

# ENVIRONMENT PROTECTION - A PREREQUISITE FOR REDUCTION OF HUMAN SUFFERING AND SUSTAINABLE DEVELOPMENT<sup>1</sup>

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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 overexploitation 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, bioms 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 overexploitation, 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,

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development agencies, policy makers and leaders need to integrate the conservation 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 21<sup>st</sup> 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 greening 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 *Rhisophora 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 destruction 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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