
A n n e x

National Policy, Strategies and Action Plan on the Conservation and Sustainable Use of Biodiversity, 2003-2007

Approved by the Cabinet on June 11, 2002

R a t i o n a l e

Biodiversity is one of the most important factors in human subsistence. People from all over the world use and consume abundance of species, as food, clothing, housing equipment and medicines. People through the ages have been used many types of ecosystem, such as tropical rain forest, mangrove forest, peat swamps, rivers, bogs and coral reefs.

Thailand is a geographical center of a distinct biogeographic realm and has a high level of species richness, genetic diversity and ecosystem diversity. But during the past century, the unsustainable development and the lack of awareness on the importance and value of biodiversity have led to reduction and loss of such diversity and richness. The rate of biodiversity loss of Thailand is the second highest in Asia.

To implement the Convention on Biological Diversity, Thailand has established its first National Policy, Strategies and Action Plan on the Conservation and Sustainable Use of Biodiversity (NBSAP), 1998–2002, which will be ended in the year 2002. The National Environment Board, hence, had endorsed the formulation of the second NBSAP which will be the guidelines for the conservation and use of Thailand's biodiversity during the period of 2003–2007. NBSAP will be formulated in accordance with the international cooperation in biodiversity and wetlands conservation, the 9th National Economic and Social Development Plan, the government policies, and the Environmental Quality Management Plan.

S t a t u s

Thailand has endorsed the Convention on Biological Diversity since 1992. Despite of having not ratified the Convention, Thailand has proceeded following its framework for the country's image and reputation in the environmental conservation, and for the progress in the mitigation of biodiversity loss, which occurs ten times more rapidly than the previous 50 years.

The unsustainable development combined with the economical, political and social and social problems and the rapid population growth since 1961 until 1998, having resulted in the loss of many forest ecosystems. The conversion of forests into agricultural or other specific areas has also eliminated a lot of ecologically important forest areas. The average ratio of forest loss in Thailand is 58,759 hectares per year, or 160 hectares a day.

The long and continuous loss of forest ecosystem has further resulted in the declining population of wild animals and plants. Some significant animal species such as the Asian elephants, wild water buffaloes, and tigers are critically endangered. Brow-antlered deer, Javan rhinoceros, and Kouprey are currently believed to be extinct in the wild. Many wild plants were also disappearing, such as some endemic plant species in the peat swamp forest of Phru To Daeng Wildlife Sanctuary.

The loss of wetland areas, from the change of land use in the Chao Phraya River Basin, has led to the extinction of many freshwater fishes which include *Balantiocheilos melanopterus* and *Platytrapius siamensis*. Fifty percent of coral reefs in the Andaman Sea and the Gulf of Thailand were heavily bleached and degraded and large fish species such as rays and sharks are critically endangered.

Hundreds of endemic and wild rice species have become extinct as the result of land conversion into urban areas and the popularity of newly modified rice species. Many native crop plants are also vulnerable from the destruction of plantations. The introduction of exotic animal species has also led to the negligence of some indigenous species such as native ox, Hainan pigs, banteng (*Bos banteng*) and Nakhon Pathom duck, and these species are currently critically endangered.

In an overview, for the next decade, Thailand urgently needs the efforts to promote, facilitate and encourage every appropriate activities/projects to maintain natural ecosystems by reducing biodiversity loss. The country also needs capacity building for personnel on the conservation, collection and dissemination of information through the electronic communication system, researches for use of biological resources. Every Thai citizen especially the students should understand and have the good attitude towards the conservation and sustainable use of biodiversity.

Principles

- * Biodiversity is the national heritage, which has to be conserved and protected for future generation, through the management and sustainable use based on the "Wise Use Concept".
- * Biological resources are natural capital, and their conservation is the investment that will give benefits locally, nationally and globally.
- * Conservation of biodiversity is the most suitable manner possible which include the *in-situ* conservation, alongside with the need for *ex-situ* conservation. Alongside with the recovery of degraded ecosystems, the prevention of threats to biological resources and mitigation of the impacts to biodiversity with concern of indigenous knowledge, innovations and practices.
- * The high-priority elements for the conservation and sustainable use of biodiversity in Thailand are the education and public awareness, capacity building for institutions/organizations and their staffs.

- * The research in biological resources and the development of biotechnology have to be fully encouraged, promoted, based on the equitable benefit-sharing principle.

- * The implementation of activities on the conservation and sustainable use of biodiversity essentially requires participation of local community and cooperation between various responsible agencies, both at the national and international level.

Vision

Within the next 20 years, Thailand will be one of the leading countries in the conservation, research, and sustainable use of tropical biodiversity.

Objective

To mitigate the loss of biodiversity in Thailand by ensuring that the country has a capacity to protect and maintain biodiversity and to make sustainable use of biodiversity for the best environmental conditions and life-qualities of Thai people.

Main Target

To maintain and conserve ecological process and ecosystems for biodiversity conservation and sustainable use based on the equitable benefit-sharing principle.

Specific targets / indicators

- * Promote the education on the basic knowledge of biodiversity and public awareness in every age-group to the minimum 50% of the entire population in each province and every local administrative organizations, by the year 2007.
- * Encourage the implementation to increase the number of taxonomists for every taxa in government organizations and academic institutions, at least 20 personnel by the year 2007.
- * Develop and harmonize the biodiversity database of every institution/organization. Keep them updated and linked together as "Thailand's Biodiversity Information Network" by the year 2004.

* Conserve the forest ecosystems at least 30% of the total area. And additionally recover about 10% of the total area to create “the community forest” and other uses by the year 2007.

* Conserve and restore wetlands at least 35% of the total area in the country.

* Survey and monitor the biodiversity of plants, animals, insects and micro-organisms in the following protected areas and wetlands, by the year 2007:

- The Biosphere Reserves
- Western Forest Complex (in the western region)
- Eastern Forest Complex (in the eastern region)
- Khlong Sang-Khao Sok Forest Complex
- Doi Phu Kha-Mae Yom Forest Complex
- Songkram River Basin Forest

* Proceed the taxonomic studies, collect and conserve the diversity of plants, crops, rice species, herbal plants, microorganisms, fungi and insects by the year 2007.

* Survey the presence and distribution of invasive alien species in and surround the protected areas, and develop the measures to control the invasion of alien species, by the year 2007.

* Develop “the Biodiversity Conservation Network” which has the unity nationwide, by the year 2007.

* Building capacity of the people and local administrative organizations on the conservation and sustainable use of biodiversity at least 40% of the country’s total area.

* Support the Thai delegates/representatives to participate and negotiate in the international or regional meetings or workshops concerning biodiversity.

* Organize at least two international workshops on biodiversity in Thailand.

* Nominate the most appropriate sites for biodiversity conservation to the following Convention and Agreement by the year 2007.

➤ At least one site to the Convention on World Heritage

➤ At least one site to the ASEAN Agreement on ASEAN World Heritage

➤ At least twenty five sites to the Ramsar Convention

➤ At least two sites to the Convention on Migratory Species of Wild Animals

➤ At least five sites to the Man and Biosphere Programme

* Support the education and improve laws or regulations on the access to biological resources, technological transfer and benefit sharing, by the year 2007.

Policy Statement

To conserve Thailand’s biodiversity and to ensure the sustainable use of its components in order to continue the nation’s economic and social security and the progress in science and technology development.

Strategies

* Enhance knowledge, understanding and public awareness in the importance and value of biodiversity.

* Building capacity and expertise of institutions and their staff on the biodiversity conservation.

* Strengthen capacity in conservation, restoration and protection of natural habitats, within and outside the protected areas.

* Increase efficiency in the conservation and sustainable use of species and genetic diversity.

* Control, regulate, and reduce the threats to biodiversity.

* Provide incentives and encourage public participation for the conservation of biodiversity in accordance with traditional Thai cultural practices.

* Promote and develop cooperation between international agencies/institutions in the conservation and sustainable utilization of biodiversity.

Objectives and Actions

- * **Strategy 1**
Enhance knowledge, understanding and public awareness in the importance and value of biodiversity.

Objective

To increase awareness and appreciation of the value and importance of biodiversity to general public.

- * Disseminate knowledge and information on the importance of biodiversity to the society and the culture.
- * Develop campaign to raise awareness of the importance and value of biodiversity.
- * Build up the participation in conservation and sustainable use of biodiversity and stimulate the sense of ownership among stakeholder.

Objective

To strengthen knowledge and understanding of biodiversity conservation and sustainable use.

- * Provide knowledge and basic understanding of the importance and need in conserving biodiversity.
- * Strengthen knowledge and basic understanding of biodiversity to those who are "core" in the dissemination of information and biodiversity conservation.
- * Disseminate knowledge and strengthen capacity for local community in the sustainable use of biodiversity.

Objective

To use an education outside the classroom as a tool to raise awareness on biodiversity conservation.

- * Use the formal education system to improve awareness on biodiversity and need in conserving biodiversity.
- * Encourage the development of information sources on biodiversity in local area or natural zone.

- * **Strategy 2**
Building capacity and expertise of institutions and their staffs on the conservation of biodiversity.

Objective

To strengthen capacity in taxonomic works for institutions/agencies and their staff.

- * Strengthen national capacity of taxonomic works to facilitate the biodiversity conservation.
- * Establish first priorities to the national taxonomic research, specimen collection and the comparison of the collection with relevant institutions.
- * Enhance taxonomic skill for personnel in institution/organization which needs taxonomic knowledge in conserving biodiversity.
- * Manage to fulfil the taxonomic needs and requirements to facilitate efficient and effective fieldwork and laboratory work.

Objective

To develop human resource capacity for biodiversity conservation.

- * Support training and continuous education in occupations related to biodiversity.
- * Strengthen capacity for NGOs and private sector in biodiversity conservation.

Objective

To develop and strengthen capacity of research institution/organization and their staff in the conservation and sustainable use of biodiversity.

- * Provide financial support and facilities to the research related to biodiversity.
- * Encourage the inventory and monitoring of biodiversity and periodically disseminate the information or the output of such activities.
- * Support the research and development of biological resources for sustainable use.

Objective

To strengthen capacity of institution/organization in the dissemination of data and information which are needed for conserving biodiversity.

- * Build capacity of institution responsible for collecting and dissemination of biodiversity information.
- * Establish the national biodiversity information network to transfer, disseminate and exchange biodiversity data and information.

* **Strategy 3**
Strengthen capacity in conservation, restoration and protection of natural habitat, within and outside the protected areas.

Objective

To conserve and restore biodiversity in natural ecosystem.

- * Enhance the *in-situ* conservation, protection, rehabilitation and wise use of wetlands and the upper watercourse areas.
- * Encourage and support the cooperation, protection and monitoring of activities and use in wetland areas.
- * Promote the conservation and restoration of biodiversity in the marine and coastal ecosystem.
- * Integrate biodiversity consideration in agricultural practices.

Objective

To strengthen the protected areas to ensure their sustainability and their contribution to biodiversity conservation.

- * Conduct national reviews of plan for protected area system to ensure coverage of biodiversity conservation.
- * Improve and expand legal mechanisms to protect endangered species.
- * Enhance the efficiency in management of protected areas to be used as the basic knowledge for conservation.

Objective

To encourage and support research on biological science.

- * Promote and encourage basic and applied research on biological science emphasizing protected area conservation.
- * Support the education and research emphasizing natural ecosystem conservation.

Objective

To promote sustainable use within and outside the protected areas.

- * Recognize the vital roles of local communities outside the protected areas (in buffer zones and the vicinity area) as partners in conserving protected areas.
- * Broaden the support from the public and NGOs in conserving protected areas.
- * Seek for fund to support for managing the protected areas.

* **Strategy 4**
Ensure the efficiency in conservation and sustainable use of species and genetic diversity.

Objective

To improve capacity to conserve species and genetic diversity in natural habitats.

- * Conserve the habitats containing viable populations of economically important genetic resources and promote the effective agriculture for sustainable use.
- * Promote sustainable agricultural system for conserving and sustainable use of genetic diversity.
- * Increase capacity in genetic resources conservation of crop, medicinal, indigenous and wild plants, and livestock and on-farm conservation.
- * Amend, improve and revise legislative mechanisms to protect species and genetic diversity.
- * Improve basic knowledge of biological science by support the research emphasizing species and genetic resources conservation.

Objective

To improve the capacity of *ex-situ* conservation to enable biodiversity conservation, promote public education, and support sustainable development.

- * Develop microbial culture collection centers as *ex-situ* network.
- * Strengthen and support gene banks, seed banks and plant breeding centers to ensure the protection and exchange of plant and animal genetic resources.
- * Develop botanical gardens as a network for conserving wild plant resources.
- * Strengthen the roles of zoos, wildlife breeding centers, aquarium and aquatic animal breeding stations in the conservation of biodiversity.
- * Extend the roles of *ex-situ* conservation to include reintroduction into the wild.
- * Improve the capacity of *ex-situ* conservation through the support of relevant research.

*** Strategy 5
Control, regulate and reduce
the threats to biodiversity.**

Objective

To ensure the effective regulation and management for biosafety.

- * Increase understanding on the use of genetically modified organisms (GMOs) resulting from modern biotechnology which is likely to have adverse impacts on the conservation and sustainable use of biodiversity.
- * Develop biosafety clearing house mechanism, in order to create linkage with relevant national and international institution/organization.
- * Improve capacity in regulations, policy and administration to control transfer handling and use of GMOs, under the Biosafety Protocol.
- * Improve capacity in the monitoring and risk assessment of GMOs.

Objective

To prevent and control invasion of alien species which are likely to affect the change of biodiversity.

- * Increase understanding on the impacts of invasive alien species to biodiversity.
- * Provide additional legislative mechanisms in introduction, control and eradication of invasive alien species.
- * Control, regulate, eradicate and monitor alien species that threaten biodiversity.

Objective

To enable effective protection of biodiversity.

- * Provide specific protection for endangered, rare and endemic species.
- * Conduct biodiversity impact assessment especially for projects in the protected areas and wild lands.
- * Control and reduce pollution from their sources to maintain the quality of water in natural ecosystems.

*** Strategy 6
Provide incentives and encourage
public participation for the
conservation of biodiversity in
accordance with Thai traditional
cultural practices.**

Objective

To use economic incentives in the promoting of conservation and sustainable use of biodiversity.

- * Use the benefits from implementing ecotourism as the economic incentive in the conservation and sustainable use of biodiversity.
- * Increase incentives for communities to conserve public lands that are biologically diverse.
- * Develop and publicize roles of medicinal and traditional herbs, and ensure appropriate and sustainable use of herbs.

Objective

To integrate biodiversity conservation into the traditional lifestyle and local customary practices.

- * Support maintenance of traditional culture practices in biodiversity conservation.
- * Enhance awareness on the value of indigenous knowledge and biological resources.
- * Support community rights to protect and sustainable use of local biological resources.

Objective

To support the roles of private sector in implementing biodiversity conservation programs.

- * Provide incentives for conservation to private firms or organizations implementing biodiversity conservation program
- * Support the conservation of wild lands to maintain biodiversity.

Objective

To ensure biodiversity conservation throughout the urban and rural environment.

- * Promote the conservation of biodiversity in accordance with the rural communities.
- * Promote the maintenance of natural conditions in tourist attractions, workplaces and public areas.

*** Strategy 7
Promote and develop
international cooperation and
collaboration in the conservation
and sustainable use of
biodiversity.**

Objective

To enhance international cooperation in the conservation and sustainable use of biodiversity.

- * Promote cooperation with the international agreements related to biodiversity.
- * Support the joint works or activities in the South East Asian Region and Mekong River Basin Sub-Region to conserve biodiversity.
- * Encourage active participation of Thailand in the international forum/meetings related to biodiversity conservation.
- * Enhance the international cooperation on biodiversity conservation as a tool in the economic recovery, tourism promotion and the country's fame.
- * Accelerate Thailand's role in the international cooperation for the progress in science, technical and technology related to biodiversity.

Objective

To progress towards good reputation of the country on biodiversity conservation in the global environmental conservation forum.

- * Nominate the appropriate protected areas to be the World Heritage Site under the Convention on World Heritage, and to be the ASEAN Heritage Parks and Reserves under the ASEAN Working Group on the Nature Conservation and Biodiversity (AWGNCB).
- * Nominate additional wetland areas to be the Ramsar Sites under the Ramsar Convention, and to be the Anatidae and Shore Bird Network under the Convention on Conservation of Migratory Species of Wild Animals.
- * Nominate additional eligible sites to be the Biosphere Reserves under the Man and Biosphere Program.
- * Support the establishment of Transboundary Reserves.

Objective

To ensure the benefits from the access to biological resources, transferring of technologies and information sharing with other countries.

- * Ensure equitable and fair sharing of benefits derived from the use of biological resources on basis of sustainable use, in accordance with the Convention on Biological Diversity.
- * Promote international cooperation on access and transfer of technologies on the conservation and sustainable use of biodiversity.
- * Develop the National Clearing House Mechanism (CHM) to disseminate and exchange biodiversity information, both at the national and international level.