hand you hold the first ever NSU Earth Club Newsletter. In these pages you will not only learn about the Earth Club but also learn about some of the small things that you can do to help the environment. A little flashback into Earth Club's events would clearly reflect that while the aim of this club is to promote environmental consciousness, it is also a place where students interact in a friendly atmosphere and work together on environment related activities. We have always given priority to students' efforts and suggestion to make the club stronger. And this Earth Club Newsletter in no exception because it largely consists of the student's contributions and their opinions about the world as they see it.

The EC Newsletter is not just a compilation of articles and facts but a bridge between our knowledge and understanding of the intricate web of nature and our readers. Our sole objective is to raise your interest in the environment and to suggest how you can modify your habits a little to become more eco-friendly.

Finally, we would like to thank the editors and contributors for their hard work. To the readers, we only hope that you understand the implication of this newsletter and of course enjoy reading it at the same time. **HAPPY READING!**

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Global Questions ...

from page 1

recognition internationally that our concern and sympathies ought to extend even beyond human affairs and ought to embrace the entire biosphere.

In the past, the dominant assumption has been that other species are important only if they matter to us, the species that really matters. The main purpose of the planet, from this point of view, is to provide a home for human beings.

This human-centered outlook has been under increasing pressure in recent decades. The fundamental source of this pressure is a growing awareness that this perspective, with its blindness to the interests of non-human nature and its indifference to the disruption of natural habitats, has contributed to environmental problems such as the disruption of ecosystems, the annihilation of other species at an alarming rate, and the depletion of the ozone layer.

Difficult questions now confront the human community. What form will, and should, this expansion of consciousness take? What should be its sources of inspiration? Do human beings, as a species, have the wisdom, insight, imagination and courage to rethink the nature of our responsibilities to all forms of life on the planet we inhabit? How are we to weigh the importance of providing for the pressing needs of an increasing human population against the importance of protecting other species and the environment as a whole?

Answers to these questions need to be found. In doing so we need the assistance of people who are well trained in environmental science. For this reason it is a great personal pleasure to be associated with the students of the NSU Earth Club who have produced this Newsletter; and whose ideas are represented within it. We may not know the answers to the questions that confront us. But we can draw encouragement from the fact that our students are getting an education that will enable them to address such questions, both at a practical and at a theoretical level.

M e s s a g e

Earth Club (EC) is a noble example of creative extra-curricular activities of the students of North South University. The mandate of the club is for people who are concerned about environmental issues to come together in a forum, learn more about nature and the environment, experience nature through field trips and nature tours, identify the crucial environmental issues, and most importantly, share their concerns and ideas with others. EC works primarily on activities in the NSU campus. The EC Newsletter will certainly carry the work, thoughts and messages of EC members to a larger audience, disseminating environmental concerns among people outside the NSU campus. I would like to thank Dr. Robert McKim for providing valuable guidance and Dr. Hafiz G. A. Siddiqui for his on-going support and encouragement. Above all, I would like to congratulate the EC members who have made the newsletter possible. Special thanks goes to Alia & Faisal for their relentless patience during graphic design and final editing. It is your fine effort and dedication that make Earth Club one of the most exciting and meaningful student organizations at NSU.

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environmental consequences such as species loss and loss of habitat. Scientific research suggests that depletion rates for all species, not just mammals and birds, vary from one to three species a day and with the most pessimistic estimates, up to of one to three species per hour.¹

The benefits of such abrupt and unplanned economic development are merely short-term. Fast yielding projects will lead towards a higher rate of depletion and degradation of environmental components. Many recent studies on the causes of environmental degradation show that most of the projects in Bangladesh are not

planned with long-term commitment and the environmental risks associated with these projects are often underestimated. There is no other alternative but to look for adopting alternatives which include "green accounting", that is, a cost-benefit analysis to internalize the environmental impacts of various projects at every stage of development.

Though people are becoming more conscious of the human impact on the environment, the presence of political interference disrupts the greening movements in the country. Weak institutional frameworks in the government agencies related to the environment, and absence of statutory laws concerning environmental issues are inhibiting any legal issues being raised by both the people and the interest groups (i.e. environmental specialists,

victims of environmental hazards, etc.). So far, all the nature conservation practices have been carried out as an approach to saving the physical environment only because the adverse impacts would otherwise directly affect human well being. There is a failure to realize that, as the resources are depleted, many non-human species will cease to exist and there is a danger of a total collapse of the ecological balance.

It is time that we ask ourselves not about our personal priorities, but about how to prioritize components of the environment, and how to move towards a sustainable conservation life-style without hampering other species' existence. Even if we have the largest oil reserves hidden in our wildlife sanctuaries, we ought to leave them in their virgin state. We should preserve the vitality of life that has perpetuated in that region for thousands of years.

At present, there are some new internationally funded projects on nature and wildlife conservation (e.g. Biodiversity Conservation Project of IUCN) with the goal of protecting 'naturally sensitive' areas (i.e. seven zonal divisions) and wild ecosystems (i.e. 14 zonal divisions of forests, wetlands, and hilly areas) through Government

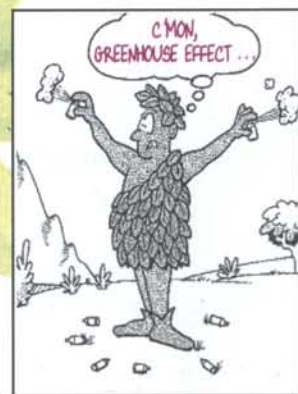
collaboration (as ratification of both 'Ramsar Convention' and 'Convention on Biodiversity'). Sometimes, the implementation of such environmental projects overlooks the indigenous people whose earning heavily depends on extraction of resources from the forests. Their demands to be informed and to be trained in effective protection/conservation measures through public participation are ignored. Whereas, public participation and/or representation of the local people can foster a smooth-flowing and effective relationship between the Government and the local people. It can also bring about questions regarding species and resource loss from these people, which can identify the actual conditions in those unprotected areas.

In light of the above remarks about unplanned economic development, it is not surprising that environmentalists are ineffective in protecting endangered species, and that there is no practical application of the matters that they try to address in seminars, meetings, and so on. There is no point in launching meetings or seminars on the same issues repeatedly. It matters little when we have more 'talk' and 'less action'. What really matters is that the people who really care enough for a better environment actually take action. We need to identify the groups of people starting from the grass-root level to combine our true concerns and start working for the saving of endangered species. Once the groups have been identified (i.e. strong pressure/advocacy groups who create demands in the society for conserving nature) funding could be arranged through proper channels, as some of the groups of concerned people would also pull in influential people.

We are still hopeful that good days are yet to come. This is the first time that we ought to start a war... a war against crude human development, and a war for saving the 'nation' of other species; saving not just the 'Motherland' but saving the 'Mother Nature' herself.



www.offthemark.com



www.offthemark.com

¹ Bio-diversity loss in the world, web article, EPA publication, May 2001
Site : / www.epa.gov/oia/egi5.htm]



why am I an environmentalist?

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With the launching of the first man-made satellite Sputnik in 1957 and reception of the images of the earth sent by it, we could see for the first time in the history of human civilization that we lived in a tiny little plant in the solar system. Most people appreciated the beauty of this blue-green gem of a planet as seen from outer space. But some, like Kenneth Boulding, noticed an uncanny similarity between the spaceship from which the pictures were taken and the object being pictured - the earth. Both are very much limited in size and capacity. An astronaut making a long space voyage must use the limited supply available on board most frugally, recycle as much as possible and minimize generation of waste and pollution. Boulding noticed that we, the inhabitants of planet earth, must do the same. No more can we pretend that we live in a vast limitless plain that can be used and abused. No more can we simply leave behind a violated land and move on to a new, unexplored frontier. We have reached the limit. Now we have to be responsible, for the sake of our own survival, and for the survival of our future generations.

It seems then, that being conscious and responsible about the environment is the right thing to do. It is a new moral obligation that each conscious individual of the new millennium will inevitably face. The present mode of life, based on an increased level of material consumption, cannot be sustained indefinitely because of two reasons. First, we do not have an unlimited supply of resources to allow unlimited expansion of economic activities. Second, nature has a limited ability to purify the pollution we generate. By our wanton action of production and consumption, we are causing serious degradation of the environment, which may become a big concern in the near future. In Boulding's words, "The shadow of the future spaceship, indeed, is already falling over our spendthrift merriment. Oddly enough, it seems to be in pollution rather than exhaustion."

Of course, there are people who think that things are being blown out of proportion by environmentalists who are depicting a doomsday scenario just to make themselves be heard. Yes, environmental degradation should be taken into account but the situation is far from hopeless. New resources will be found, the market will provide the right signals, and people will change their consumption patterns accordingly. Ultimately, advancement of science and technology will solve all environmental problems. In fact, these opposing views are presented as vigorously as the views put forward by dedicated environmentalists. Perhaps a dispassionate examination will help clear the mist of confusion and bring out the truth. The basic argument of the "Limits to Growth" group was that the world was approaching the physical limits of essential minerals, that by the year 2000, we would literally hit the bottom and face a global crisis. Since it has not happened, the

argument must have been wrongly formulated! Well, yes and no. The "limits" argument focused primarily on the known stock of economically extractable resources. Thus, its projections were too conservative. New explorations and more efficient equipment, particularly in the oil and gas sector, have kept the supply steady or even increasing. This does not imply, however, that we can go on discovering new sources of minerals and energy for ever. With the advancement of technology and invention of substitutes, we may switch from less abundant resources to more abundant resources, but this simply allows us to buy some additional time. This by no means eliminates the limits.

In this era of privatization and free market economy, more people believe in the "invisible hand" of Adam Smith than ever before. To them, external costs and benefits are simply temporary failures of the market mechanism. As more information becomes available, correct signals will be generated so that all benefits and costs will be internalized and growth will continue at the so called "socially optimal" rate.

Unfortunately, such a view of the future is too simplistic and not well grounded. To begin with, this plan will require a lot of support from the environmentalists. The environmentalists will have to assess the impacts of all anthropogenic activities. This itself is a monumental task as little is known about the impacts of ecological degradation and pollution caused by us. Even if we knew the impacts, monetizing these impacts, without which the "invisible hand" cannot see, would be a daunting task! Not to mention the fact that there are impacts which are intangible (ie, which cannot be monetized). Besides, when was a country run on the basis of economic justifications alone? Wackernagel and Reds in a recent article have rightly pointed out that "many decisions about people, resources and the ecosphere will continue to rely on partial scientific information and political judgement. It seems unlikely that economics will become the "world religion" any time soon, if at all. In the meantime, environmentalists will remain busy making "visible" contributions by protecting natural and urban environments which the "invisible hand" can not touch.

Technological innovations have drastically changed our life style in the last fifty years. Technology has made our lives convenient, but at the same time has seriously deflated the resource base and polluted the environment. Technocentrics believe that we will learn from our shortcomings and better technology will make the world a "better place." Optimists believe that within half a century we will be harnessing solar energy, a virtually unlimited source, for all our energy needs. This means the massive amount of pollution caused by conventional energy sources will be taken care of. No one will be happier than an environmentalist if this dream comes true. A word of caution though - there is a high correlation between technological advancement and accelerated resource use. In the past, when man switched from the axe to the chain saw, he did not take time off and enjoy the newly found leisure. Instead, he chopped down ten times more trees. This is the sad reality. Availability of cheap, unlimited energy is bound to cause an explosion of industrial activities in the short run. Unless planned ahead,

the resulting accelerated rate of resource depletion and waste generation can pose a serious threat to the global environment. Moreover, since such accelerated growth can not be sustained indefinitely, the socioeconomic stability of the entire world will be at risk. Technology gives us choices but it is up to us to decide how best to use technology to our advantage. Technology is no miracle. Daly pointed this out eloquently, "while technology will continue to pull rabbits out of hats, it will not pull an elephant out of a hat - much less an infinite series of ever-larger elephants!"

Our forefathers gave us the gift of life and a planet that was rich in resources and biodiversity. We, being caught up in the whirlpool of a materialistic way of life, have failed to appreciate this bounty. In fact, we have destroyed a significant part of our global heritage. What legacy are we leaving behind for future generations?

I want my children and grandchildren to live in a better world where the air is clean, the water is safe and the land is not poisoned. A world with beautiful meadows, wetlands and forests bustling with life. A world where the meaning of life is not determined by how much a person consumes and wastes. Rather, the quality of life is determined by the ability to experience deep contentment through interaction with fellow humans and nature at large - where we are no more masters of the earth, we are just friends of the earth.

How can I ensure this? I believe, by being an environmentalist I can make a difference, even if only a small one. This is a good enough reason for me to be an environmentalist.



Blackrain

do you think we can rise from all this cold murky water, like the solar-ball rising from the deeply bruised night's sheets? do you think that there is any such hope for us when we are bashed and thrashed in front of the crowd in our own territory? do you think you could once again use your hand (that is viciously contoured now) to pull us up? you know what am asking from your glazed eyes in the sour rain - am washed black and so are you, but am looking for more than a stainremover. You know that, don't you?

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" If you can't change your mind, are you sure you still have one ? "

-Unknown

Note from Soheni Tanzeema

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I graduated from North South University in May 1998 as the first graduate of the Department of Environmental Studies at NSU. After completion of my internship at The World Bank in Dhaka, I came to the US in the same year and currently I am enrolled in a Masters program at the University of Houston at Clear Lake (UHCL). UHCL offers a variety of programs in natural and applied sciences. Students must specialize in one of the following areas: environmental biology, chemistry, geology and industrial hygiene and safety. My concentration is in Industrial Hygiene and Safety Programs. I really enjoy taking classes here and the experience is very similar to NSU. Any former NSU student who is studying in the USA can endorse the quality of education that we have received from NSU.

As an Industrial Hygienist I already have done several projects related to air and water pollution. My MS project will be on X-ray fluorescent analyzer. It does non-destructive testing of metals on surfaces and within a few minutes it gives the result. Its main application is for lead paint but it can be used for any other metals and has various other environmental application. I also presented several environmental problems of Bangladesh in some of my classes including arsenic poisoning, air pollution, the use of treadle pumps in the villages of Bangladesh, water pollution including ground water extraction problems in Ganges and Brahmaputra basin and so on. After completion of my MS next year, I have plans to pursue a PhD program.

The messenger

The whistle blows
The huge engine
Propels smog... skywards

Like a blue whale surfacing ... spouting.
The messenger sets off
with many wheels burdened.

It passes through meadows,
Through woods and,
Witnesses a word full of fallacies

And Hatred caused by distinction...
Here nothing is equal,
The messenger moves on.

Swift and smooth it moves
Making hope the driving force.
Distance covered

With time lapse,
yet it is hungry
To find out its way, where:

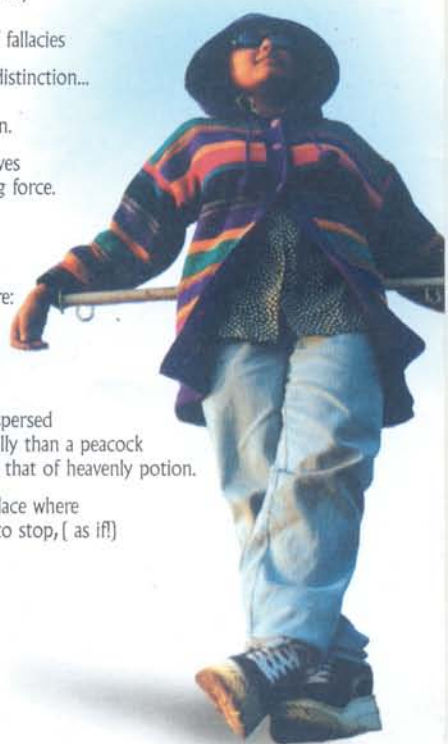
Daffodils play with air
Birds sing, joyful infants
Breathe in fresh air...

Where the world has dispersed
Its colors more ecstatically than a peacock
and its purity exceeding that of heavenly potion.

This is the benevolent place where
The messenger intends to stop, (as if)
before that,

The railway remains
And the messenger
Moves on.

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the time to act is now

KASHFY KABIR

If Neptune, the God of the Seas, did ever exist, he is one of the extinct marine species. We can stop worrying about the god who could not defend himself and blame him for being unable to protect his domain. We are to be blamed for that bird with oil in its lungs and the foul smell of fish getting cooked in petroleum oil and brine.

More or less all of us know what the disaster was brought to the sea birds and marine life during the Gulf war due to the deliberate oil spillage into the sea. What was a war between humans spread into the lives of other living beings who could not defend themselves.

In Japan, near Minamata Bay, a plastic factory used to dump its waste (mercury) into the sea and that accumulated in fish which when ingested by humans caused clinical insanity and death. But that was in the middle of the twentieth century. We know what the adverse effects are of polluting our waters and killing animals indiscriminately now. The fishing villages that used to thrive on the fish they caught and sold for food and clothing near the Bay of Bengal now complain of inadequate supply of fish in the sea. No one has any kind of excuse to be ignorant about the ill effects that our irresponsible actions can bring. Our problem now is not ignorance but indifference. Why can't a person with some knowledge of the effects of polluting water and excessive fishing take the initiative to educate the fishermen and the villagers?

What about the Buriganga river? My father speaks of cycling near the river with his friends on weekends and sitting by the bank and enjoying the beautiful scenery of the tranquil river. That was only two decades ago. Now people call it the dying river. My pessimistically paranoid sister calls it the dead river and I don't blame her for her pessimism. She sometimes refuses to eat fish, thinking their bodies contain all the toxins from the tanneries. The tanneries are still throwing their wastes into the rivers and making a vulnerable environment even sicker. Several months back I heard that the wastes would be treated and then disposed of. I wonder if any of that has been achieved or not. Maybe we could not stop the Gulf war or go and stop the corrupt owners of the tanneries (that break their promises frequently) for not treating their wastes, but we can act individually to make a difference.

For example we can walk to places which are within walking distance instead of taking the car out of the garage and wasting some money on the fuel and polluting the air with some carbon-dioxide. When we see someone littering we can stop that person. The government can fine people who litter by employing independent monitoring bodies and changing them every few months/weeks to avoid corruption. A system of this sort worked in Singapore. People used to spit everywhere. The government employed people to monitor the public and whoever was caught spitting was fined Singapore an \$500. This was in the early eighties. This menace stopped within months. Now it is one of the most beautiful and cleanest cities in the world. That can happen in Bangladesh too.

There is no straightforward solution to all the environmental problems. But if each individual takes the initiative to do their part then there will be a significant improvement. After all, the God of the Seas could not save himself. Let us not condemn ourselves to that untimely extinction.



The Green Column *salma S. islam*

We all know that the natural resources of the earth are limited and precious. For this reason it is important for us to use our natural resources carefully. Today the population of the earth is over 6 billion. By the year 2050 it is expected to reach over 9 billion. Already our earth is stressed by the huge impact we are having on it. If we continue to use our resources at the rate we are currently using them, how can our earth support our rapidly growing population? An important concept for us to understand and implement into our daily lives is sustainable consumption.

Sustainable consumption involves using the earth's resources in such a manner that we take into consideration the present and future generations of all living species. It is important to take a holistic approach because we are all a part of the circle of life and a missing part of the circle has an effect on the entire circle. Here are some practical ways in which we can make sustainable consumption a part of our daily lives:

1. **Adopt the four R's into your daily life:** Reduce, Reuse, Repair and Recycle.
2. **Consume Quality not Quantity:** Try to lead a simpler life by being happy with less and try to be more rather than to have more.
3. **Disseminate information:** Teach others what you know about sustainable consumption and promote it in every way.

4. **Reduce Waste:** It is very important for us to cut back on the waste we create because then we need less land for dumpsites. Start off by trying to reuse as much of your own waste as possible. Keep water free from waste. Remember you may have to drink it!

5. **Consume Less:** Before buying anything ask yourself;
 - Do I really need it?
 - Were eco-friendly processes used in making this product?
 - Has there been any animal testing?

Ask Producers to reduce packaging and demand more sustainable products. Also refuse to take poly bags when shopping. This allows us to reduce waste.



6. **Buy products, which can be repaired rather than replaced**
7. **Use both water and energy carefully:** Close water taps when not in use, including when brushing teeth. Turn off lights, fans, air-conditioners, and other electrical items when not in use. Another thing you can do is to buy energy efficient products such as energy efficient light bulbs.
8. **Recycle all paper waste and always reuse old papers by writing on the back.**
9. **Compost all food waste** if it is a feasible option. In Bangladesh this is a feasible option for those who have gardens and for most people in rural areas.
10. **Change your attitude:** Find ways to create space for other species, especially wild birds and animals. They are just as important as we are so it is important to share our earth with them.
11. **Live in Harmony with Nature:** Live in a way that shows that you have respect for creation. Do not harm other species but instead show that you care.
12. **Decrease Air Pollution:** When going short distances walk or ride a bike. You're not only decreasing air pollution but at the same time getting exercise. Other ways include car pooling or using public transportation when traveling long distances or going to work. That way the amount of pollution released per person decreases. Also you can start by fixing your own car if it blows black smoke.

13. **Don't Litter:** Keep your own environment clean. Always look for a dustbin.

Let us all join hands to make the world a better place – now and forever.

What is the use of a House if you haven't got a tolerable planet to put it on?

– Henry David Thoreau

Interview with Dr. Ainun Nishat

country representative, IUCN bangladesh

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Q : Dr. Nishat, can you tell us a little about IUCN?

Dr. Nishat : IUCN is an international organization which is devoted mainly to conservation of nature and to ensuring equitable & sustainable use of natural resources. It is a union of members. The government of Bangladesh is one of the 15 members of IUCN from Bangladesh. Other members are from the NGO community. The Country Office works with the members to achieve the common goal of conservation of nature and natural resources.

Q : IUCN works on what areas and how does it function?

Dr. Nishat : It works on six major areas. They are 1) Policies 2) Awareness & Education 3) Ecosystem Management 4) Law 5) Protected Area Management and 6) Species Preservation. The three major functions are 1) research & conservation issues 2) using the research findings to develop, articulate & advocate conservation related policies, plans & other instruments and 3) assisting communities locally & globally in implementing policies & instruments

Q : How do you work with species?

Dr. Nishat : It is globally recognized that biodiversity is an important element of nature. A balanced ecosystem provides valuable capital in nature that must be maintained for future generations. Biodiversity is studied on four levels: 1) Species 2) Habitat 3) Ecosystem and 4) Landscape. IUCN concentrates on all four layers though research on species is often highlighted to draw the attention of society. This is done through publication of Red Books at the global level. Recently IUCN-Bangladesh has published a Red Book of Threatened Animals of Bangladesh.

Q : Why do you want to save biodiversity when species naturally become extinct over time?

Dr. Nishat : Nature adjusts to the natural process of extinction but artificial extinction is very fast and the damage is irreversible. In the process of degradation resulting from anthropogenic interventions, time for adjustment is not available.

Q : So are you considering all species as capital?

Dr. Nishat : There is a balance maintained by nature in all ecosystems. It is important that balance should be sustained. There is still a great deal that we do not know about how this balance is maintained. Our knowledge about the ecosystems is still incomplete and the linkages between various elements of an ecosystem are yet to be properly understood. So IUCN works on protected area system, which suggests that in every region of the world, small selected areas of all representative ecosystems should be protected and conserved so that we have time and opportunity to develop an understanding between the various elements of ecosystems. First, we have to carry out research to develop clear understanding about an ecosystem. Then we would be able to apply the research finding for formulating guidelines for its proper management.

Q : How would you prioritize the species to be saved?

Dr. Nishat : We can not put a monetary value to a species. We need to understand the carrying capacity of various species in an ecosystem. Various species are tolerant to different level of change in physical parameters. Their population is dependent on the physical environment of their habitat. Scientists try to find out the sensitive species that demand the most attention so that steps can be taken to protect them and maintain the balance in the ecosystem. Often we use indicator species.



Indicators help us to monitor the status of an ecosystem. For example the population of Royal Bengal Tigers is one of the indicators of Sunderban's health. The population of mud crabs is another the indicator of the same forest. Some species which are not of direct benefit to us, like the Wild Boar, nevertheless are significant for the tiger's diet. Hence we value it.

Q : How does IUCN work with policies?

Dr. Nishat : We work with our members towards formulation of appropriate policies in environment and other relevant sectors like water, fisheries, landuse, trade etc. Appropriate rules and regulations must support policies. Then they must be based on appropriate management framework. Fortunately, in Bangladesh, we have policy framework, and necessary laws, rules and regulation. Unfortunately what is missing is implementation of these legal and regulatory frameworks.

Q : Could you please give us more information regarding this? What are the main barriers to implementation?

Dr. Nishat : As For example, we have a regulation that proper Environmental Impact Assessment (EIA) must be done before any project is taken up. Yet proper EIA is not done in most cases. Again, we have regulations against noise pollution. But they are seldom implemented.

Q : Would you say there is a conflict between economic growth and conservation of natural resources?

Dr. Nishat : The population of Bangladesh is on the increase, its land area is limited and already over burdened. Thus there is tremendous pressure on natural resources. The rate of encroachment on wetlands and forests is very high. The level of air pollution, water pollution and soil pollution are increasing. The process of unplanned urbanization is a major problem. The government, realizing the problem of population pressure on nature has already selected 14 areas as protected areas and 7 areas as ecologically critical areas.

Yes, there could be conflict between growth and conservation. But it can be solved easily. Growth is necessary for poverty eradication and betterment of living conditions. But conservation of nature is necessary for ensuring sustainability of the growth pattern. Nature provides the capital for development. A balance between growth, development and conservation can be achieved with some care.

Q : How are you promoting environmental awareness and how will it help the country? Can it help alleviate the poverty of the people?

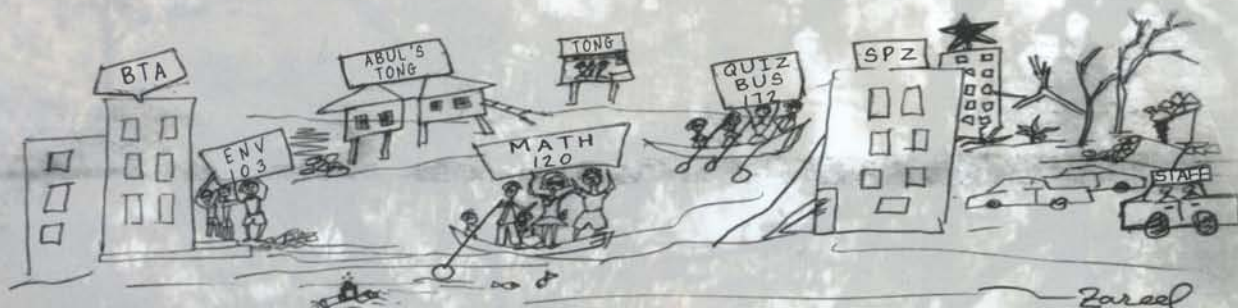
Dr. Nishat : We prepare awareness material about species, ecosystem and management of protected areas. On poverty alleviation, we are working at the community level for management of wetlands and floodplains. We are working with hill people for income generation without over-harvesting the natural resources.

Q : Do you have any advice for the citizens of tomorrow on how to progress towards a better world? What can the Earth Club do to contribute to this goal?

Dr. Nishat : Earth Club can contribute by raising awareness of conservational issues among its members. They can take up advocacy programme on selected topic.

If you really want to define civilization it should be a culture that doesn't destroy its environment. If you burn down the kitchen one day and expect to eat the next, it is not even intelligent, let alone civilized.

- Sting





Damned and destined

By normal definition
it is a gloomy day today
and irrespective of that,

I am a bit appalled for
the sky spitting onto earth
like that. Is it my fault that

I can't see brighter days
ahead? I don't blame the clouds
for their inappropriate behavior.

They've been seeing too much
for too long. But then again when
the demand of the divinity is to

behave sanely, I ask back: "Was I
given a chance to be who I
intended to become?" Insanity

was spat onto me, like the clouds
do ever so often without any
thought of the consequences.

kashfy kabir

Sundarbans is one of the ideal destinations for nature-loving tourists in Bangladesh. Sustainable and responsible tourism development in the Sundarbans is, therefore, a crucially important task for Bangladesh.

Sundarbans, located in the southwestern region of Bangladesh, is the largest productive mangrove forest in the world, encompassing approximately 6,017 square kilometers. It is the largest remaining natural habitat for the famous Royal Bengal Tiger. Its rich biodiversity also houses 28% of the reptiles, 36% of birds and 33% of all mammals occurring in Bangladesh, including the estuarine crocodiles.

Unlike most mangrove forests, the tree vegetation of the Sundarbans is not dominated by the members of the family Rhizophoraceae. Instead the dominant plant species in Sundarbans are Sundari and Gewa. The waters within Sundarbans constitute a rich habitat for various fishery resources and serve as fishing grounds for fishermen from the surrounding human settlements. There is a delicate equilibrium of saline seawater and fresh water coming from inland rivers that allows fishery resources of brackish and estuarine nature as well as freshwater species. The forest of Sundarbans is also home to various species of herbs with medicinal potentials.

In Bangladesh we are very much used to seeing our forests shrinking every year. But the Sundarbans is a striking exception that has remained almost in its original shape since 1835. Inside the forest there are three sanctuaries namely Sundarbans East, South & West Sanctuary, together comprising an area of 139700 ha. The sanctuaries are undisturbed from all kinds of extraction. These three portions of the forest hold great potential for all kinds of ecological studies and also for ecotourism. In the areas outside of these three sanctuaries, extensive extraction of various forest products has been carried out for at least the last five centuries. The extraction pattern shows favor for some specific products over the rest. This pattern of extraction raises the likelihood of the risk of severe resource depletion.

An example of the current rate of extraction can be given from the Forest Department's published data of forest products extracted from the Sundarbans in last five years (1995-2000):

Wood products :			Non-wood products :		
1. Sundari	388582	cu. Feet	5. Fish	4112	Metric ton
2. Gewa	3044559	cu feet	6. Crab	610	Metric ton
3. Goran	126577	Metric ton	7. Honey	90	Metric ton
4. Golpata	124064	Metric ton	8. Wax	22	Metric ton
			9. Shrimp Fry	150	million

This is the official data and it does not include the unofficial usage of the resources by the locals or illegal extraction and poaching.

Its uniqueness in various respects garners the Sundarbans great potential for ecotourism. If it's promoted under proper guidance, ecotourism can earn handsome amount of revenue, which may in turn influence the government to be more careful in terms of conserving the forest and reducing the current rate of extraction.

Before considering ecotourism and its potential in the Sundarbans, let us take a look at the current general scenario of tourism in the different parts of the Sundarbans. This vast forest doesn't have enough guest houses or other types of terrestrial accommodation infrastructure for tourists. there are only a few Forest Guest Houses at the major forest stations like Hiron Point, Kotka etc. For this reason most of the tours conducted inside the forest are normally day cruises with vessels hired from the nearby water ports. These vessels have to obtain permission from the forest office in Khulna, pay revenue and take two forest guards at the entry point of the forest. After that they are permitted to go to designated places. But there are no controls over either the number of the boats or the number of tourists to land in one place. These boats can hold as many as 500 people at a time, and these people can cause severe havoc both for the wildlife and the forest officials. Most of the tourists or the operators have no knowledge about how to behave inside the forest, so they litter, run after wildlife, take whatever they please etc. Unfortunately most popular destinations for this kind of tourists are the three sanctuaries that hold the greatest potential for ecotourism. If the government wants to promote ecotourism inside the Sundarbans, there have to be a strict guidelines for tourists and they have to be strictly implemented and monitored by the forest department.

Sundarbans is unique in our country in that it is the only forest which the physical boundaries have not changed much since 1835. Abundant floral and fauna diversity is free for people enthusiastic enough to observe. But its unique ecosystem does not allow us to be careless about it. Since one-third of it is water, transportation must be by water vessels. These factors make us develop certain types of etiquette for this very special, unique, and beautiful forest.

Here are some suggestions to consider :

Suggestions to the Government :

- ❖ The Government should have well-defined guidelines for the tour-operators and tourists.
- ❖ Only a limited number of trained tour-operators and guides with good knowledge of the forest should be allowed to conduct tours and day cruises inside the sanctuary areas.
- ❖ The Forest Department or some other competent organization should have a training program to train the tour operators and the guides to make them aware of the delicate ecosystem of the Sundarbans.
- ❖ There should be a limit to the maximum number of people permitted to enter the forest on a single boat.
- ❖ Specific areas to be designated for tourism to avoid possible deterioration of the integrity of the forest.
- ❖ No terrestrial accommodation infrastructure should be allowed inside the forest.

General Suggestions for tourists to follow :

- ❖ Tourists should follow the instructions of their guide.
- ❖ The motto of all the tourists should be "take only photographs, leave only footprints".
- ❖ Tourists should have some idea about the ecosystem of the Sundarbans before entering. The designated guide can help in this regard.
- ❖ Tourists should not litter or discard anything inside the forest.
- ❖ Wild animals should not be fed or touched. Contagious disease may be spread through the food materials or other products, possibly leading to death of some animals.



- ❖ Tourists should follow only the well-known and regularly used trails inside the forest. This will minimize the human impact.
- ❖ Only biodegradable products should be used throughout the tour.

Suggestions for the tourists for their personal safety and enjoyment :

- ❖ It's best to be in a small group; it's always should be discouraged to enter the forest either alone or in a very big group.
- ❖ Keeping silent once inside the forest enhances the chance of seeing wildlife activity.
- ❖ Using a rowing country boat to go through the small creeks can be the best way to observe some specific activities, e.g. bird watching.
- ❖ Early morning and afternoon are the best time to observe wildlife, as these two are the peak-hours for wildlife activity. Tours should be planned accordingly.
- ❖ Bright colored clothing should be avoided inside the forest. The most suitable colors are dark grayish-green, dark gray and other similar dark colors.
- ❖ As most of the predator activities are during the night, nocturnal tourist activities are strongly discouraged.

The most striking picture for the first time to a visitor to Sundarbans is its tranquil beauty.

Its undisturbed beauty overwhelms the tourists' mind, given proper guidance. Its delicate ecosystem demands proper attention and care. This forest is probably the only natural place left for us. It is also unique enough to appeal to nature loving tourists from all over the world. It's time for us to develop proper guidelines to conserve the forest, as its natural properties are still intact. A properly developed eco-tourism will help to preserve the wildlife and will in turn benefit the indigenous people and help to preserve the traditional ways.

spotlight department of environmental studies (DES) at NSU



NSU offers bachelor's degrees through a contemporary program in Environmental Studies. Students can either pursue an arts degree (BA) or a science degree (BS). Students of other departments can also do a minor in Environmental Studies. If planned earlier, minor can be completed by spending one extra semester at NSU. The department now boasts a state-of-the-art Geographic Information Systems (GIS) Lab and an Environmental Lab with the latest equipments. The faculty have either PhD or Masters degrees from the top US and Australian universities and represent a selected group of high academic achievers. A relatively smaller number of students study Environmental Studies and receive personal attention through a low faculty-student ratio (1:10). Senior students with good academic standing often have the opportunity to work as Teaching Assistants (TA) in addition to financial aid that is open to all students of NSU.

Environmental Studies is a relatively new discipline with glorious future prospects. There is an increasing demand at home and abroad for environmental professionals and the limited number of graduates from the DES at NSU have a wide variety of career choices. Past graduates have worked for The World Bank, Asian Development Bank, IUCN, Waste Concern, British American Tobacco and other reputed organizations. Quite a few of DES graduates have either completed or are in the process of pursuing higher education. For people who love nature and would like to pursue a meaningful career that will give them an opportunity to make a difference, Environmental Studies at NSU is an excellent option.

For more information, call (9885611, Ext. 152) or stop by the department to talk to students and faculty members. You can also e-mail to: imfaisal@nsu.agni.com

THE TREE raygan hassan

Many a night in a lonely sky
Flies a dove with its wing spread high
She moves with a beak full of one seed
A nestling little to which she will feed

Come storm come hail come snow come gale
She will feed her young never will she fail
Till the fateful day under the morning sun
She failed to ignore the mad eagles run

He swooped on her back and burrowed his beak
Where in a distant nest one hears a shriek
Her beak opens wide at the last gasp of breath
The seed falls off as she embraces death

A silent prayer whispers as the seed hits the earth
In sorrow for a mother and the fruit of her birth
Many a year later a tree stands high
A merciful shade from the burning sky

Where many a dove has built a nest
Nestling babes in a green mothers breast
The great big oak was born of the blessed seed
Which the dove had dropped at her hour of leave

Now the tree in its splendor is a reminder to all
Of not a mother's death but her love which conquered all.



Highlights of past Earth Club activities

✂ Environmental awareness campaign in rural schools

✂ Environmental Fair at NSU campus

✂ Seminar on Religion, Ethics and Environment

✂ Nature tour to Lawachara Forest and Tea Gardens (1998 and 2001)

✂ Day-long visit & general meeting at the Botanical Gardens

✂ Participation in the Environment Fair organized by the Department of Environment (DOE)

✂ Awareness campaign at club fairs at NSU

✂ Earth Corner - a notice board for on campus environmental awareness campaign

✂ Earth Club newsletter, Summer 2001 !!!

earth

a translucent, flickering but silent candle flame...
burning towards morbidity.

- dipankar

FUN FACTS

collected by nabeela A. rahman

FLOATING DANGERS	Perhaps the most unusual carnivorous plant is the bladderwort. It seems to float harmlessly on fresh water, but beneath the surface is a series of bubble-like bladders or balloons. If a tiny fish or a small water creature brushes against a bladder, it suddenly opens, sucking in its victim.
O MY LOVE	Courtship among animals has many strange forms and rituals. The male cricket tries to attract a mate through music; a kind of chirping song made by rubbing his forelegs together. But since the volume of his song is not very high, he builds a special stereo amplifier. He digs an underground nest with a twin-horned tunnel entrance. Then he positions himself at the junction of the horns and belts out his hi-fi message to impress any passing female. Incidentally, the sharp ears of the cricket are located on the legs instead of on the head.
HERCULES	In proportion to body weight, the ant is stronger than any other creature. It can lift up to fifty times its body weight. So the next time you want to compliment someone on his strength, call him an ant. And then run as fast as you can!
MASS SUICIDE	Lemmings belong to the rodent family. These reddish brown creatures inhabit large areas of the northern world. Every now and then, thousands of lemmings travel many miles to the sea. Hundreds perish on the way. Those that arrive, leap immediately over the cliffs into the sea and swim, until they become exhausted and drown. No one can explain this strange behavior. It may be the weather becomes too warm, or because their food supply changes or simply because they feel they are getting overcrowded. So if a lemming invites you to the beach, think twice!
HAVE MY INSIDES	One of the most bizarre, and you would say, disgusting defense mechanisms belongs to the sea cucumber of the Pacific Ocean. This tiny creature disembowels itself to escape capture. If it is attacked, it contracts its dingy sausage-like body violently and expels a tangled mass of its own internal organs. But it does not die. It leaves the organs as a meal for its attacker and slithers away to grow a new set within a few weeks.
TASTING TASTING	When you want to taste something, you put it in your mouth. Fish have a much easier time. They have taste buds all over their bodies so that they can even taste with their tails.
PING PONG TURTLE	The eggs of the green turtle not only look exactly like ping pong balls, but they also bounce when dropped. How about that?
WARY SLEEPERS	Try as hard as you want you can never catch a dolphin sleeping. It sleeps only for a couple of hours at a time, first with one eye open than with the other.

earth club at a glance

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all photographs have been taken by earth club members

John Muir

God has cared for these trees, saved them from drought, disease, avalanches, and a thousand tempests and floods. But he cannot save them from fools.



off the mark by mark patisi

