

BIODIVERSITY ACTION PLAN FOR VIETNAM

Saola (*Pseudoryx nghetinhensis*)

Government of the Socialist Republic of Vietnam

and the

**Global Environment Facility Project
VIE/91/G31**

November 1994

Hanoi

THE GOVERNMENT

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No: 845/TTg

SOCIALIST REPUBLIC OF VIETNAM

Independence - Freedom - Happiness

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Hanoi, 22 December 1995

DECISION OF THE PRIME MINISTER

Approving the Biodiversity Action Plan for Vietnam

PRIME MINISTER

Pursuant to the Law on the Organisation of the Government dated 30 September 1992;

Pursuant to the Law on Environmental Protection dated 27 December 1993;

According to the proposal of the Minister of Science, Technology and Environment (MOSTE) in official letter No. 2423/MTg dated 25 September 1995

DECISION

Article 1. - Approval of the " Biodiversity Action Plan (BAP) for Vietnam" with the long-term and immediate objectives and the main contents as indicated in the attached document.

Article 2. - Implementation details

1. Activities must be implemented under a project format with detailed objectives, contents, location, scale, duration and outputs. Project must be pre-assessed before funding decision. Mid-terms and final assessments are necessary steps in the implementation process.

2. Responsibility of the Central Organisations:

- MOSTE is the key Organisation in implementing the BAP. MOSTE has the responsibility to contact and discuss with the concerned Ministries, sectors and local agencies in carrying-out the BAP step by step. MOSTE

shall submit an annual report to the Prime Minister on the implementational outputs of the BAP.

- The Ministry of Planning and Investment (MPI), based on domestic sources and foreign aid, following the main objectives of the BAP and in close coordination with MOSTE, has the responsibility to lay out annual implementation plans of each BAP objective for the related and local agencies.
- The Ministry of Agriculture and Rural Development (MARD), the Ministry of Fisheries (MOF) and the National Centre of Natural Science and Technology are the major implementing Organisations of the BAP. These organisation shall work closely with MOSTE and MPI on the annual implementation plans and inform MOSTE about the outputs of their components. MOSTE shall collect this information and submit an annual report to the Prime Minister.
- The Ministry of Education and Training; the Ministry of Labour, War Invalids and Social Affairs; the Ministry of Health and the State Committee for Ethnic Affairs and Mountainous Regions should pay priority attention that the related objectives and locations of the BAP are within their Social-Economic Programmes and should discuss with MOSTE and MPI any related issues.


3. Responsibility of Local Authorities:

- The People's Committees of the provinces and cities directly under the Central Government have the responsibility to implement this Plan within their area.
- The People's Committees of the provinces and cities directly under the Central Government shall make their own plan and discuss this with MOSTE, MPI and the concerned ministries on implementational matters, informing MOSTE about the outputs of their activities annually.

Article 3. This Decision shall become effective as from the date of its signing.

For the Prime Minister

Signed



NGUYEN KHANH
Vice Prime Minister

VIETNAM NATIONAL ACTION PLAN ON BIOLOGICAL DIVERSITY

(Approved by the Prime Minister

Decision No.845/TTg of 22 December 1995)

Vietnam has been endowed by nature with an abundance and diversity of ecosystems, species and genetic resources which are generally regarded as biological diversity. Investigations have shown that Vietnam is the home of 12,000 plant species of which 7000 species have been identified, 275 species of mammals, 800 species of birds, 180 species of reptiles, 80 species of amphibians, 2470 species of fish, 5500 species of insects. Vietnam's biodiversity is relatively unique as 10% of the world's mammal, bird and fish species can be found in Vietnam while over 40% of the local plant species are endemic and believed to be found nowhere else but in Vietnam. In addition, many livestock species have been domesticated and selected in this country since thousands of years now.

In terms of economic value, all agricultural, forestry or marine products, which come from the biodiversity resources are estimated to bring about US\$ 2 billion to the country's revenue every year. In many places, especially in the mountainous regions, the food and foodstuff sources, medicine plants and essential source of income rely largely on the biodiversity exploitation.

However, the national rapid population growth, the decreased forest areas, the over-exploitation of the bio-marine resources, the over-introduction of new varieties in agricultural production, have led to the reduction or loss of the ecosystems, resulting in the fact that 28% of mammals, 10% of birds, 21% of reptiles and amphibians are currently listed as endangered species. Once a species is lost, it will never be recovered and this also constitutes a loss of genetic resource. The speed of biodiversity degradation is more rapid in our country than that in other countries of the region.

Recognizing the great economic, scientific, cultural and social value that biodiversity can contribute to the present and future development of mankind and being aware of the full responsibility for biodiversity conservation, Vietnam has joined many countries in the world to sign the Convention on Biological Diversity which entered into force in the middle of 1993.

In the 60's, Vietnam made the official initial steps to conserve its nature. In 1972, the promulgation of the Ordinance on Forest Protection led to the recruitment of 10,000 full-time public forestry-inspectors to work at all levels throughout the country. Since the 80's, the general endeavours to protect the environment including the biodiversity protection have been more intensive and systematic.

In 1985, the Vietnam's National Conservation Strategy was formulated. This strategy, the first of this kind being developed in a developing country, was highly welcomed by the world community.

In 1991, the Government approved the National Plan on Environment and Sustainable Development the period 1991-2000. This plan served as a basis, leading to the drafting and later on the adoption of the Law on Environmental Protection in 1994, as well as to the establishment of the Ministry of Science, Technology and Environment and Departments of Science, Technology and Environment in all provinces.

At the national level, it is an imperative to formulate and promulgate a National Action Plan on Biological Diversity.

1. REVIEW OF THE BIOLOGICAL DIVERSITY PROTECTION SITUATION IN VIETNAM

1.1. The economic utilization of species

The economic utilization of species can be seen first of all in the wood exploitation of between 1,3 - 1,7 million cubic meters per year while other forestry products such as rattan, canes, bamboo and fuel are also exploited for economic purposes. About 100,000 tons of bamboo were logged for the paper industry. Of the total national demand of energy, 75% is supplied by fuelwood. It is estimated that between 22 to 23 million tons of fuelwood are exploited annually

from the natural forests. Besides, 2300 flora species and a number of wildlife fauna species are exploited to provide medicines, food for human being and livestock, raw materials for industries and handicrafts. A increasing amount of products are being traded with the neighboring countries.

Every year, fishing products estimated at 1 million tons per year, have provided one half of the total amount of the national fauna protein. Between 60% to 70% are fish exploited from the sea resource. About 20,000 to 30,000 tons of fish, soft-shell turtles, frogs are provided by the freshwater resource, while cultured fish also yields about 200 tons a year.

1.2. Threats to the biodiversity

With the gradual reduction of the ecosystems resulting in the gradual loss of habitats, many species are facing the danger of extinction. In Vietnam's Red Book, scientists have listed over 300 fauna and 350 flora species as endangered species facing the danger of extinction. This situation is generally caused by:

*** Over-exploitation:**

The exploitation of wood and other forestry products still poses a big threat even though there is now a strong limit on the forest areas which are legally exploitable. The large-scale exploitation of energy is hard to control and poses the biggest threat to the biodiversity in many countries. The forest quality and capacity have been more and more reduced in the areas close to human residence. In many areas, forests have been divided, becoming smaller in size and separate from one another. Consequently, they can no longer support and create the environment for the abundance of species like before.

Over-fishing is also a fact of life that occurs throughout the country. Moreover, the fishing methods are not applied according to approved standards. Destructive methods have even been in practice such as using traps, heck set-up, small-meshed nets, dynamite and toxic substances in some areas.

Coral exploitation is the highest concern in the Central Coastal Area from Da Nang to Thuan Hai Provinces. The exploitation of dead coral in the tidal areas to generate raw materials for

the cement production using dynamite (in Khanh Hoa, Ninh Thuan) seriously damages the living environment of many marine organisms and reduces the capacity of erosion prevention in the coastal areas.

* Shifting cultivation and the encroachment of arable land

A number of ethnic minorities have practiced shifting cultivation for generations. According to their practice, the fields can be cultivated for some consecutive years then abandoned for a few years as a fallow period to wait for forest restoration before being subject again to the slash-and-burn cultivation. This practice used to clear only a small size of forests while it could help enrich the species by providing habitats for new ones. Due to the population growth, this practice is no longer stable and the sequence of land use is gradually shortened with the consequences of gradual deforestation. The immigration, forest clearing for arable land or aquaculture, also contributes to the gradual area reduction of the forest ecosystems.

Shifting cultivation is also a reason for forest fire. Of the remaining 9 million hectares of forests, 56% is fire prone in the dry season. The forest areas being burned each year are between 20,000 to 30,000 hectares, even 100,000 hectares in certain year. Deforestation resulted in a major reduction in biodiversity.

* Water Pollution

Oil pollution is regarded as the worst disaster for the marine environment. As a result of oil exploitation and sea transport, the proportion of oil mixed with the coastal water has often exceeded the permissible level of between 0.4 to 1.0 mg/l many times. Quang Ninh province also suffers a serious problem of sedimentation on the coastal areas due to coal and clay exploitation. Millions of tons of sand and mud due to the dredging activities at the sea-ports (Hai Phong dredges 3 - 5 tons per year) often cause the estuary and coastal sedimentation which contain oil and toxic substances, creating negative impacts on the coastal ecosystems and marine organisms.

* The degradation of the coastal areas

The construction of coastal aquaculture ponds, land reclamation from the sea to create fields for salt production or for agricultural cultivation, human settlement along the coastal areas often contributes to the reduction of the tidal zones, the increase in the salinity, changes in the sedimentation process, causing destruction to or serious degradation of the tidal swamps. The large-scale exploitation of sand and stones for construction and of other mineral resources causes land erosion in the coastal areas of the Southern Central Region and the reduction of water resources, affecting the lower layer of the marine ecosystems.

* The transition to the market economy

Changes towards the market economy mechanism have had strong impact on the farmers. The farmers are now under pressure to apply many new varieties and species in order to have the produce yields that meet the current market demands. This poses a great danger to the traditional varieties and plant species which have long been suitable to grow in the local climate and soils. They have the valuable phenotypes but may be ignored by their failure, in a short-term perspective, to meet the present market demands.

The present situation regarding the exploitation and utilization of species makes the biodiversity protection task more urgent than ever before.

2. OBJECTIVES OF THE VIETNAM NATIONAL ACTION PLAN ON BIOLOGICAL DIVERSITY

2.1. The long-term objective of the Plan is to:

- protect the rich and unique biodiversity resources within the sustainable development framework of Vietnam;

2.2. The immediate objectives of the plan are to:

- Protect the country's endemic ecosystems, the vulnerable ecosystems which are now facing the danger of reduction or destruction caused by human economic activities.
- Protect those biodiversity components which are now subject to be over-exploited or ignored.

- Promote and identify the utilization values of all biodiversity components on the basis of sustainable development of natural resources in order to serve the country's economic targets.

3. MAIN CONTENTS OF THE ACTION PLAN

Biodiversity protection is a long-term task which needs to be carried out by different 5 - year programmes. A number of the following urgent actions should be included in specific Plan:

3.1. Policies and legal issues

The Law on Environmental Protection passed by the National Assembly provides the general guidance for the environmental protection. However, many more by-law regulations and supporting documents should be prepared in order to strengthen the enforcement of the Law and other legal documents.

Law enforcement is one of the pressing issues to which more attention should be paid. This requires the strengthening of technical and management capacity for the concerned institutions; staff training is also needed for these institutions. A number of laws and regulations should be reformed while the introduction of economic instruments based on the market mechanism as well as punitive actions need to be studied and implemented.

The by-law regulations should deal with such issues as the exploitation and sustainable use of natural resources, the control of the trading in the rare species as well as the unique bio-materials of Vietnam, pollution prevention and control. These issues should be included also in the regulations on environmental impact assessments.

The effective protection of biodiversity requires a clarification, readjustment or strengthening of the functions, and duties entrusted to the State management organizations concerned as well as of the regulations on those activities carried out by economic establishments that have impacts on the environment. Therefore, priority should be given to the sectoral review of the functions and duties of the organizations which manage the protected areas.

3. 2. Establishment and management of protected areas

3.2.1. Immediately establish and well manage the protected areas with high biodiversity values. Planning and enlargement of forest and forest land in 87 specialized forests which have been identified. Primary priority should be given to those protected areas of high biodiversity values such as: Pu Mat (Nghe An Province); Vu Quang (Ha Tinh Province), Hoang Lien Son (Lao Cai Province), Ba Be (Cao Bang Province), Cat Ba (Hai Phong), Cuc Phuong (Ninh Binh Province), Ke Go Lake (Ha Tinh Province), Bach Ma (Thua Thien Hue Province), Nam Ca (Dac Lac Province), Chu Giang Sinh (Dac Lac Province), Bi Dup (Lam Dong Province), Cat Tien (Dong Nai Province).

Strengthen and develop the buffer zones surrounding the protected areas, discourage intensive farming on sloping land, gradually stop the shifting cultivation, stabilize the life of the people and raise their awareness so that they will voluntarily join the protection force.

3.2.2. Develop the planning and creation of a number of important wetland areas in Ca Mau, or close to the Red River Delta, the bird colonies and the Tam Giang Lagoon, etc. These areas are located outside the specialized forests but close to human residence where the people have great demands to exploit these areas for such many different purposes as aquaculture, coastal forests and waterway transportation, etc. It is therefore necessary to pay special attention right from the outset to the biodiversity protection of these wetlands and to the prevention of contamination sources, especially from the water and to the control of the water over-drainage.

3.2.3. Build a number of protected areas for sea and inland waterbodies. As the sea areas with high biodiversity are usually the ones that can provide high economic values, priority should be given to the protection of those sea areas that have highest biodiversity values.

3.2.4. Build genebanks of flora, micro-organisms and domesticated animals. Supply genetic materials for hybridizing and selecting varieties to serve economic purposes as well as to "ensure" the genetic sources in nature. To enhance capacity of zoos which can serve as places for sight-seeing, training and raising the general awareness on the environment. These places are also useful for scientific research, conservation of wildlife which are endangered; and when conditions permit, these species should be released back to the protected areas.

3.2.5. Organize integrated management of the coastal areas within the framework of sustainable development. Many activities in the coastal areas should be carried out in an integrated manner, such as: developing protected forests, mangrove forest exploitation,

growing aquaculture, land reclamation for farming, human settlement and coastal industry development, etc.

3.2.6. Enhance measures to protect agricultural biodiversity; bring into full play the various forms of "farming conservation"; encourage farmers to participate in the common protection efforts; special attention should be given to the conservation of popular traditional varieties which have long been adapted to the local geography and climate.

3. 3. Awareness building

3.3.1. Utilize such mass media instruments as radio, television, newspapers, posters, etc. to raise the public awareness on biodiversity, encourage people to protect the general benefits of biodiversity.

3.3.2. Provide necessary information through short symposiums, study tours to biodiversity protection institutions within and outside the country to help management officers or policy-makers to have better understanding and knowledge concerning the biodiversity importance.

3.3.3. Carry out propaganda and dissemination of knowledge and methods necessary for the rational use of endemic natural resources for the ethnic communities so that they can both exploit and protect these resources. Encouragement and technical support should be rendered to people so that they can protect the traditional plant and animals for medicines and transform gradually from their natural exploitation methods to scientific ones by raising their awareness of sustainable use of the natural resource values.

3.3.4. Prepare biodiversity education curriculum for the school system which could be incorporated within the biological programmes or the environmental education in general.

3.4. Capacity building and staff training

3.4.1. Give priority to the training for officers who are involved in the biodiversity management at all levels and technical staff who are directly involved in enforcement. In addition, training should also be given to the members of mass organizations, associations and farming households who participate in the protection of biodiversity.

3.4.2. Set up a national biodiversity database and a biodiversity databank beneficial to the management and research activities promote the international information exchange concerning these issues.

3.4.3. Establish a system to monitor the changes in biodiversity resources in order to timely provide necessary information to the state management organizations.

3.5. Scientific research

Attention should be given to the following guidelines for scientific and technological research:

3.5.1. Carry out research on technologies which can be appropriately used in the rational exploitation and sustainable utilization of biodiversity resources. Give priority to the scientific research on the exploitation technology and the use of biodiversity components in agriculture and pharmacy.

3.5.2. Carry out research on the criteria and standards to evaluate the changes in biodiversity resources, using these criteria and standards as the basis for the evaluation of these resources values.

3.5.3. Study issues relating to bio-safety, ensuring the safe reception and transfer of biotechnology.

3.5.4. Carry out research on and growing of precious and rare sea organisms and forest animals that have high economic values but are subject to over-exploitation and facing the consequent danger of extinction.

3.5.5. Study biodiversity issues occurring in neighboring countries which have natural conditions similar to ours, recognizing that Vietnam and these countries have various common demands in the protection of their mutual benefits as well as exchange of technology.

3.6. Socio-economic issues

The crucial issue of the National Action Plan on Biodiversity is to bring about the sustainable development of the country, to examine and anticipate the interaction between the Plan and the country's socio-economic conditions in order to have appropriate adjustments. The plan must create conditions for, and ensure the support of, the people who live nearby the natural resources for their increased benefits. Therefore, priority should be given to projects which assist the people with the building of the buffer zones, the application of advanced technological achievements, upgrading of infrastructure, improvement of the social welfare, so as to ensure the balanced income for the people, thus preventing them from further encroachment into the protected areas.

The socio-economic programmes managed by the line ministries or branches and implemented in the areas adjacent to the protected areas should be implemented in conformity with the plan on biodiversity protection. The exploitation of Natural resources must be carried out sustainably.

A number of new economic developments close to protected areas or areas which have sensitive eco-systems will be subject to pay a fee for the environmental protection.

3.7. International cooperation

The fact that Vietnam has ratified the Convention on Biodiversity creates a good basis for a broadened international cooperation in this area. It is necessary to appeal international organizations, foreign governments and individuals, to provide practical technical training and financial assistance for the step-by-step implementation of this plan.

With regard to the neighboring countries, for the mutual interests of each country, it is necessary to strengthen cooperation in the scientific research, exchange of information and

technology and to work together for the protection and development of their biodiversity values.

4. ACTIVITIES NEEDED TO BE CARRIED OUT IN THE PERIOD 1996-2000

In the five-year plan from 1996-2000, based on the State resources, efforts should be focused on the priority targets in order to carry out the following actions:

4.1. Policies and legal issues: complete a system of by-law regulations in order to create a legal framework for the implementation of the Law on Environmental Protection and of the Conventions relating to Biological Diversity:

4.1.1. Formulate regulations on the conservation, utilization, exploitation and exchange of genetic resources, varieties and breeds with a view to:

- Manage rare and precious species natural resources of the country which have immediate and long-term practical economic values.
- Protect the national sovereignty and act in conformity with those international conventions which Vietnam has ratified concerning these natural resources.

4.1.2. Coordinate all the existing laws and regulations on the management, exploitation and utilization, of biological resources for whatever purposes with a view to:

- Identify the loop-holes and shortcomings of those documents previously promulgated by different ministries or branches.
- Reform and rectify these documents in order to make them compatible with the new changes in the national economic management mechanism and, at the same time, to ensure the sustainable exploitation and utilization of the biological resources with a sustainable development approach.

4.1.3. Make public those less sustainable ecosystems in the “sensitive” terrestrial and aquatic environmental areas and promulgate corresponding protection regulations in order to prevent the degradation or destruction of these ecosystems as the result of adverse environmental impacts created by industrial development.

4.2. Establishment and management of protected areas

4.2.1. Locate and enlarge the forest protected and land areas in order to :

- Increase the size and acreage of each specialized forests of the total 87 forests already approved by the Government.
- Legalize all land use documents concerning these areas.

4.2.2 Consolidate and establish the protected areas with high biodiversity values which have been identified.

Priority for investment should be first given to these areas because of their national and international high biodiversity values. Along with the consolidation and establishment of strictly protected areas, synchronized plan should be worked out to develop the buffer zones so as to stabilize the living conditions of the local inhabitants.

4.2.3. Carry out the selection, planning and establishment of a number of important wetlands in the identified areas.

Special protection and priority should be given to these areas as these areas are rich in biodiversity but very sensitive to the environmental pollution and usually associated with many economic activities.

4.2.4 Carry out the selection, planning and establishment of a number of important marine reserves in the areas of Ha Long Bay, the coast line from Khanh Hoa to Binh Thuan Province, and in the Con Dao and Phu Quoc islands.

These areas are very rich in biodiversity, inhabited by many marine species and directly interlinked with the protection of the water resources and important fish grounds of the country.

4.2.5. Consolidate and establish genetic conservation centers for raising plants and animals, and micro-biological organism aimed at protecting the precious and rare genetic resources with high economic values and supplying genetic materials for breeding.

4.2.6. Strengthen and upgrade the capacity for the zoos in Ha Noi and Ho Chi Minh City in order to better use them as facilities to educate people's consciousness of environmental protection in general and biodiversity conservation in particular. In addition, these zoos can also be used as research centers to raise the rare and precious animals which are facing the danger of natural extinction and to release them back to their habitats when conditions arise.

4.3. General awareness building

4.3.1. Keep the public constantly informed of the values of biodiversity in order to enhance the population's awareness of these values so that they will have better sense of responsibility to protect the biodiversity resources.

4.3.2. Provide necessary information on biodiversity to officials at all levels particularly officials at the local levels in order to help them with better understanding of the biodiversity values; at the same time these officials should be assisted with information to make necessary decisions concerning the protection of these natural resources.

4.4. Capacity building and staff training

4.4.1. Organize short-term training courses, seminars within and outside the country to strengthen the capacity and professional expertise for the management and technical staff at all levels and branches who are involved in the biodiversity-related work.

4.4.2. Establish a national network of database on biodiversity with a view to have a unified system of database and information on biodiversity throughout the country, creating favourable conditions for the general capacity building.

4.5. Scientific research

4.5.1. Conduct research and studies on technologies for the sustainable exploitation and utilization of biodiversity components; priority will be given to those technologies that could be used profitably in agriculture, medicines and pharmacy aimed at better utilizing the values of biodiversity components and thus making practical contributions to the achievement of the national socio-economic targets.

4.5.2. Study the criteria and standards to assess the changes of biodiversity components in order to develop a long-term scientific basis for the protection, supervision and assessment of the trends in biodiversity .

4.5.3. Study the issues relating to the safety of the biodiversity values in the receipt and transfer of technologies especially biotechnology.

5. CONCLUSIONS

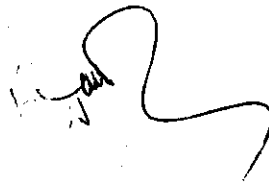
The National Action Plan on Biological Diversity is worked out to serve the long-term benefits of the country. It also demonstrates to the world community our responsibility towards the conservation of the common heritage of mankind. All organizations, branches concerned are obliged to implement this Action Plan.

Hanoi, 22 December 1995

Minister of Science, Technology and Environment

(signed)

DANG HUU

A handwritten signature in black ink, appearing to be 'Dang HUU', written in a cursive style.

FOREWORD

The year 1995 marked the Fiftieth Anniversary of the founding of the United Nations. The development issues addressed during the year were considerably different from those of fifty years ago; many old issues have been resolved, and many new ones have arisen. The need to conserve biodiversity, natural resources and the environment is one of the new issues to have emerged in recent decades. Mounting pressure from concerned citizen groups around the world in recent years has led to a recognition at the highest political levels of the interdependence between the conservation of biological diversity and development. This recognition was formalized at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June 1992.

The outcome of UNCED coincided with a number of significant changes regarding environmental management in Vietnam. The Ministry of Science Technology and Environment was created in 1992, the National Environment Agency was established in this Ministry in 1993, and the Law on Environmental Protection was passed in 1994.

Vietnam is a country rich in tropical rainforests, monsoon savannahs, sub-alpine scrubland and river deltas. It has a wealth of diverse natural and biological resources that represent a unique physical environment developed over tens of thousands of years of adaptation. The biodiversity that has emerged through this process now exists side by side with one of the densest human populations on earth. This of course has placed tremendous pressure on a vast number of species.

In recognizing the economic and cultural importance of its biodiversity, Vietnam has already taken a number of steps to preserve its resources over the past decade. It has developed several strategic planning documents for conservation including the *National Conservation Strategy* (1985), the *National Plan for Environment and Sustainable Development* (1991) and the *Tropical Forestry Action Plan* (1991). The *Biodiversity Action Plan* (BAP) builds on these documents, adding important new information and a broader integrated scope for action.

Biodiversity conservation is clearly one of Vietnam's greatest challenges, and the protection of the natural ecosystems of Vietnam and the species which depend on them is vital not only for Vietnam but for the world. Preparation of this *Biodiversity Action Plan* is therefore quite timely and represents an important step for Vietnam in meeting its commitments to the Convention on Biological Diversity which Vietnam signed in 1993 and ratified one year later. UNDP is proud to have

been a partner in the preparation of the plan which involved a large number of experts from Vietnam and abroad.

The Biodiversity Action Plan is designed to help national international agencies understand biodiversity conservation in Vietnam and see where their inputs would be most effective. The action plan will review and strengthen institutional arrangements and international collaboration (particularly in Southeast Asia) for conservation management, laws and regulations governing biodiversity conservation, policies concerning property rights, protected areas and species.

As this document was going to press, the Government of Vietnam announced several major changes in the structure and administration of several important government ministries. These changes were made in connection with the session of the National Assembly that was convened in October 1995.

Among the changes, the State Planning Committee (SPC), responsible for managing official development assistance, and the State Committee for Cooperation and Investment (SCCI), responsible for managing foreign direct investment, were joined to form the Ministry of Planning and Investment (MPI). The Ministry of Forestry, Ministry of Agriculture and the Ministry of Water Resources were merged to form the new Ministry of Agriculture and Rural Development (MARD). The Ministry of Light Industry, Ministry of Heavy Industry and Ministry of Energy were merged to form the Ministry of Industry. The description of the former ministries found in this document have been left unchanged. It is expected that the details of new institutional arrangements and procedures related to biodiversity and natural resource conservation will be incorporated into future revisions of this document.

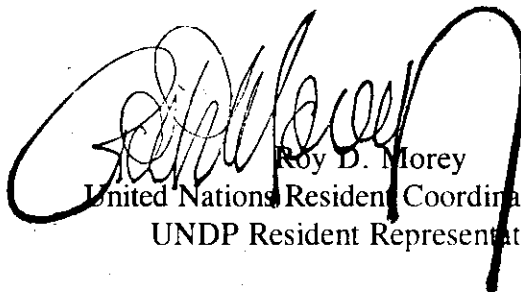
As Vietnam prepares to meet the challenges of the new century, we are confident that this document will make a positive contribution to on-going discussions of environmental policies and management in the country. We trust it will be a guide for the Government and the international community in the formulation of key programs and projects in support of Vietnam's goals on biodiversity conservation.

DANG HUU



Minister

**Ministry of Sciences, Technology
and Environment**



Roy D. Morey
**United Nations Resident Coordinator and
UNDP Resident Representative**

FOR VIETNAM

Executive Summary

Vietnam is a country rich in tropical rainforests and monsoon savannah, marine life and mountainous sub-alpine scrubland. Its long and narrow shape, from 23°N in the north to 8°30'N in the south, represents a considerable longitudinal range for a country of its size. The lowland coastal zone is bisected by rugged limestone mountains which separate the generally wetter forest types of the east from the drier forests of the Mekong Basin in the west, creating a habitat diversity favourable for a broad range of species compositions. One in 10 of the world's mammals, birds and fish species is found in Vietnam, and 40% of the country's plants grow nowhere else. The country grows important cash crops such as tubers, tea and rice (Vietnam is the world's second largest rice exporter), and domesticated animals such as chickens, pigs and ducks. This balanced diversity of natural and agricultural resources represents the wealth of a unique physical environment and thousands of years of adaptation and selective cultivation and breeding.

These biological riches exist side by side with one of the densest human populations in the world. Vietnam has 220 people per sq km (with much higher levels in the fertile river deltas), and the resulting population pressure is endangering an enormous number of species. The tropical rainforests are being cut at an alarming rate, and animals on the endangered list include the tiger, kouprey, Javan rhinoceros, tapir and Asian elephant. In Vietnam 28% of mammals, 10% of birds and 21% of reptiles and land amphibians face extinction.

The protection of Vietnam's natural ecosystems is vital for the country and for the world. This Biodiversity Action Plan (BAP) provides the tools for action.

Biodiversity is a term that covers the sum of all parts which create and sustain a healthy and diverse ecosystem. Life on earth depends on biodiversity to maintain the ecological functions that regulate water supply and quality, climate, soil fertility, and cultivable resources. We depend on natural species to find new chemical compounds that can serve as medicines and pest controls and to develop new crops and improved domestic animals. In tropical Asia, many people are almost totally dependent on biodiversity, and it must therefore be protected for the present and future prosperity of the region.

In recognising the economic and cultural importance of its biodiversity, Vietnam has over the past decade already taken steps to preserve its resources. It has developed several strategic planning documents for conservation, namely the *National*

Conservation Strategy (1985), the National Plan for Environment and Sustainable Development (1991) and the Tropical Forestry Action Plan (1991).

The BAP builds on these foundation documents, adding important new information and a broader, integrated scope for action:

- it deals with areas of conservation such as marine and coastal issues, wetlands and agriculture; these important ecosystems have not been included in previous conservation planning documents.
- it recognises the long-term economic values of conservation and avoids focusing only on rare animals and threatened landscapes.
- it advocates the role of local government in decision making.
- it takes account of the role of people, communities and non-government organisations (NGOs) in managing the country's natural resources.
- it emphasises the international responsibilities Vietnam has regarding managing and conserving its natural heritage.

Vietnam signed the Convention on Biological Diversity in 1993 and ratified it one year later. Preparation of this Biodiversity Action Plan is timely and represents an important step for Vietnam at meeting the commitments of the Convention.

Outline of the Biodiversity Action Plan

The BAP is designed to help national and international agencies see more clearly what is happening in biodiversity conservation in Vietnam and where their inputs would be most effective. The plan recommends explicit and achievable actions:

- a review to determine the most effective authorities to deal with conservation management, in wetlands and coastal zones.
- promulgating enabling laws and regulations.
- international collaboration, particularly in Southeast Asia.
- developing policies concerning property rights and access, household and community benefits.
- expanding and strengthening protected areas.

The Plan also recommends actions for trade in endangered species, restoring degraded habitats, monitoring and research, and education and public awareness with recommended projects to be developed according to the urgency of need.

The Plan is divided into four major sections. The first section provides the most up-to-date and comprehensive survey of biodiversity and biodiversity conservation in Vietnam. Sections 2-4 then determine the action necessary to strengthen conservation measures, concentrating on policies and programmes, management of natural habitats and other complementary actions.

The Status of Biodiversity Conservation in Vietnam

At a time when one may believe that all of the world's mammals have been described by science, the recent identification in Vietnam of two large mammal species, the saola (*Pseudoryx nghetinhensis*), a primitive bovid, and the Giant muntjac (*Megamuntiacus vuquangensis*), nearly twice the size of the common barking deer, demonstrates that in spite of extensive human use of Vietnam's natural habitats, effective protection could help preserve valuable and endemic species. Along with the identification earlier this century of the kouprey, a wild cattle species, Vietnam is a country of internationally recognised biodiversity conservation value.

However, the numbers of threatened or endangered mammals, birds and reptiles listed in the *Vietnam Red Book* (MOSTE, 1992) is a matter for great concern. The total of threatened species is high for a single country and reflects the seriousness of the threats to wild habitats in Vietnam. Species such as the wild buffalo, Eld's deer, Sumatran rhinoceros and Edwards' pheasant have already gone extinct in Vietnam this century, and without urgent conservation action, the Asian elephant, Javan rhinoceros and the newly discovered saola could soon follow.

Between 1943 and the present, Vietnam's forest cover shrank from 44% of the total land area to under 25%. As forests are fragmented and remaining blocks become smaller and more isolated, they are unable to support their original levels of species-richness. In addition to harbouring important plant and animal species, a valuable ecological function of forests and natural vegetation is protection of water catchments. This ensures that rains are held back and the incidence of floods and soil erosion is reduced. Forests continue to release a steady flow of clean water long after the rain and reduces the frequency of droughts.

Regulation of water flow is essential to a rice-growing society. In addition to their important watershed function, forests are also a direct economic resource for the country. Up to 1.4 million cubic metres of timber are extracted annually by state enterprises. However a much greater amount is taken by local enterprises for which there are no accurate figures, with estimates in the range of three million cubic metres per year. Collection of an estimated 30 million bundles of fuelwood annually is within

the theoretical productivity of 22-23 million tonnes which could be harvested from natural forests, but firewood is not collected evenly over the forest area and is often locally over-harvested, leading to forest shrinkage and degradation.

Vietnam's extensive coastal waters and estuaries harbour abundant fish resources. This wealth is demonstrated by the fact that fisheries supply half of the animal protein for the nation. Although the 1.07 million tonnes of fisheries products harvested in 1992 are within the estimated maximum sustainable yield of 1.2-1.3 million tonnes, the fact that total engine capacity of Vietnam's fishing fleet has doubled since 1983 is an indication that these resources face possible depletion without proper management.

Despite worthy government efforts for biodiversity conservation, existing programmes for the protection of forest areas and watersheds do not meet the need for an integrated and sustainable approach to forest and community development. There are major gaps in the present protected area system, most notably in the marine, coastal, wetland and lowland forest environments.

The unfortunate combination of habitat fragmentation and the pressures of human demands on natural resources in Vietnam demands innovative conservation and management strategies. Insufficient institutional arrangements, diffused management responsibilities, inadequate budget support, limited community participation, and insufficient expertise in social and economic development are principal constraints to the conservation of biodiversity in Vietnam.

Recommendations for Biodiversity Conservation Policies and Programmes

Representatives from all levels of government, local and international scientists and academics, planners and managers and villagers and resource users participated in open discussions and workshops during preparation of this plan. Based on these consultations, recommended actions are identified for various institutions including the State Planning Committee, Ministry of Science, Technology and Environment, Ministry of Forestry, Ministry of Public Health and the Ministry of Education as important first steps.

Effective conservation of biodiversity also requires changes and clarification in the responsibilities of the institutions which have influence on the environment in Vietnam. The BAP recommends that a comprehensive study of institutional responsibilities be carried out to improve inter-sectoral co-ordination and linkages at the national, provincial and district levels.

The BAP recommends that environmental law compliance be strengthened, including streamlining and simplifying regulations, developing EIA procedures and guidelines,

making law enforcement agencies and the public more knowledgeable and aware of environmental regulations, generating more publicity about environmental issues, and increasing discipline and improving remuneration for law enforcement officers.

There must also be an equally concerted effort by Government to encourage the people's direct participation in forest conservation and environmental protection at all levels. These measures must allow for self-regulatory approaches, the creation of economic incentives for environmental stewardship, and opportunities for sustainably managing and utilising the wealth of the nation's biodiversity. The BAP recommends that specific policy research be carried out on these issues.

Recommended Changes in the Management of Natural Habitats

The management of protected areas must be strengthened through new management approaches, staff training, and the increased involvement of local communities. The use of integrated approaches to protected area management, including buffer zones and modified landscape ecology, is also recommended.

The immediate challenge for Vietnam is to manage scarce resources effectively and prioritise species for conservation to enable maximum biodiversity. Rarity of species alone is not a sufficient measure for setting conservation priorities. The BAP proposes a prioritisation of those areas in the country which contain the greatest number of endemic species, such as those with limited distributions which occur nowhere else on Earth.

The BAP also points out that to date, protected areas in Vietnam have been established almost exclusively for the preservation of forest ecosystems. A protected area system which is to conserve the totality of biodiversity in Vietnam must also include wetlands, coastal water systems, and marine habitats.

Complementary Actions for Biodiversity Conservation

A final approach for biodiversity conservation is the utilisation of scientific technologies and *ex-situ* methods to preserve the genetic information of biodiversity. These approaches include the establishment of genebanks, particularly for the preservation of agricultural biodiversity, maintenance of zoological and botanic gardens, controls on wildlife trade, forest fire prevention, pollution controls, and policies which encourage natural regeneration of habitats.

Proposed Actions

Actions recommended in the BAP are presented as specific project profiles following the approaches for policy, forest management, and complementary activities as outlined in the three BAP sections on biodiversity policies and programmes,

recommended changes in the management of natural habitats, and complementary actions for biodiversity conservation.

The proposed priority activities are by no means exhaustive and can only represent part of what is needed for the ultimate conservation of biodiversity. The project concepts were developed on the basis of consultations, and they take into account other initiatives which are being currently carried out by Government and international agencies.

TABLE 1: BIODIVERSITY ACTION PLAN LIST OF PRIORITY PROJECTS

	Phase I	Phase II	Phase III
STRATEGY 1: Policy and Programmes (Section 2)			
Policy Tools	P1 Institutional Review Study	P2 Strengthening Environmental Law Enforcement P3 Biodiversity Conservation Policy Research	
Participation and Expanded Players		P4 Training NGOs in Biodiversity Conservation	P5 Development of Provincial Biodiversity Plans
Traditional Approaches	P6 Traditional Natural Resource Use Study P7 Protection of Traditional Medicine Resources		
Marine Issues	P8 Enforcement of Fisheries Regulations		P9 Marine Pollution Monitoring and Control
Regional Biodiversity		P10 Forest Product Border Control	P11 Regional Biodiversity Issues

	Phase I	Phase II	Phase III
STRATEGY 2: Management and Conservation Field Programmes (Section 3)			
Conservation and Management	<p>M1 Management of Vu Quang Nature Reserve</p> <p>M2 Management of Cat Tien National Park</p> <p>M3 Management of Bach Ma National Park</p> <p>M4 Management of Ba Be/Nahang Biodiversity Areas</p> <p>M5 Management of Thuong Da Ninh Nature Reserve</p> <p>M6 Management of Chu Yang Sinh Nature Reserve</p> <p>M7 Protection of Important Wetland Sites</p>	<p>M8 Conservation of Hoang Lien Son Mountains</p> <p>M9 Conservation of Ho Ke Go Forests</p> <p>M10 Conservation of Red River Delta Waterways</p> <p>M11 Mgmt of Dam Can Hai-Pha Tam Giang Lagoons</p> <p>M12 Management of Mom Ray National Park</p>	<p>M13 Management of Cat Ba National Park</p> <p>M14 Protection of Dalat Forests</p> <p>M15 Conservation of Tram Chim Wetlands Nature Reserve</p>
Protected Area Establishment	<p>M16 Establishment of Pu Mat Nature Reserve</p> <p>M17 Conservation of Biodiversity in Annamese Lowlands and Dalat Plateau</p> <p>M18 Establishment of Coral Reef Protected Areas</p>	<p>M19 Establishment of Coastal Marine Protected Areas</p>	<p>M20 Establishment of Muong Nhe Nature Reserve</p>
Buffer Zones and Community Projects	<p>M21 Integrated Coastal Zone Management</p> <p>M22 Yok Don Integrated Conservation</p>	<p>M23 Buffer Zone Management</p>	
Rehabilitation	<p>M24 Rehabilitation of Degraded Mangroves in Ca Mau</p>	<p>M25 Midlands Restoration Research</p>	

	Phase I	Phase II	Phase III
Human Approaches	M26 Capacity Building for Biodiversity Conservation M27 Cuc Phuong Training Development M28 Promoting Non-Damaging Fishing Methods M29 Wetlands Conservation Strategy M30 Models for Management of Uncontrolled Migration - Dac Lac		M31 Investigation of Status of Offshore Fishery Resources M32 Scientific Training on Marine Environment M33 Ecotourism and Protection of Ba Ra Forests
STRATEGY 3: Complementary Actions (Section 4)			
Ex-situ and Scientific Methods	C1 Establishment of National Gene Bank of Useful Plants	C2 Culture of Rare and Depleted Marine Species C3 Zoological Garden Management Strategy	C4 Upgrading Botanic Gardens C5 Wildlife Farming Pilot Projects
Traditional Approaches	C6 Village Biodiversity Development	C7 Research on Suitable Methods for Reforestation and Regeneration C8 Conservation of Agricultural Biodiversity	
Databases and Habitat Monitoring	C9 Natural Habitat Monitoring Programme	C10 Establishment of National Biodiversity Database	C11 Marine Biodiversity Database C12 Biodiversity of Ke Bang Karst
Public Awareness	C13 Public Awareness about Marine Conservation	C14 Biodiversity Public Awareness Campaign C15 Development of Biodiversity Awareness Centre	

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