

## **Annex 1.1 List of Law and Regulation Related to Environment in Vietnam**

### 1. Primary Legislation on Environment

- Environmental Protection Law 1994
- Decree on Guiding Implementation for Environmental Protection Law (Gov. Decree No. 175-CP, 1994)
- Decree on Sanction for Administrative Violations for Environmental Protection Law (Gov. Decree No. 26-CP, 1996)
- Decree No. 22/CP on Responsibilities, Authority and Organisation of the Ministry of Science, Technology and Environment (22 May, 1993)
- Instructions on Strengthening Environmental Protection in the period of Industrialization and Modernization (No. 36-CT/TW, 1998, Vietnam Communist Party)

### 2. Specific Legislation on Environment

#### (1) Pollution control

- Air Quality, Ambient Standards (TCVN 5937, 1995)
- Air Quality, Hazardous Substance Standards (TCVN 5938, 1995)
- Air Quality, Industrial Standards for Inorganic Substances (TCVN 5939, 1995)
- Air Quality, Industrial Standards for Organic Substances (TCVN 5940, 1995)
- Standards for Noise in Public and Residential Areas (TCVN5945, 1995)
- Standards for Noise on Road Motor Vehicle (TCVN5948, 1995)
- Soil Quality Standards on Pesticide Residue Limits (TCVN5941, 1995)
- Industrial Waste Water Discharge Standards (TCVN5945, 1995)
- Water Quality Standards; Coastal Water (TCVN5943, 1995)
- Water Quality Standards; Groundwater (TCVN5944, 1995)
- Water Quality Standards; Surface Water (TCVN5942, 1995)

#### (2) Nature conservation

- Law on Forest Protection and Development (12 August 1991)
- Regulations on management regulations for production forests, protection forests and Special-use Forests: attached to Decision No. 1171/QD (November 1986)
- Decree on endangered species and management and conservation mechanisms (No. 18/HDBT, 17 January 1992)
- Decision on use of open land, bare hills, forest, coastal alluviums and water bodies (No. 327/CT, 15 September 1992)
- Directive on protection and management of endangered plant and animal species (No. 130/TTg, 27 March 1993)
- Directive on urgent measures to protect and develop wild animal species (No. 359/TTg, 29 May 1996)
- Official Letter on strengthening wildlife protection and development (No. 2472/NN-KL-CV, 24 July 1996)
- Decree on allocation and lease of forest land to organisations, households and individuals for long-term forestry purposes (163/ND-CP, 16 November 1999)
- Decision on the management of Special-Use Forest, protection forest and production forest (No. 08/QD-TTg, 11 January 2001)

#### (3) Environmental Impact Assessment (EIA)

- EIA and Licensing, Decision on Regulations and Appraisal Council (MOSTE Decision No. 1806/QD-MTg, 1994)
- EIA and Licensing, Regulations and Appraisal Council (MOSTE Decision No. 1807/QD-MTg, 1994)
- EIA Instruction for Guiding Operating Units (MOSTE Instr. No.1420/QD-MTg, 1994)
- EIA Instruction for Report to the Direct Foreign Investment Project (MOSTE Instr. No. 715/QD-MTg, 1995)
- Temporary Guidance for Environmental Impact Assessment of Technical-Economic Project, No.1485/MTg, 1993
- Circulation No. 490/1998/TT-BKHCMNT, MOSTE, Guiding the Preparation and Evaluation of AEI (EIA) Reports for Investment Projects

#### (4) Others

- Law on Water Resources (January 1999)
- Law on Minerals (20 March 1996)
- Law on Fishery (draft)
- Law on Land, 1993
- Decree No. 22/1998/ND-CP (Compensation for lost property by State's expropriation)

- Circulation No. 145/1998/TT-BTC, Guidelines on the Implementation of the Decree 22/1998/ND-CP, Ministry of Finance (Extracts)
- Master Guidelines and Policies to Utilize Unoccupied Land, “Barren”, Hilly Areas, Forests, Denuded, Beaches and Waterfront (COM Decree No. 327, 1992)

**Annex 1.2 Ambient Air Quality Standard of Vietnam (TCVN 5937, 1995)**

Unit: mg/m<sup>3</sup>

No.	Parameter	Standards		
		1 hour-averaging	8 hour-averaging	24 hour-averaging
1	CO (carbon monoxide)	40	10	5
2	NO <sub>2</sub> (nitrogen dioxide)	0.4	--	0.1
3	SO <sub>2</sub> (sulfur dioxide)	0.5	--	0.3
4	Lead Particulate	--	--	0.005
5	O <sub>3</sub> (ozone)	0.2	--	0.06
6	SPM (Suspended particulate matter)	0.3	--	0.2

**Annex 1.3 Inorganic Substances Standard on Industrial Emission Gases of Vietnam (TCVN 5939, 1995)**

Unit: mg/m<sup>3</sup>

No.	Parameter and Substance	Limitation Value	
		A	B
1	Particulate in smoke of:		
	- heating of metals	400	200
	- asphalt concrete plant	500	200
	- cement plant	400	100
	- other sources	600	400
2	Dust		
	- containing silica	100	50
	- containing asbest	none	none
3	Antimony	40	25
4	Arsenic	30	10
5	Cadmium	20	1
6	Lead	30	10
7	Copper	150	20
8	Zinc	150	30
9	Chloride	250	20
10	HCl	500	200
11	Fluoride, HF (any source)	100	10
12	H <sub>2</sub> S (hydrogen sulfide)	6	2
13	CO(carbon monoxide)	1500	500
14	SO <sub>2</sub> (sulfur dioxide)	1500	500
15	NO <sub>x</sub> (nitrogen oxides) (any source)	2500	1000
16	NO <sub>x</sub> (nitrogen oxides) (acid manufacturing)	4000	1000
17	H <sub>2</sub> SO <sub>4</sub> (sulfuric acid) (any source)	300	35
18	HNO <sub>3</sub> (nitric acid)	2000	70
19	Ammonia	300	100

Note: Values in the column A are applied to the emission gasses of existing sources. Values in the column B are applied to all sources imposed from the date which stated by environmental authority. The limit values of concentrations of substances dusts in emission gasses or smokes created by particular sources (e.g. cement production, oil refinery, vehicle exhaust, etc.) are specified in separate standards.

**Annex 1.4 Noise Standard in Public and Residential Areas of Vietnam (TCVN 5949, 1995)**

Unit: dB(A)

No.	Area	Period of Time		
		6:00 – 18:00	18:00 – 22:00	22:00 – 6:00
1	Quiet areas: - Hospitals - Libraries - Sanatoria - Kindergartens and schools	50	45	40
2	Residential areas: - Hotels - Houses, apartment houses, etc.	60	55	45
3	Commercial and service areas	70	70	50
4	Small industrial factories intermingling in residential areas	75	70	50

**Annex 1.5 Standards of Road Motor Vehicle Noise of Vietnam (TCVN 5948, 1995)**

Unit: dB(A)

No.	Category of Vehicles	Max. noise level
1	Motorcycles, cylinder capacity (CC) of the engine does not exceed 125 cm <sup>3</sup>	80
2	Motorcycles, CC of the engine exceeds 125 cm <sup>3</sup>	85
3	Motorized tricycles	85
4	Cars, taxi, passenger vehicle for the carriage of not more than 12 passengers	80
5	Passenger vehicle constructed for the carriage of more than 12 passengers	85
6	Truck, permitted maximum weight does not exceed 3.5 tons	85
7	Truck, permitted maximum weight exceeds 3.5 tons	87
8	Truck, engine is more than 150 kW	88
9	Tractor, or any other truck not elsewhere classified or described in this column of the table	90

**Annex 1.6 Surface Water Quality Standard of Vietnam (TCVN 5942, 1995)**

No.	Parameter and Substance	Unit	Limitation Value	
			A	B
1	pH value	--	6 – 8.5	5.5 - 9
2	BOD <sub>5</sub> (20°C)	mg/l	<4	<25
3	COD	mg/l	<10	<35
4	Dissolved oxygen	mg/l	≥6	≥2
5	Suspended solids	mg/l	20	80
6	Arsenic	mg/l	0.05	0.1
7	Barium	mg/l	1	4
8	Cadmium	mg/l	0.01	0.02
9	Lead	mg/l	0.05	0.1
10	Chromium, Hexavalent	mg/l	0.05	0.05
11	Chromium, Trivalent	mg/l	0.1	1
12	Copper	mg/l	0.1	1
13	Zinc	mg/l	1	2
14	Manganese	mg/l	0.1	0.8
15	Nickel	mg/l	0.1	1
16	Iron	mg/l	1	2
17	Mercury	mg/l	0.001	0.002
18	Tin	mg/l	1	2
19	Ammonia (as N)	mg/l	0.05	1
20	Fluoride	mg/l	1	1.5
21	Nitrate (as N)	mg/l	10	15
22	Nitrite (as N)	mg/l	0.01	0.05
23	Cyanide	mg/l	0.01	0.05
24	Phenol compounds	mg/l	0.001	0.02
25	Oil and grease	mg/l	not detectable	0.3
26	Detergent	mg/l	0.5	0.5
27	Coliform	MPN/100ml	5000	10000
28	Total pesticides (except DDT)	mg/l	0.15	0.15
29	DDT	mg/l	0.01	0.01
30	Gross alpha activity	Bq/l	0.1	0.1
31	Gross beta activity	Bq/l	1.0	1.0

Note: Values in the column A are applied to the surface water using for source of domestic water supply with appropriate treatments.

Values in the column B are applied to the surface water using for the purposes other than domestic water supply. Quality criteria of water for aquatic life are specified in a separate standard.

### Annex 1.7 Coastal Water Quality Standard of Vietnam (TCVN 5945, 1995)

No.	Parameter and Substance	Unit	Limitation Value		
			Bathing and Recreation Area	Aquatic Cultivation Area	Others
1	Temperature	°C	30	--	--
2	Odor	--	unobjectionable	--	--
3	pH value	--	6.5 – 8.5	6.5 – 8.5	6.5 – 8.5
4	Dissolved oxygen	mg/l	≥4	≥5	≥4
5	BOD <sub>5</sub> (20°C)	mg/l	<20	<10	<20
6	Suspended solid	mg/l	25	50	200
7	Arsenic	mg/l	0.05	0.01	0.05
8	Ammonia (as N)	mg/l	0.1	0.5	0.5
9	Cadmium	mg/l	0.005	0.005	0.01
10	Lead	mg/l	0.1	0.05	0.1
11	Chromium (VI)	mg/l	0.05	0.05	0.05
12	Chromium (III)	mg/l	0.1	0.1	0.2
13	Chloride	mg/l	--	0.01	--
14	Copper	mg/l	0.02	0.01	0.02
15	Fluoride	mg/l	1.5	1.5	1.5
16	Zinc	mg/l	0.1	0.01	0.1
17	Manganese	mg/l	0.1	0.1	0.1
18	Iron	mg/l	0.1	0.1	0.3
19	Mercury	mg/l	0.005	0.005	0.01
20	Sulfide	mg/l	0.01	0.005	0.01
21	Cyanide	mg/l	0.01	0.01	0.02
22	Phenol compounds	mg/l	0.001	0.001	0.002
23	Oil and fat film	mg/l	none	none	0.3
24	Oil and fat suspension	mg/l	2	1	5
25	Total pesticides	mg/l	0.05	0.01	0.05
26	Coliform	MPN/100ml	1000	1000	1000

### Annex 1.8 Ground Water Quality Standard of Vietnam (TCVN 5944, 1995)

No.	Parameter and Substance	Unit	Limitation Value
1	pH value	--	6.5 – 8.5
2	Color	Pt - Co	5 – 50
3	Hardness (as CaCO <sub>3</sub> )	mg/l	300 – 500
4	Total solids	mg/l	750 – 1500
5	Arsenic	mg/l	0.05
6	Cadmium	mg/l	0.01
7	Chloride	mg/l	200 – 600
8	Lead	mg/l	0.05
9	Chromium (VI)	mg/l	0.05
10	Cyanide	mg/l	0.01
11	Copper	mg/l	1
12	Fluoride	mg/l	1
13	Zinc	mg/l	5
14	Manganese	mg/l	0.1 – 0.5
15	Nitrate	mg/l	45
16	Phenol compound	mg/l	0.001
17	Iron	mg/l	1 – 5
18	Sulfate	mg/l	200 – 400
19	Mercury	mg/l	0.001
20	Selenium	mg/l	0.01
21	Fecal coli	MPN/100ml	not detectable
22	Coliform	MPN/100ml	3

**Annex 1.9****Industrial Waste Water Discharge Standard of Vietnam(TCVN 5945, 1995)**

No.	Parameter and Substance	Unit	Limitation Value		
			A	B	C
1	Temperature	°C	40	40	45
2	pH value	--	6 – 9	5.5 – 9	5 - 9
3	BOD <sub>5</sub> (20°C)	mg/l	20	50	100
4	COD	mg/l	50	100	400
5	Suspended solids	mg/l	50	100	200
6	Arsenic	mg/l	0.05	0.1	0.5
7	Cadmium	mg/l	0.01	0.02	0.5
8	Lead	mg/l	0.1	0.5	1
9	Residual Chlorine	mg/l	1	2	2
10	Chromium (VI)	mg/l	0.05	0.1	0.5
11	Chromium (III)	mg/l	0.2	1	2
12	Mineral oil and fat	mg/l	not detectable	1	5
13	Animal-vegetable fat and oil	mg/l	5	10	30
14	Copper	mg/l	0.2	1	5
15	Zinc	mg/l	1	2	5
16	Manganese	mg/l	0.2	1	5
17	Nickel	mg/l	0.2	1	2
18	Organic phosphorous	mg/l	0.2	0.5	1
19	Total phosphorous	mg/l	4	6	8
20	Iron	mg/l	1	5	10
21	Tetrachlorethylene	mg/l	0.02	0.1	0.1
22	Tin	mg/l	0.2	1	5
23	Mercury	mg/l	0.005	0.005	0.01
24	Total nitrogen	mg/l	30	60	60
25	Trichlorethylene	mg/l	0.05	0.3	0.3
26	Ammonia (as N)	mg/l	0.1	1	10
27	Fluoride	mg/l	1	2	5
28	Phenol	mg/l	0.001	0.05	1
29	Sulfide	mg/l	0.2	0.5	1
30	Cyanide	mg/l	0.05	0.1	0.2
31	Coliform	MPN/100ml	5000	10000	--
32	Gross alpha activity	Bq/l	0.1	0.1	--
33	Gross beta activity	Bq/l	1	1	--

Note: Discharge standards applying for waste waters produced by specific industry such as paper, textile or oil industries are specified in a separate standard, respectively.

Industrial waste waters containing the values of parameters and concentrations of substances which are equal to or lower than the values specified in the column A may be discharged into the water bodies using for sources of domestic water supply.

Industrial waste waters containing the values of parameters and concentration of substances which are lower than or equal to those specified in the column B are discharged only into the water bodies using for navigation, irrigation purposes or for bathing, aquatic breeding and cultivation, etc.

Industrial waste waters containing the values of parameters and concentrations of substances which are greater than those specified in the column B but not exceeding those specified in the column C are discharged only into specific water bodies permitted by authority agencies.

Industrial waste water containing the values of parameters and concentrations of substances which are greater than those specified in the column C shall not be discharged into surroundings.

## **Annex 1.10 List of projects whose EIA reports must be submitted for appraisal**

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1. Works located in or adjacent to environmentally sensitive areas, nature reservation areas, tourist sites, historical and cultural sites of national and international importance.
2. Planning:
  - 2.1 Regional Development;
  - 2.2 Sectoral Development;
  - 2.3 Urban Areas;
  - 2.4 Industrial Zones/Export-Processing Zones;
3. In the field of oil and gases:
  - 3.1 Exploitation;
  - 3.2 Processing;
  - 3.3 Transportation;
  - 3.4 Oil and Petroleum Depot (with capacity of 20,000 m<sup>3</sup> and higher);
4. Cast-iron Steel and non-ferrous metal factories (with capacity of 10,000 ton of product/year and higher).
5. Leather tanning (with capacity of 10,000 products/year and higher).
6. Textiles factories (with capacity of 20 million m of cloth/year and higher).
7. Paint factories (with capacity of 1,000 ton of product/year and higher).
8. Sugar factories (with capacity of 100,000 ton of sugar-cane/year and higher).
9. Food-processing factories (with capacity of 1,000 ton of product/year and higher).
10. Frozen food factories (with capacity of 1,000 ton of product/year and higher).
11. Thermo-electricity factories (with capacity of 200 MW/year and higher).
12. Pulp and paper factories (with capacity of 40,000 ton of pulp/year and higher).
13. Cement factories (with capacity of 1,000,000 ton of cement/year and higher).
14. Tourist and entertainment sites (with area of 100 ha or larger).
15. Airports.
16. Ports (for ships of tonnage of 10,000 DWT or higher).
17. Rail-ways, highways for automobiles (from Class I to Class III according to Standard TCVN 4054-85) that are longer than 50 km.
18. Hydro-power plants (with reservoirs of capacity of 100 million m<sup>3</sup> or higher).
19. Irrigation works (for working, drainage, prevention of sea water, etc. with area of 10,000 ha or larger).
20. Waste treatment (concentrated waste water treatment complex with capacity of 100,000 m<sup>3</sup>/(day and night) or higher; landfill site for soil waste).
21. Exploitation of minerals and construction materials (total volume of minerals and soil and stone of 100,000 m<sup>3</sup>/year or higher).
22. Forestry farm for wood exploitation (all).
23. Aqua-culture (total area of 200 ha or larger).
24. Production, warehousing, and use of hazardous chemicals (all).
25. Atomic Reactors (all).

*\*The above projects, if to be invested in IZ/EPZ that have been granted the decision approving EIA Report will be registered for the Environmental Standard Acceptable Certificate on the basis of self-prepared and analyzed EIA Report.*

## **Annex 3.1 DRAFT NATIONAL ENVIRONMENTAL ACTION PLAN: 2002-2007**

### **I. PROGRAMS FOR PREVENTING POLLUTION**

#### **1.1. Program 1- Prevention of Industrial Pollution**

*a. Activities:*

To integrate environmental plans into the plans for industrial development; study and take measures for better pollution prevention; improve the mechanisms for pollution control; institute system of issuing certificates of attainment of environmental standards; inventory and classify industrial units according to their pollution loads; formulate and apply measures for environmental management (coercion, economic tools, pressure from the community etc).

*b. Expected Results:*

- Environmental considerations integrated into industrial development plans;
- Lists of industrial units classified on the basis of their polluting extent and concrete solutions for dealing with each group of units;
- System of policies for preventing industrial pollution which are made mandatory through legal documents.

*c. Monitoring/Collaborating Bodies:*

MONRE in collaboration with the Ministries of Industry, Construction and other ministries/ sectors and local authorities.

#### **1.2. Program 2 - Reduction of Greenhouse Gas Discharge:**

*a. Activities:*

To assess the situation of greenhouse gas discharge from exploitation, production and utilization activities; formulate strategy for developing industries that discharge less greenhouse gases; propose policies and strategies for some potential high greenhouse gas emitting industries and sectors (such as energy, mining, agriculture) and conduct periodic tests; institute policies and mechanisms for managing environment, clean development mechanisms, etc.

*b. Expected results:*

- Proposal submitted to Government to promulgate a strategy for developing and promoting industries that discharge less greenhouse gases;
- Promulgation of policies and mechanisms for environmental management and control of greenhouse gases;

- Tests in the energy, mining and agriculture sectors.

*c. Monitoring/Collaborating Bodies:*

The MONRE, Ministries of Industry, Agriculture and Rural Development, Aqua-products, Research centers and institutes nation-wide.

### **1.3. Program 3 - Cleaner Production**

*a. Activities:*

To assess the real situation of application of cleaner production technologies in Vietnam; formulate strategy for introduction of cleaner production technology in Vietnam; propose policies for encouraging the application of cleaner production technology in different development fields (industry, agriculture, trade and tourism); propose financial mechanisms for supporting the application of cleaner production technology in Vietnam; set up pilot projects of cleaner production technology in the above mentioned fields; strengthen the training of personnel; and build institutes and research centers specialized in cleaner production technology for supporting business enterprises in applying cleaner production technology.

*b. Expected Results:*

- Development and implementation of a strategy for applying cleaner production technology;
- Promulgation of financial policies and mechanisms for supporting the application of cleaner production technology;
- Improvement of demonstration pilot projects in some fields.

*c. Monitoring and Collaborating Bodies:*

MONRE in collaboration with the Ministries of Industry, Agriculture and Rural Development, institutes, research centers and provincial Departments of Science, Technology and Environment.

### **1.4. Program 4 - Strengthening and extending International Cooperation**

*a. Activities:*

To strengthen the participation in forums related to environment, and sustainable development in the region and the world; sign and approve international agreements and conventions on environment and organize the implementation of these agreements and conventions in Vietnam; participate in regional and global cooperation programs; strengthen the training of Vietnamese workers in environmental management through international cooperation.

*b. Expected Results:*

- Cooperation with neighboring countries in solving environmental problems on the sea, along rivers and common borders and environmental problems of regional significance.
- Strengthening of cooperation with advanced countries for assistance, loans and technical support.
- Exchange of experience in environmental management with foreign experts.

*c. Monitoring Body:*

The MONRE, in collaboration with related ministries and sectors.

**1.5. Program 5 - Support for State and Private Enterprises to protect Environment within their sphere of activities**

*a. Activities:*

To support enterprises in applying environmental management systems following ISO 14001; support enterprises to invest in building their own environmental monitoring system; support renewable technology and equipment for reducing pollution and treating wastes.

*b. Expected Results:*

- 1000 enterprises will receive ISO 14001 certificate;
- Environmental monitoring systems set up in enterprises;
- Necessary waste treatment systems are established in enterprises.

*c. Monitoring/Collaborating Bodies:*

MONRE in collaboration with the Ministries of Finance, Planning and Investment, enterprises and local authorities.

**1.6. Program 6 - Environmental Management in Economic Zones of key importance and Sensitive Zones**

*a. Activities:*

To formulate environmental strategy, policies, action plans and regulations for 3 economic zones of key importance like oil, gas, coal exploitation and hydroelectricity; set up environmental monitoring systems in key important economic zones; formulate standards, and evaluation methods for each zone; raise environmental knowledge and managerial capability in each zone; formulate the systems of economic tools for environmental protection in each zone; introduce incentive policies in taxation, credit, pricing in zones where pollution is controlled, clean energy is used, wastes are treated and re-utilized; build environmental laboratories in economic zones of key importance.

*b. Expected Results:*

- A system of legal documents (strategy, policies) is formulated and promulgated;
- A system of economic tools for environmental management such as fees, charges levied on wastes is built up and implemented;
- knowledge on environmental protection is enhanced, the control & inspection capability is strengthened;
- The institutions responsible for environmental protection in economic zones and sensitive zones are established.

*c. Monitoring Body:*

MONRE in collaboration with the Ministry of Finance, related ministries, sectors and local authorities.

## **II. PROGRAMS FOR ENVIRONMENTAL IMPROVEMENTS**

### **2.1. Program 7 - Environmental Greening**

*a. Activities:*

Forestation (5 million ha reforestation program with approved budget); greening in urban areas and industrial zones; planting trees along the roads.

*b. Expected results:*

- The forest coverage reaches 40% of total land area;
- In urban areas and industrial zones, the per capita green cover reaches 15-20 square meters;
- Trees are planted all along the national roads (6000 km).

*c. Monitoring/Collaborating Bodies:*

City and Provincial People's Committees in collaboration with the Ministry of Industry and the Ministry of Transport and Communications.

### **2.2. Program 8 - Solutions for highly polluting enterprises, businesses and services units**

*a. Activities:*

To survey, investigate and list highly polluting enterprises, businesses and service units; formulate solutions and organize their implementation; formulate and promulgate socio-economic policies and mechanisms for thoroughly treating enterprises and business units which seriously pollute; invest in building medium-and small-sized industrial zones.

*b. Expected Results:*

- Socio-economic policies and mechanisms are promulgated for serving the program of thorough treatment of highly polluting units;
- Enterprises, business units and hospitals that seriously pollute are thoroughly treated as planned.

*c. Monitoring/Collaborating Bodies:*

City and Provincial People's Committees in collaboration with the Ministry of Industry, Ministry of Planning and Investment, other related ministries and sectors.

**2.3. Program 9 - Building treatment plants and disposal grounds for wastes, including hazardous and toxic wastes**

*a. Activities:*

To establish a system of dumps (land fills) for burying solid wastes and units for treating and processing wastes; plan and build centers for treating hazardous and toxic wastes etc.

*b. Expected Results:*

- The system of dumps for burying solid wastes are built in all cities and provinces;
- The system of treatment plants for solid wastes are built in all big cities;
- Centers for treating hazardous and toxic wastes are established.

*c. Monitoring/Collaborating Bodies:*

City and Provincial People's Committees in collaboration with the MONRE, Ministry of Construction, Ministry of Industry etc.

**2.4. Program 10 - Improvement of water courses, lakes, ponds, canals and other seriously polluted places**

*a. Activities:*

To improve water courses, lakes, ponds, canals and places which have been seriously polluted.

*b. Expected results:*

- Lakes, ponds and canals in Hanoi, Hai Phong and Ho Chi Minh city are cleaned and have quality-improved water;
- Some areas polluted with chemicals and residues of plant protection chemicals and areas polluted with toxic chemicals left from war times are treated.

*c. Monitoring/Collaborating Bodies:*

City and Provincial People's Committees in collaboration with the MONRE, Ministry of Construction, Ministry of National Defence, Ministry of Agriculture and Rural Development and related institutions.

## **2.5. Program 11 - Surveys and investigations for overcoming the influence of chemical weapons left from the wars upon Vietnam's environment and people**

### *a. Activities:*

To study and establish pilot projects with intervention measures for overcoming the influence of toxic chemicals upon the people's health; study the epidemiology related to the consequences of toxic chemicals such as dioxin upon the people's health; evaluate biological and genetic changes and effects of dioxin residues left in people; evaluate the damage caused by toxic chemicals, especially for forestry, animal and vegetal resources; analyze dioxin residues in land, water and evaluate the damage; build up evidence to show impact of chemical war; develop solutions for overcoming the influence of toxic chemicals upon environment; formulate awareness and education programs on the consequences of toxic chemicals and measures to be taken necessarily for treatment; formulate and promulgate the treatment policies towards victims of toxic chemicals; build databases and laboratories for overcoming the consequences of dioxin.

### *a. Expected results:*

- Reports on study results, solutions for overcoming consequences are formulated and presented;
- Programs of awareness and education are publicized on mass media;
- Databases and GIS maps on chemical toxics are established.

### *b. Monitoring/Collaborating Bodies:*

The Ministry of Health, MONRE, Ministry of Culture and Information and other related institutions.

## **2.6. Program 12 - Treatment in places with residues of Toxic Chemicals**

### *a. Activities:*

To survey and evaluate the areas polluted by dioxin; detoxicate old military zones; detoxicate civilian zones and military belt-areas seriously polluted by dioxin.

### *b. Expected results:*

- Toxicological extent in the target areas is identified and measures for detoxification are implemented;
- Toxic areas are cleaned up and made safe.

### *c. Monitoring/Collaborating Bodies:*

The Ministry of National Defence in collaboration with Provincial People's Committees and related institutions.

### **III. PROGRAMS FOR NATURE CONSERVATION**

#### **3.1. Program 13 - Establishing and developing a system of Nature Reserves, National Parks on land and water**

*a. Activities:*

To establish and develop national parks, nature reserves and marine protected areas.

*b. Expected Results:*

- Additional 26 new national parks and nature reserves are established.
- 13 marine protected areas (including islands) are established.

*c. Monitoring/Collaborating Bodies:*

The Ministry of Agriculture and Rural Development, Ministry of Fisheries and Provincial People's Committees

#### **3.2 Program 14 - Preservation of Wetland Areas**

*a. Activities:*

To establish a system of wetland nature reserves with high biodiversity value; plan and rationally utilize wetland areas with due consideration to environmental protection.

*b. Expected Results:*

- 30 new wetland nature reserves are established.
- A master plan of wetland areas is formulated for environmental protection purpose.

*c. Monitoring/Collaborating Bodies:*

The Ministry of Agriculture and Rural Development, the MONRE in collaboration with relevant ministries and Provincial People's Committees.

#### **3.3. Program 15 - Preservation of Genetic Resources**

*a. Activities:*

To assess and evaluate the real status of Vietnam's genetic resources; plan and take measures for preserving genetic resources, especially rare and endangered genetic resources; build and develop a system of genetic laboratories and banks; formulate and implement measures for preventing the degradation of existing genetic resources, at the same time discovering and multiplying genetic resources which give high yield and high economic value.

*b. Expected Results:*

- Genetic resources of food and foodstuff crops, industrial crops and medicinal herbs are preserved;
- Some national laboratories are strengthened and new ones built with enough capability for controlling biological safety;
- A system of gene banks is built up.

*c. Monitoring/Collaborating Bodies:*

The MONRE in collaboration with the Ministry of Agriculture and Rural Development, Ministry of Fisheries, Ministry of Education and Training and Ministry of Public Health.

**IV. PROGRAMS FOR ENHANCING PEOPLE'S AWARENESS AND EDUCATION:**

**4.1. Program 16 - Introduction of environmental subjects into the system of national education**

*a. Activities:*

To formulate environmental education programs for all educational schools; compile textbooks, lectures and documents on environmental protection; train and foster teachers in environmental protection education; train environmental specialists; develop methods of teaching environmental protection subjects; formulate programs of information supply for environmental protection education; evaluate and inspect activities of environmental protection education; set up pilots on environmental protection education and replicate these pilots nation-wide.

*b. Expected Results:*

- Educational programs on environmental protection are introduced into all educational levels from kindergarten, primary schools, secondary schools, colleges, universities to vocational and pedagogical schools;
- Some textbooks on environmental protection of every level are used at the national scale;
- An information network for environmental protection education and a contingent of skilled teachers on environmental protection are established and built up.

*c. Monitoring/Collaborating Bodies:*

The Ministry of Education and Training in collaboration with the MONRE.

**4.2. Program 17 - Raising environmental awareness of the community**

*a. Activities:*

To set up the National Center for Environmental Education and Training; formulate practical training programs for raising environmental awareness for specialists and state managerial institutions from central to local levels; formulate different programs

appropriate for raising environmental knowledge of farmers, fishermen, ethnic minority people; introduce programs on environmental information and communication on mass media; build and organize action networks for educating, disseminating and raising environmental knowledge for mass associations, non-governmental organizations, environmental networks.

*b. Expected Results:*

- 60 - 70% of specialists and managerial cadres of State institutions from central to grassroots levels are trained in environmental protection;
- Periodic training is organized for raising environmental knowledge for every target group;
- The National Center for Environmental Education and Training is established and put into operation.

*c. Monitoring / Collaborating Bodies:*

The MONRE in collaboration with environmental institutions within ministries / sectors and mass media.

## **V. PROGRAMS FOR CAPACITY BUILDING**

### **5.1. Program 18 - Consolidation of Environmental Protection Institutions from Central to Grassroots Levels:**

*a. Activities:*

To establish the General Department of Environment, 61 city and Provincial Departments of Environment, Environment Sections/Boards in precinct/district levels and Environment Teams in wards / commune levels; establish units in charge of environment within ministries/sectors; ensure material and technical basis for the system of environmental management institutions to function, and build capacity of managerial cadres; upgrade the system of legal documents; and raise the coercion and inspection capability of environmental institutions.

*b. Expected Results:*

- The system of environmental management institutions is strengthened adequately for effective functioning;
- The system of legal documents on environment is comprehensive and complete.
- Coercion and inspection are strengthened.

*c. Monitoring/Collaborating Bodies:*

The MONRE, the Government's Organization and Personnel Board, the Government Office, ministries/ sectors and localities.

## **5.2. Program 19 - Strengthening Database System**

### *a. Activities :*

To establish an environmental database system with constantly updated data; plan and organize a network for sharing and exchanging environmental information from the central to grassroots levels and between ministries/ sectors on the basis of modern information technology; apply remote sensing technology and geographic information system (GIS) in environmental surveys, observation and management; formulate and use the program of socialized environmental information and data collection; create a legal frame for the collection and utilization of environmental information.

### *b. Expected Results:*

- The environmental database system is established and appropriate to support decision making;
- Remote sensing technology and GIS capability are created and utilized in environmental management;
- The program of environmental socialized information and data collection is implemented in urban areas and industrial zones;
- A comprehensive system of legal documents on environment is formulated and promulgated.

### *c. Monitoring/Collaborating Bodies:*

The MONRE in collaboration with city/ Provincial People's Committees, the Ministry of Agriculture and Rural Development, Ministry of Industry, the National Center for Natural Science and Technology, the Ministry of National Defence, Ministry of Finance and mass media.

## **5.3. Program 20 - Strengthening the national network of Environmental Monitoring and analysis**

### *a. Activities:*

To establish the Head Office of the National Network of Environmental Monitoring and Analysis within the Department of Environment, including a section responsible for managing activities of the National Network; laboratories for studying and applying new methods of environmental monitoring and analysis and a section for analyzing data and supplying outputs; strengthen the working capability of 19 existing national environmental observations and analysis stations; strengthen the construction and equipment of observatories and increase their annual budget aiming at raising measurement frequency, places and parameters; increase the number of observatories of the national network: build new observatories, including 1 observatory in coastal area, 5 observatories of special characteristics (2 observatories for underground water and 3 observatories for water of rivers and lakes), 4 observatories (1 observatory in the Head Office for studying and

applying new methods of environmental observation and analysis, 2 observatories in the center and the South, and 1 observatory for industrial sector); 15 local observatories (observatories have been established in most important localities and are functioning); establish 9 more stations for automatically measuring air (thus there will be 15 stations in total - 6 in Hanoi; 6 in Ho Chi Minh city and 3 in Da Nang); organize annual training for the National Network; establish 30 more local stations in provinces with industrial zones and ecological regions which need to be protected (these local stations work only in the locality, after 5 years of development may be included in the National Network).

*b. Expected results:*

- The Head Office of the National Network of Environmental Monitoring and Analysis is established in the Department of Environment;
- The National Network of Environmental Monitoring and Analysis is established with 44 observatories and laboratories, besides there are 15 stations for automatically measuring air in 3 big cities;
- The annual program of environmental monitoring and analysis is carried out following equivalent standards of regional countries (ASEAN countries);
- The database of the National Network of Environmental Monitoring and Analysis can treat data and supply outputs following the requirements of environmental management.

*c. Monitoring/Collaborating Bodies :*

The MONRE in collaboration with ministries/ sectors/ localities as follows: The Ministry of Education and Training, Ministry of National Defence, Ministry of Agriculture and Rural Development, Ministry of Fisheries, Ministry of Public Health, the National Center of Natural Science and Technology, provinces of Lao Cai, Thai Nguyen, Ho Chi Minh city, Dong Nai, Ha Noi, Hai Phong, Viet Tri, Nghe An, Da Nang, Binh Duong, Quang Binh, Binh Dinh, Kien Giang, Can Tho, Quang Ninh, Ba Ria-Vung Tau and some other sectors.

**5.4. Program 21 - Giving Priority to Environmental Science and Technology activities and related issues**

*a. Activities :*

To formulate the strategy of environmental technology within the strategy of industrialization and modernization of the country; formulate and carry out the national research program of technology for treating gas, water & solid wastes; recycling solid wastes & re-utilization of wastes; establish the Environment Institute and the Center of Environmental Technology.

*b. Expected Results:*

- The strategy for environmental technology is formulated and implemented;

- Pilots of environmental improvement are set up in some big and medium cities and rural areas;
- Wastes are treated, recycled and re-utilized.

*c. Monitoring/Collaborating Bodies:*

The MONRE, the Department of Environment in collaboration with the Ministry of Education and Training (research centers and institutes), Ministry of Industry and city/provincial Departments of Science, Technology and Environment.

**5.5. Program 22 - Establishment and operation of the National System of Environmental Funds**

*a. Activities:*

To formulate and promulgate regulations on organization and operation of environmental funds; invest in the environmental funds and put the funds into effective operation; give guidance to business enterprises on establishing environmental funds.

*b. Expected results:*

The system of environmental funds operates successfully.

*c. Monitoring/Collaborating Bodies:*

The Ministry of Finance in collaboration with the MONRE, Ministry of Planning and Investment, the State Bank and related institutions.

**5.6. Program 23 - Strengthening the capability of Pollution Control and rescue in cases of environmental accidents**

*a. Activities :*

To manage and control pollution caused by waste gas; prevent and control maritime pollution, including oil spills; apply the integrated management of coastal areas; control pollution caused by industrial waste water, hospital waste water, waste water discharged from households; manage chemicals and control pollution caused by chemicals that leak into the environment; formulate and carry out measures for controlling pollution in food, food stuff and aqua-products to ensure food safety.

*b. Expected results:*

- The factual position of polluting sources is clearly known, polluting sources are classified, managed, controlled and treated in accordance with priority;
- Regulations on industrial waste water are formulated and implemented, treatment techniques are advocated for business and production enterprises, industrial waste water is monitored, controlled and inspected prior to discharge into environment;
- Treatment systems for hospital waste water and waste water discharged from households are built up in big cities and industrial zones;

- Technology for treating plant protection chemicals which are stored too long, outdated and prohibited from use is identified and applied;
- The national plan for managing organic pollutants which are non-degradable is formulated and implemented;
- Pollution control measures are taken in production areas to ensure food safety for humans;
- Quality standards are formulated for farming land, aquaculture land and water.

*c. Monitoring/Collaborating Bodies :*

The MONRE, Ministry of Industry, Ministry of Agriculture and Rural Development and related ministries/ sectors/ localities.

**SUMMARY OF PROGRAMS FOR ACHIEVING OBJECTIVES  
OF 2002-2007 PLAN**

#	PROGRAM CONTENTS	STEERING AGENCY
<b>I</b>	<b>Programs for Preventing Pollution</b>	
1	Program 1 : Prevention of Industrial Pollution	MONRE
2	Program 2 : Reduction of Greenhouse Gas Discharge	MONRE
3	Program 3 : Cleaner Production	MONRE
4	Program 4 : Strengthening and extending International Cooperation	MONRE
5	Program 5 : Support for State and Private Enterprises to protect Environment within their sphere of activities	MONRE
6	Program 6 : Environmental Management in Economic Zones of key importance and Sensitive Zones	MONRE
<b>II</b>	<b>Programs for Environmental Improvements</b>	
1	Program 7 : Environmental Greening	Province/Cities People's Committees
2	Program 8 : Solutions for highly polluting enterprises, businesses and services units	Province/Cities People's Committees
3	Program 9 : Building treatment plants and disposal grounds for wastes, including hazardous and toxic wastes	Province/Cities People's Committees
4	Program 10 : Improvement of water courses, lakes, ponds, canals and other seriously polluted places	Province/Cities People's Committees
5	Program 11 : Surveys and investigations for overcoming the influence of chemical weapons left from the wars upon Vietnam's environment and people	MONRE
6	Program 12 : Treatment in places with residues of Toxic Chemicals	Ministry of Defense
<b>III</b>	<b>Programs for Nature Conservation</b>	
1	Program 13 : Establishing and developing a system of Nature Reserves, National Parks on land and in water	Ministry of Agriculture and Rural development

2	Program 14 : Preservation of Wetland Areas	Ministry of Agriculture and Rural development
3	Program 15 : Preservation of Genetic Resources	MONRE
IV	<b>Programs for enhancing people's awareness and education</b>	
1	Program 16 : Introduction of environmental subjects into the system of national education	Ministry of Education & Training
2	Program 17 : Raising environmental knowledge of the community	MONRE
V	<b>Programs for Capacity Building</b>	
1	Program 18 : Consolidation of Environmental Protection Institutions from Central to Grassroots Levels	MONRE
2	Program 19 : Strengthening Database System	MONRE
3	Program 20 : Strengthening the national network of Environmental Monitoring and analysis	MONRE + Province/Cities
4	Program 21 : Giving Priority to Environmental Science and Technology activities and related issues	MONRE
5	Program 22 : Establishment and operation of the National System of Environmental Funds	Ministry of Finance
6	Program 23 : Strengthening the capability of Pollution Control and rescue in cases of environmental accidents	MONRE

## **PLANNED BUDGET DISTRIBUTION BY DIFFERENT PROGRAMS.**

### **1. From State budget (100%)**

- For Pollution Prevention: 16%
- For Environmental Improvements: 46%
- For Nature Conservation: 20%
- For Environmental Awareness & Education: 4%
- For Capacity Building: 14%

### **2. From Donors, ODA and other Sources:**

External funding sources have played a very important role in the past in supporting environmental protection efforts in Vietnam. The National Environmental Action Plan for the period 2002-2007 requires effective mobilization and efficient use of funds from international and national organizations and from ODA with a view to successfully achieve the five program areas outlined in this document, together with their action programs.

