2003

Blue Planet Prize

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To the Earth, Our Home:
When did humanity begin to live away from the ground that had nurtured all life in the world apart from other creatures? At the 2003 Awards Ceremony of the Blue Planet Prize of its12th year, opening film expressed the desire that humanity would take a new look at the planet earth, as our home, the place for us to return to.

Dr. Jiro Kondo, chairman of the Presentation Committee explains the rationale for the determination of the year's winners

His Imperial Highness Prince Akishino delivering congratulatory speech

Their Imperial Highnesses Prince and Princess Akishino at the Awards Ceremony

Dr. Hiroyuki Yoshikawa, chairman of the Selection Committee makes a toast at the Congratulatory Party

Howard H. Baker Jr., Ambassador of the United States of America to Japan and Vu Dung, Ambassador of Vietnam to Japan, congratulate the laureates

The prizewinners meet the press

The prizewinners receive their trophies from Chairman Seya

Dr. Gene E. Likens and
Dr. F. Herbert Bormann

Dr. Vo Quy

Profile

Dr. Vo Quy

Professor, Center for Natural Resources Management and Environmental Studies,
Vietnam National University, Hanoi

Education and Academic and Professional Activities

1929	Born on December 31 in Ha Tinh Province, central Vietnam
1954	Graduates from the Vietnam Pedagogic School
1956	Lecturer in Zoology, Faculty of Biology, University of Hanoi
1964	Enters Moscow University
1966	Obtains his Ph.D. in ornithology from Moscow University
1967	Head, Department of Zoology, Faculty of Biology, University of Hanoi
1975-1980	Head, Department of Education, University of Hanoi
1980-1990	Dean, Faculty of Biology, University of Hanoi
1985-1995	Founder and Director, Center for Natural Resources Management and Environmental Studies (CRES), Vietnam National University, Hanoi (VNU)
1988	WWF Gold Medal, Hong Kong, Peoples Republic of China
1989-2000	Dean, Graduate School of Environmental Studies, CRES, VNU
Present	President of Scientific Committee, CRES, VNU
1992	UNEP Global 500, Rio de Janeiro, Brazil
1994	IUCN John Philips Memorial Medal, Buenos Aires, Argentina
1994	Bruno H. Schubert Foundation Environmental Prize (Category I), Frankfurt, Germany
1995	PEW Scholars Award, University of Michigan, U.S.A.
1997	Royal Netherlands Order of the Golden Ark, the Netherlands

Dr. Quy, or "Uncle Quy " as he is affectionately known, was born in a small village in Ha Tinh Province in central Vietnam. He developed a deep interest in birds from childhood. During the war against French colonial rule, he walked to China and studied biology at the Vietnam teacher-training institute established by the government in China's Guangxi Province.

In 1956, he began teaching in its zoology department. In the early 1960s, he studied at Moscow University and obtained his Ph.D. in ornithology. He subsequently returned to the University of Hanoi, as a zoology professor. He remains a professor at that university to this day.

In 1971 and in 1974, during the war with the United States, Dr. Quy and other scientists ventured into many zones, and witnessed forest dead from herbicides over a wide area. Over 20,000 square kilometers of tropical forest and agricultural land were destroyed by the herbicides sprayed there. Dr. Quy, who deeply felt the importance of refoliating the land, served

from 1971 to 1985 as the leader of the working group for the Research on the Long-Term Effect of Herbicides Used in the War on Environment and on Living Resources in South of Vietnam. From 1985 to 1990, he served as the vice-chair of the Research Committee on the effect of the herbicides in the war. Dr. Quy provided scientific support for the government's claims regarding the herbicide issue and was one of the arrangers of a herbicide conference with the United States in 2002. Since the political issues were handled on a scientific basis, he has earned the confidence of his American counterparts.

In 1985, he founded Vietnam's first environmental research and training institute, the Center for Natural Resources Management and Environmental Studies (CRES), at the University of Hanoi. It was here that he devised a master plan with his colleagues for rehabilitating 50% of the country's forests. This plan was adopted by the government as the National Conservation Strategy. In 1989, he designed, as the leader of a team of scientists, the first draft of the Law on Environment Protection for Vietnam and contributed in various ways to national policies for environmental protection.

His environmental conservation activities at first were based on a "top-down" approach and involved such actions as proposing tree planting and fruit cultivation as a development program. However, these results were not effective as he expected. The main reason was that the inhabitants were not behind the plan.

Thus, in the Ky Thuong in Ha Tinh Province, he educated the inhabitants about the important role of the forest and introduced new technologies in rice planting and agroforestry to upgrade the level of life. The villagers were the main implementers of the plan to cultivate trees, to organize home gardens by planting fruit trees selected in the area, to improve beekeeping methods and to set up mini-hydroelectric power plants, using fuel saved from wood stoves. The plan was carried out without the intervention of its original planners, and three years later the project produced remarkable results. This attracted attention as Vietnam's first successful example of community-based planning and development, and its methods were applied in other areas of the country.

In the wildlife conservation field, Dr. Quy spotted an extremely rare eastern sarus crane, a species believed to be decimated by the war, and endeavored to establish a treaty for the protection of migratory birds in the Indochina peninsula. More than 1,000 cranes were observed returning to the reserve that was established. Dr. Quy has also worked as a member of the World Conservation Union (IUCN) since 1986, helping to protect endangered species.

Dr. Quy has authored 14 books and more than 100 papers. Of particular note, in 1975 and 1981, respectively, he published a two-volume book entitled "The Birds of Vietnam," the first zoological publication written by a Vietnamese person.

Dr. Quy is rightly called the father of Vietnam's environmental conservation movement. His efforts and successes in conserving and restoring the damaged natural environment in Vietnam make him an excellent role model for other developing nations with similar environmental conditions.

Essay

Preserving the Environment: Our Responsibility, Our Interest

Dr. Vo Quy

June 2006

In the new millennium, our planet unfortunately faces many different environmental stresses, such as overpopulation in the developing world, over-consumption in the developed countries (and increasingly in the richer developing countries as well), global warming, a shift in the chemical composition of the atmosphere, ozone layer depletion, toxic waste disposal, persistent pesticides, acid rain and a host of other pollution issues impacting our air, water and soil, but also the loss of biodiversity and worldwide deterioration of ecosystems, as documented by the Millennium Ecosystem Assessment and by reports of the Intergovernmental Panel on Climate Change (IPCC). It is obvious that human activities impact on the earth's environment, often surpassing nature with ecological, atmospheric chemical and climate consequences. Environmental issues are not seen as local or regional concerns, extraneous to economic growth, or mere matters of health, but are seen as "intrinsic to economic growth or decline, and to be recognized as significant determinants of the nations' prosperity, governability, and security." This environmental degradation is now a "survival issue," especially for the developing nations.

However, the question is whether we can successfully find the way to establish sustainable development in the future, for the whole of human society, especially the developing world, to anticipate the environmental problems that development will inevitably bring with it, and to take the necessary precautions in advance to mitigate them by developing a new ethic, "the ethic for sustainable living, through the sustainable use of natural resources within the earth's capacity, and development to enable people everywhere to enjoy long, healthy and fulfilling lives."

Under the pressure of human populations, and their need for food, water, and improved living standards, land use changes have been substantial. For instance, during the period 1990 –1997 the global annual rate of deforestation has been 0.5%per year, with a maximum of 0.9%per year in Southeast Asia. Human activities have especially accelerated after the Second World War. Starting especially by the end of 18th century, the growing disturbance of the Earth's natural systems by humans created a new geological era, which Paul Crutzen, Nobel Prize Laureate in chemistry (1995), has dubbed the "Anthropocene."

Humans have changed ecosystems more rapidly and extensively in the last 50 years than in any other period. This was done largely to meet rapidly growing demands for food, fish, water, timber, fiber and fuel. "More forest was converted to agriculture since 1945 than in the 18th and 19th centuries combined. More than half of all the synthetic nitrogen fertilizers, first

made in 1913, ever used on the planet have been used since 1985. Experts say that this has resulted in a substantial and largely irreversible loss in diversity of life on Earth, with some 10 to 30 percent of the mammal, bird and amphibian species currently threatened with extinction."

The degradation of ecosystems could grow significantly worse during the first half of this century and is a barrier to achieving the UN Millennium Development Goals in eliminating hunger, meaning such goals may be achieved only at far slower rates than needed to halve the number of people suffering from hunger by 2015.

"Approximately 60 percent of the ecosystem services that support life on Earth – such as fresh water, capture fisheries, air and water regulation, and the regulation of regional climate, natural hazards and pests – are being degraded or used unsustainably. Scientists warn that the harmful consequences of this degradation could grow significantly worse in the next 50 years, and that changes in ecosystems such as deforestation influence the abundance of human pathogens such as malaria and cholera, as well as the risk of emergence of new diseases."

Human society depends on the Earth's ecosystems – communities of plants, animals and microorganisms interacting with each other and their physical environments for an array of indispensable services and goods. The services include amelioration of climate, provision of fresh water, flood control, creation and maintenance of the fertile soil that is essential to agriculture and forestry, recycling of nutrients and pollination of crops, meat, timber and a large portion of the medicines used by all societies. The natural ecosystems and the biodiversity are essential as our living natural resources – the biological capital for our life and development, but its loss is an irreversible process. "Once a species of plant or animal goes extinct, it is gone forever and will never be seen again, and we are now facing not only the loss of individual species, but the loss of entire communities and ecosystems on which we, as living creatures, ultimately depend for our own survival."

In addition, for the last century, the Earth has been warming up, and the rate of change is accelerating. This change in the Earth's atmosphere is occurring at a time when many of the world's life support systems are already stressed by population growth, industrial pollution, increasing intensity of agricultural land use, and the unsustainable exploitation of natural resources. The trend of global warming is causing the climate to change and destabilizing the world's weather systems. It will induce changes in precipitation and wind patterns, changes in the frequency and intensity of storms, ecosystem stress and species loss, reduced availability of fresh water, and a rising global mean sea-level.

The world is facing an increasing risk from droughts, forest fires, floods, cyclones, hurricanes, and infectious diseases driven by climate change and global warming. And the risks are plain to see now in many regions of the world, in many devastated infrastructures, accelerated poverty, and thousands of human lives snatched away, causing serious economic disruption, severe effects on ecosystems, and may cause serious threats to health, livelihoods and social structures of local people, largely as a result of activities in the industrialized countries, particularly high levels of fossil fuel use.

The best estimate of climate experts (members of IPCC) is that "according to current

trends we will double levels of atmospheric carbon dioxide over the next 100 years. This alone will increase global average temperatures by about 2.5 degrees Celsius over the next century (estimates lie in the range of two to six degrees Celsius) and further complicating the picture, the global system contains much negative feedback.

Global warming and climate change will seriously affect every corner of the world unless more is done to solve the problem, and the poor people and communities will suffer the most. They account for around five billion of the more than 6.4 billion people of the world today. Most of them live in the developing countries. They also need accelerated economic growth, not at any price, such as that of pollution and destruction of their natural capital, but on an environmentally sustainable basis. Greenhouse gas emissions of yesterday are history, and we must learn to live with their consequences. The emissions of tomorrow are ours to decide, and if we act promptly we may be able to limit their effects.

What is clear is that, in order to keep the earth habitable, major restrictions are needed in the use of earth's resources, below ground, at the earth's surface and in the atmosphere. Mankind has a long way to go when it comes to a wise use of natural resources (P. Crutzen, 2005).

The question is whether we can successfully find a way to survive and develop within the limits of our natural capital. That means we must learn both how to live within "the constraints set by the Earth's life-support systems," and how to live with each other given the large-scale inequity within and between groups and nations.

Already many documents have pointed the way towards sustainability. Already many actions have been taken. The world has advanced a great deal in its understanding of environmental needs and priorities since the nations of the world met at Stockholm in 1972. But the degradation of the environment is increasing, and is one of the world's most threatening problems.

For successful implementation of sustainable development, involvement of all stakeholders is essential. It is urgently needed to respond to the question in a more unified way. The combination of national leadership and an effective international legal basis for action is the key to bringing deeper attention to nature and the environment. It will depend on greater international cooperation among people and organizations dedicated to environmental stewardship. And people around the world want to see more actions than meetings and paper-agreements. We have to turn public concern into concrete action by governments and businesses.

This is time for action now. Delay will only increase the seriousness of the problems we need to reverse. And the hope of a new century is we should break with our polluting past, reduce as much as possible the impacts of climate change, and promote the natural environment for sustainable development. We must especially strive to avoid great losses of biodiversity, the most important part of our natural capital – the living parts of the ecosystems that provide the foundations of most country's economies, and form the base upon which the majority of the population of the developing countries derive their livelihoods. Biodiversity loss and rapid climate change could lead to a disastrous ecological collapse and social breakdown.

We understand that there are intimate connections between population growth, poverty, ignorance, greed and environmental degradation. Stabilizing the size of human population

and curbing consumption among the rich while increasing it among the poor will also be necessary. In order to do that, awareness raising and education are crucial and the rich people need to change their way of thinking by reducing their consumption and helping the poor. Ultimately it requires greater equity between countries and people, and entails the involvement of the majority of the inhabitants of the world in the process. So it requires greater attention to environmental projects and programmes, small-scale solutions that all people and local communities, and especially the poor, can implement, such as tree plantation.

Trees are the major source for cleaning the atmospheres. They absorb carbon dioxide and release oxygen which is essential for all living things. Trees stabilize soil, preventing erosion, while they themselves are home and food for many species of animal, such as monkeys, squirrels, birds, ants, termites, and butterflies. Finally trees supply people with timber and medicines. Trees are life.

The increasing population of many developing countries may decrease the number of trees. And if forests are cut down, we will lose most of the species of wildlife, plants and animals. The destruction of rainforests is one of the world's most threatening problems. It affects the people who live there. However, it also has other effects far away, such as terrible floods downstream, soil erosion, droughts, climate change, and sea level rise.

Protecting forests and replanting trees on the old forest land and other barren land should be one of the most important environmental solutions in the 21st century.

In conclusion, there is no single solution that will solve the problem. Every member of the global community has a role to play: some doing big things, some doing small, but each contributing to the whole. Rather than face an awkward situation in the future, we should use our ingenuity to change society and coexist more harmoniously with natural systems. I think we should all cooperate to solve this problem, otherwise all of us will suffer, because we all share one planet — the Earth.

Lecture

Environment Protection – A Prerequisite for Reduction of Human Suffering and Sustainable Development

Dr. Vo Quy

It is a great honor for me to be here and give this lecture on a very memorable occasion of having received the Blue Planet Prize of 2003. I would like to express my sincere thanks to all of you again for this honor and this great opportunity also to meet so many distinguished scientists and experts here this afternoon.

The topic on which I would like to speak is not an elaborate work of research, such as those which have been done by many recipients of The Blue Planet Prize. Neither do I have the honor of adding to the scientific understanding of the world. The topic I would like to speak about today is certain activities that the Vietnamese people have done and are doing in order to recover from the scars of a devastating war, to raise the living standards of people, to develop the economy while at the same time conserving resources and protecting the environment. This entails the rational use of natural resources and the involvement of the majority of the country's inhabitants in the process with a new approach directed at how to satisfy peoples' needs without damaging the ecological balance. I am pleased to be able to say that I have devoted more than thirty years of my life to this great movement in my country.

A healthy environment and ecosystem is a fundamental requirement for life and sustainable development. Biological resources, forests, wetlands and other lands support human livelihoods, and make it possible to adapt to changing needs and environmental conditions. However, present trends of economic development, typically over-exploitation of valuable natural resources, forest and land, are leading to the reduction of ecosystem processes and services worldwide. As a result, the degradation of many ecosystems, biomass and habitats are leading to unprecedented social strife, and the poorest people and communities, who are directly dependent on natural resources, will suffer the most. Most of this has taken place in the developing world and in countries in transition.

We understand that, the degradation of environment and habitat, the irreversible nature of species extinction, the loss of genes and transformation of ecosystems through over-exploitation, and the devastation of war, all compromise options for present and future generations. Environmental protection and restoration are a prerequisite for sustainable development, and for the reduction of human suffering. Without environmental protection, we cannot address the problem of poverty alleviation and improvement of livelihoods. In recognition of this, development agencies, policy makers and leaders need to integrate the conservation of the environment and the preservation of biodiversity and ecosystems in development activities, and to implement ecologically effective, socially beneficial and economically viable ecosystem management practices in forests, wetlands, coastal and marine areas, mountains and agro-

ecosystems etc.

Thus, it has been recognized that the future of our living environment and our natural resources will depend on managing large areas using an integrated approach that recognizes human populations as having a keen interest in ensuring the continuing productivity of the ecosystems within which they live. Such an approach will have to meet local needs, especially of the poor, maintain or restore ecosystem integrity, and conserve biodiversity, simultaneously.

After 30 years of devastating war, the Vietnamese people and the Government have made efforts to develop the economy while at the same time conserving resources and protecting the environment. A National Conservation Strategy was prepared in 1985 and since then a National Action Plan for the Environment and Sustainable Development has been developed and partly implemented. On the basis of this national plan, various activities are being carried out in the country relating to environmental legislation, management, education, research and experimentation. We have established a Ministry of Resources and the Environment, enacted laws, ratified major international conventions and cooperated with international agencies to implement various environmental projects. The Government has embarked on a nation-wide reforestation scheme, and included integrated environmental management in its policy statement. Our civil society has become increasingly active on environmental matters.

The ongoing transition from a centralized planned economy to a market-oriented one, accelerated economic growth, the liberation of agricultural and industrial production, as well as the development of the service sector, the opening of the country to foreign investment, and the promotion of exports and participation in regional and international trade are all of great benefit to the people of Vietnam, as they mean relatively rapid economic growth. Viet Nam, thanks to key reforms, has made remarkable progress across a broad range of socio-economic development measures. The most impressive is the fall in the poverty rate from well over 70% in the mid-1980s to around 29% of the population in 2002 - one of the sharpest declines of any developing country on record (UNDP, 2003). At the same time, Vietnam is being confronted with a number of very real challenges regarding trade-offs in its development objectives, particularly between growth and the environment. Trade-offs involving the environment are particularly problematic because economic growth and preserving the integrity of the environment for future generations are often in direct conflict with one another.

As we know, poverty, ignorance, greed and environmental degradation are often interrelated. Like many countries in the world, in Vietnam, lack of resources drives people to exhaust their natural resources, through deforestation, irrational use of land, unsustainable fishing and agriculture, illegal mining, or the wildlife trade.

Although progress is being made, Vietnam is presently faced with serious environmental problems such as deforestation, the degradation of land resources, the inefficient conservation of fresh water, and fresh water shortage, the overexploitation of biological resources, threats to ecosystems, the depletion of genetic resources and the growth of environmental pollution, not to mention the long-term environmental impact of the war. These problems are currently being exacerbated by rapid population growth and poverty.

It is therefore necessary to anticipate the environmental problems that development will

inevitably bring with it, and to take the necessary precautions in advance to mitigate them by developing an environmentally sound strategy of sustainable development, through the sustainable use of natural resources, and the involvement of the majority of the country's inhabitants in the process.

In the poor countries, like in Vietnam, the ecological and economic sustainability is as important as the social sustainability of the development process. Also, if the current pace continues of destruction of the environment, of damage to the ecological base essential for sustainable advances in biological productivity, such as land, water, flora, fauna, forests, wetlands, and oceans, sustainable development cannot be achieved.

There is no doubt that our natural resources are at serious risk. But we do not have to accept further decline. We can build on what we have already learned, on what we know of sustainable practices and conservation measures. We understand that effective systems of management can ensure that natural resources not only survive, but increase while they are being used, thus providing the foundation for sustainable development. We have made some progress in our efforts to balance the socio-economic needs of our rapidly growing population with our fragile natural resource base.

We have to assure the preservation of ecosystems and biological diversity, yes, but we must also help secure the livelihoods of communities in our country. People are our world's most important resource, and ecological preservation must be part of a larger effort to preserve the human species, not just collectively but each precious individual. Any true conservation plan must include comprehensive approaches to the reduction of the growing problem of human poverty, one of the main contributing factors to environmental damage.

I would like to take an example — the rehabilitation of forests — to explain how we implement this approach in our country, Vietnam.

Rehabilitation of forests in Vietnam

Originally, the entire country of Vietnam was covered in forest, but over the past few decades, the forests of Vietnam have suffered serious depletion because of our country's growing demand for agricultural land, firewood and timber for construction, and the fact that we lost over two million hectares of forest during the last war, to defoliation and bombing. The destruction of forest vegetation leads to a rapid impoverishment of the soil and loss of stored nutrients, including drastic changes in the physical and biological characteristics of the ecosystem, especially the upper-sloped areas in the North part and the Central Highlands of Vietnam. Severe erosion results from over-cultivation of the soils that are inherently highly susceptible to deterioration. Most of the deforested areas have become barren, and nearly 30.5% of Vietnam is now considered unproductive wasteland.

Recognizing that forest loss is the single most serious factor threatening the long-term productivity of the country's renewable natural resources, the people of Vietnam have begun an intensive planting program. This program is expected to regreen the war-scarred land, correct the mistakes of rapid development, re-establish the ecological balance within the country, and preserve biodiversity. The aim is to reforest 40-50% of the countryside by the 21st century. In this way we hope to reestablish the ecological balance in Vietnam, to preserve biodiversity,

and to do our part in delaying global warming.

To grow one or two trees is very easy, but to plant hundreds of thousands of hectares of forests is not simple, especially under conditions in which the soil is leached and compacted, and the once cool, moist and fertile climate is now dry and blazing.

Before 1985, when we first launched our National Conservation Strategy, we were planting only 60,000 hectares of forest annually – and losing 200,000 hectares. Today, we are planting about 200,000 hectares of forest annually. We hope to soon reach our goal of 300,000 to 400,000 hectares a year, even though this will not fully compensate for the ongoing forest destruction.

As we know, the forest plays a central role in reducing greenhouse gasses, in moderating climate change, and in providing rich habitat for diverse plants and animals for the Earth as a whole. Besides this, in Vietnam, the forest plays a most important role in the economy, in development and in the environment. Recognizing this, the Vietnamese Government has banned the export of timber and plans to gradually reduce the production of wood exploited from the natural forests from 520,000 cu.m. in 1997 to less than 300,000 cu.m/year by 2000. This projected volume is expected to satisfy the demand of those living in the forest regions. In November 1997, the National Assembly of Vietnam adopted a national program in which 5 million hectares of barren land would be reforested between 1998 and 2015. This strategic policy will contribute to the recovery of the living environment in general, and to the conservation of significant biodiversity values across the country.

We hope to realize these goals in many ways. Firstly, to achieve success we must have the support of the local people. To facilitate this, we have been promoting public awareness and agro-forestry training in local villages and schools and among policy makers as well. We have launched a movement to educate people that sustainable development and alleviation of poverty can only be accomplished through proper management and investment in lands and forests in our country.

We are trying to make restoration of degraded land areas a high national priority. Large areas must be reforested. The hill-dwelling people must be helped in adopting more resource-efficient, environmentally friendly technologies, so that they can use natural resources rationally and sustainably. Forest conservation that ensures the survival of the peasants is desperately needed in many rural regions.

We promote tree planting on communal lands, such as roadsides, canal sides and village wastelands.

We encourage individual farmers to grow trees on private land and farm boundaries, in home gardens and so on.

We promote environmental education through the mass media, the Youth and Women's Unions and Schools.

We promote agro forestry as part of a joint program with agricultural staff.

We promote agriculture and forestry extension activities from central to grass roots levels, provide farmers with advanced technologies, assist them in designing and setting up demonstration models, household economic management skills and marketing information.

We promote long-term land/forest allocation to farmers.

We promote sustainable rural development with the involvement of the population.

Our vision is now very clear: "to eradicate poverty and lift the people's living standards, Vietnam must grow, industrialize and modernize, but economic, social and environmental needs should be addressed in an integrated manner to be sustainable in the long-term."

Many years ago, reforestation in Vietnam was based on monocultural timber production and there were few convincing examples of successful large scale and long-term tree monocultures. Today, we are developing a village-level process, in which local people are producing large numbers of indigenous tree seedlings. These seedlings will be planted in villages and surrounding areas and will also be used for reforestation projects.

After the war, Vietnamese scientists attempted to replant several species of indigenous trees in areas that had been destroyed during the massive defoliant raids of the war. These initial trials failed, largely because the young saplings burnt in grass fires that were ignited by the intense tropical sun during the dry season. But we have now successfully replanted thousands of hectares of tropical forests. To protect the seedlings from the burning rays of the tropical sun, scientists have established a forest cover of fast-growing trees. When these trees gain sufficient height, which take about three years, they plant several species of forest trees underneath them.

Speaking nearly four decades ago, President Ho Chi Minh promoted the country's initial regreening efforts with a slogan still quoted throughout Vietnam: "Forest is gold. If we know how to conserve and use it well, it will be very precious." Throughout the country, the villagers are following Ho Chi Minh's words and setting up tree nurseries. Every winter, during our Annual New Year Festival, which many of you know as Tet, we celebrate the New Year with tree planting. All of the students in Vietnam must also plant trees every year. Thanks to recent plantation efforts, the forest cover within Vietnam has been increasing every year, and has reached 35.8% of natural land of the country.

The key of any success and to be sustainable is participation. The local people identify their problems and priorities, are assisted in developing and implementing solutions and they gain benefits. They are (made) responsible for their project in their region, and they see that they are not left alone with their problems. When people have the right to organize their own life in their community they will gain confidence and strength. They will use their natural resources economically and durably. They will protect nature, the land and the forest on which their life depends. They can successfully realize these things if they are aware that these are the first priorities; if they are entrusted with enough power, they will mobilize and bring into full play their own talents and experiences to achieve the desired goals.

According to planting experiences from the Ma Da Forest Farm, people in many regions are cutting and burning pernicious grass in areas affected by Agent Orange during the war, then planting fast-growing shade trees such as *Acacia*. After three or four years, the seedlings of native forest trees, such as Dipterocarp species, are planted underneath them. It is such activities that give us hope that, in the future, good tropical forests and beautiful fauna will replace the areas destroyed by Agent Orange, and the Vietnamese people will be able to erase the scars of the devastating war and to correct the mistakes of unsustainable development.

Of all the forests that were damaged during the war, the mangrove and *Melaleuca*

forests in the Mekong Delta were, perhaps, the most seriously damaged. They were repeatedly sprayed with Agent Orange herbicide and proved particularly susceptible to its effects. Defoliants eliminated approximately 50% of the country's mangrove forests. Almost all of the *Rhisophora, Sonnerata, Bruguiera* and *Nypa* species died. As a result, the fisheries and shrimp catches crashed.

The *Melaleuca* forests on the peaty soil behind the mangroves proved inflammable in the dry season, but many were destroyed by napalm burning.

These two most highly damaged forest ecosystems are in a more advanced state of recovery than the inland tropical forests. After the war, the Vietnamese launched a program to replant the mangrove forests in the areas destroyed by herbicides. Large areas were replanted with *Rhizophora apicauda* seedlings. Today, some 70,000 hectares of mangrove forests have been successfully replanted. The mangroves now yield a self-sustaining and profit-making source for fuel and construction wood for the residents of this area. As a result of reforestation, the fisheries are more plentiful and the shrimp catch is rising each year. Fish, shellfish and other wetland-bred foods continue to arrive on local people's dinner tables and we expect them not to poison us with transferred pollution. The colonies of wetland birds that had completely disappeared during the war have returned. Over seven major bird colonies are now protected by reserves, new colonies are appearing, and the bird populations are building up to their old levels again.

Due to rapid increases in shrimp export, many people have moved to mangrove areas. Unfortunately, this has resulted in the redestruction of the mangrove forest for shrimp pools. The forest clearance for shrimp breeding without adequate techniques has resulted in very serious consequences. Recently, provincial authorities have been successful in improving the local residents' standard of living, while at the same time sustaining the mangrove forests. This has been achieved by allocating sections of land and forest to the public for combined silvo-fishery or fisho-forestry production. A number of good models have been established and have improved the economic and environmental situation within these communities. In Vietnam as in many developing countries, wetlands are fruitfully utilised by the local people to enhance their welfare.

Can Gio District, located in the southeast of Ho Chi Minh City, covers an area of 75,740 ha. The extent of mangrove forestland accounts for 54.2% of the total natural area of the district. During the last war, the mangroves in Can Gio were completely destroyed. Through the great efforts of the local people, 22,000 ha of mangrove forests were rehabilitated after the war. To date, Can Gio has become one of the most beautiful and extensive sites of rehabilitated mangroves in the world, and is chosen to be included in the world network of Biosphere Reserves by MAB/UNESCO on January 21, 2000.

Melaleuca forest is a unique type of flooded forest in the Mekong Delta. It once covered an area of 250,000 hectares in low-lying, seasonally inundated areas. But, since the war, only some 116,000 hectares remain. When the war ended, local people made tremendous efforts to restore agriculture on the Plain of Reeds. To dilute the acidity of the soil, they dug more canals to bring in fresh water. However, in most places, the progress was too slow to check the continued denuding of the area. In time, the people came to realize that in order to make the Plain

prosper again, the soil had to be well watered in the dry season and covered with *Melaleuca*, as it once had been. Since then, the local people have built dikes to prevent the Plain water from draining into the canals during the dry season. They have also planted *Melaleuca* on thousands of hectares of acidic soil, since it is the only tree species that can thrive in such conditions.

Now that the wetland habitat of this area has been restored, the natural plants and animals are gradually returning to the Plain. Aside from fresh water fish, which are a source of food for local people, turtles, snakes, and several birds have returned in surprising numbers, including rare species such as the Sarus Crane, Painted Stork, and Adjutant. In early 1986, with the help of researchers from Hanoi University, the people of Tam Nong District delegated 9,000 hectares for Tram Chim Reserve for Cranes, where they hope that the cranes breed once again. There are about 1,000 cranes in Tram Chim today, and many other species of birds have also returned.

There is a Vietnamese saying: "Birds only stay in good lands." Apparently, the restoration efforts of the people in the Plain of Reeds and Tam Nong District have begun to pay off. The Crane is a symbol of happiness and longevity, and its stylized image can be found in most temples within Vietnam. The cranes have finally returned to Vietnam, the beautiful land of peace where they are welcomed by people who appreciate their beauty and benefit from their presence.

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