

# **Country Environmental Profile**

## **THAILAND**

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## Acronyms

ADB	-	Asian Development Bank
APEC	-	Asia-Pacific Economic Cooperation
ASEAN	-	Association of Southeast Asian Nations
ASEM	-	Asia-Europe Meeting
BMA	-	Bangkok Metropolitan Administration
CBD	-	Convention on Biological Diversity
CBO	-	Community Based Organisation
CDM	-	Clean Development Mechanism
CDP	-	Country Development Partnership
CCCC	-	Climate Change Cooperation Centre (ONEP)
CF	-	Community Forest
CGIAR	-	Consultative Group on International Agricultural Research
CIS	-	Commonwealth of Independent States
CITES	-	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSD	-	Commission on Sustainable Development of the United Nations
CSO	-	Civil Society Organisation
DEDE	-	Department of Alternative Energy Development and Efficiency (Ministry of Energy)
DEQP	-	Department of Environmental Quality Promotion (Ministry of Natural Resources and Environment)
DESA	-	Department for Economic and Social Affairs
DNP	-	National Park, Wildlife and Plant Conservation Department (Ministry of Natural Resources and Environment)
DMCR	-	Department of Marine and Coastal Resources (Ministry of Natural Resources and Environment)
EC	-	European Commission
EEZ	-	Exclusive Economic Zone
EF	-	Environmental Fund
E for E	-	Energy for Environment Foundation
EIA	-	Environmental Impact Assessment
EPPO	-	Energy Policy and Planning Office (Ministry of Energy)
EQM Plan	-	Environmental Quality Management Plan
ESCAP	-	Economic and Social Commission for Asia and the Pacific
EU	-	European Union
FAO	-	Food and Agriculture Organization of the United Nations
FIDA	-	Foundation for International Development Assistance
GATT	-	General Agreement on Tariffs and Trade
GAW	-	Global Atmosphere Watch (WMO)
GEF	-	Global Environment Facility
GEMS	-	Global Environmental Monitoring System (UNEP)
GESAMP	-	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GHG	-	Greenhouse Gas
GIS	-	Geographical Information Systems
GLOBE	-	Global Legislators Organisation for a Balanced Environment
GMS	-	Greater Mekong Subregion

GOS	-	Global Observing System (WMO/WWW)
GRID	-	Global Resource Information Database
GTZ	-	German Technical Cooperation
HIV/AIDS	-	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IAEA	-	International Atomic Energy Agency
ICSC	-	International Civil Service Commission
ICSU	-	International Council of Scientific Unions
ICT	-	Information and Communication Technology
ICTSD	-	International Centre for Trade and Sustainable Development
IEEA	-	Integrated Environmental and Economic Accounting
IFAD	-	International Fund for Agricultural Development
IFCS	-	Intergovernmental Forum on Chemical Safety
IGADD	-	Intergovernmental Authority on Drought and Development
ILO	-	International Labour Organisation
IMF	-	International Monetary Fund
IMO	-	International Maritime Organization
IOC	-	Intergovernmental Oceanographic Commission
IPCC	-	Intergovernmental Panel on Climate Change
IPCS	-	International Programme on Chemical Safety
IPM	-	Integrated Pest Management
IRPTC	-	International Register of Potentially Toxic Chemicals
ISDR	-	International Strategy for Disaster Reduction
ISO	-	International Organization for Standardization
ITTO	-	International Tropical Timber Organization
IUCN	-	International Union for Conservation of Nature and Natural Resources
JBIC	-	Japan Bank for International Cooperation
JICA	-	Japan International Cooperation Agency
LA21	-	Local Agenda 21
LDCs	-	Least Developed Countries
MARPOL	-	International Convention for the Prevention of Pollution from Ships
MDGs	-	Millennium Development Goals
MEAs	-	Multilateral Environmental Agreements
MONRE	-	Ministry of Natural Resources and Environment
MOSTE	-	Ministry of Science, Technology, and Environment
NBSAP	-	National Biodiversity Strategy and Action Plan
NEB	-	National Environment Board
NESDB	-	National Economic and Social Development Board
NEAP	-	National Environmental Action Plan
NGOs	-	Non-Governmental Organisations
NGO-COD	-	NGO Coordinating Committee on Development
NSDS	-	National Sustainable Development Strategies
ODA	-	Official Development Assistance/Overseas Development Assistance
OECD	-	Organisation for Economic Co-operation and Development
OEPP	-	Office of Environmental Policy and Planning
ONEB	-	Office of National Environment Board
ONEP	-	Office of Natural Resources and Environment Policy and Planning (Ministry of Natural Resources and Environment)
PCD	-	Pollution Control Department (Ministry of Natural Resources and Environment)

PCF	-	Prototype Carbon Fund
PM	-	Prime Minister
PPP	-	Public-Private Partnership
RECOFTC	-	Regional Community Forestry Training Centre for Asia and the Pacific
RTG	-	Royal Thai Government
SARD	-	Sustainable Agriculture and Rural Development
SIDS	-	Small Island Developing States
SME	-	Small and Medium Size Enterprise
TA	-	Technical Assistance
TEI	-	Thailand Environment Institute
THB	-	Thai Baht
TICA	-	Thailand International Development Cooperation Agency
TORs	-	Terms of Reference
UN	-	United Nations
UNAIDS	-	United Nations Programme on HIV/AIDS
UNCED	-	United Nations Conference on Environment and Development
UNCCD	-	United Nations Convention to Combat Desertification
UNCHS	-	United Nations Centre for Human Settlements (Habitat)
UNCLOS	-	United Nations Convention on the Law of the Sea
UNCTAD	-	United Nations Conference on Trade and Development
UNDP	-	United Nations Development Programme
UNDRO	-	Office of the United Nations Disaster Relief Coordinator
UNEP	-	United Nations Environment Programme
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
UNFCCC	-	United Nations Framework Convention on Climate Change
UNFF	-	United Nations Forum on Forests
UNFPA	-	United Nations Population Fund
UNHCR	-	United Nations High Commissioner for Refugees
UNICEF	-	United Nations Children's Fund
UNIDO	-	United Nations Industrial Development Organization
UNIFEM	-	United Nations Development Fund for Women
UNU	-	United Nations University
US-AEP	-	United States-Asia Environmental Partnership
WFC	-	World Food Council
WHO	-	World Health Organization
WMA	-	Wastewater Management Authority
WMO	-	World Meteorological Organization
WSSD	-	World Summit on Sustainable Development
WTO	-	World Trade Organization
WWF	-	World Wildlife Fund
WWW	-	World Weather Watch (WMO)

## 1. Summary

Thailand witnessed in the last decades a remarkable economic growth and a substantial decrease in poverty. Currently it is classified as a middle-income country. The fast economic growth, however, is often also seen as a major factor contributing to widespread environmental degradation and pollution.

The following issues are identified as serious environmental concerns:

- Forest degradation
- Loss of biodiversity
- Coastal erosion
- Decline of marine fishery resources (quantity and diversity)
- Loss of agricultural land (soil erosion, salinization, contamination, etc.)
- Water management (decline of water sources and quality at all levels: surface water, groundwater and seawater)
- Air quality (dust pollution, ozone concentrations and carbon monoxide pollution)
- Waste management (solid and hazardous/chemical waste)
- Energy (efficiency and renewable energy)

To be able to effectively address these environmental concerns, one needs sound environmental policies and legislation. Also a sensible environmental institutional framework is required. The institutional set-up through which the Royal Thai Government aims to address all such issues is being revised considerably. Local and provincial authorities are given more powers in a conscious move to decentralise environmental policies. Thailand has a well-developed environmental movement active throughout the country. Nevertheless, the effective environmental management in Thailand is complicated by a number of challenges:

- ✧ Ongoing revisions of environmental laws and regulations at the department level, and their approval in Parliament.
- ✧ Reorganisation processes within the Ministry of Natural Resources and Environment, as well as the integration of environmental policy making at the wider government level may not yet be finished.
- ✧ Conflicting visions, especially between community-based approaches versus a more technocratic approach to environmental policy making.

To strengthen the efforts to address the listed environmental concerns while taking into account the specific challenges at the policy level, the following priority actions may be recommended:

1. Capacity building of local and provincial authorities to enable them to effectively implement environmental policies.

It is an overall trend in Thailand to decentralise the implementation of government policies towards the provincial and local levels. The importance of local people's participation in natural resource management needs to be underscored. Opportunities should be created to connect indigenous knowledge with modern science in a larger body of (alternative) research.

2. Application of the ecosystem approach as the basis for the further planning of the economic infrastructure in Thailand.

Environmental interventions appear to be rather reactive, whereby each environmental concern is addressed as a more or less standalone issue. Many specific environmental issues, however, are mutually linked aspects of wider underlying concerns. Such concerns may be better understood within the context of the different ecological zones distinguished in Thailand. In light of the overall decentralisation witnessed in the country, it would make therefore make sense to promote the application of the ecosystem approach in addressing environmental concerns.

3. Enhancement of community initiatives for the sustainable management of biodiversity and other natural resources.

Thailand has a vibrant environmental movement involved in community initiatives for the sustainable management of biodiversity and other natural resources. To promote the development of a larger body of indigenous knowledge and research, such experiences should be documented. By broadly sharing such experiences, their replication elsewhere in Thailand and in other countries of Southeast Asia may be encouraged. With its ambition to be a regional hub, Thailand is particularly well positioned to facilitate such initiatives.

4. Enhancement of the capacity of the environmental authorities at all levels to monitor and enforce the implementation of improved regulations regarding the sound management of water, air and waste.

To address environmental concerns, it is essential that environmental safeguards be more effectively taken into account in all sectors (e.g. industry, agriculture, transport). The new Ministry of Natural Resources and Environment (MONRE), and its 76 provincial departments, have a strengthened mandate to monitor and enforce the implementation of environmental regulations. It is vital that they obtain sufficient capacity to carry out this mandate.

5. Promotion of energy efficiency and renewable energy resources.

Thailand has limited energy sources of its own, due to which a large part of its energy consumption is accounted for by imports (around US\$ 14 billion in 2004 alone). The energy consumption is anticipated to grow annually with 6%, while the share of renewable energy is set to grow from only 0,5% to 8% of the total by 2011. In this setting energy efficiency and renewable energy resources are a top priority for the sustainable development of the country, which could set an important example for the wider region of Southeast Asia.

A higher priority for environmental protection and the sustainable development of natural resources is observed in Thailand. Since EU cooperation with Thailand needs to be based on mutual interests, the EU might consider a higher priority for the environmental sector.

## **2. State of the environment**

### **2.1 Physical environment**

Thailand, centrally located in the Indochina Peninsula, is one of the most developed and wealthiest countries in Southeast Asia. Cambodia and Laos on the east, Laos and Myanmar on the north, Myanmar on the west and Malaysia, the Andaman Sea and the Gulf of Thailand on the south, border it. The country is bounded between 5° 40' and 20° 30' North latitudes and 90° 70' and 105° 45' East longitudes. The total area of Thailand is 513,115 sq. km's<sup>1</sup>.

Physiographically, the country is divided into six main ecological zones<sup>2</sup>:

- North: a mountainous region with rivers that drain towards the Chao Phraya River, which flows through lowland plains. Large areas lie above 1.000 m, but the zone ranges from 200 m up to 2.565 m on Doi Inthanon, Thailand's highest mountain. Deciduous forests were once prevalent at lower altitudes (but exist now only as remnants) and evergreen broad-leafed forests are found at higher elevations, often with native pine trees.
- West: a hilly area mainly North-South along the Burmese border. It is mostly hot and dry, and has some pristine forests, mainly of mixed deciduous trees.
- Northeast: a dry, low plateau with very sporadic rainfall, which drains towards the Mekong. Mountains border the western and southern sides of the plateau. The natural forests of open dry dipterocarp deciduous woodlands are very susceptible to fire and have been almost entirely lost to agriculture.
- Southeast: a lowland area with Cambodia to the East and the Gulf of Thailand to the South and West. This is one of the wetter parts of Thailand and evergreen forests but much has been lost.
- Central plains: the alluvial basin of the Chao Phraya, MaeKlong and Tachin. This region has been almost entirely deforested, with swamplands converted to rice paddy and urban areas; the only forest remains grow on the isolated limestone hills.
- Peninsular Thailand: an area sharing many characteristics with Malaysia to the South. It has a wet, largely a-seasonal climate, with rainforests still present on the hill slopes. Mangrove forests, sea grass beds and mudflats are found in this zone.

The climate of Thailand is defined as "humid tropical" which is influenced by the seasonal monsoon and the local topography. Two distinct types of climate are recognised: tropical rain forest climate and tropical savannah climate. The tropical rain forest climate is characterised by uniformly high temperature and heavy rainfall without possessing any distinct dry season. The tropical savannah climate on the other hand is characterised by less precipitation with three distinct seasons. The rainy season extends from May to October, the hot dry season from March to April and the cold dry

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<sup>1</sup> UNEP Land Cover Report Thailand 1997, p. 1

<http://www.rrcap.unep.org/lc/cd/html/countryrep/thailand/report.doc>

<sup>2</sup> Thailand Environment Monitor 2004 (Biodiversity), World Bank, p. 2, 3

season from November to February. The average annual precipitation and temperature varies from region to region.

Thailand is well endowed with cultivable land, which represents a significant portion of the country's total area. Agricultural land supports rice paddy, upland crops, Para rubber, oil palm and perennial crops etc. Both evergreen and deciduous forests including mangrove forests can be found in Thailand. Other land cover types include abandoned land, marshland, swamp, rock-outcrop, beach and pastureland, water bodies and urban areas.

Evergreen and deciduous forests are the two principal forest types. The distribution of these forests depends on climate, soil conditions, and topographic and biological factors. Evergreen forests can further be subdivided into tropical evergreen forests, tropical rain forests, dry evergreen forests, hill evergreen forests, coniferous forests and swamp forest. Both freshwater and mangrove swamp forests can be found. Deciduous forests are subdivided into mixed deciduous, dry deciduous and savannah forests

Forest encroachment - clearance for agriculture - and illegal commercial logging are the two leading factors responsible for continued forest destruction. Different sources provide somewhat different figures, but around 25% of the country currently remains under forest cover<sup>3</sup>. Conversion to shrimp ponds, saltpan and paddy field is a typical problem for mangrove forest destruction<sup>4</sup>. Mangrove forests occur in 19 provinces. Originally some 368.000 ha (2,3 million rai) of coastal land were covered with mangroves, while currently only 240.000 ha (1,5 million rai) are left<sup>5</sup>.

Erosion of coastal areas is a widespread problem. The tsunami of 26 December 2004 had severe impacts on marine and coastal resources along the Andaman coast. Coral reefs, sea-grass beds, and already endangered and threatened marine species suffered. The tsunami waves affected large areas, sometimes up to 2 km from the shoreline, resulting in changes of beach profiles and intrusion of saltwater inland. Marine fishery resources are in a steady decline, both in terms of quantities and the number of species<sup>6</sup>.

Some 57% (about 29,3 million ha) of the total surface of Thailand is considered marginally suitable for agricultural production. All land suitable for agriculture has been used. Due to the country's population increase the demand for land is constantly growing, resulting in the use of marginal lands. Lands with problems are classified into several categories:

- Saline soils (3,5 million ha, of which 2,9 million ha is located in the northeast of the country)
- Extreme acid sulphate soils (850.000 ha)

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<sup>3</sup> Thailand Environment Monitor 2004 (Biodiversity), World Bank, p. 10

<sup>4</sup> UNEP Land Cover Report Thailand 1997, p. 4  
<http://www.rrcap.unep.org/lc/cd/html/countryrep/thailand/report.doc>

<sup>5</sup> Personal communication Department of Marine and Coastal Resources (MONRE)

<sup>6</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 24

- Sandy soils (1,14 million ha)
- Shallow and acid soils (8,2 million ha)
- Mountainous areas (15,4 million ha)

Further, a lot of land is used in a manner not compatible with conservation principles causing soil erosion over an area of 21,4 million ha. Efforts to boost agricultural production through the use of chemical fertilisers and pesticides, and, the technically inappropriate disposal of dangerous wastes from industries and communities, have resulted in the accumulation of toxic substances, resulting in serious soil contamination problems<sup>7</sup>.

Due to rapid economic and social development, as well as population growth, consumption of both surface water and groundwater increased rapidly between 1980 (20.530 million m<sup>3</sup>) and 1990 (43.000 million m<sup>3</sup>). Whereas the water demand tends to increase all the time, the potential for surface and groundwater development is limited and the efficiency of water storage in natural and artificial areas is decreasing. At the same time, allocation of water does not conform to existing regulations, particularly due to the rapid increase in consumption for urban and industrial purposes; which eventually will affect the availability of water for agriculture and the water quality. Water shortages and conflicts over water use will occur in agricultural, industrial and service sectors, as well as with household consumption. Further, the volume of water from different sources is not stable throughout the year, with around 85% of stream water flowing in the wet season, but only 15% available in the dry season. This situation creates flooding problems and drought crises, respectively<sup>8</sup>.

The validity of this description from 1997 of the situation of the water resources is confirmed by details reported for the year 2004. Water shortages were then expected in certain areas, especially in the northern and northeastern regions. However, the drought season beginning 1 November 2003 to 28 May 2004 affected 19.609 villages. Geographically, droughts occurred in 17 northern provinces, 19 northeastern provinces, 10 central provinces, 7 eastern provinces and 10 southern provinces. These droughts damaged a total of 203.577 ha (1.272.354 rai) of agricultural areas, costing more than 160 million THB. This was followed by 8 flood events in the period from May to August 2004<sup>9</sup>.

The major mineral resources are lignite, limestone, zinc, gypsum, tin, and sodium feldspar. The mineral resource extraction and refinery process is characterised by negative environmental impacts, which require further attention. The value of mineral resource utilisation increased in recent

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<sup>7</sup> Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality, 1997 – 2016, Office of Environmental Policy and Planning, Ministry of Science Technology and Planning, 1997, ISBN 974-7577-01-1, p. 16

<sup>8</sup> Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality, 1997 – 2016, Office of Environmental Policy and Planning, Ministry of Science Technology and Planning, 1997, ISBN 974-7577-01-1, p. 26

<sup>9</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 22

years at a rate of 4,6% a year<sup>10</sup>. Thailand has limited domestic energy resources, due to which it increasingly depends on imports. Of the commercial energy consumption in 2004 66% was imported. The domestic energy production between 2002 and 2004 was as follows:

	2002	2003	2004
Crude (BPD) <sup>11</sup>	75.567	96.322	85.495
Natural Gas (mscf/day) <sup>12</sup>	1.986	2.106	2.150
Condensate (BPD)	53.724	62.663	68.648

*Source: Thailand's Energy Strategy, Ministry of Energy*

## 2.2 Biological conditions, biodiversity, ecology and nature conservation

Thailand is rich in its biodiversity, though not many of the species of plants are unique for this country only. Most species are shared with neighbouring countries. The same goes for the fauna of Thailand. The biodiversity of Thailand has significant economic value. While the direct values through agriculture, fisheries and forestry are obvious, the indirect values of biodiversity to climate regulation, water quality and quantity, erosion control, sediment retention, soil formation, and nutrient recycling have yet to be fully appreciated and integrated into development planning.

After decades of heavy exploitation and clear cutting, the loss of forests has slowed down. Since a logging ban was imposed in 1989, the Thai timber industry has become reliant on imports and extensive tree plantations have been established. Such plantations, however, cannot in any way replace the original forests in terms of biodiversity. There are several national parks and wildlife sanctuaries, but these are rather scattered throughout the country. Limestone hills are slowly being recognised as having more value than just their rocks that supply the cement and construction industries. They are places with a unique flora and fauna, offering interesting and rare landscapes with both historic and aesthetic values.

Large areas of wetlands have been converted to rice fields and urban sprawl and suffer from pollution and many other problems. Thai people have long known how to make sustainable use of wetlands, which provide food, fibre, water for drinking and bathing, and transportation routes. However, currently, water quality is declining because of pollution, fish stocks are over-harvested, and invasive alien species of plants and animals have contributed to declines in local biodiversity. Pollution control programmes now aim to restore the physical and chemical quality of the water, which might help biodiversity to recover. Local communities and NGOs in some areas manage water and fish resources, but they have limited power and authority to control the broader uses<sup>13</sup>.

<sup>10</sup> Idem, p. 22, 23

<sup>11</sup> BPD = Barrels Per Day

<sup>12</sup> mscf = thousands of standard cubic feet

<sup>13</sup> Thailand Environment Monitor 2004 (Biodiversity), World Bank, p. III

Thailand's abundant and diverse marine biodiversity has suffered from destructive fishing gears in the open sea and coastal areas. Conversion of coastal mangrove forests into intensive shrimp farms creates conflicts of interest among small-scale fishermen and between fishermen and shrimp farmers. Marine Parks have also led to conflicts with fishermen, indicating that stakeholder consultations in designing such initiatives should be improved. The same goes for other protected areas where fauna and flora are to be managed in an integrated manner. Local communities need to be better involved to ensure that all necessary lessons are taken on board in combination with up-to-date science. New approaches are essential since few species show any signs of recovery under current protection regimes, and most are steadily declining. The most critical support for such initiatives will be that from the general public, especially people living in and around protected areas.

To put an end to the ongoing loss of biodiversity, a number of issues need to be taken care of<sup>14</sup>:

- Integration of biodiversity conservation into economic planning and production landscapes:  
In sectors like agriculture, forestry and tourism much more can be done to conserve biodiversity. Planning processes should account for larger areas and incorporate multiple land uses, and natural ecosystems should be given time to restore themselves.
- Improvement of protected area management:  
Lessons learned from projects initiated by NGOs at individual sites should be incorporated into government policies and into new legislation giving authorities new mandates for participatory and decentralised management. Incentives for local people to participate fully and willingly in conservation management also need to be explored.
- Improvement of the enforcement of existing biodiversity related regulations:  
Better enforcement is needed to reduce poaching in protected areas, local and international trade in wildlife products, especially across the long and rather porous border with Myanmar. There is a need for education of local people, improved detective and legal work, international monitoring and the enforcement of treaties.
- Improvement of research and monitoring on biodiversity:  
Thailand has developed an impressive and regionally significant research capacity, but research tends to be carried out in a fragmented and uncoordinated manner. There is a great need to make research more policy oriented and applied, and to encourage agencies to adopt recommendations.
- Medium- and long-term planning for the financing of biodiversity conservation:  
Although the government has provided significant amounts of finance for biodiversity conservation, and has had some generous support from bilateral donors, it does not yet have a medium- or long-term

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<sup>14</sup> Thailand Environment Monitor 2004 (Biodiversity), World Bank, p. IV

plan for sustainable financing. Planning is required to access and apply different sources of funds for biodiversity conservation, to complement sustained government and donor support as well as private sector financing.

- Harnessing markets and private sector in biodiversity conservation and sustainable use:

Certain elements of biodiversity may be exploited in a sustainable manner provided the following safeguards are in place:

- Target populations strong enough to sustain any commercial use
- Effective regulations and enforcement mechanisms to curb unsustainable exploitation
- Elimination of perverse incentives that promote biodiversity degradation
- Elimination of regulations that prevent local communities and the private sector from profiting from the sustainable use of biodiversity

### **2.3 Socio-economic and socio-cultural conditions and human health**

The rapid economic growth of the last decades is generally seen as one of the main factors that contributed to widespread environmental degradation and pollution. Policies solely concentrating on the exploitation of natural resources led to: disparity in access to social services and infrastructures for the poor; to disruption of social structures, culture and relationships; and, to unsustainable levels of natural resource depletion and environmental pollution<sup>15</sup>. Forest degradation, for example, caused many rural communities to become poorer due to the loss of the goods and services previously provided by the forest. It is important to note that many protected areas are in the same provinces where poverty is relatively high.

Nowadays, flooding and landslides are commonly reported in Thailand. Flooding can be found in many parts of the country, in the form of flash floods, runoffs near hillsides, river overflows, but also flooding in urban and agricultural areas. Landslides tend to result in severe damages to communities. In the past, measures adopted to overcome landslide hazard has been passive, for instance, assistance was given to the victims after incidents took place. Currently more efforts are given to preventive measures such as organisational restructuring, and landslide hazard forecasting and information systems. Local communities are also much more involved in preventive activities than in the past<sup>16</sup>.

Thailand is vulnerable to impacts of climate change. In the situation of Thailand, any additional warming might seriously damage the agricultural sector. Crop yields would probably be reduced by additional heat stress

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<sup>15</sup> Country Guideline Paper – Thailand 2002-2005, UNDP Small Grants Programme for Operations to Promote Tropical Forests (SGP PTF), p. 6

<sup>16</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 33

and by reduced moisture levels and soil quality. Many of the country's most productive regions are situated in low-lying plains that are vulnerable to inundation. The city of Bangkok is considered to be one of the world's most vulnerable capital cities to a rise in sea level. Certainly after the tsunami disaster of 26 December 2004, the awareness of the importance of disaster preparedness and prevention policies has substantially increased.

The water quality in various water sources throughout the country, including surface water, groundwater and seawater is deteriorated. Rivers are contaminated by the agricultural sector, by industries, by lack of wastewater treatment facilities, etc. Similar factors pollute the coastal seawater. Wastewater from solid waste piles and residues of agrochemicals contaminate groundwater. In addition to this, the natural water supply diminishes due to forest destruction. In 2003, the monitoring of water quality of 49 major rivers and 4 freshwater reservoirs showed that only 32% is classified as having good water quality, while 31% is categorised as moderate, and 31% as deteriorating. The remaining 6% is classified as very deteriorated, including the lower Chao Phraya River, the lower Tha Chin River, the lower Lam Ta Klong River, and the Songkhla Lake<sup>17</sup>.

In recent years some progress has been made in improving the air quality. In 1994 leaded gasoline was phased out. The fuel quality and engine specifications have improved, and so has the public transport. Nevertheless, air pollution continues to be an issue of serious concern. Dust pollution ('particulate matter') and Ozone concentrations were serious in 2003, and also carbon-monoxide pollution was found in certain areas to be higher than the standard level. However, other pollutants such as SO<sub>2</sub> or NO<sub>2</sub> were considered to be within the standard. Except for the vicinity of stone grinding and cement industries, air quality in rural areas is considered fairly good. In most cities and industrial areas of Thailand, noise pollution is also a serious issue<sup>18</sup>.

The volume of solid waste that is produced in Thailand is steadily increasing. In 1994 the production figure was approximately 33.000 tons per day<sup>19</sup>, while it was estimated at well over 39.000 tons per day in 2003. Around 24% of this waste originates from Bangkok, where 99% of the solid waste is collected and disposed of. Other municipal areas produce 31% of the solid waste in Thailand, but here only 35% is properly collected and disposed of. The remaining 45% of all the solid waste in Thailand is rarely taken care of. Most solid waste is disposed of in landfills. The absence of proper environmental controls is posing health and environmental risks to the surrounding communities and waste workers. With the solid waste, the volume of hazardous (chemical) waste also

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<sup>17</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 26

<sup>18</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 27

<sup>19</sup> Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality, 1997 – 2016, Office of Environmental Policy and Planning, Ministry of Science Technology and Planning, 1997, ISBN 974-7577-01-1, p. 58

increased (1,8 million tons in 2003). A large part of this is not dealt with in a separate and appropriate manner<sup>20</sup>. This seriously increases the risk of the release of toxins to human exposure and the contamination of groundwater.

Thailand's energy consumption has been steadily growing at a rate of about 9% per year. For the next two decades a growth rate of 6% is anticipated. The energy consumption in 2004 has been around 1,45 million barrel of oil equivalent per day.

Primary Energy Consumption of Thailand in 2004	
Oil	48%
Natural Gas	35%
Coal	15%
Hydro	2%
<i>Source: Ministry of Energy, Thailand</i>	

Since Thailand has only limited energy sources of its own, a large part is accounted for by imports, at an estimated cost of 555.585 million THB (around US\$ 14 billion) in 2004 alone. For this reason the Royal Thai Government (RTG) decided that the share of renewable energy should increase from 0,5% in 2003 to 8% in 2011. This should also help to bring down the carbon intensity of the energy sector. As part of this policy energy sources like biomass, biogas, mini-hydro and solar energy obtain more attention. Also the better processing of municipal waste is considered an opportunity for the energy sector. In the transport sector serious efforts are underway to promote the mixing of gasoline with ethanol (tapioca/sugar cane) and bio-diesel (palm oil).

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<sup>20</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 27, 28

### **3. Environmental policy, legislative and institutional framework**

#### **3.1 Environmental policy and legislation**

The first environmental law entitled 'Enhancement and Conservation of National Environmental Quality Act' was enacted in 1975. Following that Act the National Environment Board (NEB) and the Office of the National Environment Board (ONEB) were created under the Prime Minister's Office. This Act was amended twice in 1978 and 1979, transferring the supervision of the ONEB to the then Ministry of Science, Technology, and Energy.

In 1992 a new 'Enhancement and Conservation of National Environmental Quality Act' was passed by the RTG. This new law created three environmental institutions: the Office of Environmental Policy and Planning (OEPP), the Pollution Control Department (PCD), and the Department of Environmental Quality Promotion (DEQP). Their tasks were to promote effective implementation of policies, plans and strategies at both national and local levels. Also they were responsible for the enforcement of environmental laws and regulations. Following this the Ministry of Science, Technology, and Energy changed its name to the Ministry of Science, Technology and Environment (MOSTE)<sup>21</sup>.

In 1997 Thailand adopted a new Constitution. On issues of environment and natural resources this guarantees more public participation in environmental management and conservation<sup>22</sup>. In the same year the OEPP released a long term plan aiming for the management of the country's national resources and the environment in such a manner that economic and social development are facilitated rather than obstructed. This document is called the Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality, 1997-2016<sup>23</sup>. It addresses six main policy areas:

1. Policy on Natural Resources
  - a. Soils and Land Use
  - b. Forest Resources
  - c. Water Resources
  - d. Mineral Resources
  - e. Energy Resources
  - f. Coastal Resources
2. Policy on Pollution Prevention and Eradication
  - a. Water Pollution
  - b. Air Pollution
  - c. Noise and Vibration Pollution
  - d. Pollution from Solid Waste and Night Soil
  - e. Pollution from Hazardous Materials

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<sup>21</sup> Background to the Office of Natural Resources and Environmental Policy and Planning (ONEP), MONRE  
[http://www.onep.go.th/eng/about\\_onep\\_1.asp](http://www.onep.go.th/eng/about_onep_1.asp)

<sup>22</sup> Thailand Country Development Partnership Environment, World Bank, 2004, p. 2

<sup>23</sup> Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality, 1997 - 2016, Office of Environmental Policy and Planning, Ministry of Science Technology and Planning, 1997, ISBN 974-7577-01-1,

- f. Pollution from Hazardous Waste
- 3. Policy on Natural and Cultural Environments
- 4. Policy on Community Environment
- 5. Policy on Environmental Education and Promotion
- 6. Policy on Environmental Technology

This document continues to serve as an important guideline for the environmental policies of Thailand.

In 2002 the legal basis for some further bureaucratic reform was put in place:

- The Government Restructuring Act B.E. 2545
- The 2002 Royal Decree on Transfer of Governmental Agencies' Authority Regarding to the Government Restructuring Act B.E. 2545, and
- The Royal Decree on Legal Amendment Regarding to the 2002 Royal Decree on Transfer of Governmental Agencies' Authority Regarding to the Government Restructuring Act B.E. 2545

Following this legal reform, the Ministry of Natural Resources and Environment (MONRE) was established and the OEPP was transferred to be under this new Ministry as the Office of Natural Resources and Environmental Policy and Planning (ONEP)<sup>24</sup>.

It is important to note that in Thailand the following hierarchy of laws is in force<sup>25</sup>:

1. The Constitution, the most recent being the 1997 Constitution;
  2. "Acts", passed by the Parliament;
  3. "Regulations" and "Notifications" enacted by the respective Ministries.
- In this light the 'Enhancement and Conservation of National Environmental Quality Act' of 1992 remains the main framework environmental legislation.

However, the various more specific environmental laws and regulations issued by different Government departments largely govern the day-to-day environmental management in Thailand. Since these laws and regulations have been in use for several decades, the State of the Environment Report 2004<sup>26</sup> observes that many of them are found to be outdated, not responding to current problems, or in conflict with one another. Furthermore, many of the old environmental laws do not correspond to the new Thai Constitution with its emphasis on people participation, decentralisation and good governance. Thai environmental laws generally lack integration and hence do not provide adequate legal arrangements that lead towards effective integrated natural resource and environmental management.

In this light, efforts were made during 2003-2004 to revise some environmental laws. In response to the new Thai Constitution, a new draft

<sup>24</sup> [http://www.onep.go.th/eng/about\\_onep\\_1.asp](http://www.onep.go.th/eng/about_onep_1.asp)

<sup>25</sup> Asia-Pacific Centre for Environmental Law Report on Thailand, by Alan K.J. Tan, Faculty of Law, National University of Singapore  
<http://sunsite.nus.edu.sg/apcel/dbase/thailand/reportt.html#sec4>

<sup>26</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 29

needs to replace the 'Enhancement and Conservation of National Environmental Quality Act' of 1992. Revision of the Community Forest Act, the Water Act, and the laws concerning the National Committee on Land Management is considered necessary. New laws have also been drafted including the Water Resource Act, the Hazardous Waste and the Industrial Pollution Act<sup>27</sup>.

### **Revision of Environmental Impact Assessment System<sup>28</sup>**

In 2003 attempts have been made to revise many aspects of the Environmental Impact Assessment (EIA) System in Thailand.

Past experience showed that the EIA system had serious flaws. The procedures of an EIA are not clear, and the panel of environmental specialists evaluating EIA reports is considered to lack credibility. EIA procedures lack people's participation, and effective environmental monitoring of development projects with an approved EIA is missing.

However, the proposed new EIA system still awaits approval. In order for it to take effect, the 'Enhancement and Conservation of National Environmental Quality Act' first needs to be revised. This Act needs to legally approve some specific new elements of the new EIA system, such as the proposed new independent agency on EIA report evaluation, the establishment of an EIA revolving fund, as well as the recognition of the concept of Initial Environmental Evaluation (IEE).

Meanwhile, 21 different development projects await approval, amongst them water development projects, transportation projects, industrial projects, energy projects, and housing projects.

In a very recent document<sup>29</sup>, ONEP provides a rather extensive but useful overview of the main guidelines to be taken into account for natural resources and environmental management. A full overview of the five main guidelines and the elaboration of their different dimensions follow below:

#### I. The National Constitution Law 1997

- Part 3: Rights and freedom of the Thai citizen on public participation
- Part 4: Duties of the Thai citizen on environmental conservation concerns

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<sup>27</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 29

<sup>28</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 30

<sup>29</sup> The Office of Natural Resources and Environmental Policy and Planning  
Written by: Kasemsun Chinnavaso, PhD, Deputy Secretary-General, April 2005  
Provided in meeting with Dr. Kasemsun Chinnavaso.

- Part 5: Promotes the achievement of sustainable development through environmental management programmes
- Part 9: Administration on local level to strengthening the process of empowerment and decentralization

## II. The Enhancement and Conservation of National Environmental Quality Act, B.E. 2535

- Section 13: The National Environment Board and its function i.e.
  - (1) To submit policy and plan for enhancement and conservation of national quality to the cabinet for approval (The National Policy and Prospective Plan for Enhancement and Conservation of National Environment Quality B.E. 1997-2016 was approved by the Cabinet on 26<sup>th</sup> November 1996)
  - (2) To consider and give approval to the Environmental Quality Management Plan proposed by the Ministry according to section 35 (The current one is the Environmental Quality Management Plan 2002-2006)
  - (4) To consider and give approval to the Provincial Action Plan for environmental quality management according to section 37
  
- Section 35-36: The formulation of the Environmental Quality Management Plan (EQM Plan). The EQM Plan may be short, intermediate or long-term plan as appropriate and should contain the following matters:
  - (1) Management of air, water, and environmental quality in any other area of concern
  - (2) Pollution control from point sources
  - (3) Conservation of natural environment, natural resources or cultural environment pertaining to aesthetic values
  - (4) Estimation of financing to be appropriated from government budget and allocated from the Fund which is necessary for implementation of the Plan
  - (5) Scheme for institutional arrangements and administrative orders by which cooperation and coordination among government agencies concerned and between the public service and private sector could be further promoted and strengthened, including the determination of a manpower allocation scheme which is required for implementation of the Plan
  - (6) Enactment of laws and issuance of regulations, local ordinances, rules, orders, and notification necessary for implementation of the Plan
  - (7) Scheme for inspection, monitoring and assessment of environmental quality by which the results of implementation of the Plan and enforcement of law related thereto can be evaluated objectively
  
- Section 37: The implementation of the EQM plan after it has been published in the Government Gazette. The provincial governor in the environmental protected area or pollution control area has to formulate a provincial plan for environmental quality management

at provincial level and submit this to the National Environment Board for approval. In the case of other provinces that desire to enhance and conserve the environmental quality within the limits of their territorial jurisdiction, the Governor of that province may prepare a Provincial Action Plan within the framework of and in conformity with the requirements of the Environmental Quality Management Plan, and submit it to the National Environment Board for approval.

III. The Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality 1997-2016

The topical priorities within the six main policies formulated in this document are described as follows:

(1) Policy on Natural Resources

- Increase efficiency in the use of natural resources; coordinate any utilization of natural resources and reduce conflicts; and, accelerate the rehabilitation of degraded natural resources to be the basic inputs for sustainable development.
- Enhance administration and management of natural resources by systematic decentralization of power and authority from central office to regional offices, in addition to strengthening relationships among government agencies, the private sector, NGOs and local people.
- Support the application of resource economics for effective management of natural resources and establishment of social justice.
- Amend the legal and regulatory framework enabling support for more effective administration and management of natural resources, and recognition of rights and responsibilities of local people to demonstrate ownership of resources.
- Support the study, research, and establishment of a standardized database network for natural resources.
- Increase conservation awareness of senior government officers, politicians at all levels, the private sector, and the general public, in order to integrate concepts for natural resources development and conservation, ensuring their movement in the same direction.

(2) Policy on Pollution

- Mitigate and control pollution from communities, agriculture, industry, transportation, and construction, such that they do not cause impacts to health and human living conditions; rehabilitate environmental quality in important areas that have potential for economic development for the ecological balance of natural resources and the environment in these areas, and to ensure sustainable development.
- Provide systematic and effective waste and hazardous material management; and establish protection and mitigation systems in cases of large-scale emergencies.
- Develop unified systems for the administration and

management of pollution and for the formulation of pollution control policies, plans and implementation guidelines, under appropriate laws, institutions, and budgets, following the polluter pays principle. In addition, the private sector should participate in pollution control investments. The government, private sector, and local people should work in cooperation.

(3) Policy on Natural and Cultural Environments

- Protect, preserve, conserve, and rehabilitate natural environment and cultural environment to maintain the natural and cultural heritage of the country.

(4) Policy on Community Environment

- Undertake management of community environment and green areas to continuously improve the quality of life; appropriate for functioning natural ecosystem, economics, society, culture and technology.

(5) Policy on Environmental Education and Promotion

- Enhance the capacity of communities at all levels, and establish strength and cooperation for effective environmental management.

(6) Policy on Environmental Technology

- Develop and promote utilization of technology for management of environment quality.

IV. Environmental Quality Management Plan 2002-2006

(1) Administration Management Plan

- Push environmental issues to be a political concern
- Increase law enforcement
- Decentralisation
- Synchronise national and international natural resources and environmental policies
- Increase effectiveness on EIA process
- Increase public awareness and participation through educational process
- Change the consumption pattern toward sustainable development
- Restructuring organisations toward check and balance system

(2) Natural Resources Conservation

- Apply Area-Function-Participation Approach
- Focus on natural resources rehabilitation
- Apply Geographic Information System and Environmental Information Networking
- Strengthening public awareness in conservation
- Increase public awareness in: land use resource; forest resource, water resource, mineral resource, energy, marine and coastal resource, biodiversity

- (3) Human Environment
- Develop big city according to its capacity
  - Promote small community settlement
  - Promote ecotourism
  - Develop tourist destinations according to its environmental capacity and ecosystem
  - Increase management capacity of the local and community
  - Protect, preserve, and restore cultural heritage sites
  - Increase knowledge transfer to the local and community in conserving the cultural heritage sites

- (4) Pollution
- Law amendment and enforcement
  - Introduce appropriate and clean technologies
  - Increase pollution management to reach national standard
  - Restructure organisation by increasing the cooperation among agencies

V. Policy Statement of the Government of His Excellency Thaksin Shinawatra Prime Minister of Thailand, Delivered to the National Assembly on Wednesday, 23 March 2005:

Natural Resources and Environmental Policy

Natural resources and the environment are important elements in the country's development, requiring a balanced approach in utilisation, conservation and replacement in order to safeguard these national assets for the next generation. The Government will, therefore, promote and accelerate the rehabilitation of soil and water conditions and solve the problem of environmental degradation and pollution so as to restore a sound environment to the Thai people.

The Government will set standards for managing public and private resources by encouraging participation of the private sector and local community in order to attain a balanced approach in utilisation, tenure and conservation of resources base, land, forest, water and coastal resources. The Government will use the Geo-information system, amend laws and regulations, and expand participation among relevant sectors of society for the greatest benefits and sustainable development of the country and quality of life.

The Government will take both upstream and downstream measures for environmental preservation. These include supporting local communities to build dams and dykes in accordance with His Majesty's Project, assuring fair access and sustainable use of biodiversity, and investing in the systematic development of water resources in accordance with the physical characteristics of each river basin, from the development of watersheds and water sources to the distribution of benefits in an efficient and comprehensive manner. The Government will rehabilitate soil, stop illegal burning of plantation and surface degradation, reduce the use of bio-chemicals in agriculture, and pursue His Majesty's Project to plant vetiver to protect soil surface from erosion. The Government will

also implement preventive and early warning measures against natural disasters, e.g. floods, droughts, earthquakes, changes to the ozone layer and take necessary measures to mitigate impacts on and hardship to the people.

Regarding pollution, the Government will expedite measures to control pollution arising from production and consumption i.e. gas, waste, polluted water, noise and smell. The Government will expedite construction of a system for the treatment of wastewater from societal use and agricultural and industrial activity, implement an environment friendly waste disposal system and enhance waste disposal capacity of local administrative authorities.

The Government will promote the private sector's role in research and development for energy conservation, environmental management, recycling of raw materials and clean technology. In order to reduce pollution and the social burden of pollution, the principle of the polluter pays the costs will be used. In addition, the Government will not allow Thailand to become an end receiver of waste, which has to bear the costs of industrial waste and pollution.

Though Thailand signed the Convention on Biological Diversity (CBD) in 1992, it ratified the CBD only in 2004. It never signed the Cartagena Protocol on Bio-safety, and is not a party to this multilateral environmental agreement. It effectively became a member of the UN Convention to Combat Desertification in 2001. The UN Framework Convention on Climate Change was also signed in 1992, while this one was ratified in 1994. The Kyoto Protocol was signed in 1999, and ratified in 2002. The Montreal Protocol on Substance that Deplete the Ozone Layer was ratified in 1989, two years after its adoption. Thailand ratified the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1983. In 1997, it ratified the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal.

### **3.2 Environmental institutional framework**

In October 2002, the Ministry of Natural Resources and Environment (MONRE) was established. As indicated in paragraph 3.1 this move followed legal reforms. But it is also part of a structural change to move towards designate agencies on a sectoral basis. Interagency coordination on environmental crosscutting issues thus is expected to become easier. In line with the decentralisation policies that were called for by the 1997 Constitution, MONRE has opened provincial offices in each of the 76 provinces of Thailand. These offices are to ensure that environmental aspects are well integrated into the Provincial Development Plans, and they need to coordinate with the work of other ministries at the provincial level<sup>30</sup>.

At the central level MONRE is organised according to four different clusters of work. Each cluster has different departments. Under two clusters, also a number of state enterprises are operated.

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<sup>30</sup> UNDP-Thailand Environment Partnership Program (UTEP), p.9

<b>MONRE Functions and Departments<sup>31</sup></b>		
<b>Cluster</b>	<b>Departments</b>	<b>State enterprises</b>
<b>Policy and Management</b>	<ul style="list-style-type: none"> <li>• Office of the Permanent Secretary</li> <li>• Office of Natural Resources and Environment Policy and Planning (ONEP)</li> </ul>	
<b>Environment Affairs</b>	<ul style="list-style-type: none"> <li>• Pollution Control Department (PCD)</li> <li>• Department of Environment Quality Promotion (DEQP)</li> </ul>	<ul style="list-style-type: none"> <li>• Wastewater Management Authority (WMA)</li> </ul>
<b>Natural Resource Affairs</b>	<ul style="list-style-type: none"> <li>• Royal Forest Department</li> <li>• National Park, Wildlife and Plant Conservation Department</li> <li>• Department of Mineral Resources</li> <li>• Department of Marine and Coastal Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Zoological Park Organisation</li> <li>• Botanical Garden Organisation</li> <li>• Thai Plywood Company Limited.</li> <li>• Forest Industry Organisation</li> </ul>
<b>Inland Water Affairs</b>	<ul style="list-style-type: none"> <li>• Department of Water Resources</li> <li>• Department of Groundwater Resources</li> </ul>	

The Office of Natural Resources and Environment Policy and Planning (ONEP) is the key agency charged with formulating the environmental policies of Thailand, as well as making sure that they are implemented. The ONEP is hosting the office of the National Environment Board (NEB). The NEB is the central environmental policy making body, chaired by the Deputy Prime Minister on behalf of the PM. It serves as the link between policy making and politics. ONEP also hosts the Office of the Environmental Fund (EF) of Thailand. The EF currently manages a budget of 3.835 million THB (about US\$ 100 million). The EF provides support to activities of Public Agencies, Local Authorities, State Enterprises, Private Sector and NGOs to promote and maintain the quality of the environment. The EF provides both grants and loans.

<sup>31</sup> The Office of Natural Resources and Environmental Policy and Planning written by: Kasemsun Chinnavaso, PhD, Deputy Secretary-General, April 2005 Provided in meeting with Dr. Kasemsun Chinnavaso

ONEP is also hosting the Office of Environmental Impact Evaluation. Furthermore it hosts the Climate Change Cooperation Centre (CCCC), which is acting as the Designate National Authority (DNA) of Thailand for the approval of CDM projects under the Kyoto Protocol. Finally it is important to note that ONEP and possibly other departments of MONRE may face further reorganisation and changes of tasks in the course of 2005<sup>32</sup>.

### **3.3 Integration of environmental concerns into the main sectors**

Given the fact that different government departments share responsibilities for the integration of environmental concerns, it is quite hard to obtain a good overview of how specific environmental concerns are integrated into the main sectors. Some documents state clearly that for successful implementation of integrated natural resource and environmental management changes in the organisational culture of Thailand are called for<sup>33</sup>. This is in line with suggestions from different sources in Bangkok that the various government departments in Thailand often find it difficult to exchange and share information or to work together.

Another complicating factor in Thailand seems to be the existence of divergent visions on how to deal with nature conservation and environmental issues. On the one hand, many government officials and also other so-called deep-green environmentalists share the opinion that local communities and people are an obstacle to scientifically sound nature conservation and environmental protection. On the other hand, a particularly strong environmental movement consisting of many community based organisations (CBOs) and NGOs takes the principled stand that environmentally sustainable development will not be possible without putting community participation at the heart of policy making processes. Such opposing opinions resulted in the Community Forest Bill being stalled in Parliament<sup>34</sup>.

Many NGOs stress that from local people's perspective environmental problems are key issues to be addressed in any development strategy. Local communities by definition depend on local natural resources. For this reason any move to exploit natural resources as an asset of the country's national economy is likely to affect the customary access of local communities to the natural resources they depend on. Commodification of natural resources often results in poor people losing access to their means of subsistence. Promoting transparency and people's participation are considered key aspects of integrated policy making in which development aspirations and environmental concerns are to be matched.

Furthermore it would be important not to look into single environmental issues on a case-by-case basis, but rather to promote an ecosystem

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<sup>32</sup> Personal communication with Dr. Kasemsun Chinnavaso, Deputy Secretary-General ONEP, 07.04.05

<sup>33</sup> Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE), p. 32

<sup>34</sup> Thailand Environment Monitor 2004 (Biodiversity), World Bank, p. 29

approach. The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Application of the ecosystem approach will help to reach a balance of the three objectives of the UN Convention on Biological Diversity. It is based on the application of appropriate scientific methodologies focused on levels of biological organisation, which encompass the essential processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of ecosystems<sup>35</sup>.

The good news is that many of the legal and policy reforms currently going on clearly aim for a more effective and integrated approach to Thailand's persistently serious environmental issues. Previously, different ministries administered the various environmental policies. The young MONRE is charged with the important opportunity of creating a unified institutional structure for environmental protection, which can stimulate other sectors to take environmental concerns on board.

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<sup>35</sup> For a detailed description of an eco-system approach, see the website of the UN Convention on Biological Diversity: <http://www.biodiv.org/programmes/cross-cutting/ecosystem/default.asp>

#### **4. EU and other donor cooperation with Thailand from an environmental perspective**

Thailand is very interested in negotiating a Framework Agreement on Partnership and Cooperation with the EC. The scope for such cooperation goes well beyond traditional development cooperation to cover wider issues of economic and political cooperation, including the environment. Considering the important role of Thailand in the wider regional development processes, the environmental dimension in the Thai policies does have significant impacts in neighbouring countries.

Traditionally the environmental attention is focused on issues of nature conservation and biodiversity, the so-called 'green issues'. The protection of both coastal and terrestrial resources is considered a priority as is ensuring community participation and awareness of environmental issues. Currently urban environmental problems and pollution ('brown issues') draw growing attention. This is reflected in the cooperation activities between the EC and Thailand. Energy conservation and renewable energy is becoming a hot issue, especially due to the dependence of Thailand on energy imports.

In the period 2003-2004, the EC supported 29 projects in the environmental sector in Thailand<sup>36</sup>. Currently the following 13 projects are ongoing<sup>37</sup>:

- Small grants programme for operations to promote tropical forests (SGPPTF)
- Coastal habitat and resources management (CHARM)
- Sustainable management of Phu Khieo Wildlife Sanctuary through community participation
- Integrated urban environment management, Lamphun
- Managing pesticides in vegetable systems in South East Asia: combining environment and trade (MAPET)
- Geo-environmental Engineering Curriculum, Development for South and Southeast Asian Region
- Development of an international long-distance internet-based master's course on environment technology and management
- Education tool for training on technologies for water use using virtual application sites (ED-WAVE)
- Development of teaching and training modules for higher education in the waste management sector
- Improved resource use efficiency in Asian integrated pond-dike systems
- Anti-infectious immune effectors in marine invertebrates: characterization and application for disease control in aquaculture
- Sustainable farming at the rural urban interface – an integrated knowledge based approach for nutrient and water recycling in small-scale farming systems in peri-urban areas of China and Vietnam

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<sup>36</sup> European Commission – Thailand, Cooperation activities report 2003-2004, p. 67-95. This report provides a useful project overview but does not contain policy or evaluation information.

<sup>37</sup> [http://www.deltha.cec.eu.int/en/Cooperation%20activities%202003-2004/thailand\\_environment.htm](http://www.deltha.cec.eu.int/en/Cooperation%20activities%202003-2004/thailand_environment.htm)

- Production of aquatic peri-urban systems in South East Asia

It is acknowledged that the EU requirements appear to be difficult for local project applicants. Other information indicating to what extent the selection and prioritisation of projects is based on an evaluation of completed projects is not directly available.

In other sectors 76 projects were supported: knowledge society, health, economic cooperation, and uprooted populations / social support. Within these other sectors some projects occasionally have an environmental dimension, confirming the significance of environment as a crosscutting issue. Many of the projects in Thailand are monitored directly from Brussels. Under the regional Asia Pro Eco programme the Delegation currently manages 11 environmental projects, while three applications for new projects are pending. The Delegation confirms that the EU requirements appear to be difficult for many Thai project applicants to understand. Some form of assistance to bridge this gap might be useful.

Amongst the EU member states, Denmark has a so-called Special Environmental Assistance programme. The programme contains two main components, namely Natural Resource Management and Urban Environmental Management. The programme also covers activities on Sustainable Energy, including development of the Clean Development Mechanism (CDM), and a business-to-business Partnership Facility Programme. In addition, a Mixed Credits Programme is managed by the embassy. Based on previous experiences, the future Danish bilateral environmental activities will be increasingly focused and concentrated on urban and industrial environment, sustainable energy and natural resources management. Significant crosscutting dimensions are institutional and organisational capacity development, and knowledge management<sup>38</sup>.

The only other EU member state that has environmental cooperation activities in Thailand is Germany. Through its development agency GTZ, the German cooperation focuses on industrial environmental management and eco-efficiency<sup>39</sup>. Other non-European agencies that are active in the environmental sector are the Japan, USAID and the World Bank. The Planning and Evaluation Department of the Japan International Cooperation Agency formulated a 'Country Profile on Environment' for Thailand in February 2002<sup>40</sup>. The USAID is running the 'United States-Asia Environmental Partnership (US-AEP)' programme<sup>41</sup>.

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<sup>38</sup> See the website of the Royal Danish Embassy in Bangkok:  
<http://www.ambbangkok.um.dk/en/menu/DevelopmentCooperation/ProgrammeComponents/>

<sup>39</sup> A strategy paper on focal area for Thailand can be found on:  
[http://www.gtzh.org/about/SSP\\_english\\_14-02-2002.zip](http://www.gtzh.org/about/SSP_english_14-02-2002.zip)

<sup>40</sup> This document can be found at:  
<http://www.jica.go.jp/english/global/env/profiles/pdf/05.pdf>

<sup>41</sup> See website: <http://www.usaep.org/index.html>

The World Bank launched a specific Thailand Country Development Partnership (CDP) on Environment in 2004. This CDP addresses 5 components<sup>42</sup>:

1. Air Quality – Reducing fine particulate matter in Bangkok (US\$ 2,5 million)
2. Water Quality – Promoting integrated watershed management in priority River Basins (US\$ 2,25 million)
3. Improving Waste Management (US\$ 1 million)
4. Global Environment Commitments (US\$ 50 million)
5. Strengthening Institutions and Instruments (US\$ 1,5 million)

The CDP aims to facilitate knowledge sharing and to provide policy advice on these medium term structural issues. The partnership approach focuses on diagnostic and monitoring work with a limited amount of implementation support.

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<sup>42</sup> Country Development Partnership (Environment), World Bank, p. 12  
[http://siteresources.worldbank.org/INTTHAILAND/Resources/333200-1089769609581/cdp-e\\_report.pdf](http://siteresources.worldbank.org/INTTHAILAND/Resources/333200-1089769609581/cdp-e_report.pdf)

## 5. Conclusions and recommendations

Thailand witnessed in the last decades a remarkable economic growth and a substantial decrease in poverty. Currently it is classified as a middle-income country. The fast economic growth, however, is often also seen as a major factor contributing to widespread environmental degradation and pollution.

The following issues have been identified as serious environmental concerns:

- Forest degradation
- Loss of biodiversity
- Coastal erosion
- Decline of marine fishery resources (quantity and diversity)
- Loss of agricultural land (soil erosion, salinization, contamination, etc.)
- Water management (decline of water sources and quality at all levels: surface water, groundwater and seawater)
- Air quality (dust pollution, ozone concentrations and carbon monoxide pollution)
- Waste management (solid and hazardous/chemical waste)
- Energy (efficiency and renewable energy)

To be able to effectively address these environmental concerns, one needs sound environmental policies and legislation. Also a sensible environmental institutional framework is required. Effective environmental management in Thailand is complicated by a number of challenges in the field of policy development:

- ✧ Ongoing revisions of environmental laws and regulations at the department level, and their approval in Parliament.
- ✧ Reorganisation processes within the Ministry of Natural Resources and Environment, as well as the integration of environmental policy making at the wider government level may not yet be finished.
- ✧ Conflicting visions, especially between community-based approaches versus a more technocratic approach to environmental policy making.

To strengthen the efforts to address the listed environmental concerns while taking into account the specific challenges at the policy level, the following priority actions may be recommended:

1. Capacity building of local and provincial authorities to enable them to effectively implement environmental policies.  
It is an overall trend in Thailand to decentralise the implementation of government policies towards the provincial and local levels. The importance of local people's participation in natural resource management needs to be underscored. Opportunities should be created to connect indigenous knowledge with modern science in a larger body of (alternative) research.
2. Application of the ecosystem approach as the basis for the further planning of the economic infrastructure in Thailand.  
Environmental interventions appear to be rather reactive, whereby each environmental concern is addressed as a more or less standalone

issue. Many specific environmental issues, however, are mutually linked aspects of wider underlying concerns. Such concerns may be better understood within the context of the different ecological zones distinguished in Thailand. In light of the overall decentralisation witnessed in the country, it would make therefore make sense to promote the application of the ecosystem approach in addressing environmental concerns.

3. Enhancement of community initiatives for the sustainable management of biodiversity and other natural resources.

Thailand has a vibrant environmental movement involved in community initiatives for the sustainable management of biodiversity and other natural resources. To promote the development of a larger body of indigenous knowledge and research, such experiences should be documented. By broadly sharing such experiences, their replication elsewhere in Thailand and in other countries of Southeast Asia may be encouraged. With its ambition to be a regional hub, Thailand is particularly well positioned to facilitate such initiatives.

4. Enhancement of the capacity of the environmental authorities at all levels to monitor and enforce the implementation of improved regulations regarding the sound management of water, air and waste.

To address environmental concerns, it is essential that environmental safeguards be more effectively taken into account in all sectors (e.g. industry, agriculture, transport). The new Ministry of Natural Resources and Environment (MONRE), and its 76 provincial departments, have a strengthened mandate to monitor and enforce the implementation of environmental regulations. It is vital that they obtain sufficient capacity to carry out this mandate.

5. Promotion of energy efficiency and renewable energy resources.

Thailand has limited energy sources of its own, due to which a large part of its energy consumption is accounted for by imports (around US\$ 14 billion in 2004 alone). The energy consumption is anticipated to grow annually with 6%, while the share of renewable energy is set to grow from only 0,5% to 8% of the total by 2011. In this setting energy efficiency and renewable energy resources are a top priority for the sustainable development of the country, which could set an important example for the wider region of Southeast Asia.

A higher priority for environmental protection and the sustainable development of natural resources is observed in Thailand. Since EU cooperation with Thailand needs to be based on mutual interests, the EU might consider a higher priority for the environmental sector. The new CEP could serve as a starting point to establish an improved and sustained policy dialogue between the Royal Thai Government and the EC on mainstreaming environmental concerns in their overall cooperation programmes. It could also prove a useful document in exploring improved coordination between the different EU member states in this regard.

## 6. Technical appendices

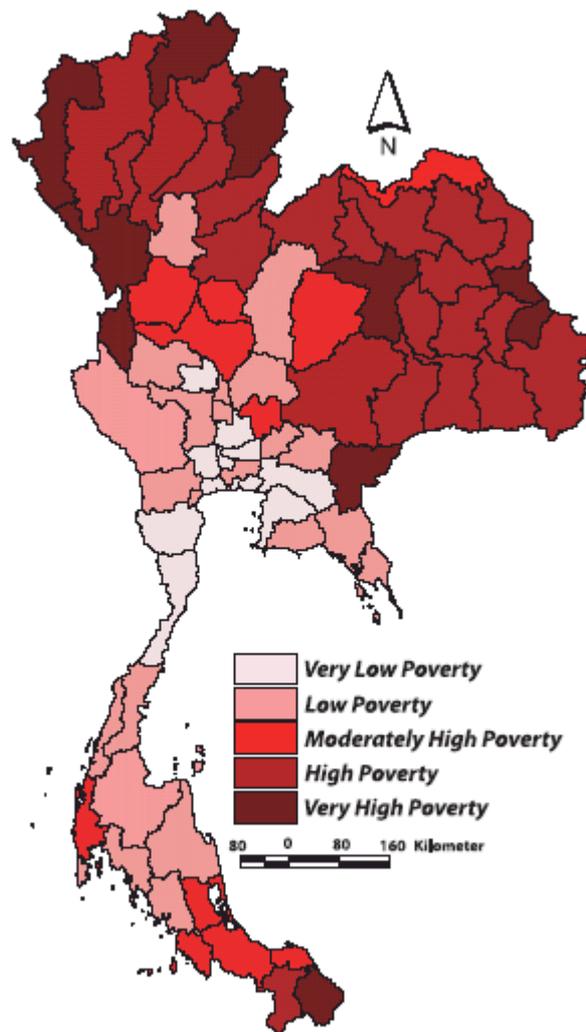
### 6.1 Environmental maps of Thailand



FOREST COVER, MARINE AND COASTAL HABITATS, COASTAL EROSION, AND PROTECTED AREAS

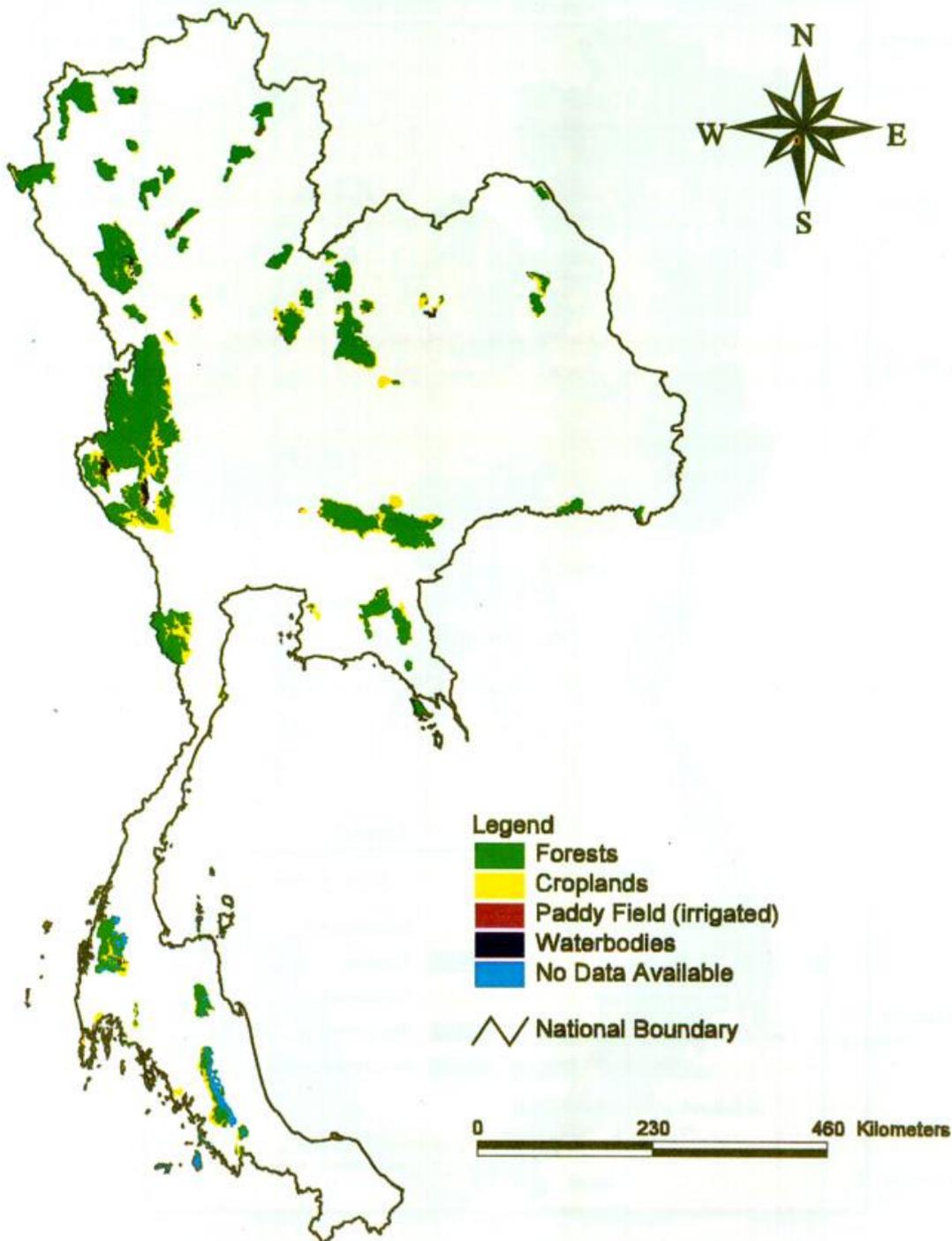


## Distribution of poverty across Thailand



Source: UNDP 2002

# Thailand Protected Areas and Land Cover Distribution 1992-93



UNEP Environment Assessment Program for Asia and the Pacific  
Bangkok, 1996

## 6.2 Reference list of environmental policy documents, statements and action plans, and other relevant technical information

- Asia-Pacific Centre for Environmental Law Report on Thailand, by Alan K.J. Tan, Faculty of Law, National University of Singapore  
<http://sunsite.nus.edu.sg/apcel/dbase/thailand/reportt.html#sec4>
- Background to the Office of Natural Resources and Environmental Policy and Planning (ONEP), MONRE  
[http://www.onep.go.th/eng/about\\_onep\\_1.asp](http://www.onep.go.th/eng/about_onep_1.asp)
- Country Development Partnership (Environment), World Bank, 2004  
[http://siteresources.worldbank.org/INTTHAILAND/Resources/333200-1089769609581/cdp-e\\_report.pdf](http://siteresources.worldbank.org/INTTHAILAND/Resources/333200-1089769609581/cdp-e_report.pdf)
- Country Guideline Paper – Thailand 2002-2005, UNDP Small Grants Programme for Operations to Promote Tropical Forests (SGP PTF)  
[http://www.sgpptf.org/docs/cguideline\\_thailand.pdf](http://www.sgpptf.org/docs/cguideline_thailand.pdf)
- Country Profile on Environment, Thailand, Planning and Evaluation Department, Japan International Cooperation Agency (JICA), February 2002  
<http://www.jica.go.jp/english/global/env/profiles/pdf/05.pdf>
- Economic Reform and Development of a Market Economy, Strategy Paper on Focal Area for Thailand, Bonn/Bangkok, February 2002  
[http://www.gtztth.org/about/SSP\\_english\\_14-02-2002.zip](http://www.gtztth.org/about/SSP_english_14-02-2002.zip)
- European Commission – Thailand, Cooperation activities report 2003-2004, p. 67-95
- Executive Summary – The State of Environment Report 2004, Office of Natural Resources and Environment Policy and Planning (MONRE)
- Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality, 1997 – 2016, Office of Environmental Policy and Planning, Ministry of Science Technology and Planning, 1997, ISBN 974-7577-01-1
- Thailand Environment Monitor 2004 (Biodiversity), World Bank  
<http://www.worldbank.or.th/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/THAILANDEXTN/0,,contentMDK:20194499~menuPK:333323~pagePK:141137~piPK:217854~theSitePK:333296,00.html>
- The Office of Natural Resources and Environmental Policy and Planning  
Written by: Kasemsun Chinnavaso, PhD, Deputy Secretary-General, April 2005
- UNDP-Thailand Environment Partnership Programme (UTEPP), July 2004  
<http://www.undp.or.th/focusarea/environment/documents/FinalUTEPP.20-07-04.doc>
- UNEP Land Cover Report Thailand 1997, p. 1  
<http://www.rrcap.unep.org/lc/cd/html/countryrep/thailand/report.doc>
- Website of the Department of Environmental Quality Promotion (DEQP):  
<http://www.deqp.go.th>
- Website of the Ministry of Energy:  
<http://www.energy.go.th>

- Website of the Ministry of Natural Resources and Environment:  
<http://www.monre.go.th>
- Website of the Office of Natural Resources and Environment Policy and Planning (ONEP):  
<http://www.onep.go.th>
- Website of the Pollution Control Department:  
<http://www.pcd.go.th>
- Website of the Royal Danish Embassy in Bangkok:  
<http://www.ambbangkok.um.dk/en/menu/DevelopmentCooperation/ProgrammeComponents/>

## **7. Administrative appendices**

### **7.1 Study methodology / work plan**

The consultant was environmental expert in a team of three evaluators charged with the Strategic Review and Programming Mission of the CSP (2002-2006) for Thailand. The Terms of Reference for the drafting of the CEP (see para. 7.6 below) were presented as Annex 2 to the Terms of Reference of the Strategic Review and Programming Mission.

The consultant went through both Terms of Reference. After a briefing meeting at the EC in Brussels, it was decided that the consultant would closely work together with the other team members in contributing to the Strategic Review and Programming Mission, while working rather independently in drafting the CEP.

Following the briefing meeting, a full week was devoted to a desk study. Relevant documents provided by the EC and the Environmental Help Desk of DG-RELEX were studied. Through the Internet several other documents relating to Thailand's environment were retrieved and studied. To conclude the desk-study a very first draft CEP was formulated.

For a period of 8 days fieldwork was conducted in Thailand. Organised by the EC Delegation, meetings were held with the following counterparts: (i) Government, (ii) Non-state actors, (iii) Other donors, especially Member States, (iv) Project and programme beneficiaries, and (v) Delegation staff. Most of these meetings focused on review questions in relation to the CSP, while the environmental expert focused on also obtaining environmental information relevant to the drafting of the CEP. Important additional documentation from relevant counterparts was obtained.

The period of fieldwork was followed by a reporting period at the residence of the consultant. This period was used to read and process all the documentation obtained, and to draft the CEP.

### **7.2 Consultants' itinerary**

<b>Date</b>	<b>Activity</b>
7-8 March 2005	Briefing and desk study at EC in Brussels
14-18 March 2005	Desk study
30 March – 7 April 2005	Field work
11-13 April 2005	Reporting
17-19 May 2005	Reporting

### 7.3 List of persons / organisations consulted with their affiliation and contact details

1

Ms. Delphine Brissonneau, Programme Officer  
Mr. Johan Cauwenbergh, First Counsellor  
Ms. Sutthiya Chantawanrangul  
Mr. Friedrich Hamburger, Ambassador

Delegation of the European Commission in Thailand  
Kian Gwan House 2, 19<sup>th</sup> floor  
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Bangkok 10330

2

Mr. René Treumer Andersen, Counsellor (Environment and Development)

Royal Danish Embassy  
10, Soi Sathom 1  
South Sathorn Road  
Bangkok 10120

3

Mr. Jean-Pierre Verbiest, Country Director

Asian Development Bank (ADB)  
Thailand Resident Mission  
25<sup>th</sup> Floor, M Thai Tower, All Seasons Place  
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Bangkok 10330

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Mr. Throne Hongladaromp  
Mr. Sarawut Kaewtathip

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Office of the Permanent Secretary  
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Bangkok 10330

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Mr. Schwann Tunhikorn, Director  
Ms. Kanjana Nitaya

Wildlife Conservation Bureau  
National Park, Wildlife and Plant Conservation Department (DNP)  
Ministry of Natural Resources and Environment  
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Mr. Padet Seejun

Department of Marine and Coastal Resources (DMCR)  
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92, Phaholyothin Road Soi 7, Phayathai  
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9

Mr. Kasemsun Chinnavaso, Deputy Secretary-General  
Mr. Warasak Phuangcharoen, Environmental Official  
Ms. Nisanat Sathirakul, Environmental Fund

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10

Ms. Prasertsuk Chamornmarn, Director

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Sam Sen Nai, Phayathai District  
Bangkok 10400

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Ms. Ravadee Prasertcharoensuk, Executive Secretary

**Sustainable Development Foundation**  
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Ladprao Road, Wangthonglang, Bangkok 10310

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Mr. Surachet Tamronglak, Director

Energy for Environment Foundation (E for E)  
14<sup>th</sup> Floor, Si Ayutthaya Building  
487/1 Si Ayutthaya Road, Ratchathewi  
Bangkok 10400

14

Mr. Yam Malla, Executive Director  
Ms. Somying Soontornwong, Manager **Thailand Collaborative Support Programme**  
Ms. Noelle O'Brien, Manager Capacity Building and Services  
Mr. Colin McQuistan, Country Programme Support Manager  
Mr. Michael Nurse, Manager Regional Analysis and Representation

Regional Community Forestry Training Centre for Asia and the Pacific (RECOFTC)  
Kasertsart University  
P.O. Box 1111  
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15

Mr. Sanit Aksornkoae, President  
Mr. Chaiyod Bunyagidj, Vice President

Thailand Environment Institute (TEI)  
16/151 Muang Thong Thani, Bond Street  
Tambon Bangpood, Amphur Pakkred  
Nonthaburi 11120

16

Mr. Peter Brinn  
Mr. Jean Paul Ledant

Help Desk Environment,  
AGRECO-GEIE  
Avenue Louise, 251, bte 23  
1050 Brussels, Belgium

## 7.4 List of documentation consulted

- Communities for Watershed Protection (Mae Khan, Thailand), Eds.: Dr. Mark Poffenberger & Dr. Kate Smith-Hanssen, Asia Forest Network, 2004, ISBN 971-93144-3-5
- Economic Reform and Development of a Market Economy, Strategy Paper on Focal Area for Thailand, Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (BMZ) / Department for Technical and Economic Cooperation (DTEC), Bonn/Bangkok, February 2004
- NESDB Economic Outlook 2005, Office of the National Economic and Social Development Board, March 2005.
- Office of Natural Resources and Environmental Policy and Planning, Ministry of Natural Resources and Environment, Thailand:
  - State of the Environment Thailand 2001
  - State of the Environment Thailand 2002
  - State of the Environment Thailand 2003
  - State of the Environment Thailand 2004
- Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality, 1997 – 2016, Office of Environmental Policy and Planning, Ministry of Science Technology and Planning, 1997, ISBN 974-7577-01-1
- Preliminary Assessment of Thailand's Environmental Law, Alan K.J. Tan, Asia-Pacific Centre for Environmental Law (APCEL), Faculty of Law, National University of Singapore, 2002
- The Best of National Parks of Thailand, National Park Office, National Park, Wildlife and Plant Conservation Department, May 2004, ISBN 974-92203-2-3
- UNDP Thailand:
  - Millennium Development Goals Report 2004, <http://www.undp.or.th/mdgr.htm>
  - Small Grants Programme for Operations to Promote Tropical Forests (SGP PTF), Country Guideline Paper Thailand 2002-2005
  - Thailand Environment Partnership Programme (UTEP), 2004
- UNEP (1997):
  - Country Profile
  - The State of the Environment
  - Land Cover Country Report
- United Nations, Country Profile WSSD, Thailand, 2002
- Various Environmental Fact Sheets, Earthtrends, World Resources Institute
- World Bank, Thailand:
  - Country Development Partnership – Environment
  - Environment Monitor:
    - 2001 – Water Quality
    - 2002 – Air Quality
    - 2003 – Solid and Hazardous Waste
    - 2004 – Biodiversity

## **7.5 Curriculum vitae of consultant**

Name: WIERTSEMA, Wiert Pauwel  
Birth date: 05 September 1955  
Residence: Amsterdam, The Netherlands  
Nationality: Netherlands

Mr. Wiertsema is founder and senior policy advisor of Both ENDS, a Dutch organisation that supports environmental NGOs and movements in the South in promoting sustainable development initiatives through capacity building, networking, information exchange and fund-raising. He has a vast experience in cooperating and networking with environment and development organisations, particularly in South, Southeast and East Asia.

He was member of the first Inspection Panel of the Asian Development Bank (ADB). He is member of the advisory board to the Netherlands based Humanist Institute for Co-operation with Developing Countries, Hivos. He is one of the founders of the Burma Centre Netherlands. He also worked for the evaluation department of the Netherlands Ministry of Foreign Affairs, the Inter-church Peace Council, the AMRO bank and Novib (Oxfam-NL). He is a social anthropologist by training.

## 7.6 Terms of Reference for the Country Environmental Profile

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### Draft Terms of Reference

# Country Environmental Profile of Thailand and Malaysia

## 1. Objective

The objective of a Country Environmental Profile is to identify and assess environmental issues to be considered during the preparation of a Country Strategy Paper which will directly or indirectly influence EC cooperation activities.

The Country Environmental Profile will provide decision-makers in Malaysia and Thailand and in the European Commission with clear information on the key environmental challenges and actors, as well as strategies and programmes designed to address them. This information will ensure that the EC cooperation strategies for the period 2007-2013 systematically integrate environmental considerations into the selection of priority focal areas and also establish the necessary environment safeguards for all cooperation activities undertaken in Thailand and Malaysia.

The Profile will establish the key linkages between the environment and poverty reduction. It will constitute an important source of baseline information and contribute to focusing political dialogue and cooperation with Thailand and Malaysia on key areas of concern such as sustainable development as well as raising awareness among policy-makers.

## 2. Results

The assessment will deliver the following results:

- An assessment of the environment identifying key environmental factors influencing the Thailand's and Malaysia's development and the responses to these.
- An assessment of national environmental policy and legislation; institutional structures and capacity, and the involvement of civil society in environmental issues.
- An assessment of past and anticipated future trends of environmental indicators.
- An overview of past and ongoing international cooperation in the environment sector.
- Recommendations and, as far as possible, guidelines or criteria for mainstreaming environmental concerns in priority development areas. These recommendations should support the preparation of the Country Strategy Papers and, as far as possible, include guidelines or criteria to be used for environmental mainstreaming in subsequent phases of the operation cycle.

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### **3. Issues to be assessed**

The consultants will assess the following issues:

#### **3.1. The state of the environment**

Including key issues (current status, pressures and trends) and environmental performance in meeting objectives/plans and targets in the following areas:

- **Physical environment** including climate (and climate change issues), air quality, water quality and resources (including the marine environment), land quality and resources and natural disaster risks.
- **Biological conditions, biodiversity, ecology and nature conservation** including rare, endangered and endemic ecosystems, habitats and species, and biological resources of cultural, social, or economic importance.
- **Socio-economic conditions, socio-cultural conditions and human health**, especially socio-economic conditions in relation to environmental issues (public health, vulnerability to disasters, access to natural resources and commodities); other issues should include, as relevant, archaeology and cultural heritage, values and aspirations, recreational, landscape and visual aspects.

Reference should be made to local and internationally recognised environmental indicators and quality standards to establish a consistent basis for comparison of environmental and sustainable development performance. The indicators selected should facilitate future monitoring and evaluation of the extent of environmental integration and be useful for future environmental assessments. Particular attention should be paid to the rate of change of indicators where information is available.

The causes of the environmental situation and trends and their consequences on human well-being and sustainable development should be presented.

If appropriate, the information could be organized according to eco-geographical subdivisions with the scale (regional, national, local) of the issues indicated.

#### **3.2. Environmental policy and legislation**

A brief description and a review of strengths and weaknesses of the following:

- National policies, environmental strategies and action plans.
- Legislation, current and in preparation, by the national institutions covering development control, requirements for EIA/SEA, environmental auditing, sustainable use or conservation of natural resources, pollution control, land tenure and land reform. The effectiveness of legislation enforcement. The provision for public participation in environmental issues, procedures for public participation in development control and environmental planning and public access to environmental information.

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- National approaches to key international or regional environmental conventions such as those concerning climate change, biodiversity and desertification.

### **3.3. Environmental institutional framework**

- The Institutional structures and responsibilities of the authorities dealing with environmental issues in policy making, legislation, planning, environmental protection, monitoring and enforcement.
- The capacity and financial resources of authorities responsible for environmental management.
- The extent and quality of protected areas (and, if relevant, other land use measures).

### **3.4. Integration of environmental concerns into the main sectors**

The assessment should examine the integration of environmental concerns in the following sectors:

- agriculture, fisheries and forestry;
- industry, mining and oil extraction;
- services including transport, utilities (power, energy and water) and tourism.

### **3.5. EU cooperation with the Country from an environmental perspective**

This should cover experience relating to interventions with specific environmental objectives as well as the integration of environment into other programmes, including the application of environmental assessment procedures. Where information is available the environmental impacts of EU cooperation or potential risks should be identified for the benefit of future programmes. Lessons should be drawn from the existing evaluations.

This should also cover relevant aspects linked with the participation of Thailand and Malaysia in the EC's Forest Law Enforcement, Governance and Trade initiative (FLEGT).

### **3.6. Cooperation funded by other agencies from an environmental perspective**

This should cover involvement of other funding agencies and their experience in the Country and include a list of recent and planned projects/programmes, with an environmental focus or anticipated impact.

## ***4. Conclusions and recommendations***

The key aspects of the state of the environment in the Country including policy and institutional constraints and challenges should be clearly stated. This should be presented in a matrix, crossing environmental concerns and sectors (or sets of activities).

Based on a comprehensive assessment of available information and consultation with stakeholders recommendations on how best to address environmental issues should be elaborated. Individual recommendations should be clearly articulated, justified and grouped according to type. In

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developing recommendations existing Country Strategy Papers provide general guidance on the style and detail required.

The relative priority of the recommendations and an indication of the challenges to their implementation should be given.

Recommendations are likely to cover direct environmental interventions as well as the provision of environmental safeguards for other activities.

Recommendations should also be made as to how best the Commission can mainstream environmental issues into the next cycle of country strategy papers.

The constraints to preparing the profile caused by limited information should be described, and an evaluation of the need for additional studies, such as Strategic Environment Assessments or others, should be made.

## **5. Work plan**

The work plan should include but not necessarily be limited to the following activities:

- Consultation with EC country desk officers and other relevant officials, EC Delegations in Malaysia and Thailand, a selection of national and local authorities, key international funding agencies operating in the countries, plus key national, international civil society actors operating in the environmental field.
- Review of previous Country Strategy Papers; evaluation reports with respect to environmental issues on development and economic co-operation produced by government, EC or other agency sources.
- Review of environmental literature, evaluation reports, environmental policy and legislation framework, legislation and regulations and enforcement relating to environmental issues, action plans, and progress in implementation.
- Review of environmental performance indicators selecting appropriate indicators from those suggested by organisations such as EEA/OECD/Eurostat.
- Field visits to sites of key environmental concern.

## **6. Reporting**

The study conclusions must be presented in the Country Environmental Profile report in the format given in Appendix 1.

## **7. Appendices**

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I. Report format for a Country Environmental Profile

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**Standard Report Format**

# Report Format for a Country Environmental Profile

Maximum length (excluding appendices) 40 pages.

The following text appears on the inside front cover of the report:

*This report is financed by the European Commission and is presented by [name of consultant] for the ... (National Institution) and the European Commission. It does not necessarily reflect the opinion of the ... or the European Commission.*

## **1. Summary**

This is an executive summary of the key chapters of the Country Environmental Profile clearly indicating priority challenges and areas for action at the country level.

## **2. State of the environment**

This chapter will provide an overview of the context and general state of environmental conservation and management in the Country – including questions of fundamental rights and indigenous rights. More specifically, it will include analysis of the:

- Physical environment;
- Biological conditions, biodiversity, ecology and nature conservation;
- Socio-economic and socio-cultural conditions and human health;

This chapter will also set out an assessment of the state of the environment including key issues as outlined in Section 3.1 of the TOR.

## **3. Environmental policy, legislative and institutional framework**

This chapter will provide an assessment of the Country's environmental policy, regulatory and institutional framework for pollution control, natural resource use and sustainable development. It will be divided into sections as follows:

### **3.1. Environmental policy and legislation**

This chapter must include an assessment of the key issues outlined in Section 3.2 of the TOR.

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### **3.2. Environmental institutional framework**

This chapter should review the roles and capabilities of the main national institutions as outlined in Section 3.3 of the TOR.

### **3.3. Integration of environmental concerns into the main sectors**

This section must include an assessment of the key issues as outlined in Section 3.4 of the TOR.

## ***4. EU and other donor cooperation with the Country from an environmental perspective***

This section must include EC and other donor assistance within the Country from an environmental perspective covering the issues outlined in Sections 3.5 and 3.6 of the TOR.

## ***5. Conclusions and recommendations***

This chapter will present the conclusions on the state of the environment in the Country and make recommendations for priority actions. The key environmental issues identified during the assessment should also be presented in a summary table form. Recommendations will also be made as to how best the Commission can mainstream environmental issues into the new country strategy papers.

## ***6. Technical appendices***

- I. Environmental maps of the Country
- II. Reference list of environmental policy documents, statements and action plans, and other relevant technical information.

## ***7. Administrative appendices***

- I. Study methodology/work plan (1–2 pages)
- II. Consultants' Itinerary (1–2 pages)
- III. List of persons/organisations consulted with their affiliation and contact details (1–2 pages)
- IV. List of documentation consulted (1–2 pages)
- V. Curricula vitae of the consultants (1 page per person)
- VI. Terms of Reference for the Country Environmental Profile