

ECONOMIC COMMISSION FOR EUROPE
Committee on Environmental Policy

ENVIRONMENTAL
PERFORMANCE REVIEWS

BELARUS

Second Review



UNITED NATIONS
New York and Geneva, 2005

Environmental Performance Reviews Series No.22

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ECE/CEP/129

UNITED NATIONS PUBLICATION

<i>Sales No. 06.II.E.2</i>

ISBN 92-1-116937-2

ISSN 1020-4563

Foreword

The UNECE Environmental Performance Reviews Programme was initiated by Environment Ministers at the second “Environment for Europe” Conference held in Lucerne, Switzerland, in 1993. As a result, the UNECE Committee on Environmental Policy decided to make the Environmental Performance Reviews a part of its regular programme.

Ten years later, at the Fifth Ministerial Conference “Environment for Europe” (Kiev, 2003), the Ministers confirmed that the UNECE programme of environmental performance reviews (EPR) had made it possible to assess the effectiveness of the efforts of countries with economies in transition to manage the environment. The EPR programme also gave tailor-made recommendations to the Governments concerned on improving environmental management to reduce their pollution load, to better integrate environmental policies into sectoral policies and to strengthen cooperation with the international community. They also reaffirmed their support for the EPR programme as an important instrument for countries with economies in transition, and decided that the programme should continue with a second cycle of reviews. This second round, while taking stock of the progress made since the first review, puts particular emphasis on implementation, integration, financing and the socio-economic interface with the environment.

Through the Peer Review process, Environmental Performance Reviews also promote dialogue among UNECE member countries and harmonization of environmental conditions and policies throughout the region. As a voluntary exercise, the Environmental Performance Review is undertaken only at the request of the country itself.

The studies are carried out by international teams of experts from the region, working closely with national experts from the reviewed country. The teams also benefit from close cooperation with other organizations in the United Nations system, including the United Nations Development Programme, the United Nations Environment Programme, and the World Bank, as well as the Organisation for Economic Co-operation and Development.

I hope that this second Environmental Performance Review of Belarus will be useful to all countries in the region, to intergovernmental and non-governmental organizations alike and, especially, to Belarus, its Government and its people.



Paolo Garonna
Officer in charge

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The mission for the project took place from 19 to 29 September 2004. The peer review was held in Geneva on 10 October 2005. The ECE Committee on Environmental Policy adopted the recommendations set out in this document.

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Preface

The second Environmental Performance Review (EPR) of Belarus began in February 2004, with the preparatory mission, during which the final structure of the report was determined. Thereafter, the review team of international experts was constituted. This included experts from Bulgaria, Estonia and Sweden, and experts from the secretariats of the United Nations Economic Commission for Europe (UNECE) and the Organisation for Economic Co-operation and Development (OECD).

The review mission took place from 19 September to 1 October 2004. A draft of the conclusions and recommendations as well the draft EPR report were submitted to Belarus for comment in May 2005. In October 2005, the draft was submitted for consideration to the Ad Hoc Expert Group on Environmental Performance. During this meeting, the Expert Group discussed the report in detail with expert representatives of the Government of Belarus, focusing, in particular, on the conclusions and recommendations made by the international experts.

The EPR report, with suggested amendments from the Expert Group, was then submitted for peer review to the UNECE Committee on Environmental Policy on 10 October 2005. A high-level delegation from the Government of Belarus participated in the peer review. The Committee adopted the recommendations as set out in this report.

The report details the progress made by Belarus in the management of its environment since the country was first reviewed in 1997, in particular in the implementation of the recommendations of the first review. It also covers eight issues of importance to Belarus, concerning policy-making, planning and implementation; the financing of environmental policies and projects; and the integration of environmental concerns in economic sectors and the promotion of sustainable development. Among the issues receiving special attention during the review were compliance and enforcement mechanisms; information, public participation and education; and environmental management in industry, energy, transport, agriculture and ecotourism.

The UNECE Committee on Environmental Policy and the UNECE review team would like to thank both the Government of Belarus and the national experts who worked with the international experts for their knowledge and assistance. UNECE wishes the Government of Belarus every success in carrying out the tasks set before it to accomplish its environmental objectives and policy, including the implementation of the conclusions and recommendations of this second review.

UNECE would also like to express its deep appreciation to the Governments of Germany, Hungary, The Netherlands, Norway, Sweden, Switzerland and the United Kingdom, as well as the United Nations Development Programme and the World Bank for their support to the Environmental Performance Review Programme that made this report possible.

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BAT	Best Available Technique
BELNIIT	Belarus Scientific and Research Institute on Transport
BOD	Biological Oxygen Demand
CIS	Commonwealth of Independent States
CPI	Consumer Price Index
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CNIIKIVR	Central Research and Development Institute of Water Resource Use
EAP Task Force	Task Force for the Implementation of the Environmental Action Programme for EECCA countries
EBRD	European Bank for Reconstruction and Development
EECCA	Eastern Europe, Caucasus and Central Asia
EIA	Environmental Impact Assessment
EMAS	Environmental management and audit scheme
EMEP	Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe
EPR	Environmental Performance Review
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign direct investment
FSC	Forest Stewardship Council
GDP	Gross domestic product
GEF	Global Environmental Facility
GFCF	Gross Fixed Capital Formation
GHG	Greenhouse gases
GOST	State All-Union Standard of the Soviet Union
GRE	Gamma-radiation exposure
GTZ	German Corporation for Technical Assistance
HDI	Human Development Index
HELCOM	Baltic Marine Environment Protection Commission (Helsinki Commission)
HIV	Human Immunodeficiency Virus
IAEA	International Atomic Energy Agency
IEC	Interstate Ecological Council
IFI	International financing institution
IMF	International Monetary Fund
ISAR	Initiative for Social Action and Renewal in Eurasia
ISO	International Standardization Organization
ITA	International technical assistance
IUCN	World Conservation Union
JCP	Baltic Sea Joint Comprehensive Environmental Action Programme
KOT	Key ornithological territory
LRTAP	Long-range Transboundary Air Pollution
MAC	Maximum allowable concentration
MDGs	Millennium Development Goals
MEA	Multilateral environmental agreement
MINNAT	Ministry of Natural Resources and Environmental Protection
MNREP	Ministry of Natural Resources and Environmental Protection
NCRCEM	National Centre for Radiation Control and Environmental Monitoring
NEAP	National Action Plan on the Rational Use of Natural Resources and Environmental

	Protection
NTA	National Tourist Agency
NEFCO	Nordic Environment Finance Corporation
NEHAP	National Environmental Health Action Plan
NGO	Non-governmental Organization
NPP	Nuclear Power Plant
NSDS	National Sustainable Development Strategy
NSEM	National system of environmental monitoring
NSSD	National Strategy for Sustainable Development
ODS	Ozone-depleting substances
OECD	Organisation for Economic Co-operation and Development
OSCE	Organization for Security and Co-operation in Europe
PAC	Pollution abatement and control
PEE	Public ecological expertise
PM	Particulate matter
POPs	Persistent Organic Pollutants
PPP	Purchasing power parity
PRTRs	Pollutant Release and Transfer Registers
SEA	Strategic environmental assessment
SEE	State ecological expertise
SIDA	Swedish International Development Agency
SPA	Specially Protected Area
Tacis	Programme for Technical Assistance to Commonwealth of Independent States
THE PEP	Transport, Health and Environment Pan-European Programme
TPES	Total Primary Energy Supply
TSP	Total suspended particles
UNCCD	United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
UV	Ultraviolet
VOC	Volatile organic compound
WFD	Water Framework Directive
WHO	World Health Organisation
WMO	World Meteorological Organization

SIGNS AND MEASURES

..	not available
-	nil or negligible
.	decimal point
thous.	thousand
mill.	million
bill.	billion
ha	hectare
kt	kiloton
Mt	megaton
g	gram
kg	kilogram
mg	milligram
µg	microgram
mm	millimetre
cm ³	cubic centimetre
m	metre
m ²	square metre
m ³	cubic metre
km	kilometre
km ²	square kilometre
°C	degree Celsius
MW	megawatt
kWh	kilowatt-hour
GWh	gigawatt-hour
TWh	terawatt-hour
Bq	becquerel
Ci	curie
kBq	kilobecquerel
pop.	population
kcal	kilocalorie
Gcal	gigacalorie
Rbl	Belarusian ruble
toe	ton of oil equivalent
ktoe	kiloton of oil equivalent
Mtoe	megaton of oil equivalent

CURRENCY**Monetary unit: Belarus Ruble**

Year	Belarus Ruble / US \$
1997	26.02
1998	46.13
1999	249.30
2000	876.75
2001	1,390.00
2002	1,790.92
2003	2,051.27
2004	2,160.26

Source : IM F. International
Financial Statistics, April 2005.

INTRODUCTION

I.1 Physical context

Belarus is a landlocked country in Eastern Central Europe. It is bordered by the Russian Federation to the east (border length 959 km), Ukraine to the south (891 km), Poland to the west (407 km), and Latvia (141 km) and Lithuania (502 km) to the northwest. Belarus has four distinctive geographic regions. The north has many lakes and hills, and is covered with forests. In the east is an elevated plain region. The Polesse (also called Pripyat marsh), a lowland area of rivers and swamps, occupies the south and in the west is an agricultural region with mixed conifer forests.

The total land area is 207,595 km² and the highest point is the 346-metre-high Mount Dzerzhinskaya. Generally, the terrain is flat with forests, lakes and marshes, and the average altitude is between 100 and 200 metres. A highland from the northeast to the southwest divides the country into two water catchment areas; the northern one drains to the Baltic Sea and the southern one to the Black Sea. The largest of the thousands of lakes is Lake Naroch (80 km²) in the northwest.

The Dnieper (length within Belarus 700 km) is the largest river flowing south almost the entire length of the country. It has two main tributaries, the Pripyat (length in Belarus 495 km) in the south and the Berezina (length in Belarus 613 km) in the country's central region. The other major rivers are the Zapadnaya Dvina (Daugava) flowing to the west at the northern tip of the country, the Neman (Nyamunas) (length in Belarus 459 km) also flowing west and the Zapadnyi Bug, flowing north along the country's south-western border with Poland. The Zapadnyi Bug is also connected by a canal to the Pripyat and subsequently to the Dnieper.

Belarus has a temperate continental climate influenced by the Baltic Sea and the Atlantic Ocean. The average annual precipitation ranges from 546 mm to 693 mm. The average temperature varies from 17.5°C in July to -7°C in January, although in the north even -40°C temperatures have been recorded.

Twenty seven percent of Belarus is arable land. Forests and woodland cover 38% of the land area. Meadows and pastures cover 16%, while marshland covers about 4% of the total area. Except for agricultural and forestry resources, Belarus is relatively poor in other resources. Peat is plentiful and is used as household fuel. In general, the local energy production, mainly oil, covers only 5% of the country's energy needs. Belarus also has deposits of potassium salt, limestone and phosphates.

I.2 Human context

Belarus has a population of 9.8 million people (2004 data). The total population has been slowly decreasing since 1994, when it peaked at 10.2 million. The current average population density of 47.7 persons/km² is low compared to the rest of Europe. In general, the population is highly concentrated and urbanized; nearly half (47.2%) live in 13 cities and 70% of the total population live in towns. The pace of urbanization has been quick; as late as in 1979, only 55% of the population was living in urban areas. The urbanization has also led to the ageing of the rural population as the younger people have moved to the urban centres.

Minsk, the capital, is the biggest city with 1.73 million inhabitants (2003 data). The other large cities are Gomel (pop. 492,000), Mogilev (pop. 364,000), Vitebsk (pop. 351,000), Grodno (pop. 312,000) and Brest (pop. 296,000).

Belarus has two main ethnic groups. Belarusian make up 81.2% of the population and Russians are the largest minority with 11.4%. The remaining 7.4% is made up of people of Polish, Ukrainian, Jewish, Tatar and other origins. The official State language has since 1990 been Belarusian, but Russian was adopted as another State language in 1995 after a national referendum. There is no tension between the ethnic groups and culturally Belarusians feel connected to the Russian Federation. Almost the whole population (about 90%) is fluent in Russian, which is spoken in urban areas, while Belarusian is commonly spoken in rural areas.

The demographic and health indicators have changed profoundly in the past ten years. The total fertility rate decreased from 1.9 in 1991 to 1.2 in 2003. It is one of the lowest in Europe and well below the European Union average of 1.5 in 2000. The birth rate decreased from 13.9 (per 1,000) in 1990 to 9.0 (per 1,000) in 2003. During the same period (1990-2003) the infant mortality rate changed from 12.1 (per 1,000) in 1990 to 13.5 (per 1,000) in 1995 and 7.7 (per 1,000) in 2003.

Some health indices have deteriorated since 1991. The mortality rate rose from 10.7 (per 1000) in 1990 to 14.5 in 2003. During the same period average life expectancy at birth shortened by 2.7 years. The drop in life expectancy was much bigger for men than women. In 1990 life expectancy for males was 66.3 years but in 2003 only 62.7 years. Female life expectancy in 1990 was 75.8 years and in 2003 74.7 years.

The Chernobyl nuclear accident led to a higher than average incidence of a number of diseases, including several types of cancers and, especially among the young, thyroid cancer. Some people continue to live in areas where they receive radiation doses above the officially approved norm. In contaminated areas, the mortality rate is twice as high as the birth rate and life expectancy fell from 73.1 to 67.2 years between 1993 and 2001.

Poverty¹ in Belarus has fallen substantially since 1995, from approximately 45% of the population to 18.5%. The incidence of extreme poverty has decreased even more, to 7%, roughly one third of the 1995 level. However, there is a significant difference in poverty levels between some urban and rural areas. For example, the risk of poverty in Minsk is just a third of the national average. Poverty and extreme poverty risk are higher in Gomel, Mogilev and Brest oblasts, which were also the most affected by the Chernobyl accident and where 53% of the poor live.

Education is free and compulsory for all children from the age of 6 to the age of 17. The country has well developed university structure with several specialized academies and institutions. As in the

other former Soviet countries, the literacy rate is high and according to the latest Human Development Report (2004) of the United Nations Development Programme (UNDP) the adult literacy rate is close to 100%.

Belarus belongs to the group of countries with medium human development. In 2002 the country's human development index (HDI), as measured by UNDP, was 0.790 (on a scale of 0.0 to 1.0) and Belarus was 62nd out of 177 countries reviewed. HDI development has remained virtually unchanged since 1997, when it was 0.763 and Belarus was 60th out of 174 countries.

I.3 Economic context

Economy

Belarus has had consistent and strong State participation in the economy. The current administration supports the large State-owned enterprises and intends to preserve them as viable economic entities. There is similar State involvement in agriculture, with State subsidies made available to collective and State farms. In 2004, the private sector's share of GDP was about 25% while 46.2% of the labour force worked in the private sector. State involvement in and control over the country's economy is intended to prevent the social problems that the transition in other former Soviet countries caused. High employment, subsidies and rising real wages seem to have maintained popular support for the policy.

Since the beginning of 2000 the Government has worked to unify different exchange rates as well as to curb the pressure on commercial banks to issue soft loans. It has also replaced all Central Bank quasi-fiscal operations with subsidies through the government budget. However, these changes have not been enough to prove to the International Monetary Fund (IMF) that structural reforms are on the way and IMF has not resumed its lending operations. In its need for foreign currency the Government has turned to the Russian Federation, which has provided loans to stabilize the Belarusian ruble.

¹ Belarus: Poverty Assessment. World Bank Report No. 27431-BY. Poverty is defined as the proportion of the population whose consumption falls below a level sufficient to cover the cost of 2700 calories per adult per day, plus a significant allowance for non-food goods and services. Extreme poverty is defined at a lower level of consumption on the non-food dimension.

Table I.1: Demography and health indices, 1996-2003

	1996	1997	1998	1999	2000	2001	2002	2003
Birth rate (per 1000)	9.4	8.8	9.1	9.3	9.4	9.2	9.0	9.0
Fertility rate	1.3	1.2	1.3	1.3	1.3	1.3	1.2	1.2
Mortality rate (per 1000)	14.0	13.4	13.5	14.2	13.5	14.1	14.8	14.5
Infant mortality rate (per 1000)	12.5	12.6	11.2	11.4	9.3	9.2	7.8	7.7
Life expectancy at birth (years)	68.6	68.6	68.5	68.0	69.0	68.5	68.0	68.5
Female life expectancy at birth (years)	73.9	74.4	74.6	74.0	74.8	74.6	74.1	74.7
Male life expectancy at birth (years)	63.4	62.9	62.7	62.3	63.4	62.8	62.3	62.7
Population aged 0-14 years (%)	21.3	20.7	20.1	19.3	18.6	17.9	17.2	16.5
Population aged 65 years or over (%)	12.7	12.9	13.1	13.3	13.4	13.6	13.9	14.2

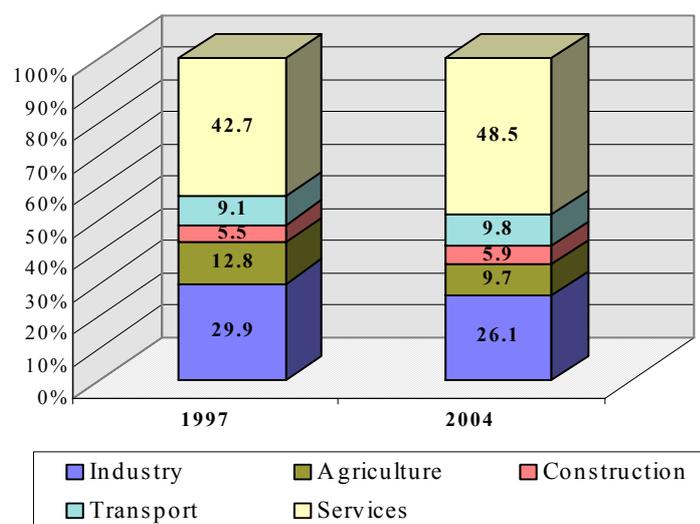
Sources : WHO. Health for All database. <http://hfadb.who.dk/hfa/> or www.who.dk on 16.11.2005.

Tax collection in Belarus is relatively easy because much of the revenue is generated by large State-owned enterprises. For example in 2002, the revenue collection exceeded annual targets by 10%. The fiscal situation is healthy with only a small budget deficit, which according to IMF has been decreasing for the past four years from 3.1% of GDP in 2001 to 0.03% in 2004.

In 2003 the Government planned to sell minority stakes in several industrial enterprises, including oil refineries, synthetic fibre plants, and fertilizer producers, and asked for tenders. All prospective buyers were Russian oil and gas companies that supply crude oil to Belarusian refineries. The Belarusian Government has insisted on strict investment conditions, including guaranteed

monthly wages, and workforce to remain unchanged for a certain time period after the purchase.

According to the Decree of the President “On the Special Right (“Golden Share”) of the State to Participate in the Management of Business Organisations” (March 2004), the State may get the right to participate in the management of business companies, which have been created in connection with privatization of former state enterprises. The state can make decisions even if it does not own any equity capital in those companies. Possible reasons for invoking this rule include delays in payments of salaries for three months, unsatisfactory

Figure I.1: GDP by sector in 1997 and 2004 (per cent of total GDP)

Source: Ministry of Statistics and Analysis, 2005.

structure of balance sheets for six months, as well as protection of rights and freedoms of citizens, ensuring defence and security of the State, and observing State economic interests. The vagueness of this stipulation for possible application of the “golden share” rule discourages foreign direct investments.

The inflation, measured by the consumer price index (CPI), was persistently high in the first half of the 1990s and fluctuated wildly. CPI peaked in 1995 at 2,221% then went down to 52.7% in 1996 to rise again to almost 300% in 1999. Since then the tightened monetary and credit policies together with new exchange rate policies have resulted in a steady improvement in inflation, which in 2004 was at relatively low 18.1% level.

GDP was decreasing until 1995, when it bottomed out at 63.9% of its 1989 level. The first growth year was 1996 with a modest 2.8% increase. During the rest of the 1990s growth was between 3.4% and 11.4%. The latest available figure (2004) shows a robust 11.0% annual growth rate and GDP reached 113.4% of the 1989 level. GDP per capita (in US\$ at purchasing power parity (PPP)) is 62% higher than the 1995 level. According to the latest official figures, the industrial output index has grown constantly since 1995 and in 2004 it was 141.5% of the 1989 level.

In 2002, 50% of Belarus' exports went to and 65% of the imports came from the Russian Federation. This dependency on one trade partner makes Belarus' GDP growth very volatile and its economic development critically dependent on developments in the Russian economy. However, Belarus has managed to diminish this dependency and diversify its foreign trade in recent years, for comparison, in 1999 the Russian trade covered 70% of the Belarus' exports and 90% of its imports.

A factor that hampered country's economic growth in the 1990s and early 2000s was the low investment rate. This however started to improve when the Gross Fixed Capital Formation (GFCF) grew 22% in 2003 and 18.9% in 2004. Unfortunately the same does not apply to the

Foreign Direct Investments (FDIs). Unlike other countries in transition, Belarus has not been able to attract sizeable inflows of FDIs.

I.4 Chernobyl nuclear power plant accident

The accident at the nuclear power plant in Chernobyl, Ukraine, in 1986, was a unique event that still affects the population, environment and economy of Belarus. The initial explosion and the ensuing fire carried radionuclides over the border to Belarus, contaminating 47,600 km², or 23% of the country where 20% of the population lived. Ten years after the accident radioactivity in the environment had fallen to about 1% of the total released. However, 20% of the country (46,500 km²) was still contaminated with long-lived isotopes of caesium above acceptable levels.

Although contamination from radionuclides will gradually diminish, in the interim they bind with the soil, enter the food chain and concentrate in crops, pasture grasses and forest products, and ultimately in meat and milk. Since the principal pathway for internal exposure is through milk, Belarus has concentrated a large part of its mitigation efforts on this area. Secondly, the exposure to radioactive iodine caused a significant increase in thyroid cancer in Belarus, although mainly limited to those who were under 15 years of age at the time of exposure. Incidence of radiation-induced thyroid cancers is rising and an increasing number of younger women are being diagnosed with breast cancer.

After the accident, forests, mires and lakes accumulated radionuclides and fed them continually back to the environment. Forest and peat fires as well as the erosion of agricultural and abandoned land by wind and water transfer contamination to adjacent clean areas and across the border. Flooding can also be a serious problem in areas where agriculture has been extended to marginal, peat-bearing lands.

Table I.2: Selected economic indicators, 1995-2004

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP (1989=100)	63.9	65.7	73.2	79.4	82.1	86.8	91.0	95.5	102.2	113.4
GDP (% change over previous year)	-10.4	2.8	11.4	8.4	3.4	5.8	4.7	5.0	7.0	11.0
GDP in current prices (billion Rbl)	121.4	191.8	366.8	702.2	3,026	9,134	17,173	26,138	36,565	49,445
GDP in current prices (million US\$)	10,522	14,500	14,098	15,222	12,138	10,418	12,355	14,595	17,825	22,889
GDP per capita (US\$)	1,032	1,427	1,393	1,512	1,210	1,041	1,239	1,471	1,805	2,330
GDP per capita (US\$ PPP per capita)	5,448.1	5,724.8	6,511.7	7,174.2	7,556.6	8,190.4	8,813.5	9,460.1	10,380.6	11,885.4
Industrial output (1989=100)	62.7	64.9	77.1	86.7	95.6	103.0	109.1	114.0	122.1	141.5
Agricultural output (% change over previous year)	-4.7	2.4	-4.9	-0.7	-8.3	9.3	1.8	1.5	2.0	..
CPI (% change over the preceding year, annual average)	709.3	52.7	63.8	73.0	293.7	168.6	61.1	42.6	28.4	18.1
PPI (% change over the preceding year, annual average)	461.5	33.6	88.0	72.0	355.8	185.7	71.9	40.4	37.6	24.2
Registered unemployment (% of labour force, end of period)	2.7	4.0	2.8	2.3	2.0	2.1	2.3	3.0	3.1	1.9
Balance of trade in goods and non-factor services (million US\$)	-483.3	-576.4	-853.0	-1,019.2	-255.5	-446.4	-505.7	-481.5	-670.7	-1,353.1
Current account balance (million US\$)	-458.3	-515.9	-859.2	-1,016.5	-193.7	-338.4	-394.4	-311.2	-423.5	-1,042.9
" " (as % of GDP)	-4.4	-3.6	-6.1	-6.7	-1.6	-3.2	-3.2	-2.1	-2.4	-4.6
Net FDI inflows (million US\$)	14.7	104.5	349.5	200.9	443.2	118.6	95.5	453.3	170.3	168.1
Net FDI flows (as % of GDP)	0.1	0.7	2.5	1.3	3.7	1.1	0.8	3.1	1.0	0.7
Cumulative FDI (million US\$)	49.8	154.3	503.8	704.7	1,147.9	1,266.5	1,362.0	1,815.3	1,985.6	2,153.7
Foreign exchange reserves (million US\$)	377.0	469.2	393.7	702.8	294.3	350.5	390.7	618.8	594.8	749.4
" " (as months of imports)	0.83	0.81	0.57	1.10	0.57	0.56	0.58	0.84	0.63	0.56
Net external debt (million US\$)	1,720.0	1,439.3	1,752.6	1,666.7	1,930.4	1,772.0	2,056.3	2,448.2	2,774.3	3,599.7
Exports of goods (million US\$)	4,803.0	5,790.1	6,918.7	6,172.3	5,646.4	6,640.5	7,334.1	7,964.7	10,072.9	13,916.8
Imports of goods (million US\$)	5,468.7	6,938.6	8,325.7	7,673.4	6,216.4	7,524.6	8,140.8	8,879.0	11,328.5	15,982.5
Ratio of net debt to exports (%)	35.8	24.9	25.3	27.0	34.2	26.7	28.0	30.7	27.5	25.9
Ratio of net debt to GDP (%)	16.3	9.9	12.4	10.9	15.9	17.0	16.6	16.8	15.6	15.7
Exchange rates: annual averages (Rbl/ US\$)	11.5	13.2	26.0	46.1	249.3	876.8	1390.0	1790.9	2051.3	2160.3
Population (million)	10.19	10.16	10.12	10.07	10.03	10.00	9.97	9.92	9.87	9.82

Source: UNECE Common statistical database and National Statistics, 2005.

The accident had heavy economic consequences for Belarus. Approximately 21% of agricultural land, 23% of the country's forested land and 132 deposits of mineral resources were contaminated. The worst contaminated areas were removed from economic use. Large areas with intermediate contamination were put under strict control regimes, with specific rules for radiation control of products from these areas and access to them. There was an enormous loss of economic activity and infrastructure in the affected areas and between 1990-2004 114,000 persons were resettled from contaminated land. In addition to the loss of life and the adverse impact of the accident on the health of the population, the total economic damage is estimated to reach US\$ 235 billion by 2015.

I.5 Institutions

In 1996 a proposal to amend the 1994 Constitution and broaden the presidential powers was put to a referendum and approved by more than 70%. The new 1996 Constitution replaced the old Supreme Soviet with a bicameral National Assembly. The lower House of Representatives has 110 members. The upper Senate or Council of the Republic has 64 members, of whom six are appointed by the President and the rest are elected by popular vote.

According to the current Constitution, the presidential term is five years and the President can serve two terms. However, a referendum in October 2004 abolished the two-term limit. The President also appoints half of the members of the Constitutional Court, the Chairman of the National Bank of Belarus, the State Prosecutor-General, the heads of the Supreme, Economic and Constitutional Courts, and the head of the Central Electoral Commission. The President also has the power to dissolve the National Assembly.

Administratively, the country is divided into six oblasts, all bearing the same name as their largest cities. Minsk, Gomel, Mogilev, Vitebsk, Grodno and Brest oblasts are each divided into smaller administrative districts called *rayons*. The oblasts have their own councils for the administration of regional affairs.

I.6 Environmental context

Air

Out of the 1,327,000 tons of total air emissions in 2003, 955,000 tons (72%) came from the transport sector and 372,000 tons (28%) from stationary sources. The largest single pollutant was CO (55.2% of the total), followed by Volatile Organic Compounds (VOCs) and hydrocarbons (18.6%), NO_x (10.6%) and SO₂ (9.5%).

Since 1995, emissions of conventional air pollutants have decreased (table I.4). The most noticeable reductions have been achieved in SO₂ (54%), in CO (41.5%), and in VOCs (including hydrocarbons) (34%). Table I.5 compares conventional air emissions in Belarus and a few other UNECE member countries in 2002. The CO₂ emissions decreased by 18% between 1995 and 2003. According to the First National Communication on greenhouse gas (GHG) emissions, GHG emissions significantly diminished (by 47%) between 1990 and 2001, which reflects the economic decline between 1990 and 1995, changes in GDP structure, a shift to more natural gas in the energy supply pattern and improvements in energy efficiency and conservation.

The bulk of CO and NO_x emissions (87% and 60% respectively) were emitted by road transport. The number of private cars increased by 50% between 1997 and 2003. As more than 60-70% of the car fleet is old and obsolete and uses low-quality fuel, road transport is becoming a significant environmental problem in Belarus. At the same time, lead emissions are negligible because leaded petrol has not been produced nor imported since 1997.

Energy and industry are jointly responsible for 70% of total emissions from stationary sources. Stationary sources emit most of the SO₂ and particulates (71% and 62% respectively, in 2004), the largest polluting sector being power generation. Other most polluting sectors are the petrochemical and chemical sector, with 29% of total emissions; electric power generation (16%), households (13%), the manufacturing and machinery sector (8%), and the construction materials sector (6%) (fig. I.3).

Table I.3: Government**Ministries**

Ministry of Agriculture and Food
Ministry of Architecture and Construction
Ministry of Communications and Informatization
Ministry of Culture
Ministry of Defence
Ministry of the Economy
Ministry of Education
Ministry of Emergency Situations
Ministry of Energy
Ministry of Finance
Ministry of Foreign Affairs
Ministry of Forestry
Ministry of Health
Ministry of Housing and Municipal Services
Ministry of Industry
Ministry of Information
Ministry of Internal Affairs
Ministry of Justice
Ministry of Labour and Social Protection
Ministry of Natural Resources and Environmental Protection
Ministry of Sport and Tourism
Ministry of Statistics and Analysis
Ministry of Trade
Ministry of Transport and Infrastructure
Ministry of Taxes and Duties

State Committees

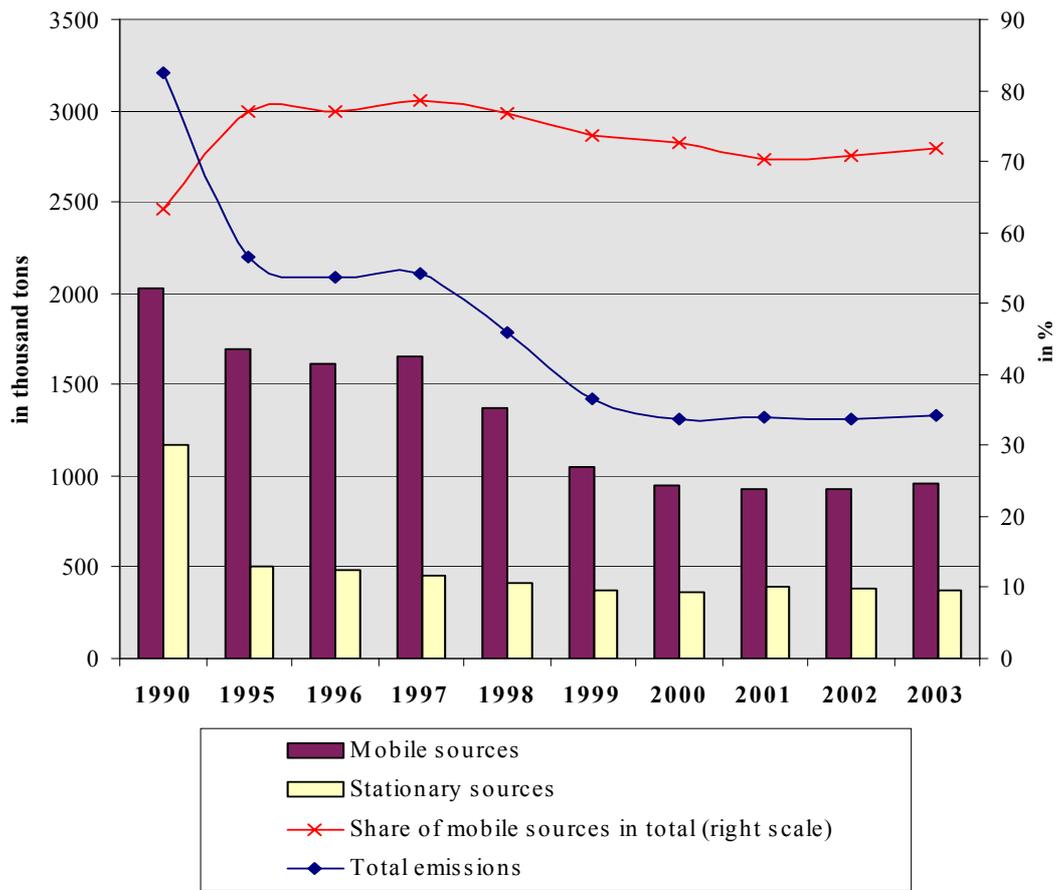
Committee of State Security
State Committee on Aviation
State Committee on Border Guards
State Committee on Science and Technologies
State Customs Committee
State Military-Industrial Committee

Committees under the Council of Ministers

Committee on Archives and Record-keeping
Committee on Energy Efficiency
Committee on Land Resources, Geodesy and Cartography
Committee on Material Reserves
Committee on Problems of Consequences of Chernobyl NPP Disaster
Committee on Religion and Nationalities Issues
Committee on Securities
Committee on Standardization, Metrology and Certification

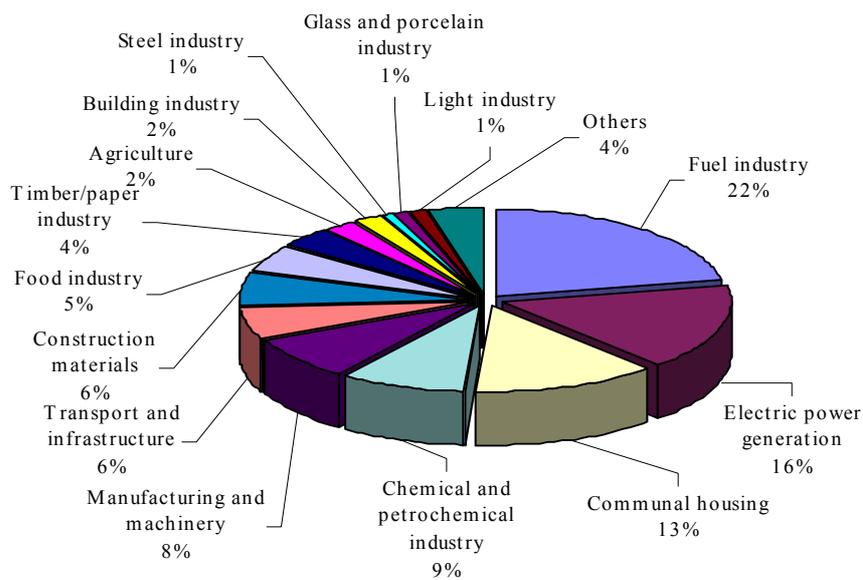
Source : <http://president.gov.by/rus/gov/list1.html> on 7.12.2004.

Figure I.2: Air emissions by source, 1990 - 2003



Source: Ministry of Natural Resources and Environmental Protection, 2004.

Figure I.3: Air emissions by sector, 2003



Source: Ministry of Statistics and Analysis, 2005.

Table I.4: Air emissions by pollutant

Emissions	1995	2000	2003	2005 Estimated	Change 1995- 2003, in %
SOx (as SO ₂) in 10 ³ tons/year	275.3	145.3	126.3	151.1	-54.1
from stationary sources	213.2	168.9	90.1	113.8	-57.7
from transport	57.1	36.4	36.2	37.3	-36.6
NOx (as NO ₂) in 10 ³ tons/year	195.3	136.8	140.2	152.2	-28.2
from stationary sources	54.6	52.3	55.8	65.3	2.2
from transport	140.7	84.5	84.4	86.9	-40.0
Dust (TSP), in 10 ³ tons/ year	92.0	71.5	71.9	..	-21.8
from stationary sources	50.9	45.0	41.9	..	-17.7
from transport	41.1	26.5	27.0	..	-34.3
VOCs, in 10 ³ tons/year	374.7	246.9	247.3	..	-34.0
from stationary sources	77.9	75.5	75.0	..	-3.7
from transport	296.9	171.4	171.4	..	-42.3
CO in 10 ³ tons/year	1,252.8	726.3	732.7	..	-41.5
from stationary sources	96.2	92.3	95.7	..	-0.5
from transport	1,156.6	634.0	637.0	..	-44.9
CO ₂ in million tons (total)	65.2	52.4	..	..	-19.6

Source: Ministry of Natural Resources and Environmental Protection, 2004.

As industrial activities are concentrated in urban zones where they discharge pollution into the air. Ambient air quality is a concern in Novopolotsk, Polotsk, Gomel, Svetlogorsk, and Vitebsk. The biggest air polluters in these cities are chemical factories, power plants and manufacturing enterprises.

Belarus implements its commitments under the UNECE Convention on Long-range Transboundary Air Pollution and three of its protocols, as well as under the Convention for the Protection of the Ozone Layer and its Montreal Protocol (see chapter 4 on international agreements and commitments). To this end, it has developed sectoral and intersectoral programmes, including the National

Strategy for Sustainable Development until 2020, the Main Directions of Energy Policies until 2020 and the National Programme on Energy Conservation for 2001-2005.

Water

Water is relatively abundant in Belarus, and the available water resources are sufficient to meet both present and future needs. Between 1997 and 2003, total water consumption fell by 5%, while the consumption by industry fell by 17%, continuing a trend that began in the early 1990s. Consequently, less surface water was abstracted as it is mainly used for industry, and particularly the thermal power industry.

Table I.5: Emissions of major air pollutants in selected UNECE countries, 2002

	Belarus	Slovakia	Hungary	Czech Republic	Belgium	Portugal
SOx total emissions (1000 tons)	143	102	359	237	153	216
NOx total emissions (1000 tons)	137	102	180	318	284	279
Non-methane VOC (1000 tons)	229	76	155	203	264	285
CO emissions (1000 tons)	712	297	620	546	1,019	678

Source: Executive Body for the UNECE Convention on Long-range Transboundary Air Pollution, document EB.AIR/GE.1/2004/10.

Table I.6: Water use, 1997-2003

	1997	1998	1999	2000	2001	2002	2003
Total	1,706	1,697	1,691	1,684	1,689	1,677	1,653
Household	704	711	709	706	728	746	744
Agriculture	471	460	451	455	445	446	467
Industry	531	526	531	523	516	484	443

m³

Source: Ministry of Natural Resources and Environmental Protection, 2004.

Approximately 98% of all homes in major cities and about 85% in other urban areas are connected to a water supply system, for which the major supply source is groundwater. In rural areas, groundwater is polluted by livestock farms, the use of partly treated waste water for irrigation, and uncontrolled storage of mineral fertilizers and toxic chemicals. In industrial-urban areas, pollution occurs primarily in production grounds, close to sewage works, landfills and points of leakage from industrial and municipal sewage. There is a particular problem of severe salinization of groundwater around the Soligorsk potassium fertilizer plant.

In rural areas the population relies on open wells that are unprotected from pollution sources. Surface waters are exposed to chemical pollution from wastewater discharges, from agriculture and urban area run-off, from motor transport, landfills and pollutant fallout. While there has been some improvement over the years, the problem remains particularly acute around cities of Minsk and Gomel. A naturally high level of iron in water is causing concern. Many water sources naturally contain levels that are 5 to 20 times the maximum allowable concentration (MAC).

The reliability and safety of the water services are less than satisfactory. There are frequent service interruptions and drops in pressure in supply pipes as well as problems with the water quality, ranging from colour, taste and odour to chemical and bacteriological contamination. The distribution system suffers from significant losses, and per capita consumption is high: in Minsk, residential consumption is around 302 litres per capita per day, as compared to 130-200 or less in most of Western Europe (with 24-hour service). Average residential consumption in other major cities, such as Brest, Grodno and Vitebsk, is about 200-230 litres per capita per day.

There are 129 large wastewater treatment plants, with an overall daily capacity of 3.7 million m³. However, there are substantial operational difficulties; many sewage works accept wastewater with intolerably high concentrations of individual

components and some sewage works cannot cope with the volume and pollution load. The rural communities rely on on-site solutions, primarily latrines and drain fields. According to the World Bank, the sector is moving rapidly toward levels of deterioration that need immediate attention. Belarus is now trying to reverse the trend, and new water management and measuring equipment in industry, installed at the expense of the enterprise, is reducing industrial wastewater discharges.

Waste

Municipal waste

Municipal solid waste accounts for only 7.5% of all waste generated in the country, but it is spread across a large area with more point sources than industrial waste. The amount in 2003 was 2.3 million tons, or 223 kg per capita. The recycling rate is low (around 10%), even though this waste is a potential source of secondary raw materials. With higher incomes and rising consumption, domestic waste generation and the waste stream have steadily increased since 1997 (by almost 30%).

Until recently, waste was dumped close to where it was generated, including in uncontrolled dumps. In addition, municipal, industrial and hazardous waste has been disposed of together, creating dangerous toxic conditions. Regulated landfills have not generally followed sanitary practices, such as using liners and collection systems for leachate, leading to concern over possible groundwater contamination.

Before many legal and illegal disposal sites can be closed, they will need to be rehabilitated in order to protect the environment and health of the population. Over 40% of the landfills have exhausted their operating capacities, leading to the need for new sites or expansion. The situation is improving as the legal sites are now better regulated and efforts are being made to control unregulated dumps.

In February 2003, the Council of Ministers decided to establish a system for the collection and secondary use of municipal waste. As a pilot project, a system has been introduced for the collection of plastic waste, which is considered to be the most visible and prevalent municipal waste. There are plans in future to extend the system to include glass and paper packaging as well.

Industrial waste

In 2003, Belarus is estimated to have generated 28 million tons of solid industrial waste, of which approximately 16% was recycled or reused. Industrial waste, as a whole, accounts for more than 90% of all waste generated. Three quarters of this is produced by a single potassium fertilizer plant. (See chapter 6.)

Almost all non-recycled industrial waste is sent to landfills and ponds belonging to enterprises, with the rest going to dumpsites for solid municipal waste or left on the enterprises' premises. Sludge from potassium fertilizer production is stored according to regulations and isolated from groundwater. The solid waste from potassium fertilizer production, however, is stored openly, in mounds up to 100 metres high, constituting a serious threat to the environment. There are plans to build appropriate storage facilities, but the financing is not yet fully available.

Biodiversity

In the mid-18th century, forests covered more than 74% of Belarus. Even today forest remains the dominant vegetation type, covering 7.3 million hectares or 38% of the country. Pine trees dominate the forest ecosystem with 55% of the forest area, but the native flora includes 28 other tree species and 42 shrub species. Forest cover varies from 10 to 62% depending on the region. Protected areas increased from 6.9% in 1997 to 7.6% in 2003.

Until the end of the 19th century, bogs totalled about 4.13 million hectares (19.9% of the entire territory). As a result of land reclamation, 1.775 million hectares (42.4%) of bogs and boggy lands have been transformed into agricultural land. Large-scale and intensive drainage of bogs and boggy land was carried out from 1965 to 1975, and

less intensively until 1985. Today, bogs and boggy land still in natural condition amount to about 2.3 million hectares, of which only about 800,000 hectares (33.5%) or 3.8% of the total land area are open bogs. About 1.15 million hectares (48.3%) are wood bogs, which constitute about 5.5% of the country.

The country's flora includes about 11,500 species of plants. The 7,000 species of fungi and 2,000 species of algae make up more than 80 per cent of the flora. Vascular plant flora includes 1,638 species, with the herb plants being absolutely dominant constituting about 1,500 species.

Belarus has a diverse fauna of about 457 species of vertebrates and more than 20,000 species of invertebrates. The bird group is the biggest of the vertebrate with 305 species. The country has 73 species of mammals, including the European bison, as well as bears and wolves. There are 59 species of fish, of which 45 are native. Belarus also has about 104 species of migratory birds nesting on its territory, but migrating for the winter season. An additional 22 bird species do not nest but fly over the country during their seasonal migrations.

The Belarusian Red Data Book records the situation of the country's endangered species. The second edition (1993) lists 214 protected plant species as endangered, while 46 species of rare vascular plants had disappeared from Belarus since the publication of the first edition. The Red Data Book also lists the 97 most endangered vertebrates and the 85 most endangered invertebrates.

Belarus has 22 species of vertebrate mammals, 31 bird species and one species of reptile used as game. The game hunting area totals 17.7 million hectares: 54% fields, 40% forests and 6% wetlands. The country has 252 hunting facilities, including 82 forest hunting facilities. These also regulate and maintain the population of game.

When the hooped animal populations decreased sharply in 1994, the hunting system was reformed. State hunting orders were suspended and only amateur hunting was allowed. Annual (commercial) fish catches total about 1,500-2,000 tons, while recreational fishing is estimated at one and a half or two times that.

Map I.1: Map of Belarus



The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

***PART I: POLICY MAKING, PLANNING AND
IMPLEMENTATION***

Chapter 1

LEGAL AND POLICY-MAKING FRAMEWORK AND SECTORAL INTEGRATION MECHANISMS

1.1 Overview of the decision-making framework progress achieved since 1997

Major environmental policy orientation

Belarus has pursued a strategy of very slow reform, following its declaration of independence in 1991. This has yielded mixed economic, social and environmental results. In the context of the environment, the Ministry of Natural Resources and Environmental Protection has introduced a policy and legislative framework.

The National Strategy for Sustainable Development (NSSD), approved in May 2004, has been given high priority. It sets forth the principal guidelines for the transition to sustainable development in two main stages:

- Stage one (until 2010) to further improve living standards based on the development and wise use of human capacity and a more efficient and competitive economy; and
- Stage two (2011–2020) to lay the groundwork for a new post-industrial information society, with a new technological basis designed to ensure a smooth transition to resource-saving production.

The NSSD contains all the elements that are characteristic of this type of strategic document in order to move towards sustainable development, such as models, strategic goals, tasks and steps, the main directions to be followed by the country, the most important tools and mechanisms, as well as the establishment of a monitoring system to measure progress.

Part of NSSD is aimed at the rational use of natural resources and the conservation of the environment for future generations by:

- Improving environmental policy and the economic instruments for nature use;

- Protecting and rationally using natural resources;
- Safely implementing biotechnologies and ensuring biological safety;
- Safely managing toxic chemicals;
- Safely using and treating industrial and municipal waste;
- Protecting the population and the country from natural and man-made disasters;
- Ensuring environmental safety in defence facilities;
- Developing problematic regions, in particular overcoming the consequences of the Chernobyl nuclear power plant (NPP) catastrophe; and
- Harmonizing national environmental legislation with international legal acts.

As it is now structured and elaborated, the NSSD should play a decisive role in the strategic planning process in Belarus, particularly as regards environmental planning.

The national environmental strategy is still at a conceptual stage, but there are many other nationwide programmes and plans that guide environmental policy development. Current environmental policy is developed through five-year national action plans for the rational use of natural resources and environmental protection (NEAPs). The Ministry of Natural Resources and Environmental Protection considers that the Plan for the period 1996-2000 has been completed. The measures in this Plan have been implemented and a progress report has been prepared.

The current NEAP covers the period 2001-2005. Its objectives are: further reducing the adverse anthropogenic impacts on the environment and improving the environmental situation; gradually “greening” all parts of production and protecting the most valuable ecosystems and biological

species. The Ministry reports annually on progress. The NEAP for 2006-2010 is being prepared.

The five-year action plans are based on the national priorities and follow the recommendations and principles of Agenda 21 as adopted at the Rio Conference in 1992. The priority measures set out in the plans are aimed at balancing solutions for environmental and social problems with the necessity of economic development.

The National Strategy and Action Plan for the conservation and sustainable use of biodiversity of Belarus (1997) was the first environmental media oriented strategic document. Belarus identified the top priorities for its implementation. Implementation is assessed every five years with the participation of all socio-economic actors. Particular attention is given to two major problems: biodiversity (species, ecosystems) conservation and issues of biodiversity conservation in economic sectors. Belarus considers integral planning and incorporating biological diversity into agricultural production to be important. See also chapter 8 on ecotourism and biodiversity.

In the period 1999-2003 a number of environment-related programmes were prepared and approved by the Council of Ministers:

- The State Scientific-Technical Programme “Nature use and environmental protection” (2000);
- The State Programme “Health of the nation” for 1999-2005 (1999);
- The State Scientific-Technical Programme “Ecological safety” for 2001–2005 (2001);
- The State Programme on securing a State system for the prevention of emergencies and emergency preparedness for 2002-2006 (2001);
- The State Programme on water supply and waste-water disposal “Clean water” 2001-2005 (2002);
- The State Programme on Environmental Education; and
- The Programme on the National Environmental Monitoring System (2003).

Spatial planning in Belarus is based on the State Scheme of Complex Territorial Organization (2001), which includes the Strategy for Territorial

Development and Classification of all Settlements and Transport Infrastructure.

Other strategies, plans and programmes prepared for the development of sectoral policies and approved by the Council of Ministers also include chapters aimed at the rational use of natural resources and environmental protection such as:

- The State Programme on Energy Saving for 2001 – 2005
- The State Programme for the Multifunctional Use of Forests until 2015
- The Strategic Plan for the Development of Forest Management until 2015
- The State Programme on Preserving and Using Meliorated Land for 2000 – 2005
- The State Programme on the Year of Clean-up and Improvements 2004 – 2005
- The State Programme on Municipal Waste Management
- The State Programme for overcoming the consequences of Chernobyl NPP catastrophe until 2010

This overview of the environmental policy documents shows a rather well developed system of national programmes. According to the Ministry of Natural Resources and Environmental Protection, there are over 40 environmental programmes and plans. They are prepared by various governmental bodies, e.g. Ministry of Energy, Ministry of Forestry, and Ministry of Agriculture and Food, but before approval by the Council of Ministers consent should be given by the other ministries and committees concerned. In this regard the Ministry of Natural Resources and Environmental Protection reviews the elements of the plans and programmes that concern the use of natural resources and environmental protection, and has an opportunity to express its opinion in writing. However, this does not mean that all plans and programmes are consistent in terms of use of natural resources and environmental protection.

Since the first environmental performance review in 1997, progress has been made in defining clearer policy priorities and laying the foundations for the implementation of the five-year NEAP. However, most of the action plans and State programmes are unclear in determining the financing. In some of the documents (State Programme on Environmental Education, Programme on the National

Environmental Monitoring System), there is no chapter on financing at all. According to staff at the Ministry of Natural Resources and Environmental Protection, the necessary costs for major construction projects are reflected in the annual State Programme on Investment. However, the State Programme on Investment identifies does not cover all projects of other programmes and actions plans. Therefore, this cannot make up for the lack of financial justification in some of the environmental programmes.

Also, the proposed measures are not balanced in terms of real investment initiatives. Most of the funding is allocated to scientific and research activities.

Legal framework

The Law on Normative Legal Acts adopted in 2000 defines the types of legal acts, and the way they should be prepared, adopted, published and enforced. The most important normative legal acts are: the Constitution, decisions taken by a referendum, programme laws, codes, laws, presidential decrees, presidential directives (*ukaz*), resolutions of Parliament and resolutions of the Council of Ministers. The preparation of legal acts is regulated by the Programme of preparation of draft legal acts for 2003-2005 and further possible codification of legislation (2002) approved by presidential *ukaz*.

The framework environmental law is the Law on Environmental Protection adopted in 1992, last amended in 2002. The Law stipulates the principles and the tasks of environmental protection, and specifies the objects (environmental media) and subjects (citizens, legal persons, administrative-territorial units, and the Republic of Belarus) and their interrelations. It also reflects the main directions of State environmental policy and management; the rights and responsibilities of citizens and public associations; the need to set environmental norms, standards and certification; and the requirements related to the design, construction, reconstruction, exploitation, closure or liquidation of facilities whose activities may have an impact on the environment. The Law includes also chapters on environmental impact assessment and ecological expertise, specially protected natural areas, ecologically unfavourable territories, observation of the state of the environment (environmental monitoring), environmental registration and ecological

information, education and scientific research, economic instruments, control and liability for infringement of the legislation.

The Law on the Protection of Atmospheric Air (1997) aims at conserving and improving the quality of atmospheric air and stipulates the rights and responsibilities of citizens, legal persons and State authorities in this respect. The Law regulates the general norms for air quality and air protection requirements in design, construction, reconstruction and exploitation. It provides for economic instruments, a State database on negative impacts on air, monitoring and control.

The Law on Ozone Layer Protection (2001) regulates the relevant State activities by determining the competencies of the Council of Ministers, the Ministry of Natural Resources and Environmental Protection and the local authorities. It includes provisions on economic instruments, the licensing of activities linked to the use of ozone-depleting substances, the transfer of such substances and products containing ozone-depleting substances, monitoring of the ozone layer, and control and liability for infringements of the legislation.

The Law on Waste (1993, last update 2002) sets the legal background for the treatment of waste and is aimed at preventing the negative impact of waste on the environment and human health. Its main provisions describe the relationship between the national normative acts and international agreements on waste; the property rights over waste; waste management requirements; the competencies of the central and local authorities; the classification and certification of waste (e.g. issuance of a so-called waste passport); the treatment of hazardous waste; reporting, control, etc.

The Law on Specially Protected Natural Areas (2000) determines the legal basis for the functioning and the protection of specially protected natural areas. It includes provisions on the categories of protected areas (*zapovednik*, national park, *zakaznik* and natural monument), management, competencies of the State authorities, regime of protection, scientific and research activities in the specially protected natural areas, participation of the public in decision-making, financial issues, State control and liability for infringements of the legislation, and compensation for damage.

The Law on State Ecological Expertise (2000) lists what is subject to State ecological expertise (SEE). The list includes concepts, programmes (including investment programmes), sectoral and territorial development schemes, schemes for the complex use and protection of natural resources, urban development plans, and projects for all kinds of activities that might have impact on the environment. The Law determines, inter alia, the competent authorities and their rights and responsibilities (Government, Ministry of Natural Resources and Environmental Protection, local authorities); the conditions and the procedure for carrying out SEE; and the rights and obligations of the initiators of the activity subject to SEE.

The main environmental legislation adopted after 1997 is listed in annex III.

The secondary legislation on environmental protection (by-laws, rules, regulations, instructions) is prepared and proposed by the ministries and is approved by resolution of the Council of Ministers or by order of the Ministry of Natural Resources and Environmental Protection or other ministries. For example, the Regulations for issuing licences for activities linked to use of natural resources and impact on the environment were approved by resolution of the Council of Ministers. The number and the subject of the secondary legal acts vary for the different environmental issues. For example, there are sufficient rules and regulations on permitting in waste or water management, and air pollution from enterprises is regulated by setting emission limits. A serious drawback of secondary environmental legislation is that it does not follow exactly the primary laws, as the provisions of the latter are too general and do not provide clear requirements for the by-laws. This might further cause inconsistencies with normative acts approved by resolution of the Council of Ministers or order of a ministry.

Although constantly improving, the environmental legislation remains too declarative and does not set forth concrete mechanisms to enable individual citizens to assert their right to obtain environmental information, to take part in decision-making and to be compensated for damage suffered as a result of violations of environmental legislation.

The new laws adopted in 2000-2002 that follow the provision of the Law on Normative Legal Acts are still too general and vague. Moreover, according to the Law on Normative Legal Acts, codes have

priority over other laws. The Law on Environmental Protection lists environmental legislation, and stipulates that natural resources and other components of the environment are regulated by legislation on the protection of the environment, unless other provisions exist in legislation on land, water, forestry, mineral resources, flora, fauna and other legislation. This in fact means that the Law on Environmental Protection has no precedence over other laws and therefore cannot play its role of framework law. This creates uncertainty and possible inconsistencies in the implementation of the legislation when the same environmental problem is covered by the Law on Environmental Protection and by one of the codes (Land Code, Water Code, Forestry Code or Mineral Resources Code). The code will have precedence over the Law in the event of any contradiction. According to staff of the Ministry of Natural Resources and Environmental Protection and other governmental bodies, such inconsistencies do not occur. The Concept on improving the legislation of the Republic of Belarus, approved by presidential directive in 2002, sets as a necessary precondition for improving the legislative system a clear hierarchy of normative legal acts. There are suggestions to change the Law on Environmental Protection into an Environmental Code, though no practical steps in this direction have been undertaken yet.

Belarusian environmental legislation and the European Union's body of environmental law

In the period 1999-2003, Belarus made particular efforts to introduce the norms and principles of international environmental legal acts and commitments. New versions or completely new national environmental laws were adopted, including a framework for integrated environmental licensing, environmental assessment (ecological expertise), norms for pollutant emissions (effluents) and environmental certification. The country now has a well-developed legal system with a considerable number of by-laws. The Ministry of Natural Resources and Environmental Protection develops draft environmental legislation taking into account that Belarus strives to make this legislation compatible with the European Union's body of environmental law.

However, much remains to be done to harmonize the national legal acts with the EU body of environmental law. As mentioned above, the primary legislation is too declarative and not clear

and transparent enough in terms of the preparation of relevant by-laws, regulations and other secondary legislation. Provisions in the environmental laws regulating a particular subject, e.g. environmental protection, protected areas or air protection, refer in too general a way to the other legislation that determines their specific application. None of the laws is sufficiently precise about the number, the hierarchy and the approval procedure of secondary legal acts. The consequences are that the implementation of the legislation might be delayed and flawed. Another very important point is the introduction in the primary legislation and not in the regulations of all requirements concerning civil liabilities and rights. These are major differences between the EU environmental legislation and that in Belarus.

Since 1 May 2004, Belarus directly borders new EU member countries such as Poland, Lithuania and Latvia. Belarus may now be a country of origin or an affected country in case of any transboundary adverse impact on the environment resulting from human activities. The Law on State Ecological Expertise currently in effect does not cover all aspects of environmental impact assessment (EIA), and serious discussion regarding the introduction of strategic environmental assessment (SEA) is in its early stages. Therefore, there is an urgent need to develop and implement EIA and SEA legislation in a way that is compatible with the way that these instruments are used in the European Union. Belarus does not yet have a good track record in developing its legislative basis to provide mechanisms for greater public involvement and information sharing within the framework of its environmental legislation. The current provisions on State ecological expertise do not provide for real public participation in the most important environmental decision-making. Also, the legal framework for the public ecological expertise (PEE), as contained in the Law on Environmental Protection, is too general and not applicable because of a lack of detailed rules and procedures.

Institutional developments

The present system of governmental bodies, including their structures and staffing, is determined by presidential decree (February 2004). There are about 40 ministries, State committees and committees under the Council of Ministers.

Ministry of Natural Resources and Environmental Protection

The status and the main tasks of the Ministry are determined by a regulation approved by resolution of the Council of Ministers (2001). The Ministry is responsible in particular for: developing a common State policy on environmental protection and the rational use of natural resources and also on hydrometeorological activities; coordinating the activities of other State authorities, local relevant executive and controlling authorities; controlling the activities in environmental protection, guaranteeing information on the state of the environment, and ensuring that protection and sanitation measures are taken.

The current structure of the Ministry is shown in figure 1.1 (a and b).

At the national level, the Ministry includes six departments, two agencies (geology and hydrometeorology, which are also called “departments” but have a separate legal status), eight specialized inspectorates and a number of subordinated organizations (mostly scientific and research institutions). Specialized inspectorates perform all the tasks of the Ministry linked to the protection and control of the environmental media (including air, water, fauna and flora, and waste). They also cover monitoring and analytical control and ecological expertise. These specialized inspectorates are involved not only in controlling activities, but also in preparing normative acts. They also review strategic documents within their competence from other central authorities when the Ministry’s consent is needed. The role and operations of the inspectorates are assessed in more detail in chapter 2. The departments and specialized inspectorates are subordinated to one of the Deputy Ministers or directly to the Minister.

At the oblast level, there are committees on natural resources and environmental protection, which coordinate the work of local (city and *rayon*) inspectorates on natural resources and environmental protection. These entities are subordinated to both the Ministry and their respective oblast and local authorities (executive committees). There are six oblast committees with a total of 95 inspectors and a city committee in Minsk, and 121 *rayon* and city inspectorates in 118 *rayons* with a staff of two to seven each.

The Department of Hydrometeorology has its own structure at the national and oblast levels, as previously it was a separate State committee.

Since its establishment in 1993, the Ministry's structure has been based on the structure of the former Committee on Natural Resources and Environmental Protection although it was subsequently changed when other institutions, such as the Departments of Hydrometeorology and Geology, were incorporated into it. As a result, its structure and functions are somewhat eclectic and not always logical.

For example, it is difficult to explain why the Division of Information and the Division of Science are administratively within the Special Inspectorate for State Control over the Use and Protection of Water Resources while being subordinated to different Deputy Ministers.

Within the Ministry, there is a certain imbalance between the tasks related to the use and protection of natural resources and those related to environmental protection. There is only one department (geology) with direct functions related to the use of natural resources (mineral resources). The Ministry does not have departments responsible for water use or forestry for instance, although some of these functions are the responsibility of the respective specialized inspectorates. There is a separate Ministry of Forestry. It is not clear which body is responsible for water use and water management. The Central Research and Development Institute of Water Resource Use (CNIKIVR) is subordinated to the Ministry of Natural Resources and Environmental Protection and paid from its budget, but its main purpose is scientific research and it is not a Ministry department.

On the other hand, specialized inspectorates are mainly involved in controlling and monitoring components and factors of the environment and issuing permits. At the same time, they develop environmental legislation and the instruments for its implementation, such as programmes, guidelines and regulations. These functions are better served when policy development and decision-making are separated from monitoring and control. This could be achieved if departments responsible for policy development and decision-making in the relevant areas were created at the Ministry. In addition, international practice suggests that separating the

issuance of permits from enforcement makes both more effective and prevents conflicts of interest. See also chapter 2 on mechanisms for compliance and enforcement.

Other institutions with environmental responsibilities

Other central authorities also perform environmental protection functions. The Ministry of Health is responsible for living and working conditions and the quality of food and drinking water. The Ministry of Agriculture and Food is responsible for soil and agricultural plants protection as well as for monitoring the consequences on land and soil of the Chernobyl NPP catastrophe. The Ministry of Forestry oversees forest conditions, within and outside some of the protected areas. The Ministry of Internal Affairs controls mobile sources of air pollution through its ecological police and assists other State control agencies in environmental protection. The Ministry of Housing and Municipal Services is responsible for municipal drinking-water supply and quality, waste-water treatment, the collection and treatment of municipal solid waste, including from enterprises. The Ministry of Emergency Situations is responsible for handling emergencies and their consequences. The Ministry of Statistics and Analysis collects statistical data on the state of the environment and the pollution caused by enterprises and maintains the related databases.

The Affairs Management Department of the President plays a special role in nature protection with its responsibilities for the management of protected areas (reserves (*zapovedniki*), preserves (*zakazniki*) and national parks). The division of responsibility for protected areas between this Department and the Ministry of Natural Resources and Environmental Protection is discussed in the section below.

In 2003, the former Department of protection of fishing resources and game of the Ministry of Natural Resources and Environmental Protection was transformed into the State Inspectorate on Fauna and Flora Protection under the President of the Republic of Belarus. This Inspectorate is a specialized state body responsible for preventing poaching and illegal logging that exercises the state control over the fauna and flora protection and use.

Figure 1.1a: Structure of the Ministry of Natural Resources and Environmental Protection

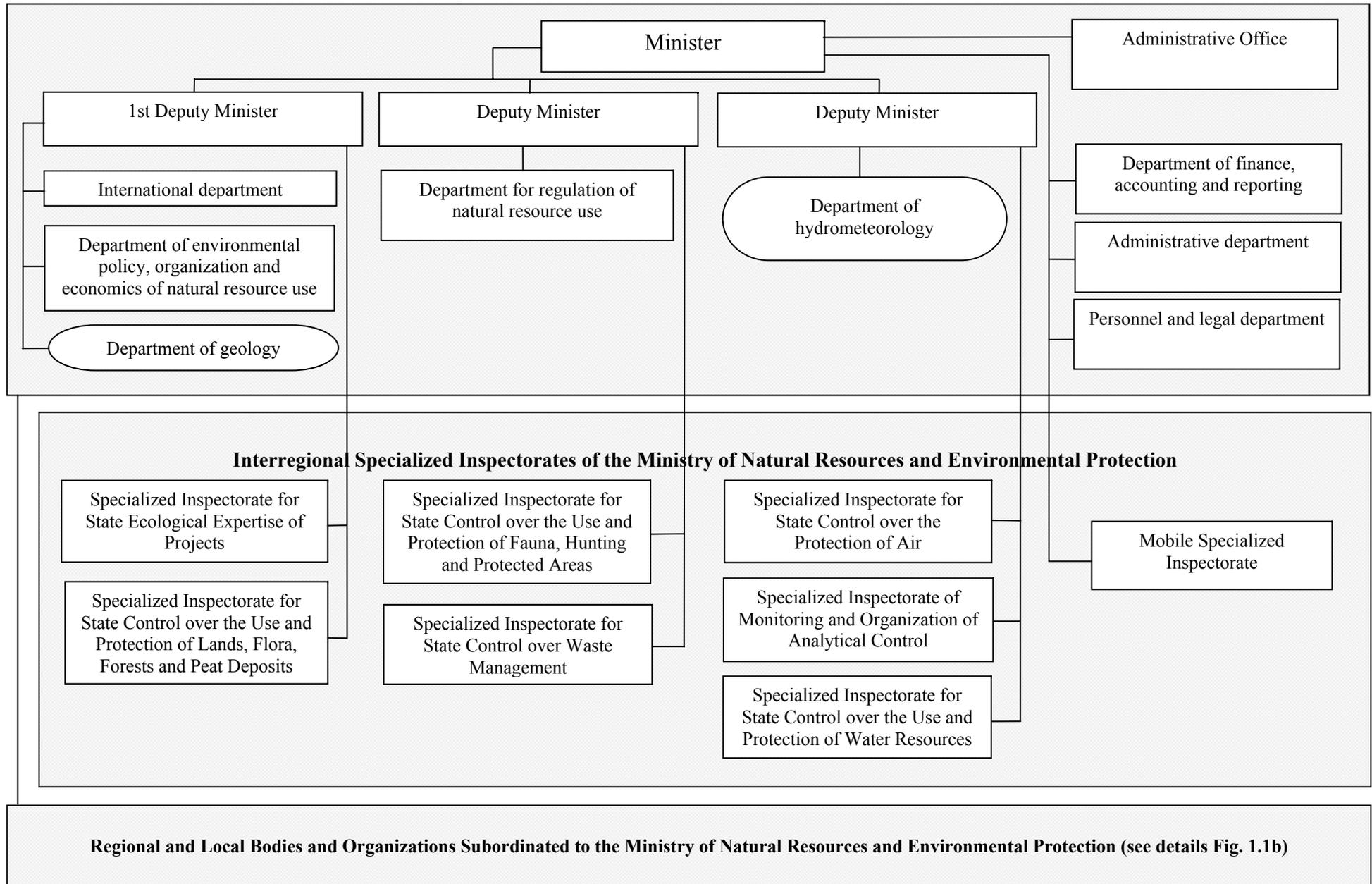
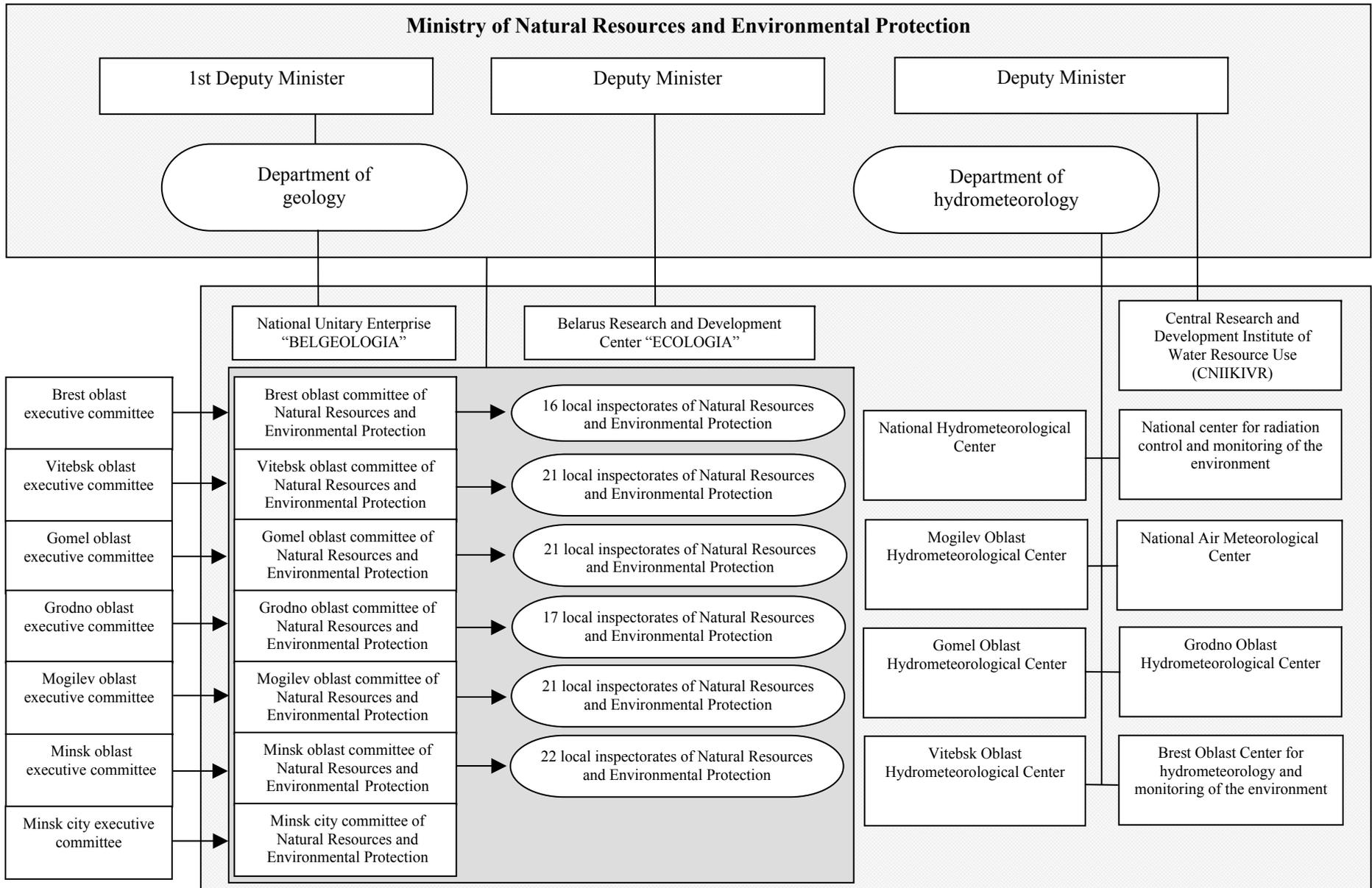


Figure 1.1b: Regional and Local Bodies and Organizations Subordinated to the Ministry of Natural Resources and Environmental Protection



Another group of institutions which tackle environmental problems within the framework of their sectoral policies includes the Ministry of the Economy, which prepares economic development forecasts with a section on the environment and the rational use of natural resources; the Ministry of Energy, responsible for implementing the energy policy, including environmental concerns; the Ministry of Labour and Social Protection, responsible for State control at the workplace and identifying health hazards, including occupational safety; the Ministry of Transport and Infrastructure, which prepares and implements the sectoral programme on transport, including environmental aspects, and the Ministry of Architecture and Construction, which implements urban development policies, a number of which focus on improving environmental quality.

In addition there are other governmental bodies that contribute to the environmental protection policy and the use of natural resources, such as Committee on Land Resources, Geodesy and Cartography under the Council of Ministers, the State Customs Committee (protects unique species of fauna and flora from illegal export and citizens and the environment from the illegal import of dangerous materials), the Committee on Energy Efficiency under the Council of Ministers, and the Committee on the Consequences of the Catastrophe at the Chernobyl NPP under the Council of Ministers.

1.2 Mechanisms for integration and coordination

There is a comprehensive and functional system for policy integration in Belarus, at every level. Decision-making may be weighted in favour of other considerations, including economic, social and political, but environmental impacts need to be taken into account.

At the local level, coordination takes place between oblast environmental committees and *rayon* and city inspectorates. In oblasts, the board (collegium) of the environmental committees may meet with the oblast executive committees to cooperate and to identify and solve environmental problems jointly.

At the national level, integration takes place in the first instance through a State requirement that relevant ministries must review and comment upon all proposals for State programmes. This cross-

ministerial involvement may range from joint preparation of a policy or action document to offering comments on another ministry's proposals. For issues that require a longer-term approach or that may be difficult to resolve, there are other coordination mechanisms at the national level, including working groups, joint board meetings, and national commissions, committees and coordination councils.

Ministries may establish special working groups that meet periodically throughout the year for specific purposes. One example is the Working Group of the Ministry of Natural Resources and Environmental Protection and the Ministry of Health convened to analyse and develop criteria for identifying levels of hazardous waste prior to deciding how to treat or store waste. These two ministries also have working groups to assess water quality and air quality.

The National Environmental Health Action Programme (NEHAP) was prepared by a working group of three ministries: the Ministry of Natural Resources and Environmental Protection, the Ministry of Health and the Ministry of Housing and Municipal Services, as well as their subordinated organizations and scientific institutions. The current NEAP is consistent with the directions set out in the NEHAP for 2001-2005. Issues for working groups may be raised at local and regional levels or initiated at the national level. Examples of other working groups are given in box 1.1.

Ministries may convene joint board meetings to address a precise and significant problem that cannot be handled locally or regionally. For example, recently the Ministry of Natural Resources and Environmental Protection convened a joint board with the Ministry of Agriculture and Food on the subject of obsolete pesticides that are being improperly stored at enterprises.

The collaboration led to the development of a programme of action to deal with the pesticides and the allocation of funds from both ministries to implement it. Joint board meetings may also be organized with non-State actors, such as NGOs. Selected examples of other joint board meetings are provided in box 1.2.

Box 1.1: Examples of working groups

- Working Group for the implementation of the Convention to Combat Desertification, chaired by the Ministry of Natural Resources and Environmental Protection and reporting to it.
- Working Group on the preparation of the new edition of the Land Code, chaired by the Chair of the Committee for Land Resources, Geodesy and Mapping.
- Working Group on that preparation of a State programme for the conservation and reconstruction of meliorated land for 2006 – 2010, chaired by the Ministry of Agriculture and Food. It reports to the Council of Ministers.
- Joint Working Group on the use of gas as fuel for cars, which reports to the Ministry of Energy.
- Working Groups (4) on the implementation of the Intergovernmental agreement between Belarus and Ukraine on the joint use and protection of transboundary waters. The members from Belarus include the Ministry of Natural Resources and Environmental Protection, the Ministry of Emergency Situations, the Ministry of Transport and Infrastructure and the enterprise “Belmeliovodkhoz”.

If a problem cannot be successfully addressed through joint boards or if a ministry seeks the involvement of all or most other ministries, it may bring the issue to the attention of the Council of Ministers. The Ministry of Natural Resources and Environmental Protection availed itself of this procedure to deal with land reclamation. As a result, the problem was considered, a State programme developed and approved and the means to implement it were made available. A second

example is the new programme for clean-up and improvements of cities, which was originally an initiative of the Ministry of Natural Resources and Environmental Protection but is now a two-year State programme involving many State and local actors.

National commissions are established as long-term mechanisms of coordination. In 1996, Belarus set up the National Commission on Sustainable

Box 1.2: Examples of joint board meetings 2003-2004

- Joint Board of the Ministry of Natural Resources and Environmental Protection and the NGO Belarusian Republican Youth on environmental education and implementation of the Aarhus Convention;
- Joint Board of the Ministry of Natural Resources and Environmental Protection, the Ministry of Finance and the Ministry of Taxes and Duties on environment-related economic instruments;
- Joint Board of the Ministry of Natural Resources and Environmental Protection and the Ministry of Agriculture and Food on the management of obsolete pesticides;
- Joint Board of the Ministry of Natural Resources and Environmental Protection, the Ministry of Emergency Situations, the Ministry of Labour and Social Protection, the Ministry of Internal Affairs, the Ministry of Health, the Ministry of Transport and Infrastructure and the Ministry of Communications and Informatization on the transport of hazardous waste.
- Joint Board of the Ministry of Natural Resources and Environmental Protection and the Ministry of Housing and Municipal Services on municipal waste;
- Joint Board of the Ministry of Natural Resources and Environmental Protection and the Ministry of Housing and Municipal Services on water supply and sewerage in cities and rural settlements;
- Joint Board of the Ministry of Natural Resources and Environmental Protection, the Ministry of Transport and Infrastructure and the Ministry of Communications and Informatization on reducing the impact of transport on the environment;
- Joint Board of the Ministry of Natural Resources and Environmental Protection and the State Committee on Aviation regarding runway facilities.

Box 1.3: Main tasks of the National Commission for Sustainable Development

- Examination of suggestions for the development and implementation of the National Strategy for Sustainable Development;
- Coordination of the ministries and other central bodies in preparing programme drafts and actions on sustainable development;
- Analysis of reports and other information submitted by ministries and other central bodies on their activities in environmental protection as fundamental factors of sustainable development;
- Informational materials in the form of reports and plans of actions on sustainable development for submission to the United Nations Commission on Sustainable Development;
- Preparation of programme materials to participate in international events on sustainable development;
- Participation in implementation of international sustainable development initiatives;

The Commission, in accordance with these tasks, has the right to hear reports from ministries and other central bodies on sustainable development issues; to request from them information on issues within its competence; and to involve specialists of the ministries and other central bodies, scientific and other organizations in its activities.

Source: Resolution of the Council of Ministers, No. 197, 20 March 1996.

Development, which has been working continuously since that time. The Commission meets two to four times a year, depending on its work programme. Among other things, it reviews major concept papers from all ministries that have elements of environmental protection, and it gives its opinion on any new strategies submitted to the Government (see box 1.3). The Commission coordinated the preparation of the recently adopted National Strategy for Sustainable Development until 2020. The Commission reports to the Council of Ministers. It includes representatives from ministries and governmental bodies, as well as from academic institutions involved in environmental matters (see box 1.4).

The Commission put a series of targets and indicators in the National Strategy for Sustainable Development until 2020, and much of its future work will be to use these indicators to evaluate implementation, including through other programmes and strategies. There was an attempt to specify targets for each individual ministry, but this did not succeed. In the end, the targets are “national,” but they could serve as an important tool for holding particular ministries accountable. There are, in addition, a number of other inter-ministerial committees, commissions and councils in which the Ministry of Natural Resources and Environmental Protection participates, including:

- The Coordination Committee for the GEF/UNDP Project on “Elimination of obstacles to increasing energy efficiency of

enterprises in the State sector,” which reports to the Committee on Energy Efficiency;

- The Commission on the Energy-saving Programme, which also reports to the Committee on Energy Efficiency;
- The Coordination Council on the implementation of the Stockholm Convention on Persistent Organic Pollutants, which reports to the Ministry of Natural Resources and Environmental Protection;
- The Inter-ministerial Coordination Council on Monitoring, under the supervision of the Ministry of Natural Resources and Environmental Protection; and
- The Coordination Council on Scientific and Technical Issues of Fire Safety, chaired by the Ministry of Emergency Situations.

Other means of effective coordination include inspections, integrated permitting, which is being considered on a pilot basis, and environmental management within enterprises. Beginning in 2004, the State introduced a system of control of environmental activities under all ministries and in all enterprises separate from the inspectorates. Under this system, in each ministry and enterprise, there is a person or persons responsible for ensuring compliance with environmental legislation through staff training, distribution of relevant information and notification of new guidelines. The Ministry of

Box 1.4: Participation in the National Commission on Sustainable Development

The Commission is chaired by the Deputy Prime Minister, with Deputy Chairs from the Ministry of the Economy, the Ministry of Natural Resources and Environmental Protection, and the Ministry of Foreign Affairs. The Ministry of Foreign Affairs provides the Executive Secretary, and the Ministry of Natural Resources and Environmental Protection provides the Secretary.

The members of the Commission are:

- Council of Ministers
- Ministry of Architecture and Construction
- Ministry of Defence
- Ministry of the Economy
- Ministry of Education
- Ministry of Finance
- Ministry of Agriculture and Food
- Ministry of Foreign Affairs
- Ministry of Forestry
- Ministry of Health
- Ministry of Industry
- Ministry of Information
- Ministry of Internal Affairs
- Ministry of Justice
- Ministry of Labour and Social Protection

- Belarusian State University
- BelEnergo Concern
- National Academy of Sciences
- Economic Research Institute

Natural Resources and Environmental Protection facilitates this programme by providing training and methodological assistance. It has also proposed to the Government to initiate a programme to assess the knowledge of all enterprise managers on environmental legislation and regulations.

Although institutional structures are generally clear, sometimes their mandates for the management, inspection and control of the environment partly overlap. For example, the Affairs Management Department of the President is directly responsible for managing protected areas. However, the Ministry of Natural Resources and Environmental Protection and the Ministry of Forestry and their regional structures are responsible for inspection and enforcement of policies within the specially protected areas. Although the Ministry of Natural Resources and Environmental Protection is responsible for the official designation of protected areas and determines their management regimes through the adoption of managements plans (for the national parks), the Affairs Management Department is not obliged to report to the Ministry on implementation of the prescribed regimes (limitations) in *zapovedniks*, *zakazniks* and national parks. In general, there is insufficient coordination

of activities and information exchange between these governmental agencies.

1.3 Implementation of policies, strategies, plans and legislation

Policies, strategies, plans

The rules for reporting are determined by the Regulation on the procedure for the preparation and implementation of State scientific-technical programmes (1998). The periods for analysis of the implementation and regular reporting are 6 months or 1 year. The body to which the report should be sent depends on the level and the subject of the plan or programme, e.g. NEAP implementation should be reported to the Council of Ministers, the State scientific-technical Programme “Ecological Safety” reports annually to its Scientific-Technical Council. As a tool for checking implementation, the reports prove to be a relatively smooth process. The weakness is that they are not made available to the public for wide discussion.

Legislation

As stated above, primary legislation is very declarative and lacks provisions especially for

detailed procedural aspects to implement the requirements of the laws. The tools for application are developed in secondary legislation, mainly in the form of statutes, rules and instructions, approved at different levels, by presidential decree, by resolution of the Council of Ministers, and by order of a relevant ministry. To make the many implementing documents more effective, the provisions in the primary legislation should be more detailed.

As already mentioned in this chapter, the parallel existence of normative acts like laws and codes regulating the same environmental issue creates uncertainty in implementation. The Concept on improving the legislation envisions a more effective system of normative legal acts.

A number of laws have been passed stipulating the right of the public to know and to participate in environmental decision-making. However, in practice, as in many NIS, there are serious gaps between the legislative framework and actual practice. A key gap is the lack of information available to the general public on how it can exercise the right to access environmental information and participate in decision-making on environmental matters. Guidelines on EIA including public participation have been prepared by the World Bank and currently form the basis for the national legislation that the Ministry of Natural Resources and Environmental Protection is preparing on this matter.

The environmental legislation mostly follows a command-and-control approach. There is a need to develop tools for environmental management that are proactive and encourage better environmental performance. For example, integrated permitting should be sufficiently detailed in the law. There is also a need to make a more effective use of market-based instruments, promoting environmental improvements in such economic sectors as agriculture, forestry and mining. The development of eco-labelling and environmental audit should also be considered.

In terms of public access to environmental information and participation in environmental decision-making, Belarus has approved the Aarhus Convention, which commits the Government to developing an operational regulatory framework to ensure the effective implementation of all its provisions.

1.4 Conclusions and recommendations

Belarus has developed a functioning system of coordination and policy integration on environmental issues. This has been achieved through consultation with relevant governmental bodies when preparing legislation and major policy decisions that have an environmental component. Even though the outcome may favour economic, social and political considerations, environmental matters are generally taken into account. The practice of working groups, joint board meetings and inter-ministerial commissions has been productive. However, in certain areas cooperation between various governmental bodies is insufficient and may result in the inefficient use of resources, a lack of transparency in decision-making and damage to the environment. In particular, this concerns forestry and protected areas, including fishing and hunting, where responsibilities are split between the Ministry of Natural Resources and Environmental Protection, the Ministry of Forestry and the Affairs Management Department of the President.

Recommendation 1.1:

The Government should reconsider the competencies of governmental bodies responsible for natural resources use and environmental protection in forestry and protected areas, including fishing and hunting. The Ministry of Natural Resources and Environmental Protection should have overall responsibility for controlling the use of natural resources. The activities of the Affairs Management Department of the President related to the use of natural resources should be made transparent and subject to oversight by the Ministry of Natural Resources and Environmental Protection and to public scrutiny.

The structure of the Ministry of Natural Resources and Environmental Protection has been developed on the basis of the former Committee for Nature Protection with the addition of other previously independent structural units, such as the Departments of Hydrometeorology and Geology. This has resulted in a certain imbalance between the issues of natural resources use and environmental protection. In particular, the Ministry has only limited authority over forestry, protected areas, and water and land resources. In addition, its specialized inspectorates perform simultaneously a number of other functions, namely policy development, issuance of permits, and monitoring and control. International practice

attests that these functions are served better by independent units within or outside the Ministry.

Recommendation 1.2:

The Ministry of Natural Resources and Environmental Protection should adapt its structure to current needs taking account internationally accepted principles. In particular, policy development and decision-making on natural resources use should be separated from monitoring and control. The Ministry should consider establishing relevant departments and assigning the policy development and decision-making functions currently performed by specialized inspectorates to them. It should also consider separating the tasks of issuing permits and enforcement, currently performed by specialized inspectorates. See also Recommendation 2.2.

Belarus has developed a number of strategies, plans and programmes for socio-economic development, including those related to environmental protection and the use of natural resources. Among the most recent and comprehensive is the National Strategy for Sustainable Development until 2020 adopted in 2004. While the objectives of these documents are often well developed, the financial means for their implementation are not spelled out. As a result, many of the well-intentioned programmes are implemented only partially.

Recommendation 1.3:

The Ministry of Natural Resources and Environmental Protection as well as other relevant ministries and institutions, when developing policy documents, such as strategies, plans and programmes, on environmental protection and natural resources use should always include a section on their funding. This section should clearly identify the necessary financing to achieve each objective and the sources of the financing.

Belarus continues to improve its environmental legislation. Special attention should be given to the possible harmonization of the legislation on the use of natural resources and the legislation on environmental protection in order to avoid contradictions in their implementation. In this regard it is expected that the Concept on improving the legislation of the Republic of Belarus, approved in 2002, will contribute to establishing a more effective system of environmental legislation. If the objective of making national environmental legislation compatible with the EU body of environmental law is to be further promoted, as a first step, by facilitating access to the relevant EU Directives by the Ministry of Natural Resources and Environmental Protection should be facilitated and national legal experts should be trained through exchange programmes with EU member countries.

Recommendation 1.4:

The Ministry of Natural Resources and Environmental Protection should initiate the introduction of modern and effective tools for environmental management and the protection of natural resources, such as integrated permits, taking into account the application of best available techniques (BAT); eco-labelling; and environmental management and audit scheme (EMAS) into environmental legislation.

Chapter 2

COMPLIANCE AND ENFORCEMENT MECHANISMS

2.1 The legal and institutional basis for compliance and enforcement

Issuing permits, monitoring compliance and enforcement are parts of the regulatory process. Officials of the Ministry of Natural Resources and Environmental Protection would like to see it as cyclical process with feedback and self-correction in every phase. Feedback from inspection and enforcement is especially important to improve the permitting and law-development process. In fact this is one of the main shortcomings in the regulatory process in Belarus. In general the links between different phases of the regulatory process are quite vague.

Related legislation

The legislation that is the basis for compliance control and enforcement is shown in box 2.1.

There is a strong focus on command-and-control mechanisms instead of compliance assistance and promotion. The result is that operators are not encouraged to implement any environmental protection measures unless these are imposed upon

them. Although there is a system of environmental tax rebates for the investments that operators make, they are not big enough to ensure the introduction of best available techniques, which are much more expensive.

The Law on Local Administration and Self-Governance (1991, with latest amendments 2000) establishes the right of citizens and representatives of public groups to participate in consultations on draft laws or normative acts. However, even though information on new draft laws is available on the Government's website, consultations with the general public are rare. The Ministry of Natural Resources and Environmental Protection has done more than most ministries in this area. The Public Coordinating Ecological Council, consisting of representatives of environmental NGOs, was established in 2001. One of its objectives is reviewing new environmental legislation and revisions of existing legislation and providing advice on this matter.

The Ministry's specialized inspectorates take part in the development of laws. Oblast Committees

Box 2.1: Legislation

- Constitution (arts. 34, 46 and 55) (1994, amended in 1996)
- Law on Environmental Protection (1992, amended in 2002)
- Law on State Ecological Expertise (2000)
- Law on Specially Protected Natural Areas (1994, amended in 2000)
- Law on Natural Resources Use Tax (Ecological Tax) (1991)
- Law on Industrial and Domestic Waste (1993, revised in 2000)
- Law on the Use and Protection of Fauna (1996)
- Law on Air Protection (1997)
- Land Code (1999)
- Water Code (1998)
- Code on Mineral Resources (1997)
- Forest Code (2000)
- Law on Flora (2003)
- Law on the Protection of the Ozone Layer (2001)
- The Concept of State Policy in Environmental Control (1995)

make their comments on the draft legislation. During the preparation of laws their economic and environmental impact is not assessed.

Environmental laws in Belarus are often too declarative and not specific enough. There is not enough detail about the implementation mechanisms. The establishment of secondary legislation (e.g. regulations on permitting) is not always based directly on the law but often has a vague legal base, which can lead to problems in court cases (including infringement procedures). The regulations have sometimes been established by the Council of Ministers without any reference to a legal basis. The secondary legislation is not enacted together with the law, so the practical enforcement of the law can be ineffective for a long time. In some areas of environmental protection the procedures for issuing permits are established by the regulations of the Ministry of Natural Resources and Environmental Protection.

The conditions under which new laws are coming into force are established by the Law on Normative Legal Acts. Environmental requirements are uniform for the entire country and regional and municipal authorities cannot establish stricter requirements. Industry is in general not informed in advance about changes in legislation. Even if, in some cases, the period for enacting the laws is extended, this is not enough to give the facilities time to comply with the requirements. Industry needs to be involved in law development and the setting of new standards.

Implementing authorities

The main State authority responsible for permitting and enforcement in environmental and nature protection is the Ministry of Natural Resources and Environmental Protection. In addition other State bodies with specific environmental control functions have been established.

The Ministry has six oblast committees, Minsk city committee and 121 *rayon* and city inspectorates for natural resources and environmental control, which all share the functions of permitting and enforcement of environmental legislation.

There are a number of other State bodies authorized to exercise environmental control on behalf of the State:

- The land inventory, the State soil cadastre, control over land use and protection, and the land-use planning system fall within the competence of the State Committee for Land Resources, Geodesy and Cartography.
- Occupational medicine, control over drinking water and food quality, observance of sanitary rules for the upkeep of streets and parks are within the competence of the Ministry of Health and its inspectorates.
- The State Customs Committee exercises environmental protection functions by taking measures to combat the illicit export, import and transit of animals and plants (or their parts and derivatives) whose trade is regulated by international treaties as well as the import of goods which may be hazardous for the population or the environment. They cooperate with the environmental authorities to meet the requirements on transboundary movements of hazardous waste regulated by the Basel Convention.
- The Ministry of Internal Affairs is responsible for the protection of atmospheric air from the detrimental effects of transport and renders assistance to environmental protection bodies in State environmental control. The Ministry has ecological police units.
- The Affairs Management Department of the President exercises control over national parks and reserves of national importance. The State Inspectorate on Fauna and Flora Protection under the President of the Republic of Belarus exercises the state control over the fauna and flora protection and use and prevents poaching and illegal logging.

The following organizational units of the Ministry of Natural Resources and Environmental Protection exercise State supervision over environmental legislation:

- Specialized Inspectorate for State Control over the Protection of Air;
- Specialized Inspectorate for State Control over the Use and Protection of Water Resources;
- Specialized Inspectorate for State Ecological Expertise of Projects;
- Specialized Inspectorate for State Control over the Use and Protection of Lands, Flora, Forests and Peat Deposits;

- Specialized Inspectorate for State Control over Waste Management; and
- Specialized Inspectorate for State Control over the Use and Protection of Fauna, Hunting and Protected Areas.

The main tasks of the inspectorates are the development of legal acts, inspection of large industries including refineries, chemical enterprises, energy installations, enterprises producing pesticides and metallurgical enterprises, as well as matters related to greenhouse gases (GHG) and protection of the ozone layer.

The Ministry of Natural Resources and Environmental Protection at national, oblast or *rayon* levels inspects enterprises, takes measurements and imposes fines.

Some overlap can be seen at the subnational level concerning the activities of the local branches of the Ministry and the local authorities. The latter regulate and supervise the use of land and water, forests, hunting, fisheries and other resources based on the requirements of existing legislation. For these purposes the local councils elect permanent commissions. The local environmental authorities are subordinated to the Ministry and to their local government. The local authorities carry out inspections but do not issue permits (with the exception of waste and air permits for small and some medium enterprises) although they are involved in the permitting process. They give their agreement before the oblast issues permits. Their work is overseen by the oblast authorities, which sometimes leads to conflict. The Ministry also carries out its own inspections; this duplication of inspections can be seen in all fields of environmental protection and at all levels.

2.2 Permitting procedures

Permits for the use of natural resources are issued by the Ministry or by the agencies for land resources, forestry and sanitary and epidemiological supervision. Their responsibilities are defined according to the scope of their activity. National and regional permitting procedures are the same and there have been no changes during the past five years. The main steps are:

- 1) The operator submits a formal application and other required documents;
- 2) The authority registers these documents;

- 3) The authority decides whether to issue a permit or to reject the application;
- 4) The authority imposes conditions if deemed necessary; and
- 5) The authority may suspend or cancel the permit.

The permit conditions are usually reviewed every five years. During the review, the results of inspections can be taken into account and special conditions added. There is an ongoing project in Grodno oblast to establish an integrated approach to permitting. The experience gained from this can be used for the establishment of a nationwide integrated permitting and enforcement system. The purpose of integrated permitting system is to move away from the existing system where different approaches to controlling emissions into air, water or soil separately may encourage the shifting of pollution from one environmental medium to another rather than protecting the environment as a whole. In addition, such a permitting system would ensure that the competent authorities grant or amend a permit only when integrated environmental protection measures for air, water and land have been laid down. Emission limits, parameters or equivalent technical measures would be based on the best available techniques.

It is possible to include pollution reduction conditions in the permits. The local authorities can set emission limits that take into account the cumulative pollution effect from all the industries in the region. This approach is used in Belarus for setting air emission limits based on the results of dispersion calculations that are done for the whole area. Such a system allows at least some emission reduction requirements to be set, but lacks the principles of integrated pollution prevention and does not impose best available techniques. Economic instruments are used to force operators to fulfil the requirements. If the established limits are exceeded, the operator should pay pollution charges at a higher rate. Similarly, the permitting procedure in place in Belarus in practice serves mainly to collect pollution charges rather than achieve the aim to regulate the use of nature or environmental protection.

2.3 State ecological expertise (SEE) and other procedures for environmental assessment

The Law on Environment Protection stipulates the principle of mandatory State environmental

(ecological) expertise. The details are set out in the Law on State Ecological Expertise. The latter establishes the principles of environmental impact assessment (EIA), which is performed according to the Instruction of the Ministry of Natural Resources and Environment Protection adopted in 2001. It establishes the procedure and defines the types and scale of economic activities for which EIA is compulsory.

In principle the system of ecological expertise is continuously used. The last Law on State Ecological Expertise was adopted in 2000 and there are plans to amend it to include a procedure for involving the public and broadening the parts related to EIA and strategic environmental assessment (SEA). The Ministry is trying to develop legal acts closer to EIA and SEA and guarantee that these will contain the main guidelines already in international conventions and protocols. Belarus is a Signatory to the Espoo Convention and is considering ratifying it.

An ecological expertise is carried out for new and reconstructed facilities. The Law also requires the project to include a special section related to EIA, which is carried out by the applicant. At the post-design stage, once an enterprise starts up, compliance is controlled by inspectors and environmental audits are done by enterprises when necessary, for example when ownership changes. One of the special features of the current Law is that ecological expertise is free of charge for the enterprise.

Responsibilities for carrying out ecological expertise depend on the purpose. The Ministry's Regulation on Procedures for State Ecological Expertise (2001) divides the responsibilities for ecological expertise between the Ministry and the oblast and *rayon* environmental authorities. The division is based on the size and importance of the installation or project. The Ministry of Natural Resources and Environment Protection is responsible for the largest and most important installations, while the oblast and local (*rayon*) inspectorates deal with the rest. The Regulation also lists the projects that are exempted from the ecological expertise.

The Ministry alone reviews about 400 installations annually. The most important stage is planning. If the Ministry does not think that it has the appropriate experts, it will invite independent

experts and representatives of other ministries to participate in the expertise.

Belarus is only just introducing environmental audits. However, if a request comes from the public for a certain installation, they will respond with an assessment (which they refer to as an ecological expertise). Citizens have the right to introduce proposals for public ecological expertise and to participate in it. Public associations that are active in environmental protection have the right to organize and conduct public ecological expertise according to established procedures. These are based on the Law on Environmental Protection. The decision of the public ecological expertise can be sent to the bodies that conduct the State ecological expertise, local executive and administrative bodies and also to other interested persons and is recommendatory. The cost of public ecological expertise is borne by its initiators – public associations and/or citizens.

Belarus issues ecological passports. By order of the Ministry the operators of enterprises are obliged to obtain this document, which includes data on the use of resources (natural and derivative) by the operators and an estimation of the environmental impact of their activities. The data on the use of natural resources, polluting emissions and effluents, waste management and other environmental effects are recorded in the ecological passport and in the State statistics register.

Enterprises have begun to request ecological certification (ISO 14000). In 2003, six enterprises were certified and two of them have international certificates. Belarusian standards for ecological certification based on ISO 14000 series have been published. This process is promoted by legislation that states that enterprises that go through certification for the first time will get a 10% reduction in pollution charges during three years (currently only implemented for pollution charges).

Belarus is at the very early stage of considering accession to the Protocol on SEA. There is no formal procedure yet for SEA, but there is a procedure to request all ministries to comment on strategies, plans and policies initiated by other ministries.

2.4 Self-monitoring by enterprises

The monitoring of compliance with environmental permit requirements is done by the operators

themselves (industrial self-monitoring) and the Ministry of Natural Resources and Environment Protection. Its monitoring network has 2624 sampling points, which are listed in the State Register. There are over 50 accredited analytical laboratories. The Committee on Standardization, Metrology and Certification under the Council of Ministers sets the criteria for accreditation.

Only the operators of major industrial sites have their own analytical laboratories. Smaller sites rely on the services of independent laboratories. Due to the lack of financial resources it is also hard for them. Only a limited set of parameters can be monitored due to the lack of instrumentation, relevant methodological support and qualified staff.

The quality of equipment available at national and local State-owned laboratories and the qualification of their staff vary greatly.

If self-monitoring were imposed by the competent authorities, this would improve control over the environmental impacts and guarantee an earlier proactive response to instances of non-compliance. The operators would have higher environmental awareness due to the creation of a mechanism for educating them about the need for complying with relevant laws, regulations and permits.

Although the self-monitoring results are considered reliable, there is a possibility of misreporting by laboratory staff. The legal enforcement to avoid such cases is too lax. The infringement of self-monitoring conditions is not covered by sanctions so far. Nevertheless, self-monitoring has had a positive influence on compliance with permit conditions. The Ministry intends to supervise self-monitoring laboratories more strictly and to introduce verification system for them.

Emission limits in the permits are checked by calculation rather than by analytical means. Monitoring requirements have been introduced in recent environmental laws but more detailed by-laws are needed.

It is not yet clear to many that self-monitoring does not mean self-regulation. It should be understood that self-monitoring merely provides information that the competent authorities can use to judge whether the operator is complying with relevant legislation and permit conditions.

2.5 Compliance and enforcement capabilities

Permitting and inspections are performed by the same institution and very often by the same persons. Inspection procedures are the same at the national and local levels. Inspection procedures are laid down in a special guidance document but it is hard to assess if it is always followed. In general the inspections are planned but unscheduled checks are also possible; they can also be initiated as a result of an emergency. The inspectors normally check whether the legal and permit requirements are met and whether environmental charges have been paid. Integrated inspections are done mostly by the Ministry's specialized inspectorates, as highly qualified inspectors with specific expertise are required.

The results of inspections are given in table 2.1. The number of inspections and fines has been constantly rising. The number of inspections per inspector is relatively high, which can mean that the inspections are not comprehensive enough. The fines can be imposed only by the heads of inspectorates and the inspectors themselves lack the power to bring the legal procedure to a successful conclusion. As the inspectors also issue permits, they may be less motivated to uncover fully non-compliance at the site. There is also a risk that the operators do not take the inspections seriously and that serious infringement procedures can be avoided. There is a need to train the court system in the legal procedures of infringement so that the operators can assert their rights and defend themselves in a court of law. This will raise the awareness of both operators and inspectors about their rights and obligations.

Implementation of environmental management systems by the operators may improve relations between inspectors and industry. The companies that are certified according to ISO 14000 should have less frequent inspections and benefit from a more positive attitude from the inspecting authority and from the public.

The main types of enforcement actions are:

- Prescription for corrective actions;
- Administrative sanction (warning, penalty);
- Environmental damage compensation claim;
- Legal action through the court;
- Shutting down the facility; and
- Cancelling the permit.

Table 2.1. Results of inspections, 2000-2004

Indicator	2000	2001	2002	2003	2004
Number of inspections	59,571	66,042	91,808	194,892	297,900
Number of written notifications	24,616	29,741	32,039	45,523	55,341
Number of fines	21,089	25,577	26,323	37,048	48,085
Fines related to the number of inspections, %	35.4	38.7	28.7	19.0	16.1
Fines related to the number of written notifications, %	85.7	86.0	82.2	81.4	86.9
Number of damage claims	758	739	607	709	957

Source: Ministry of Natural Resources and Environmental Protection, 2005.

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The main types of enforcement actions are:

- Prescription for corrective actions;
- Administrative sanction (warning, penalty);
- Environmental damage compensation claim;
- Legal action through the court;
- Shutting down the facility; and
- Cancelling the permit.

These actions are decided on by the Ministry's regional or local bodies following the results of inspections. Some administrative sanctions can be imposed only by the courts. Others are imposed by the administrative committees and the heads or deputy heads of the inspectorates. The most frequently used enforcement tools are the prescriptions for corrective actions, warnings and penalties. Legal actions through the courts are not very frequent. Decisions to shut down industrial operations are rare. Criminal prosecutions are also rare (about 1 case per 1000 revealed violations).

One of the ways damage can be compensated is to restore the initial situation. However, in the case of environmental damage, the offender can rarely do this. To mitigate the situation, the court may decide to restore the initial situation at the offender's expense. Despite the difficulties with collecting the money, the ratio of collected to imposed non-compliance fees is good. If the violator cannot pay for the damage, part of his property can be confiscated by the order of the court to pay the debt.

One additional instrument of environmental protection in the future could be an agreement between the State authorities and the operators to reach specific environmental targets. Such agreements might involve, for example, undertaking an environmental audit and certification instead of State inspection. This could include the implementation of environmental management systems.

Institutional capabilities

At present it is difficult to recruit highly qualified staff because salaries are low and the public authorities are not held in high esteem. The inspectors have increasingly been assigned additional functions by the central and local authorities. The result has been a loss of staff. The capacity of inspectorates depends on the number of staff, which seems to be inadequate. At the same time the training programmes for inspectors are used quite effectively. The Ministry often invites external experts, including specialists from universities, to give lectures. Programmes are organized for new inspectors, as well as for experienced staff who have a possibility of enhancing their qualifications.

There is a lack not only of inspectors but also of lawyers and other professionals with a background in ecology and environmental sciences. This largely explains the low quality of the procedural documents and actions brought to court.

The rights and obligations of staff are regulated by the Law on the Civil Service. There are also measures to combat corruption. These include control from special State authorities and severe sanctions including imprisonment.

In addition to State supervision and State environmental inspectors, there is a system of

public environmental inspectors. It is established by the Law on Environment Protection. Public inspectors contribute to compliance control and they act mainly to protect animal species and fisheries. They often inform the State authorities about illegal dumping, illegal construction and other infringements that they uncover.

2.6 Comparison between mechanisms for compliance and enforcement in Belarus and common practices in EU countries

Belarus is working to adjust its legislation to international environmental agreements and commitments. It is also attempting to make it compatible with European Union environmental legislation on compliance and enforcement. As neither UNECE nor EU set general standards for mechanisms for compliance and enforcement, only a comparison with common practices in EU countries can be made. EU has approved recommendations that most of the EU member States follow in the practical organization of their inspection and enforcement systems. In view of these EU recommendations, the following observations can be made regarding the system in Belarus:

- *Environmental inspections should be planned and the plan or plans for environmental inspections should at all times cover the entire country. Such a plan or plans should be available to the public.* In Belarus inspection plans exist, but they are not available to the public in advance.
- *Plans for environmental inspections should take into account relevant available information in relation to specific sites or types of controlled installations, such as reports by operators of controlled installations made to the authorities, self-monitoring data, environmental audit information and environmental statements, in particular those produced by controlled installations registered according to ISO 14000 standard, results of previous inspections and reports of environmental quality monitoring.* In principle this requirement is followed in Belarus but the data that serve as a basis for drawing up the plans are often incomplete. Self-monitoring data, environmental audit information, environmental statements and environmental quality monitoring are often missing.
- *If site visits are to be carried out by more than one environmental inspecting authority, they should share information on each other's activities and, as far as possible, coordinate site visits and other environmental inspection work. The findings of site visits should be contained in reports and shared, as necessary, between relevant inspection, enforcement and other authorities at national, regional or local levels.* The reports of site visits by one inspecting authority are available to the others, but it is hard to assess whether there is any interest in following them up.
- *Inspectors or other officials entitled to carry out site visits should have a legal right of access to sites and information for the purposes of environmental inspection.* There are no major obstacles in Belarus to officials entering sites for environmental inspections. If an operator illegally restricts an inspector's access to the site the law foresees sanctions.
- *The inspections should cover the full range of relevant environmental impacts, in conformity with the legal requirements, the environmental inspection programmes and the inspectorates' organizational arrangements, and should aim to promote and reinforce operators' knowledge and understanding of relevant legal requirements and of the environmental impacts of their activities.* Taking into account the high number of inspections compared to the number of inspectors and their workload connected with other activities, including permitting, it is hard to believe that inspections are thorough enough.
- *The installation's risks to and impact on the environment should be considered in order to evaluate the effectiveness of existing permitting or licensing requirements and to assess whether improvements or other changes to such requirements are necessary.* In practice, the feedback from the inspection results to the permitting or licensing process is insufficient and this situation needs to be improved.
- *Non-routine site visits should be carried out to investigate serious environmental complaints, serious environmental accidents, incidents and non-compliance, as soon as possible after these come to the notice of the authorities.* In Belarus this is done but environmental complaints from the public are rare.

- *Non-routine site visits should take place to determine whether and on what terms a first permit for a process or activity at a controlled installation should be issued or a proposed site accepted, or to ensure compliance with the requirements of an authorization, permit or licence after it has been issued and before the start of the activity, also if needed before the reissue, renewal or modification of permits. Non-routine inspections before the issuing or renewal of a permit is not common practice in Belarus.*
- *After every site visit the inspecting authorities should store in data files the inspection data and their findings as to compliance with legal requirements and whether any further action should follow, such as enforcement proceedings, including sanctions, the issuing of a new or revised permit or follow-up inspections. Reports should be finalized as soon as possible. There is no database with inspection reports in Belarus.*
- *Such reports should be properly recorded in writing and maintained in a readily accessible database. The full reports should be communicated to the operator and be publicly available within two months of the inspection taking place. In Belarus the inspection reports are communicated to the operator but they are not publicly available.*
- *Serious accidents, incidents and occurrences of non-compliance with legislation, whether these come to the attention of the authorities through a complaint or otherwise, should be investigated in order to clarify the causes of the event and its impact on the environment. The authorities should determine action to be taken to prevent further accidents, incidents and occurrences of non-compliance and enable enforcement action or sanctions to proceed if appropriate. They should ensure that the operator takes the necessary follow-up action. In principle in Belarus these requirements are fulfilled although the follow-up to ensure the prescribed compliance actions are not always performed.*

2.7 Conclusions and recommendations

The main shortcomings for the effective functioning of mechanisms for compliance and enforcement are connected with the incomplete legal basis and insufficient institutional basis for the

implementation of newly established legal requirements. Ambiguous terms and definitions together with contradictory legislation also cause difficulties for implementation. There is a need to overcome the communication problems between different institutions especially between drafters of legislation, legislators and enforcement authorities.

Environmental permitting, inspection and enforcement operate simultaneously at three levels – national, regional and local. There is need to clarify the responsibilities of staff at all these levels and optimize existing and mobilize other resources. This would mean a significant reduction in the number of institutions and strong reinforcement of their supervisory capacities.

In the existing system where the issuing of permits and inspections are often performed by the same unit and even the same person, there is potential for conflicts of interest. Separating these functions encourages inspectors to uncover environmental non-compliance. At the same time, information flows between the institutions responsible for compliance and enforcement at different levels are insufficient, including coordination between national, oblast and local environmental authorities.

The enforcement authority's response to non-compliance should be proportionate. This means that it will range from simple routine reviews in compliant situations and a revision of emission limits if the environmental impact is unacceptable, to prosecution and court action if legislation requires this or if non-compliance is serious. Administrative fines and other sanctions for legal persons should be established, and relatively low and inefficient fines should be reconsidered. The inspection reporting system should be improved and the possibility of making inspection reports public should be considered.

Recommendation 2.1:

The Ministry of Natural Resources and Environmental Protection should optimize the human and other resources of the institutions responsible for permitting, supervision and enforcement by separating the authority to issue permits from that to enforce compliance. For this purpose, it may set up a department independent from the specialized inspectorates to deal with environmental permitting. MNREP should also reassess the role of the specialized inspectorates in order to strengthen their supervisory capacities and enforcement functions.

Currently the main aim of the permitting system is to set the base for environmental charges. Separate permits and emission limits for different types of pollution and environmental impact are less efficient than the system of integrated permits widely used in many countries. The purpose of integrated permitting is to move away from a system where different approaches to controlling emissions into the air, water or soil separately may encourage the shifting of pollution between the various environmental media rather than protect the environment as a whole. Integrated permitting facilitates the introduction of best available techniques.

Recommendation 2.2:

The Ministry of Natural Resources and Environmental Protection should consider introducing integrated environmental permits and draft appropriate legislation, including the necessary by-laws. The changes should ensure that permits contain requirements for a high level of protection of the environment as a whole and a reduction in emissions based on the comparison with the best available techniques.

The rights and obligations of environmental inspectors, including the rules of procedure during inspections and enforcement actions, are not clearly

defined in the legislation. There is no definition of self-monitoring and its forms, nor of the enforcement actions in the event of non-compliance with self-monitoring obligations. There is no centralized database for data collected by operators through self-monitoring that can be made available to the public. Operators do not always have the necessary expertise, equipment and analytical facilities to carry out the activities specified in the self-monitoring programme. The requirements of self-monitoring are not included in the permit conditions.

Recommendation 2.3:

(a) The Ministry of Natural Resources and Environmental Protection should develop the necessary legislation to regulate the rights and obligations of environmental inspectors and the enforcement of self-monitoring requirements;

(b) The Ministry of Natural Resources and Environmental Protection should ensure that self-monitoring requirements are included in the permits, data obtained from self-monitoring are used as part of the general monitoring system, and uniform quality assurance requirements apply to both governmental monitoring and self-monitoring systems.

Chapter 3

INFORMATION, PUBLIC PARTICIPATION AND EDUCATION

3.1 Introduction

The 1997 environmental performance review recommended that Belarus should strengthen its environmental policy framework, for instance, by:

- Completing the introduction of a *unified environmental monitoring system* that supports policy-making;
- Further developing environmental information and its availability for the public and various sectors in society, and encouraging the participation of *environmental NGOs* in environmental policy-making; and
- Continuing to support *environmental education and training* programmes.

In response, Belarus has taken legal, institutional, financial and other action, which is presented and evaluated below.

3.2 Environmental monitoring

In Belarus today, there are 13 types of environmental or environment-related monitoring, 11 of which are combined in the National System of Environmental Monitoring (NSEM).

Atmospheric air monitoring

Ambient air quality is monitored in 16 Belarusian cities, which are home to some 65% of the urban population. In addition, there is a transboundary air-monitoring station in Vysokoye on the western border of Belarus and an integrated background monitoring station in the Berezinsky Biosphere Reserve. The number of air-monitoring stations of the Ministry of Natural Resources and Environmental Protection increased from 49 to 53 between 1996 and 2004 (see map 3.1). It also has few mobile laboratories to measure air quality in areas close to polluting enterprises and major roads as well as in recreation areas. The Ministry of

Health has one permanent monitoring station in the city of Mogilev.

The current ambient air-monitoring network remains insufficient, however. To meet the requirements of national regulations there should be 15 stations instead of the current 11 stations in Minsk and 5 (instead of 4) in Gomel. Furthermore, there should be at least one monitoring station each in Baranovichi, Borisov, Lida and Zhlobin. Six mobile laboratories will have to be purchased to cover urban areas and resorts that are currently not covered. However, with one such lab costing at least US\$ 60,000 it cannot afford to do so. The authorities are considering establishing three more transboundary stations to participate in EMEP under the UNECE Convention on Long-range Transboundary Air Pollution. These would be located in the city of Mstislavl' near the border with the Russian Federation, Lelchitsy near the border with Ukraine and Braslav near the borders with Latvia and Lithuania.

The number of parameters measured varies from 6 to 32 in individual cities, with the biggest number measured in Mogilev. The parameters for each city (except Novogrudok) cover the concentrations of, at least, total suspended particulates, sulphur dioxide, carbon monoxide, nitrogen dioxides, formaldehyde, lead and cadmium. Samples are taken three or four times a day (except on Sundays and official holidays). Following the findings in the 2002 World Bank study there are efforts under way to start measuring concentrations of particulate matter (PM₁₀ and PM_{2.5}) and ground-level ozone in ambient air.

In early 2005 there was only one automatic station in the country (in Mogilev). Only 12 of all permanent stations in the country met the national standards for measurements of average daily concentrations of pollutants in ambient air.

Table 3.1: Maximum allowable concentrations of selected air quality parameters

Pollutant	Standard ($\mu\text{g}/\text{m}^3$)	
	24 hours	20 min.
Nitrogen dioxide	100	250
Benzopyrene	0.001	..
Benzene	100	300
Lead	0.300	1
Sulphur dioxide	200	500
Carbon monoxide	30,000	50,000
Ozone	30	160
Toluene	..	600
Formaldehyde	3	35

Source: National Centre for Radiation Control and Environmental Monitoring, Minsk, 2004.

Measurement results are compared with the maximum allowable concentrations (MAC) (24-hour average and/or 20-minute limits). Contrary to WHO and EU air-quality criteria, there are no annual or hourly limit values in Belarus. It is, therefore, nearly impossible to compare Belarusian and international air-quality standards. Table 3.1 lists some Belarusian standards. To adopt international standards Belarus would have to ensure the continuous measurements of air quality, which only automatic stations can do.

Air-quality reports use an air pollution index for each monitoring station and city monitored. The index compares mean annual concentrations with a pollutant's limit value. In 2003 the aggregated air pollution index for five parameters (total suspended particulates, sulphur dioxide, carbon monoxide, nitrogen dioxides and formaldehyde) was highest in Gomel and Rechitsa, while in Grodno, Novopolotsk, Polotsk, Svetlogorsk and Vitebsk it was only slightly above "normal". In 2003 some 46% of the urban population covered by regular air quality monitoring were occasionally exposed to high concentrations of pollutants in ambient air.

Two monitoring stations in Minsk measure the total concentration of ozone in the atmosphere, the vertical ozone distribution and the biologically active UV radiation.

Water monitoring

The National Centre for Radiation Control and Environmental Monitoring (NRCCEM) monitors surface water quality at 134 observation points, 203 gauges in 70 rivers, 14 lakes, 10 reservoirs and 1 canal in the basins of the rivers Zapadnaya Dvina,

Neman, Zapadnyi Bug, Dnepr and Pripjat (see map 3.2). Most observation points are near large urban areas and industries with a significant adverse impact on the water environment. Since 2003 water sampling and analysis has started at 11 transboundary gauges. Since 1 April 2004 water quality has been monitored at 35 observation points on transboundary rivers.

There is no monitoring of diffuse pollution of surface waters. The geographical distribution of observation points is biased towards big rivers. There are few observation points on lakes and small rivers. To adopt a modern approach to surface water monitoring, Belarus would have to set up at least 15 background monitoring stations (i.e. 10% of the overall water-monitoring network).

Some 50 parameters are used to assess water quality, including chemical composition, suspended and organic matters, biogenic parameters, main pollutants, heavy metals and pesticides. Samples are taken 4 to 12 times a year. There is no automatic monitoring station to ensure continuous water-quality monitoring in Belarus.

Hydrochemical measurements are supplemented by hydrobiological observations to provide an integrated assessment of the state of water ecosystems. These observations are made at 95 stationary points and 138 gauges in 74 water bodies. Four parameters are measured: phytoplankton, phytoplankton, zooplankton and zoobentos. The frequency of these observations has been generally reduced from 7 to 3 times a year owing to resource constraint.

Map 3.2 Surface water observation network



Table 3.2: Maximum allowable concentrations of selected water-quality variables for fisheries

Parameter	Limit value
Dissolved oxygen	4.0 - 6.0 mg/litre
BOD ₇	3 mg/litre O ₂
Nitrite as N	0.02 mg/litre
Nitrate as N	9.1 mg/litre
Nitrogen	0.39 mg/litre
Chloride	300 mg/litre
Sulphate	100 mg/litre
Mercury	0.01 µg /litre
Cadmium	5 mg/litre
Chromium	5 µg /litre (Cr+3) 1 µg /litre (Cr+6)
Copper	1 µg /litre (Cu+2)
Zinc	10 µg /litre (Zn+2)

Source: National Centre for Radiation Control and Environmental Monitoring, Minsk, 2004.

Water quality is measured against the established maximum allowable concentrations of pollutants (see table 3.2). The Belarusian limit values are generally more stringent than the international ones. Nitrites, ammonium, metals, phenols, and oil products are the most widespread pollutants of surface waters.

Surface water quality reports use a water pollution index for chemical quality and three indices for biological quality. For chemical quality the index is based on six parameters – dissolved oxygen, BOD-5, ammonia, nitrite, oil products and zinc. According to the water pollution index, 41% of surface waters were classified as relatively clean, 58.4% as moderately polluted and 0.6% as extremely dirty in 2003. The most polluted river stretches were Uza down from Gomel, Pripyat down from Pinsk, and Svisloch down from Minsk and near the Svisloch settlement.

Groundwater is monitored at background stations, water intake points and in some aquifers. From 1999 to 2004 the total number of permanent observation points decreased from 141 to 101 and of permanent groundwater wells from 1,656 to 1,093, owing to financial difficulties of the Geology Department of the Ministry of Natural Resources and Environmental Protection. Optimization of groundwater monitoring under resource constraints may include dispersion of the observation points, where appropriate, and the discontinuation of monitoring in well protected aquifers.

Samples are taken one to four times per year depending on groundwater conditions in wells. The samples are analysed according to 26-56 parameters, including the content of principal ions, iron, manganese, nitrogen compounds, dissolved

organic substances, heavy metals and pesticides. Groundwater represents 93% of total drinking water supply in Belarus and its quality generally meets drinking-water standards. Groundwater quality is

compromised in some areas due to leaching from landfills, pesticide disposal sites, manure storage sites and abandoned military bases. At present, nitrate concentration in water in 70% of groundwater wells exceeds the limit value. The Soligorsk Potassium Combinat is the biggest threat to aquifers in the area.

Land monitoring

There is no comprehensive observation network for land monitoring. Soil quality is monitored at separate test sites to investigate changes in soil properties as a result of irrigation, erosion, the use of mineral and organic fertilizer and other agricultural inputs. Oblast engineering and research stations conduct five-yearly agrochemical surveys to track the use of chemicals in agriculture. According to soil observations, 491,200 ha of agricultural land are eroded. Furthermore, 1.4 million ha of land are vulnerable to water erosion and 3.4 million ha are vulnerable to soil degradation.

Soil contamination is monitored around large industrial sites and near major highways in 45 cities. Nine pollutants are monitored and results reveal that in a number of urban areas the soil is contaminated with cadmium, lead, zinc and oil products. 100 reference stations in all six oblasts study overall background soil contamination. Residue of 17 pesticides in soil is also monitored on 4,000 ha of agricultural land in 29 districts.

Radiation monitoring

Radioactive contamination of the atmosphere is monitored by means of daily measurements of gamma-radiation exposure (GRE) doses at 56 stations, radioactive fallout from the atmosphere at 30 stations and radioactive aerosol content in the air in 6 cities. GRE is measured at automated stations in the areas close to the Chernobyl (Ukraine), Ignalin (Lithuania), Rovno (Ukraine) and Smolensk (Russian Federation) nuclear power stations. Radioactive contamination of surface water is monitored monthly on five points on the rivers of Dnepr, Sozh, Pripyat, Iput and Besed to determine their caesium-137, strontium-90 and aggregate beta-activity content. Radiation monitoring of the soil is conducted at 123 reference sites and 18 geochemistry landscape sites to study vertical radionuclide migration in various soil types. There is no timely monitoring of Sr-90, however, owing to a lack of local laboratories.

GRE at all monitoring stations is significantly lower than in 1986 (the year of the Chernobyl accident), owing to natural radionuclide decay. Soil remains contaminated by caesium-137 within the 30-km radius from the Chernobyl nuclear power station (contamination in isolated spots exceeds 37,000 kBq/m²). Contamination is spread unevenly even within individual settlements. For instance, in the Kolybahi settlement in the Gomel oblast contamination varies between 170 and 2,400 kBq/m². In six rayons of the Brest oblast, some settlements in Grodno and Minsk oblasts, and four settlements in Vitebsk oblast caesium-137 content exceeds 37 kBq/m². In total, 23% of the country (more than 6,000 km²) remains contaminated by caesium-137 with its content exceeding 37 kBq/m². 270,000 ha of forests remain heavily contaminated.

Strontium-90 contamination in Belarus is a localized phenomenon. Contamination of over 5.5 kBq/m² has been found over 21,100 km². About 4,000 km² are contaminated with isotopes of plutonium: Pu-238, Pu-239 and Pu-240. Radiation levels in the country's rivers under surface water monitoring have stabilized. Average annual levels of caesium-137 or strontium-90 in river water are below the limit values established for drinking water.

A network of hundreds of laboratories belonging to different governmental agencies is adequately monitoring radionuclides in agricultural and other products.

Monitoring of flora and fauna

Wooded land in Belarus is monitored on a regular 16 km x 16 km (90% of total forest area), 8 km x 8 km and partly on a 4 km x 4 km grid. Guidelines of the International Cooperative Programme on Forest under the Convention on Long-range Transboundary Air Pollution and Guidelines of the Food and Agriculture Organization of the United Nations (FAO) are used. The effects of air pollution on the country's forests are monitored around large industrial centres (Minsk, Gomel, Mogilev, Mozyr, Zhlobin, Novopolotsk, etc.). The state of forests and marshes affected by irrigation and drainage works is also monitored. The last forest survey was made in 2003 at 1,450 permanent checkpoints and at 80 permanent test areas. Remote sensing is actively used to supplement ground-level monitoring.

A comparison of forest monitoring data for 1992 and 2003, across the country as a whole and over a cross-section of oblasts, shows a slight deterioration in the condition of standing trees (defoliation), chiefly in Gomel and Minsk oblasts. Defoliation in Belarusian forests is generally worse than in Europe on average; yet the share of dead trees is only 43% of the European average.

The meadow monitoring network includes 33 active and 42 prospective observation sites in various geographical areas. Monitoring of the higher aquatic flora is conducted on seven lakes and six rivers; initial plans called for 50 lakes and 23 rivers to be monitored.

Monitoring of animal life is in its infancy. It focuses on economically valuable animals and threatened species and is carried out at some 50 observation points, including some in the Berezina biosphere reserve, the Belovezhskaya Puchsha and Pripyat national parks, and the Polesye Radiation and Ecology Reserve.

Local monitoring

Belarus has been developing a new monitoring system since 2000 to provide information about the pollution load of major pollution sources and their compliance with environmental regulations. The intention is to link this information with ambient environmental quality to establish environmental impact. Initially, 33 enterprises were covered by this so-called local monitoring programme. Most of these were part of the Belneftekhim concern, which included such large plants and conglomerates as Polimir and Naftan (in Novopolotsk), Khimvolokno

(Mogilev), Khimvolokno (Svetlogorsk), the Gomel chemical works and the State production agglomeration Azot, with aggregate emissions ranging from 2,000 to 55,400 tons per year. Municipal wastewater treatment plants in Gomel, Grodno, Minsk, Mogilev, Mozyr and Vitebsk, with waste-water flows ranging from 243,000 to 270,430,000 m³ per year, were also included.

In 2003, 80 enterprises reported data on their wastewater discharges. This covered 75 to 88% of all discharges in the basins of the rivers Neman, Zapadnaya Dvina, Zapadnyi Bug and Dnepr. The discharge data were compared with data from the Hydrometeorology Department on water quality in the recipient water bodies upstream and downstream from the discharge points to establish an environmental impact. In 2003, 76 enterprises, representing 53% of total air emissions in Belarus, reported their emission data. Data covered total annual emissions, monthly average and maximum single emission volumes, and were compared with the emission limits. A considerable number of enterprises failed to comply with the established limits.

By 2004, the system covered 156 enterprises, which report data on their air emissions and wastewater discharges into surface waters (see map 3.3).

Belarus intends to expand the local monitoring programme and from 2005 also include discharges into aquifers. Further development of this monitoring programme will improve enterprise reporting on emissions and discharges, and the compliance monitoring by analytical laboratories and inspectorates. It may serve as a key pillar of a future national register of pollutant releases and transfers.

Health and hygiene monitoring

Health and hygiene monitoring includes observations of air and drinking water quality by institutions of the Ministry of Health. Measurements (except those at a permanent air-monitoring station in Mogilev) are ad hoc. The Ministry of Health also operates analytical laboratories in all oblast centres and the city of Minsk. Average concentrations of dust, sulphur dioxide, carbon monoxide and nitrogen oxides in cities generally meet health and hygiene standards. In most industrial centres concentrations of formaldehyde are 50 to 200% over the limit,

however. Some 3% of samples tap water fail to meet bacteriological standards and some 25% fail to meet chemical standards (mainly with regard to concentrations of iron and nitrates). Piped water quality is below the national standards in Vitebsk, Gomel and Brest oblasts. Some 6.54% of city dwellers and 55.8% of the rural population use well water, but only 78% of wells are properly constructed. As a result, nearly a quarter of drinking-water samples from wells fail to meet bacteriological standards and somewhat less than half falls short of chemical safety standards. Over the past seven years the physical condition of rural drinking-water pipes has deteriorated markedly, leading to increased microbial contamination and a higher incidence of acute intestinal infections and viral hepatitis.

Monitoring emergencies

Environmentally hazardous installations and areas that may be affected by natural disasters (flooding, forest fires, peat-bog fires, etc.) and epidemics are under emergency monitoring. This has helped to provide information to decision makers regarding numerous accidents on major oil pipelines, water pipes and storm drains. The Naroch and Pleshchenitsy observatories and the Brest, Soligorsk and Gomel regional seismic stations monitor seismic movements.

Quality assurance and control

The analytical control service of the Ministry of Natural Resources and Environmental Protection monitors the compliance of polluters with environmental standards and regulations. In cooperation with inspectorates and the State Ecological Expertise, it monitors: emissions and discharges; quality of air, surface water, wastewater, sediments and soils; pesticides in surface waters and soils; and waste management in enterprises. It also controls more than 250 analytical laboratories in enterprises. The service consists of a central laboratory, 7 regional divisions (oblasts and Minsk) of the Committees of Natural Resources and Environmental Protection and 20 intra-rayon environmental laboratories. The State standardization authorities have accredited all laboratories of the analytical control service. The Central Laboratory provides methodological guidance not only to these laboratories but also to the 25 hydrometeorological laboratories.

Map 3.3. Enterprises covered by the local monitoring network



Source: Belarus Scientific and Research Centre Ecology, 2004.
 The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

International monitoring projects

Belarus has actively cooperated with its neighbours over the past few years to monitor transboundary rivers. This has optimized the water-monitoring network on the Belarusian stretches of the rivers Dnepr, Neman, Pripjat, Zapadnyi Bug and Zapadnaya Dvina. The riparian States have agreed on monitoring parameters and sampling methods and analysis as well as on upgrading laboratory equipment and training monitoring experts. EU/Tacis, the Global Environment Facility (GEF), the United Nations Development Programme (UNDP) and the Governments of Canada and Sweden have provided funds for these activities.

Within the programme of environmental capacity-building that the World Bank helped to implement in Belarus in 2001-2003 NSEM was evaluated and a concept was developed to make it more effective. Belarus participates actively in the UNECE Working Group on Environmental Monitoring and Assessment and has undertaken to integrate the Working Group's recommendations into its environmental policy framework.

3.3 Information management and reporting

Information management and communication

The information exchange under NSEM is conducted in accordance with procedures and in formats adopted by the Council of Ministers. The Scientific and Research Centre for Ecology of the Ministry of Natural Resources and Environmental Protection serves as central information and analytical centre of NSEM. It is responsible for processing, storing and publishing monitoring data and information transmitted by monitoring and information institutions within NSEM. In addition to the NSEM database created in 1997, the Centre also manages the State Registry of Monitoring Stations of NSEM established in 2000, the Registry of Analytical Laboratories Carrying out Measurements in the Environment established in 2003 and an archive of more than 1,700 reports on research and development work commissioned by the Ministry since 1989.

The Ministry has a reference and information centre with more than 5,000 environmental information documents. Some, including assessment and outlook reports, ecological bulletins, regulatory documents, are available in electronic form. Many

reference and statistical materials are available on the Ministry's web site (<http://www.minpriroda.by>).

A server has recently been installed in the Ministry to establish a computer network and to provide the staff with access to legal and other databases, Internet and e-mail. All its territorial bodies (including 6 oblast and Minsk city committees and 121 local inspectorates) have access to e-mail.

State cadastres of natural resources

In accordance with the Law on Environmental Protection and the 1993 government resolution on natural resource cadastres, governmental bodies are responsible for collecting information on the state and the use of land, minerals, peat, waters, air, climate, forests, plants, animals and waste. Monitoring data from the activities described in section 3.2 constitute the core of these cadastres. There are also data on water resources and withdrawals, inventories of individual taxa of flora and fauna, climate, meteorological and hydrological data, air emissions, discharges into water bodies, ecosystem maps, air protection measures, energy and other mineral reserves. The waste cadastre includes statistical data on the generation, treatment and disposal of waste reported by enterprises, the collection and treatment of household waste reported by municipal services and data on landfills, waste-treatment technologies and plants, and on users of residuals.

The cadastres represent decentralized databases managed by organizations reporting to governmental agencies. For data collected outside NSEM, there is no protocol for data exchange. Data are collected in different forms (on paper and electronically) with different periodicity and accessibility to users including the general public. Access to some databases (e.g. on the use of forests) is restricted (for official use only). Some important data flows such as data on soil contamination and radiation are not covered by natural resource cadastres.

Environmental reporting

The NSEM monitoring results are reported to decision-making bodies. Since 2004 NSEM results are also available via the Internet (<http://ecoinfoby.net/>). In addition, NSEM data and information are published:

- Quarterly: In a bulletin *On Exceeding of Limits for Pollutant Emissions/Discharges into the Environment by Enterprises* and in the *Review of the State of Natural Environment of the Republic of Belarus*;
- Annually: In the review *National System of Environmental Monitoring: Observation Results, Yearbook of the Quality of Surface Waters, Yearbook of the Quality of Surface Waters by Hydrochemical and Hydrobiological Parameters, Yearbook of the State of the Pollution of the Atmospheric Air in the Cities and Industrial Centres; State Land Cadastre; and State Water Cadastre; and*
- Every five years: In the review *Land of Belarus*.

Institutions that carry out specific monitoring activities publish their data and information in their recurrent or ad hoc publications. Examples include the *State Report on the Sanitary and Epidemiological Situation*, published annually by the Ministry of Health, and the *Environmental Monitoring of the State of Forests*, published regularly by the Ministry of Forestry.

The Ministry of Natural Resources and Environmental Protection publishes a comprehensive national report on the state of the environment every four years. The last one (bilingual) came out in 2002 in 1000 copies together with a popularized version. Every year, the Ministry together with the National Academy of Sciences publishes a bulletin on environmental conditions in Belarus (1,000 copies), a reference and statistical publication on the state and protection of the environment (1,000 copies) and a collection of works on water resources (200 copies), as well as a quarterly interdepartmental bulletin "Natural Resources" (300 copies). Other publications include collections of environmental regulations, information materials, environmental standards and research papers.

Belarus reports regularly to the United Nations Commission on Sustainable Development and to governing bodies of applicable multilateral environmental agreements. National communications, national strategies and other information relating to its participation in conventions on biodiversity and climate change have been posted on official web sites.

Environmental statistics and indicators

The Ministry of Statistics and Analysis and its bodies gather statistical data on:

- Emissions of polluting substances in the atmospheric air (reported by 2,500 enterprises);
- Current environmental expenses, environmental and natural resources payments (reported by some 2,000 enterprises that have purification facilities);
- Forest management, fires and protection (reported by 130 forest users);
- Hunting management (reported by 300 tenants of hunting areas); and
- Nature reserves and national parks (six in total).

The Ministry of Statistics and Analysis publishes an annual statistical bulletin on these issues. It includes a section on environment and forestry. Every other year the Ministry publishes a statistical compendium on the environment in Belarus. These publications are circulated among public authorities and libraries. Other users may receive them upon request but have to pay for them.

It is the Ministry of Natural Resources and Environmental Protection that collects data on waste and water management on the basis of a State statistical reporting form. The data are stored in the relevant natural resource cadastre database. Some data is published in the Ministry's periodic environmental publications.

The National Centre of Hygiene, Epidemiology and Public Health of the Ministry of Health gathers data, on the basis of another State statistical reporting form, on sanitary conditions, including data on drinking-water supply, pollution of atmospheric air, soil conditions, sources of adverse physical impacts and on the quality of consumer goods. The results are published annually in: the State report *On Sanitary and Epidemiological Conditions*; the collection of works on *Main Indicators of Public Health, Activities of the Sanitary and Epidemiological Service and of the State of the Environment*; and as part of the *Water Cadastre*. The data are also on the Centre's web site www.rceph.by.

Belarus uses a wide range of indicators in its environmental assessments and reports. Many of these indicators represent bulky figures in tons and cubic metres that do not help decision makers and

the general public to understand the cause and effect of environmental conditions, to link these with economic and social developments, to assess the cost-effectiveness of policy implementation and to make comparisons with other countries. Belarus has to update its system of environmental indicators to make it consistent with those used in Europe and worldwide. The development of a core set of environmental indicators for periodic publication may also be helpful.

3.4 Environmental awareness and education

Environmental awareness

According to an opinion poll conducted by the Scientific and Research Centre for Ecology with the participation of the Institute of Sociology of the National Academy of Sciences in 2002, 36% of the population is worried about environmental conditions, especially water pollution.

Environmental topics are regularly covered by the mass media. *Cultura*, *Minskiy Kurier*, *Respublika*, *Sovetskaya Belorussia* and *Vecherniy Minsk* are among the most active newspapers. There are also specialized periodicals like those of the Ministries of Education and of Forestry, and the Belarus Society of Hunters and Fishermen. Information ecological centre Eco-Info has recently been established at the Central Scientific Library of the National Academy of Sciences to facilitate public access to environmental information, primarily by researchers as well as teachers, students and schoolchildren. It issues an electronic bulletin *Zelenaya Belarus* (Green Belarus) every other month and sends it to 32 organizations and 120 private users. The Gomel regional wildlife protection NGO Zoomir publishes a monthly newspaper *Mir Zhivotnykh* (World of Wildlife) circulated in 2,500 copies among children and teenagers.

Belarus Radio broadcasts “Ecological Monitoring” each Sunday, although the programme’s duration has twice been reduced recently. In 2005 the national TV channel “Mir” launched a weekly programme “Million of questions about nature”. On Brest oblast radio and TV, there are regular programmes “Nature and Man” and “Brestchina Zapovednaya” (“Nature Reserves of Brest Region”).

The Ministry of Natural Resources and Environmental Protection actively promotes

activities to raise environmental awareness. In 2004, for instance, some Rbl 4,407 million from all types of environmental funds was spent on this. The Ministry organizes press conferences and meetings of its staff with journalists, publishes journal “*Rodnaya Priroda*” (12 issues a year since 2004), press releases and various information materials (posters, booklets, calendars, etc.), arranges for environmental advertising in the capital’s streets and helps to produce promotional TV clips. It has contracted the Belarus cable agency BelTA and the INTERFAX private information agency to search for environmental news, distribute it and post it on the Internet, and the “*Belarusskaya Niva*” and “*Narodnaya Gazeta*” newspapers to publish a regular environmental page. Since 2003, the Ministry has organized an annual national ecological forum that includes activities such as exhibitions, a film festival, photo and drawing competitions, and demonstrations of best environmental products and practices.

Regional environmental authorities, educational institutions and NGOs have launched numerous environmental actions involving children and youth, e.g. the creation of informal environmental “inspectors” and groups of environmental volunteers.

Much remains to be done, however. The above-mentioned opinion poll revealed that only some 10% of city dwellers considered that they had sufficient environmental information and 90% of respondents did not know their rights to access environmental information.

Environmental education

Belarus actively promotes continuous environmental education and training including non-formal and informal education. Pre-school institutions teach environmental issues to children under the basic education programme “Paleska”. All primary schools cover environmental issues in the subject “Man and the World”. In the secondary schools, specific environmental aspects are studied as part of the natural sciences and optional environmental subjects. Schools in radionuclide-contaminated areas have introduced radiological and environmental subjects. There are 126 schools with optional environmental subjects such as “man and ecology”, “healthy lifestyle,” “medicinal herbs” and “ecology and us.” Schools have also created 45 natural museums, 37 micro reserves and 461 educational ecological tracks.

Depending on their orientation, vocational schools teach environmental protection or basic social ecology. Technical colleges have introduced subjects like environmental protection and energy saving, industrial ecology, ecology of land management and radiation safety or agricultural ecology.

The Ministry of Natural Resources and Environmental Protection and its regional bodies provide financial support to educational institutions and libraries promoting environmental education. Environmental funds are used to purchase teaching manuals, books for school libraries, computers and other equipment as well as to organize environmental competitions, field exercises, festivals and other events. The Ministry also supports the National Environmental Centre for Children and Youth, which actively promotes extra-curricular environmental education.

In higher education institutions, mandatory subjects include “basic ecology”, “basic ecology and natural resource management,” “radiation safety,” “ecological safety,” “environmental monitoring” and “legal aspects of natural resource management.” Many higher educational institutions, such as the Belarus State University, the Belarus State Technological University, the Belarus National Technical University and the Belarus Agricultural Academy, have established environmental protection chairs. Nine have introduced environmental curricula: chemistry and environmental protection; bioecology; geoecology; radioecology; medical ecology; environmental monitoring, management and audit; agricultural ecology; environmental protection and rational use of natural resources; ecological management and audit in industry; heat and gas supply, ventilation and air protection; water supply and protection of water resources. Some 370 students graduated from these in 2004.

Teachers in biology and nature conservation are trained at the State pedagogical universities in Minsk and Mozyr, and at the Vitebsk State University. All pedagogical colleges have introduced a curriculum in ecological education.

The Ministry of Education has authorized the Belarus, Gomel and Polotsk State universities, the Belarus National Technological University, the Institute of Senior Administrative Staff of the Academy of Management, the Institute for the Improvement of Professional Skills and Retraining

of Managers and Experts of Industry, and the Sakharov International State Ecological University to retrain experts in environmental sciences.

Until 2003, the Scientific and Research Centre for Ecology ran courses to retrain 250-300 environmental specialists a year. As the recently amended Law on Education allowed educational institutions only to conduct retraining, the above-mentioned courses ceased to exist. To comply with new legal requirements, the Ministry of Natural Resources and Environmental Protection established a national environmental retraining centre, which became operational in early 2005.

3.5 Public participation

Role of civil society

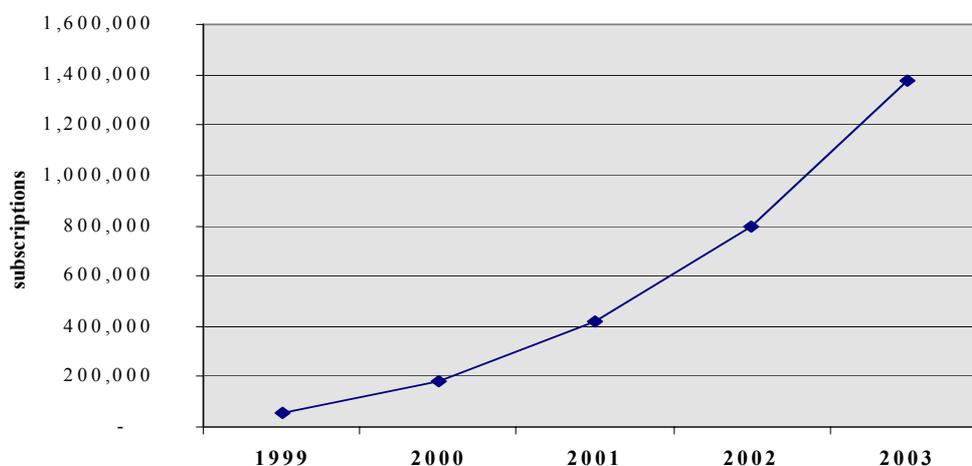
According to the Ministry of Justice, there were 2,259 NGOs (245 international, 726 national and 1,288 local) and 17 NGO unions registered in the country by 1 January 2005. The Ministry qualified 47 organizations as environmental NGOs. This is extremely low compared with most other UNECE countries and is clearly disproportionate to the high level of environmental awareness and education in Belarus.

Most NGOs operate in Minsk and other big cities. They deal with environmental education or specific issues like bird habitat preservation. Most NGOs have little, if any, domestic funding. A number of NGO programmes have been supported by foreign donors. Examples include the “Small Grants Programme”(to address local concerns such as water resource management), “Environmental Education” (support for NGO publications and environmental events) and “NGO Forums” (regional capacity-building and information exchange) within the GEF/UNDP project for the environmental rehabilitation of the Dnepr river.

Access to the Internet

The number of people who use the Internet to access information, including environmental information, is growing fast in Belarus (see fig. 3.1). In 2003, some 15% of the population had a subscription with an Internet provider.

Internet development in Belarus is limited because the technological basis is weak. About 98% of subscribers use their telephones for dial-up access. The regular speed is slow (sometimes users cannot

Figure 3.1: Internet subscriptions in Belarus, 1999-2003

Source: Ministry of Communication and Information, 2004.

get access even to Belarusian web sites). Users can get special dial-up lines but at up to \$500 a month few institutions or citizens can afford them. It is possible to access the Internet via public shared points and Internet cafes. Late 2002, there were 130 public shared points of Beltelecom and 47 Internet cafes set up by various organizations (some 380 work stations in total). Nevertheless, Internet users are today concentrated in Minsk and a few other big cities. Elsewhere residents suffer from the underdevelopment of telecommunications and the high prices for services.

The number of Belarus web sites is growing: from 2000 to 2004 it increased 5.5 times to some 35,000. In 2004, the three Belarus service providers (www.akavita.by, www.br.by and www.open.by) listed some 1,500 Belarusian web sites with environmental information.

Implementation of the Aarhus Convention

Belarus approved the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention). In 2001 the Government approved an action plan for its implementation from 2002 to 2005. The Government introduced a series of amendments to environmental legislation and adopted its own regulations broadening the rights of citizens to access environmental information and participate in environmental decision-making.

Existing and draft laws are published in the press and on the web site of the National Centre of Legal Information (<http://ncpi.gov.by>). In addition, the Ministry of Natural Resources and Environmental Protection posts legal environmental acts on its web site. However, this is not supplemented by a mechanism or procedures to collect comments from the public on draft legislation. Regulations are not posted on these two web sites as their distribution to the public is not obligatory according to current legislation.

There are general legal provisions ensuring public participation in decision-making concerning plans and programmes. However, there are no detailed procedures to put these provisions into practice. The public has been involved in the development of the National Strategy for Sustainable Social and Economic Development for the period up to the year 2020. It is not represented, however, on the National Commission on Sustainable Development.

In 2001 the Ministry of Natural Resources and Environmental Protection established the Public Coordinating Ecological Council, which today includes representatives of 17 NGOs. The Ministry convenes the Council periodically to discuss both concrete actions and policy issues like the draft national action plan for the rational use of natural resources and environmental protection, the accession of Belarus to the Kyoto Protocol or a new draft law on environmental protection. NGOs complain, however, that they receive the discussion

documents with very tight deadlines. Public coordinating ecological councils were established with all regional environmental committees in 2003-2004. The Ministry and its regional committees developed plans or programmes of joint action with several environmental NGOs.

There is no public participation in the operation of environmental funds. The experience with public participation in environmental impact assessment is very limited. NGOs can organize a public expertise of a planned activity and transmit its results to the State Ecological Expertise for possible consideration. The experience so far is as follows:

- A public ecological expertise of a proposal to build a solid-waste disposal site in Ivanovo in Brest oblast was conducted by the NGO Ecoline in 1998;
- Public hearings on the construction of dams on the Neman river were organized in 2001 by the NGO Ecosphere; and
- The NGO Eca carried out a public examination in Soligorsk in 2001 of polluted snow from city streets dumped into the river.

According to the law, citizens and NGOs have the right to address their complaints, applications and proposals to public authorities and legal persons, and to receive reasoned replies in a short time. In response to appeals by citizens and NGOs contesting actions or omissions that disregard environmental legislation, oblast and local bodies of the Ministry of Natural Resources and Environmental Protection use their right to impose administrative sanctions, including damage compensation, on offenders.

The Ministry established a public reception facility (hotline) in 2004. In the first months it received more than 200 calls from citizens with complaints or requests for information on such issues as unauthorized waste disposal, air pollution, poor drinking-water quality, cutting-down of trees, radiation conditions and nuisance from traffic.

Access to justice in environmental matters is restricted by relatively high court costs. Cases of citizens challenging administrative decisions in courts or of public prosecutors pursuing environmental offenders are extremely rare. Similarly non-existent are cases of individual citizens or NGOs seeking a judicial review of the infringement of their environmental rights. There are no statistics on this category of cases.

Overall, substantive efforts are needed to make the regulatory framework on public participation in decision-making and access to justice in environmental matters consistent with the requirements of the Aarhus Convention (for further details, see section 3.9).

In 2002-2004, a Tacis project on environmental information, education and public awareness was implemented in Belarus. A series of training seminars on the implementation of the Aarhus Convention have been organized for government officials at various levels and NGO representatives. Two sets of guidelines for the Convention's implementation have been prepared: one for civil servants and another for the general public. Public participation procedures in decision-making on protected areas have been developed under the project and adopted by the Mogilev Oblast Executive Committee. This project needs to be followed up domestically by training civil servants at all levels.

A recently completed Danish-funded project to assist Belarus to implement the Aarhus Convention helped the Ministry evaluate the consistency of the Belarusian legislation with the Aarhus Convention, to prepare draft procedures for access to environmental information, and to establish the Ministry's web site. An inventory was also drawn up of 30 State bodies responsible for various flows of information on environmental protection and uploaded on the Ministry's web site.

Belarus did not sign the Protocol on Pollutant Release and Transfer Registers (PRTRs) to the Aarhus Convention, which was adopted in Kiev in 2003. The Ministry of Natural Resources and Environmental Protection is studying the feasibility of accession to the Protocol and establishing a national PRTR.

A draft law on the safety of genetic engineering that the Government is currently considering does not envisage public participation in permitting procedures relating to the release of genetically modified organisms into the environment.

3.6 The decision-making framework

Environmental monitoring

Legal and policy framework

The key legislation on environmental monitoring includes the Laws on Environmental Protection,

Box 3.1: Resolutions of the Council of Ministers relating to the National System of Environmental Monitoring

- On Establishing the National System of Environmental Monitoring (NSEM) (1993);
- On the Programme of the National System of Environmental Monitoring (1995);
- On the Creation of a National Research Centre for Monitoring the Ozone Layer (1997);
- On the Implementation of the Programme of the National System of Environmental Monitoring (1998);
- On Local Environmental Monitoring of 8 February (1999);
- On the Adoption of the Forest Monitoring Procedure (2001);
- On Membership of the Interdepartmental Coordination Board for the Implementation of the Programme of the National System of Environmental Monitoring (2002);
- On the Activities of the Institution of the Belarus State University, the National Research Centre for Monitoring Ozone Layer on the organization and conduct of ozone layer monitoring (2002);
- On the National System of Environmental Monitoring (2003);
- On the Adoption of the Regulation and the System of Social and Hygiene Monitoring (2004);
- On the Adoption of the Regulation on Ozone-layer Monitoring within the National System of Environmental Monitoring and the Use of Monitoring Data (2004);
- On the Preparation of the Regulation on Land Monitoring and the Use of its Data (2004);
- On the Adoption of the Regulations on Plant-life and Geophysical Monitoring within the National System of Environmental Monitoring, and the Use of Monitoring Data (2004);
- On the Adoption of the Regulations on Surface-water, Groundwater, Atmospheric Air and Local Environmental Monitoring within the National System of Environmental Monitoring and the Use of Monitoring Data (2004);
- On the Adoption of the Regulation on Local Environmental Monitoring by Legal Persons Operating Sources of Adverse Environmental Impact (2004); and
- On the Adoption of the Regulations on Animal-life and Radiation Monitoring within the National System of Environmental Monitoring and the Use of Monitoring Data (2004).

Hydrometeorological Activity, Air Protection, Ozone Layer Protection, Flora, Protection and Use of Fauna, and Legal Regime of Territories Suffered from Radioactive Contamination as a Result of the Accident on the Chernobyl Nuclear Power Station as well as the Land, Forestry and Water Codes.

The Council of Ministers adopted a series of decrees to establish the National System of Environmental Monitoring (NSEM) and make it operational (box 3.1). The NSEM Programme adopted in 1995 provides a general policy framework. It has three phases, with the final one – full operation – to be completed by the end of 2005. In September 2004, the Government ordered the Ministry to prepare, jointly with other institutions, a new draft programme for 2006-2010.

The 2004 National Strategy for Sustainable Social and Economic Development foresees, in particular:

- By 2010, the establishment of a national PRTR, a registry of soil contamination by heavy metals and persistent organic pollutants (POPs), and a registry of potentially hazardous chemicals and biological substances;
- Between 2010 and 2020, the introduction of a registry of waste disposal and treatment facilities, and of waste-treatment technologies; the drawing-up of an inventory of outdated

pesticide stocks, and the harmonization of national ambient air quality standards with those of the European Union.

The institutional framework

From 1993 to 2004, NSEM covered 13 monitoring areas with six governmental bodies and the National Academy of Sciences taking the lead in one area or another. In 2004, medical monitoring and emergency monitoring, conducted by the Ministry of Health and the Ministry of Emergencies, respectively, were separated from NSEM. The current scheme of NSEM is presented in figure 3.1. In total, some 20 monitoring institutions participate in 11 NSEM areas. In some areas, several institutions share monitoring activities. For instance, the State Committee on Land Resources, Geodesy and Cartography, the National Centre for Radiation Control and Environmental Monitoring (NCRCEM) of the Ministry of Natural Resources and Environmental Protection, the Soil Science and Agro-chemistry Institute of the Belarus Academy of Sciences, and the Belarus State University participate in land monitoring.

The Ministry of Natural Resources and Environmental Protection is responsible for the organization and coordination of NSEM. It is the lead body in six of its monitoring areas.

In 1998 the Government established the Interdepartmental Coordination Board for NSEM Implementation. A Deputy Minister for Natural Resources and Environmental Protection chairs the Board, which meets twice a year. The Board:

- Coordinates the activities of Ministries and other national and local authorities in NSEM implementation;
- Sets priorities for financing NSEM;
- Reviews draft laws relating to NSEM; and
- Evaluates management, research and investment projects under NSEM.

In 2004, State budget financing for NSEM activities amounted to Rbl 208,603.3 million. This met only 14.7% of its total monitoring requirements, up from 12.8% in 2003.

Information management

Legal framework

The legislation and regulations relating to environmental information management including public access to information in Belarus are summarized in box 3.2.

The legislation ensures the right of public access to a broad range of environmental information. The procedures generally meet the requirements of the

Aarhus Convention. However, the law does not embrace the broad definition of environmental information specified in the Aarhus Convention. Some provisions are ambiguous. The Belarusian definition of commercial confidentiality is too broad and may unreasonably restrict public access to environmental information.

The 2004 National Strategy for Sustainable Social and Economic Development envisages the accession of Belarus to the PRTR Protocol and the development of a law on environmental information by 2010. A recent decree by the President stipulates, however, that no self-standing environmental information law will be developed and that relevant amendments will have to be introduced into the Law on Environmental Protection instead.

Institutional framework

The Ministry of Natural Resources and Environmental Protection has published an inventory of State bodies and organizations that are gathering, storing and distributing environmental information. Current or planned responsibility sharing for data collection and management for natural resource cadastres is presented in box 3.3. Various departments, inspectorates and subordinate

Box 3.2: Main legislation and regulations relating to environmental information

- Law on Environmental Protection (1992, with amendments 2002)
- Law on Sanitary and Epidemiological Well-being of the Population (1993, with later amendments);
- Law on Informatization (1995);
- Law on Air Protection (1997);
- Law on the Protection of Population and Territories against Natural and Technogenic Disasters (1998, with amendments 2003);
- Law on Hydrometeorology (1999);
- Resolution of the Cabinet of Ministers on Establishing the National System of Environmental Monitoring (NSEM) (1993);
- Resolution of the Cabinet of Ministers on State Cadastres of Natural Resources (1993);
- Resolutions of the Council of Ministers on establishing procedures for setting up cadastres of land, peat, water, atmospheric air, forests, animals, plants and minerals (1991-2001);
- Resolution of the Council of Ministers on the Implementation of the Programme of the National System of Environmental Monitoring (1998);
- Resolution of the Council of Ministers on the Approval of the Statutes of the State Archive of Data on the State of the Natural Environment and its Pollution (2000);
- Resolution of the Council of Ministers on the State Registration of Information Resources (2000);
- Resolution of the Council of Ministers on the List of Information Resources of State Importance (2001);
- Resolution of the Council of Ministers on the Adoption of the National Action Plan for the Rational Use of Natural Resources and Environmental Protection for 2001-2005 (2001);
- Resolution of the Council of Ministers for Collection of Information for the Protection of the Population and Territories against Natural and Technogenic Disasters and for Exchange of this Information (2001);
- Resolution of the Ministry of Natural Resources and Environmental Protection on the Information of the National Environmental Monitoring System (2000);
- Resolution of the Ministry of Natural Resources and Environmental Protection on the List of Data Relating to Environmental Information (2003).

institutions of the Ministry are responsible for maintaining natural resource cadastres.

The Scientific and Research Centre for Ecology is a central institution of this Ministry responsible for environmental information management. In 2001 the Ministry set up an information department to promote access to environmental information, public participation and environmental education.

Public participation

Belarus has relatively well developed legal provisions and regulations to guarantee access to environmental information. The legislative framework (see box 3.4) for public participation in environmental decision-making is less elaborate. Although the amendments to the Law on Environmental Protection adopted in 2002 provide broader rights to environmental NGOs, there are no detailed procedures ensuring public participation in ecological expertise and decision-making regarding environmental permits, standard-setting or the development of laws, regulations, strategies and policies affecting the environment.

The Laws on State Ecological Expertise and on Environmental Protection as amended in 2000 and 2002, respectively, promulgate the right of citizens and NGOs to participate in State ecological expertise and to organize a parallel public ecological expertise of projects that may have an adverse environmental impact. According to the Law on State Ecological Expertise, the onus to

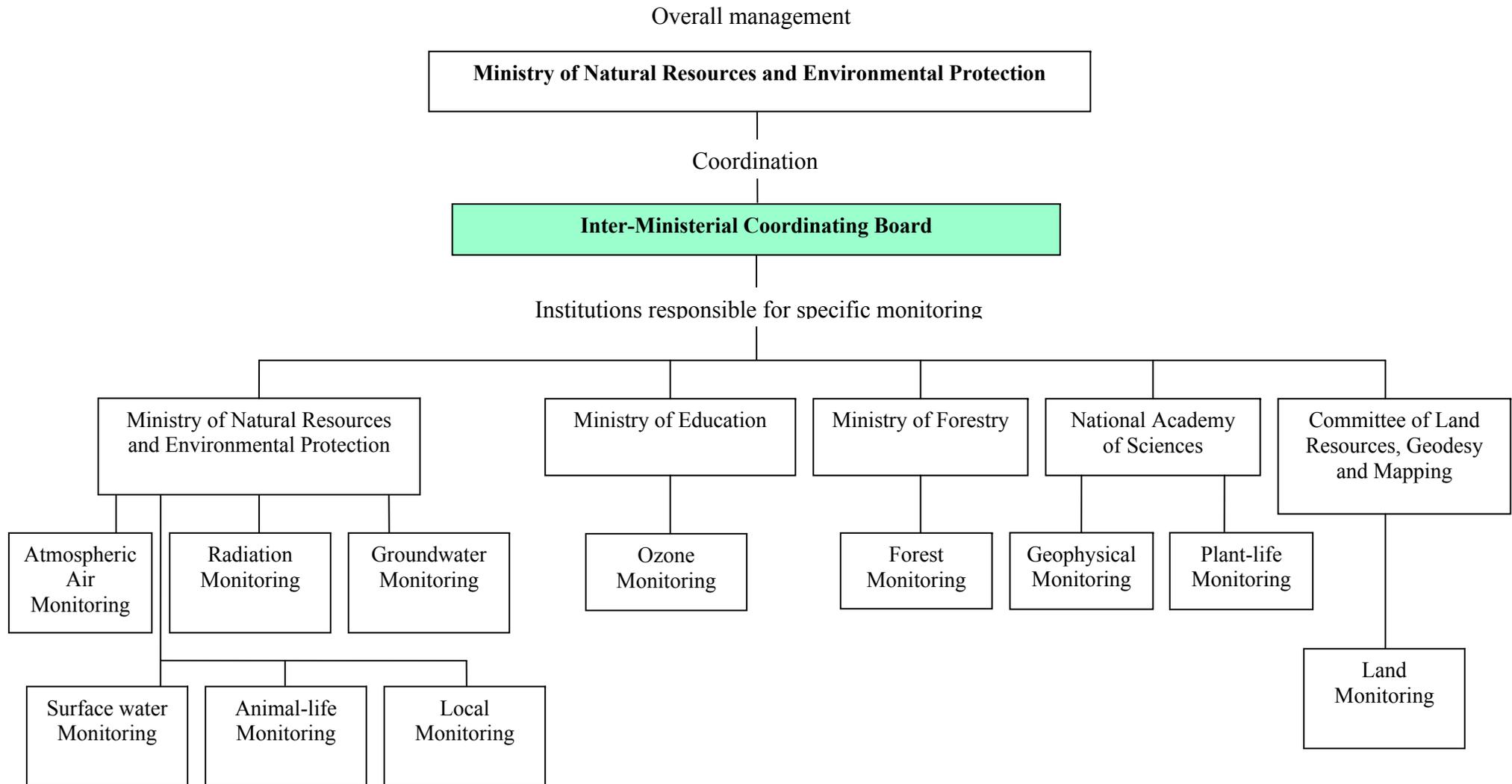
organize the public discussion of the EIA document is on the project proponent. No details are provided in the law on such important issues as: how to inform the public about the possibilities for receiving and commenting on EIA documentation, deadlines for submitting comments, modalities of public hearings, how the proponent should handle the public's comments and inform both the public and the State ecological expertise authorities how comments have been taken into account, and how to inform the public about the final decision taken by the State ecological expertise authority. The instructions issued by the Ministry of Natural Resources and Environmental Protection in 2001 did not provide these important details either. The methodological recommendations that the Ministry is preparing for the organization of public hearings on territorial siting and reconstruction of facilities should provide the necessary procedures to make public participation in EIA doable and effective.

Public participation in environmental decision-making depends also, to a great extent, on the overall conditions in a country for civil society associations such as environmental NGOs to operate, starting with their legal and taxation "climate". The Aarhus Convention stipulates, in particular, that each Party (including Belarus) *shall provide for appropriate recognition of and support to associations, organizations or groups promoting environmental protection and ensure that its national legal system is consistent with this obligation.*

Box 3.3: Organization of natural resource cadastre

- Atmospheric Air - the Ministry of Natural Resources and Environmental Protection together with the Ministries of Health, Statistics and Analysis, and Emergencies;
- Water – the Ministry of Natural Resources and Environmental Protection together with the Ministries of Health and Emergencies;
- Animals – the Ministry of Natural Resources and Environmental Protection together with the Ministries of Forestry, Agriculture and Food, Defence, Emergencies and the National Academy of Sciences
- Plants – the Ministry of Natural Resources and Environmental Protection together with the Ministries of Forestry, Agriculture and Food, Defence, Emergencies and the National Academy of Sciences (subject to the adoption of a government resolution);
- Climate – the Ministry of Natural Resources and Environmental Protection;
- Minerals – the Ministry of Natural Resources and Environmental Protection and the Ministry of Emergencies;
- Peat – the Ministry of Natural Resources and Environmental Protection together with the National Academy of Sciences;
- Land – the Committee of Land Resources, Geodesy and Mapping;
- Forests – the Ministry of Forestry;
- Wastes - the Ministry of Natural Resources and Environmental Protection together with the Ministries of Health, and Trade (subject to the adoption of a government resolution).

Figure 3.2: National system of environmental monitoring in the Republic of Belarus



Source: Ministry of Natural Resources and Environmental Protection, 2004.

The 1999 amendments to the Law on Public Associations followed by the adoption of various regulations introduced rigid general conditions for NGOs (see box 3.5). As a result, the number of NGOs, including environmental NGOs, is very

low (see section 3.6). According to the database of the Public Associations Department of the Ministry of Justice, 155 new NGOs were registered in 2004, but 107 NGOs ceased to exist during the same year: 38 were dissolved by court decision at the instigation of the Ministry of Justice and 69 wound up their activities themselves.

The 2004 National Strategy for Sustainable Social and Economic Development envisages the development of measures, including legal procedures and mechanisms, to promote NGO participation in decision-making concerning social, economic and environmental policies, and partnerships of public authorities with NGOs.

Environmental education

Legal and policy framework

The 2002 version of the Law on Education stipulates that the State policy on education is based on a set of principles that include the

ecological orientation of education. A new chapter on education, awareness raising and research on the environment was included in the 2002 version of the Law on Environmental Protection. This Law requires the creation of a system of continuous environmental education. Provisions on environmental education and awareness raising have also been included in various policy documents (see box 3.6), the Concept of Environmental Education and the National Programme for the Improvement of Environmental Education being the most important. Regional programmes have also been developed on environmental education for youth. Mechanisms have been put in place to monitor their implementation.

The main provisions of the national programme on environmental education have been successfully introduced into pre-school, primary and secondary education, and vocational training (see section 3.5). Some specific actions like the establishment of a coordinating council on environmental education, the development of a programme of State support for the publication of educational and methodological materials on environmental protection or the creation of a training and methodological centre on environmental education have not yet been implemented.

Box 3.4: Legal framework for public participation

- Law on Environmental Protection (1992, as amended in 2002);
- Law on State Ecological Expertise (1993, as amended in 2000);
- Law on Public Associations (1994, with later amendments);
- Civil Code (1998);
- Decree of the President on the Approval of the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (1999);
- Resolution of the Cabinet of Ministers on Aspects of political parties and other public associations (1995);
- Resolution of the Cabinet of Ministers on the approval of the procedure for exercising economic activities by persons who are not authorized companies (1996);
- Resolution of the Council of Ministers on some aspects of recording and the State registration of organizational structures of political parties, trade unions, other public associations (1999);
- Resolution of the Council of Ministers on Measures for the Implementation of Provisions of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters in 2002-2005 (2001);
- Decree of the Ministry of Justice establishing Rules for drawing up and the consideration of documents submitted for State registration of political parties, trade unions, other public associations and also of the State registration of their departments (2000);
- Decree of the Ministry of Natural Resources and Environmental Protection on Approval of the Instruction on the Procedure for environmental impact assessment of planned economic and other activities and of the list of types and objects of economic and other activities for which environmental impact assessment is mandatory (2001)

Box 3.5: A general regulatory framework for NGO activities

Activities of non-registered organizations are prohibited in Belarus. The registration of a local public association (non-governmental organization) requires at least 10 persons and that of a national public association no fewer than 50 persons. To register a local public association 10 founders must live in the majority of administrative and territorial units of the territory where the association will be active. So, if the territory of a region consists of 15 districts, the founders should represent at least 8 districts. To register a national public association the majority of Belarusian regions and Minsk must be represented by no fewer than 10 founders. Thus, there should be at least 10 founders each from four regions and 10 from Minsk.

A package of registration documents must be handed to the appropriate registry office within one month of the date of the founding meeting. The Registration Commission at the President's Administration reviews registration documents. It can only consider a certain number of applications at one session. Such sessions do not take place systematically. As a result, final NGO registration with the Ministry of Justice or regional Justice Department at the Executive Committees (depending on where the organization's head offices are located) may last from one month to one and a half years, the average wait being six months. Some 25% of registration requests are refused. Total registration expenses – the registration fee and payment for procedures to acquire the status of legal person – are very high.

NGOs must apply for re-registration should changes be made to their statutes. Failure to do so leads to their closure. Judicial authorities scrupulously monitor NGO compliance with the legislation. In 2004, for instance, they checked the activities of 334 public associations and issued 264 written warnings as a result. There are plans to introduce a legal requirement for NGOs to report annually on their activities to judicial authorities.

The fact that there is no law on charities (which would give some NGOs tax-free status, for instance) hampers NGO operation. New regulations on foreign assistance (see chap. 5) complicate access to this source of financing (which has been the only one for most NGOs so far).

The 2004 National Strategy for Sustainable Social and Economic Development envisages:

- By 2010, the development of a coordination mechanism for all those involved with environmental education, including NGOs, and the development of a national plan for education on sustainable development;
- Between 2010 and 2020, the development of indicators of the quality of education for sustainable development and the creation of centres for environmental education and
- information in all administrative and territorial units.

Institutional framework

According to the Law on Education, the Ministry of Education has exclusive responsibility for promoting environmental education. At the same time, pursuant to the Law on Environmental Protection, the Ministry of Natural Resources and Environmental Protection is responsible for promoting and coordinating activities to raise environmental awareness. The preparation of documents on environmental education by the Ministry of Education is coordinated with the Ministry of Natural Resources and Environmental Protection. Both Ministries jointly organized an international conference on environmental education for sustainable development in 2003.

Box 3.6: Legal and policy framework for environmental education

- Law on Education (1991, amended in 2002);
- Law on Environmental Protection (1992, amended in 2002);
- The Concept of Environmental Education and the National Programme of Environmental Education approved by the decisions of the Board of the Ministry of Natural Resources and Environmental Protection and the Board of the Ministry of Education (1999);
- National Action Plan on the Rational Use of Natural Resources and Environmental Protection for 2001-2005 approved by the Resolution of the Council of Ministers (2001);
- Concept of National Safety adopted by the Decree of the President (2001);
- National Strategy for Sustainable Social and Economic Development for the period up to the year 2020 endorsed by the National Commission on Sustainable Development (2004) and by the Presidium of the Council of Ministers (2004).

There is a room for improving coordination, nevertheless. The Ministry of Natural Resources and Environmental Protection has contracted the Belarus National Technical University to prepare a new national multilevel integrated programme for environmental education and awareness raising (for 2005-2010) that would aim at environmental education for sustainable development. The Ministry of Education, in turn, intends to establish an inter-ministerial coordinating council on environmental education or education for sustainable development soon and lead it. There is a need to ensure that this council becomes a vehicle for monitoring the implementation of the national and local environmental education programmes.

3.7 Conclusions and recommendations

Belarus has been developing its National System of Environmental Monitoring (NSEM) since 1995. The Interdepartmental Coordination Board led by the Ministry of Natural Resources and Environmental Protection coordinates the activities of some 20 institutions in 11 monitoring areas. The NSEM programme is heavily underfinanced but its network is being expanded and the quality of measurements improved.

The current ambient environment monitoring network remains insufficient, however. To meet national regulations there should be nine air-monitoring stations more. In addition, three transboundary stations would have to supplement the one that participates in EMEP under the Convention on Long-range Transboundary Air Pollution. The number of surface-water observation points on lakes and small rivers is very limited. Diffuse pollution of water bodies is not monitored. Belarus has improved its monitoring of transboundary rivers but decreased significantly the number of groundwater observation points.

There is no comprehensive observation network for land monitoring in Belarus. Some observation activities investigate the impact on soil of irrigation, erosion, the addition of mineral and organic fertilizer and other agricultural inputs as well as soil contamination. Radioactive contamination of soil, air and water is monitored comprehensively and in a timely manner. Only Cs-90 is not being monitored owing to a lack of local laboratories. Radionuclides in agricultural and other products are adequately monitored. Wooded land is monitored using international guidelines. Monitoring of animal life is in its infancy.

Belarus has been developing a local monitoring system since 2000 to provide information about the pollution load of major pollution sources and their compliance with environmental regulations. The intention is to link this information with ambient environmental quality to establish environmental impact. The phased development of this system has enabled it to cover enterprises with major air emissions and waste-water discharges. Belarus intends to expand the system and to include sources of adverse impact on groundwater. Further development of this programme will help improving enterprise environmental reporting, strengthening compliance monitoring and creating a national register of pollutant releases and transfers.

Recommendation 3.1:

The Ministry of Natural Resources and Environmental Protection should:

- (a) Transform its local monitoring programme, step by step, into a full-fledged national PRTR which, among other things, should cover releases and transfers of the main pollutants from major point sources, accommodate available data on releases from diffuse sources (e.g. transport and agriculture), present standardized, timely data on a structured, computerized database, and be publicly accessible through the Internet, free of charge;*
- (b) In cooperation with the Committee on Land, Geodesy and Cartography under the Council of Ministers and within the framework of the National System of Environmental Monitoring, take the necessary measures to establish and develop land monitoring; and*
- (c) Speed up the accession of Belarus to the PRTR Protocol to the Aarhus Convention.*

Belarus has an extensive set of ambient environmental standards, which are stricter than international ones. Both the Ministry of Health and the Ministry of Natural Resources and Environmental Protection monitor compliance with these standards and impose administrative and financial sanctions on offenders. The compliance monitoring data reveal that at some observation points concentrations of pollutants in ambient air and water are constantly exceeded. The standards are also used as basis for calculating the emission limits for individual enterprises and the emission caps for cities as a whole. Again, breaches of these limits are reported by the compliance monitoring authorities.

The problem with ambient quality standards is exacerbated by the fact that the equipment and other resources at the disposal of the monitoring authorities can measure only a limited set of parameters. Only few stations meet national standards for measuring average daily concentrations of pollutants in the ambient air. There is no automatic monitoring station to ensure continuous water-quality monitoring.

Recommendation 3.2:

The Ministry of Health, jointly with the Ministry of Natural Resources and Environmental Protection, should review the national ambient environmental quality standards to:

(a) Make the standards consistent, to the maximum extent possible, with international air- and water-quality standards and monitoring guidelines, and set time schedules to phase in monitoring of the standards that are currently not measured, as well as the revised or new standards that cannot be introduced immediately;

(b) Upgrade monitoring stations, equipment and devices, and analytical laboratories, and retrain staff to measure environmental quality against the revised list of standards.

In accordance with the Law on Environmental Protection and the government resolution of 1993 on natural resource cadastres, governmental bodies collect information on the state and the use of land, minerals, peat, water, air, climate, forests, plants, animals and waste. Monitoring data from NSEM constitute a core of the cadastres. They are published in various publications and made available via the Internet. For data collected outside NSEM, there is no protocol for data exchange. Data are collected in different forms (on paper and electronically) with different periodicity and accessibility to users including the general public. Access to some databases is restricted.

Belarus regularly publishes a national report on the state of the environment. Other regular publications include bulletins on environmental conditions, natural resources, environmental statistics and on sanitary and epidemic conditions. These publications are circulated among the public authorities and libraries. More and more environmental data and information are posted on official web sites.

Belarus uses a wide range of indicators in its environmental assessments and reports. Many of these indicators represent bulky figures in tons and

cubic metres that do not help decision makers and the general public to understand the cause and effect of environmental conditions, to link these with economic and social developments and to assess the effectiveness of policy implementation. The national system of environmental indicators is not consistent with international indicators.

Recommendation 3.3:

(a) The Council of Ministers should streamline the natural resource cadastres to oblige the responsible ministries and institutions that have not done so yet to establish databases that:

- *Present standardized, timely and computerized data;*
- *Are searchable according to key parameters;*
- *Are user-friendly in their structure and provide links to other relevant databases;*
- *Are publicly accessible through the Internet, free of charge; and*
- *Have only limited confidentiality provisions.*

(b) The Ministry of Natural Resources and Environmental Protection, jointly with the Ministry of Statistics and Analysis, should update the national system of environmental indicators to make it consistent with indicators used in Europe and worldwide, and to facilitate international comparisons.

Belarus approved the Aarhus Convention and the Government adopted an action plan for its implementation. Environmental legislation was amended to broaden the rights of citizens to access environmental information. The Ministry of Natural Resources and Environmental Protection established the Public Coordinating Ecological Council to discuss with NGOs both concrete actions and policy issues. Similar public coordinating ecological councils were established with all regional environmental committees. Much remains to be done, however, particularly to ensure public participation and access to justice in environmental matters in practice.

The Laws on State Ecological Expertise and on Environmental Protection as amended in 2000 and 2002, respectively, promulgate the right of citizens and NGOs to participate in the State ecological expertise by organizing a parallel public ecological expertise of projects that may have an adverse environmental impact. Neither these laws nor the instructions issued by the Ministry of Natural Resources and Environmental Protection provided the necessary procedural details, however. Public

ecological expertise does not ensure public participation in all stages of decision-making process on projects. Procedures to ensure public participation in decision-making regarding environmental permitting, expenditures from environmental funds, standard-setting and development of laws, regulations, strategies and policies affecting the environment are lacking.

According to the law, citizens and NGOs have the right to address their complaints, applications and proposals to public authorities and legal persons, and to receive reasoned replies in a short time. The most advanced is the practice of administrative appeals by citizens and NGOs contesting actions or omissions that disregard environmental legislation. Cases of citizens challenging administrative decisions in courts or of public prosecutors pursuing environmental offenders are extremely rare. Similarly non-existent are cases of individual citizens or NGOs seeking a judicial review of the infringement of their environmental rights. Access to justice in environmental matters is also restricted by relatively high court costs.

Recommendation 3.4:

(a) *The Ministry of Natural Resources and Environmental Protection should initiate the revision of:*

- *The Law on Environmental Protection to include detailed procedures ensuring public participation in decision-making regarding environmental permitting, standard-setting, environmental fund expenditures and development of laws, regulations, strategies, plans and programmes affecting the environment; and*
- *The Law on State Ecological Expertise and relevant regulations to include such important issues as: how to inform the public about the possibilities for receiving and commenting on EIA documentation, deadlines for submitting comments, modalities of public hearings, how the proponent should handle the public's comments and inform both the public and the State ecological expertise authorities how comments have been taken into account, and how to inform the public about the final decision taken by the State ecological expertise authorities.*

(b) *The Ministry of Justice, in consultation with the Ministry of Natural Resources and Environmental Protection, should draft proposals to make the legislation consistent with the Aarhus Convention regarding public access to justice, in*

particular the right to challenge acts and omissions by private persons and public authorities that contravene national environmental legislation.

Public participation in environmental decision-making depends, to a great extent, on the overall conditions in a country for civil society associations such as environmental NGOs to operate, starting with their legal and taxation "climate". The Aarhus Convention stipulates, in particular, that each Party shall support associations, organizations or groups promoting environmental protection and ensure that its national legal system is consistent with this obligation.

The 1999 amendments to the Law On Public Associations followed by the adoption of various regulations introduced very rigid general conditions for NGOs in Belarus. As a result, the number of NGOs, including environmental ones, in Belarus, is very low compared to most other countries in Eastern Europe, the Caucasus and Central Asia. Activities of non-registered organizations are prohibited. The registration procedure is complicated, long and expensive. A quarter of registration requests are refused. Judicial authorities scrupulously monitor NGO compliance with the legislation. There are plans to introduce a legal requirement for NGOs to report annually on their activities to judicial authorities. New regulations on foreign assistance complicate access to this source of financing (which has been the only one for most NGOs so far).

The National Strategy for Sustainable Social and Economic Development envisages the development of measures, including legal procedures and mechanisms, to promote the participation of NGOs in decision-making concerning social, economic and environmental policies, as well as partnerships of public authorities with NGOs. Surprisingly, NGOs are not represented on the National Commission on Sustainable Development, which monitors the Strategy's implementation.

Recommendation 3.5:

The Council of Ministers should review the current legislation and regulations regarding the registration and operation of public associations and initiate the adoption of amendments that would create a supportive framework for such associations, including environmental NGOs, and enable Belarus to comply with its obligations under the Aarhus Convention. It should include

NGO representatives on the National Commission on Sustainable Development.

The population of Belarus is generally worried about environmental conditions. Environmental topics are regularly covered by the mass media. Educational institutions and NGOs have launched numerous environmental actions involving children and youth. The Ministry of Natural Resources and Environmental Protection promotes activities to raise environmental awareness in the country. It publishes a journal and various information materials and produces promotional TV clips. Since 2003, the Ministry has organized an annual national ecological forum that includes various promotional activities.

Belarus promotes continuous environmental education and training. Provisions on environmental education and awareness raising have been included in legislation and policy documents, the Concept of Environmental Education and the National Programme for the Improvement of Environmental Education being

the most important. Its main provisions have been successfully introduced into pre-school, primary and secondary education, and vocational training. Some planned actions, like the development of a programme of State support for the publication of methodological materials on environmental education or the creation of a training and methodological centre on environmental education, have not yet been implemented.

The Ministry of Natural Resources and Environmental Protection is planning to prepare a new national multilevel integrated programme for environmental education and awareness raising (for 2005-2010) that would also cover education for sustainable development. The Ministry of Education, in turn, intends to establish an inter-ministerial council on environmental education or education for sustainable development soon and lead it. There is a need to ensure close coordination between these two initiatives. It should be taken into account that environmental education and education for sustainable development will be greatly enhanced by active participation of civil society in decision-making.

Recommendation 3.6:

The Ministry of Education should speed up the establishment, in close cooperation with the Ministry of Natural Resources and Environmental Protection, of the inter-agency coordinating council on education for sustainable development with the participation of all stakeholders, including NGOs and the mass media. The council should support and monitor the implementation of the national multilevel integrated programme for environmental education and awareness raising for 2005-2010, once adopted by the Council of Ministers, and initiate other actions to promote and facilitate the implementation of the UNECE Strategy for Education for Sustainable Development

Chapter 4

INTERNATIONAL AGREEMENTS AND COMMITMENTS

4.1 International environmental cooperation and changes since 1997

Political environment

In recent years, the European Commission, the European Bank for Reconstruction and Development (EBRD), the Council of Europe and the World Bank have all assessed the situation in Belarus in relation to, for instance, human rights, media freedom, development of civil society, political freedom and democracy. Their assessments describe the current situation and trends as unsatisfactory in terms of international democratic standards. As a result, the level of cooperation between them and Belarus is much lower than with many other East European, Caucasian and Central Asian (EECCA) countries. This has implications for cooperation on environmental protection as well, including the provision of technical and financial assistance from donor countries and international organizations.

While Belarus has a “multi-directional” foreign policy, the strongest focus remains on its relationship with the Russian Federation. This includes the establishment of the Russian Federation-Belarus Union (the treaty was signed in 1999). Under the treaty, both countries retain their sovereignty and national identity, while harmonizing their legislation and gradually integrating their economies more fully. The work under this treaty is ongoing but at a slower pace than had initially been anticipated. Belarus also cooperates in the context of the Commonwealth of Independent States (CIS), particularly on economic integration. It is engaged in creating a full-scale free trade zone within the framework of the Euro-Asian Economic Community with Kazakhstan, Kyrgyzstan, the Russian Federation and Tajikistan, and a more recent project to create Single Economic Space (also known as Common Economic Area) with the Russian Federation, Ukraine and Kazakhstan.

Principles and objectives

Belarus does not have a unified government-approved document that covers only issues of international cooperation on environmental protection and its principles, priorities and objectives. These matters are reflected in several documents, including the National Action Plan on the Rational Use of Natural Resources and Environmental Protection (NEAP) for 2001-2005 and the National Strategy for Sustainable Development for the period to 2020 (NSSD-2020).

The 1992 Law on Environmental Protection (last amended in 2002) lists international cooperation in environmental protection both as a major principle of environmental protection and as a major aim of the national policy in environmental protection.

NEAP proposes broadening and strengthening international cooperation as a way to solve environmental problems effectively. The priority objectives are participation in the “Environment for Europe” process; implementation of international conventions, protocols and agreements to which Belarus is a Party; further development of bilateral and multilateral relations; attracting foreign investments for environmental programmes and projects.

NSSD-2020 focuses on the harmonization of national environmental legislation with international agreements and standards. The following measures are envisioned to achieve this: (1) improving environmental legislation and the system of environmental standards, norms and regulations in view of a transition to international standards and norms; (2) eliminating contradictions between environmental legislation and other legislative acts; (3) further harmonizing legislation with the principles and norms of international environmental agreements to which Belarus has signed up.

The Programme of Socio-Economic Development for 2001-2005, which defines the strategic goals of social and economic development and the tools for their implementation, contains a section on nature use and environmental protection. It emphasizes the need to create a unified legal system for environmental protection consistent with international legislation.

The Ministry of Natural Resources and Environmental Protection considers harmonization of national environmental legislation with international legislation as one of the priorities of environmental policy and compliance with the mandatory international requirements regarding environmental protection and the rational use of natural resources as one of its main objectives. It is one of the most proactive governmental bodies in international cooperation.

Institutional and legal framework

The Ministry of Natural Resources and Environmental Protection leads cooperation with the World Meteorological Organization (WMO), the Committee on Environmental Policy of the United Nations Economic Commission for Europe (UNECE), the United Nations Environment Programme (UNEP) and the governing bodies of international environmental conventions. Other ministries and governmental bodies involved in international environmental cooperation are the Ministry of Foreign Affairs, the Ministry of the Economy, the Ministry of Finance, the Ministry of Transport and Infrastructure, the Ministry of Energy, the Ministry of Health, the Ministry of Emergency Situations, the Committee on Overcoming the Consequences of the Chernobyl NPP Disaster and the Committee on Energy Efficiency under the Council of Ministers. The Ministry of Natural Resources and Environmental Protection submits an annual report to the Ministry of Foreign Affairs on the results of its cooperation with international organizations.

All procedures related to international and intergovernmental agreements, including those on environmental protection, are regulated by the 1991 Law on International Agreements (last amended in 2004). The initiative to accede to international environmental conventions or sign bilateral and multilateral environmental agreements originates in the Ministry of Natural Resources and Environmental Protection. Draft documents have to be approved by the Ministry of Foreign Affairs, the

Ministry of the Economy, the Ministry of Finance and other relevant ministries and governmental bodies. The final step is a presidential decree on ratification or accession. Intergovernmental agreements are approved by the Council of Ministers. It also issues a resolution to name the governmental body (usually the Ministry of Natural Resources and Environmental Protection) that will be responsible for the implementation of the convention or agreement. The Ministry pursues a policy of accession to environmental conventions. Since 1997, Belarus has become a Party to 10 environmental conventions and protocols, bringing the total number of global and regional environmental conventions and protocols to which it is a Party to 20.

Within the Ministry, overall responsibility for international cooperation rests with the Department of International Cooperation, which has a staff of five. By order of the Ministry (July 2004) vice-ministers and heads of departments are responsible for the implementation of a particular international, multilateral or bilateral agreement and for cooperation with international organizations. In addition to the international organizations for which the Ministry has primary responsibility, it also cooperates with the Global Environment Facility (GEF), the Organisation for Economic Co-operation and Development (OECD), the World Bank, the European Union's Programme for Technical Assistance (Takis) and others.

The Law on Environmental Protection specifies that Belarus conducts international cooperation in environmental protection in accordance with international legal principles and norms and with national legislation. It also states that, if there is a discrepancy between the environmental protection norms in international agreements that are in force for Belarus and those in the national law, the international norms have precedence. Similar clauses are contained in other environmental legislation, such as the Law on the Protection of Atmospheric Air, the Law on Ozone Layer Protection, the Law on Drinking Water Supply, the Law on Specially Protected Natural Areas, the Law on the Protection and Use of Animals, and the Law on Waste.

However, direct application of international agreements is virtually impossible without the adoption of national legislation, including by-laws and regulations that make those agreements operational. A good example is the adoption of the

2001 Law on Ozone Layer Protection, which specifically addresses the country's obligations under the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer. The Law on Waste contains an article on the transboundary movement of waste (including hazardous waste), which is in line with the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

If a convention is related to two or more laws, it is advisable to prepare the necessary amendments simultaneously to prevent inconsistencies. For example, implementation of the Ramsar Convention on Wetlands is related to several laws, specifically to the Law on Specially Protected Natural Areas, the Law on the Protection and Use of Animals and the Law on Plants. Alternatively, Belarus might opt to revise an existing law completely in order not only to ensure compliance with appropriate international conventions but also to harmonize it with the European Union's norms and standards. This approach may be particularly productive for the Law on the Protection of Atmospheric Air and relevant by-laws and regulations. Finally, completely new legislation might need to be developed, for example to implement Belarus's obligations under the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. The new or updated laws should be promptly accompanied by appropriate secondary legislation to make them fully operational. NSSD-2020 contains a good analysis of the needs in environmental legislation to ensure compliance with international conventions.

A recent development in the legislation related to international technical assistance, including assistance for environmental protection, is Presidential Decree No. 460 on International Technical Assistance to the Republic of Belarus" (October 2003) and Resolution No. 1522 of the Council of Ministers "Certain Measures to Enforce Presidential Decree No. 460" (November 2003). The official objective of Decree No. 460 is to make sure that international technical assistance provided to Belarus is in the interests of the country, in which case tax on the grants is waived. However, Resolution No. 1522 has created several layers and stages of approval within the Government, which involves the Ministry of the Economy, a special governmental commission established by the Resolution, the Council of Ministers and, in certain

cases, the local authorities. The procedure is extremely cumbersome and time-consuming even for small grants of a few hundred dollars. Each stage of approval often takes several months. As the last step in the procedure, a separate resolution of the Council of Ministers has to be approved for each grant. The way that Resolution No. 1522 is being implemented slowed projects down considerably and has in some cases led to their cancellation or postponement. UNDP supported the preparation of the publication "International Technical Assistance to the Republic of Belarus: Questions and Answers", which is helpful to both donors and recipients in understanding the peculiarities of the legislation and preparing the necessary documents. Unfortunately, as the problems are inherent in the legislation and the way it is applied, very few projects have been approved since early 2004.

For further information on environmental legislation, see chapter 1 on decision-making framework and implementation of policies, strategies, plans and legislation.

Trends since 1997

Belarus has continued to maintain contacts with international intergovernmental organizations such as UNEP, UNECE, UNDP, WMO, World Health Organization (WHO), World Bank, OECD, Interstate Ecological Council (IEC) of CIS, and the governing bodies of international environmental agreements. At the 52nd session of the United Nations General Assembly, Belarus was elected to the UNEP Governing Council for a four-year period beginning in January 1998.

Unfortunately, due to the changes in the country's political environment since 1996, relations with such organizations as the European Commission and its Tacis Programme, Council of Europe, World Bank and OSCE have been strained. This has resulted in these organizations limiting and re-evaluating their cooperation and suspending or downsizing some technical assistance projects. This has also been the case for some bilateral cooperation, primarily with the member States of the European Union and the United States. In environmental protection the effect was smaller than in other sectors but still tangible. At the same time, relations with CIS members and, particularly, the Russian Federation have remained stable.

Belarus has continued to be engaged in joint projects with all neighbouring countries – Russian Federation, Ukraine, Poland, Latvia and Lithuania. Most of the bilateral intergovernmental or inter-ministerial environmental agreements were signed before 1996 and some have expired. The Ministry of Natural Resources and Environmental Protection has resumed working on new bilateral agreements to replace expired ones, in some cases upgrading them to the intergovernmental level, e.g. with Poland. Activities within the framework of some agreements, e.g. with Lithuania, have been significant and productive, while other agreements, e.g. with Slovakia and the Republic of Moldova, have been essentially dormant.

Most recently, Belarus has prepared several trilateral agreements on water management with neighbouring countries.

Belarus has made particular progress in acceding to global and regional environmental conventions and protocols. In accordance with the recommendations of the first Environmental Performance Review, Belarus became a Party to 10 more conventions and protocols in 1999-2003. It made efforts to fulfil the relevant obligations. Belarus is preparing for or considering ratification of several more conventions and protocols. Some work has been done to bring national legislation in line with international agreements but it is far from complete.

Belarus participated in the World Summit on Sustainable Development in Johannesburg, South Africa, in 2002 and prepared the National Report “Environmental Conditions in the Republic of Belarus” for the Summit. Belarus participates in the “Environment for Europe” process and was engaged in the preparation of the fifth Ministerial Conference in Kiev in 2003.

4.2 Global conventions: Assessment of implementation

As noted earlier, Belarus is a Party to 19 global and regional environmental conventions and protocols. According to the 2002 National Report “Environmental Conditions in the Republic of Belarus”, Belarus focuses its international cooperation on complying with multilateral environmental agreements (MEAs) to which it is a Party. Among the priorities are measures and action plans to fulfil these commitments. Since 2002, annual dues into the budget of the conventions are being paid from the budgetary account of the

national environmental fund, rather than directly from the State budget. This has allowed to pay off a significant portion of the outstanding dues. The Ministry of Natural Resources and Environmental Protection is the leading governmental body responsible for implementation of all global environmental conventions with the exception of the Convention concerning the Protection of the World Cultural and Natural Heritage.

United Nations Framework Convention on Climate Change and Kyoto Protocol

Belarus signed the Convention in 1992 but ratified it only in 2000. In 2003, the Ministry of Natural Resources and Environmental Protection, with support of the World Bank, prepared the First National Communication. In this context, Belarus developed greenhouse gas (GHG) inventories by economic sector, provided information on the policies and activities aimed at reducing GHG emissions, and assessed the potential effect of climate change on ecosystems and the national economy. The Ministry is currently developing a national capacity self-assessment report and action plan for global environmental management with the support of UNDP and GEF. Its purpose is to evaluate the capacities, priorities and barriers to implementation of its international environmental obligations, including the United Nations Framework Convention on Climate Change, the Convention on Biodiversity and the Convention to Combat Desertification. Together with Ukraine, Belarus receives technical assistance from Tacis to implement its commitments with respect to global climate change (project’s timeframe 2004-2006).

At the time of the review mission Belarus was preparing to ratify the Kyoto Protocol. In August 2005, Belarus ratified the Protocol.

Vienna Convention on the Protection of the Ozone Layer, Montreal Protocol on Substances that Deplete the Ozone Layer and its Amendments

Belarus ratified the Vienna Convention in 1986, the Montreal Protocol in 1988 and the London Amendment to the Protocol in 1996. It is engaged in numerous activities to reduce the consumption of ozone-depleting substances (ODS) and phase them out. It submits annual national reports on ODS consumption to the secretariat of the Montreal Protocol. In 2001, the Law on Ozone Layer Protection was adopted and an article on it was

introduced into the Law on Environmental Protection when it was amended in 2002. The Council of Ministers approved a number of resolutions to protect the ozone layer. A database of ODS importers and consumers has been established to improve the efficiency of control over ODS import and consumption. The National Centre for Monitoring the Ozonosphere was created in 1997. The Ministry has prepared a draft action plan to reduce the consumption of ODS for the period until 2010. Ratification of the Copenhagen, Montreal and Beijing Amendments to the Montreal Protocol is being considered.

*Convention on Biological Diversity and
Cartagena Protocol on Biosafety*

Belarus ratified the Convention in 1993 and acceded to the Cartagena Protocol in 2002. It has submitted two national reports on its implementation of the Convention (in 1998 and 2003). The Ministry together with the National Academy of Sciences developed the National Strategy and Action Plan on the Conservation and National Use of Biological Diversity in 1997. The above-mentioned national capacity self-assessment report and action plan for global environmental management will cover the Convention on Biological Diversity. Belarus has continued to increase its specially protected areas, currently 7.6% of the country. Belarus has set up a clearinghouse to facilitate technical and scientific cooperation and exchange of information on biodiversity (<http://www.biodiv.solo.by>). In 2003, the Ministry and the Ecological Initiative, an NGO, prepared an overview of the country's important plant areas. See also chapter 8 on biodiversity and ecotourism.

In the implementation of the Cartagena Protocol, the National Biosafety Coordination Centre (established in 1998) is currently implementing a UNEP/GEF project to develop a national system of biosafety in accordance with the requirements of the Protocol. Belarus is envisaging drafting and adopting a law on safety in genetic modification and appropriate secondary legislation.

*Convention on International Trade in
Endangered Species of Wild Fauna and
Flora (CITES)*

Belarus acceded to the Convention in 1995. In the reviewed period the country continued taking steps to meet its commitments under the Convention. The

Ministry jointly with the State Customs Committee developed and approved the list of animals and plants, their parts or derivatives under the Convention that require a permit for their cross-border movement, as well as the procedure for issuing permits. Annual reports on the issuance of permits for cross-border movement of specimens under CITES are submitted to its secretariat. In 2003, the Law on Plants was adopted. It contains clauses related to the implementation of CITES. See also chapter 8 on biodiversity and ecotourism.

*Bonn Convention on the Conservation of
Migratory Species of Wild Animals*

Belarus acceded to the Convention in 2003. By the end of 2003, the Ministry jointly with the National Academy of Sciences had developed a programme of actions for implementation of the Convention. Also in 2003 at an international meeting in Minsk, Belarus and eight other countries signed the Memorandum of Understanding and Action Plan concerning Conservation Measures for the Aquatic Warbler, a globally threatened migrating bird species. The revised 2004 edition of the Red Book of Belarus included several new bird species, which were simultaneously taken out of the list of game species subject to hunting. Amendments to the Law on the Protection and Use of Animals are being prepared. According to Ministry officials, they will take into account Belarus's commitments under this and other relevant conventions. See also chapter 8 on biodiversity and ecotourism.

Ramsar Convention on Wetlands

Belarus ratified the Ramsar Convention in 1991. In 2000, it adopted the Law on Specially Protected Natural Areas, which specifies, among the types of nature reserve (*zakaznik*), wetlands in accordance with the definition of the Ramsar Convention. In the implementation of the Convention, Belarus drew up an inventory of its key ornithological sites. Seven wetlands with *zakaznik* status have been designated Ramsar sites (total area 276,000 ha or 1.3% of the country). The Ministry of Natural Resources and Environmental Protection and the NGO Ecological Initiative produced an overview and compendium "Belarusian Ramsar Sites" on a CD-ROM. In 1999-2002, the Ministry implemented a project, with support of the United Kingdom-based Darwin Initiative foundation and Birdlife International, to develop management plans for the key low-lying marshlands of Polessye to protect biodiversity. The biosphere reserve Pribuzhskoye

Polesseye has been established to create the transboundary biosphere reserve Zapadnoye Polesseye with Poland and Ukraine, and an application for nomination has been submitted to the United Nations Educational, Scientific and Cultural Organization (UNESCO). Several other projects related to the Convention are in progress. A national Ramsar coordination council is being established; two NGOs, BirdLife Belarus and the Ecological Initiative, are participating in this. See also chapter 8 on biodiversity and ecotourism.

United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa

Belarus acceded to the Convention in 2001. It is an Annex V country (Central and Eastern Europe). Belarus, like other Annex V countries, experiences various forms of land degradation, including soil erosion, salinization and depletion of arable land. It has been working on its commitments under the Convention since it entered into force in the country and prepared its National Report in 2002. In December 2003, the Regional Meeting for Strengthening Cooperation in the Field of Land Resources Management in Central and Eastern Europe under the auspices of the Convention was held in Minsk. A representative of Belarus was elected a Vice-President of the Bureau at the sixth session of the Conference of the Parties. A study related to the Convention will be included in the above-mentioned national capacity self-assessment report and action plan for global environmental management. In 2002, the Ministry of Natural Resources and Environmental Protection, with UNDP and GEF support, prepared a publication on "Global Environmental Conventions: Experience of Implementation in the Republic of Belarus," covering the conventions on desertification, climate change, biodiversity and wetlands, as well as studies and publications on land degradation. Belarus has requested financial assistance from GEF for the preparation of a national action plan to comply with the Convention. A joint working group for the implementation of the Convention to Combat Desertification, comprised of representatives of Ministries, other governmental bodies, scientific institutions and NGOs, meets regularly. See also chapter 8 on biodiversity and ecotourism.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

Belarus acceded to the Basel Convention in 1999, and amended its Law on Waste in 2000 and 2002 to take into account the Convention's requirements. Secondary legislation for the implementation of the Law was also adopted, including the Resolution of the Council of Ministers on the Transboundary Movement of Waste. Belarus participates in the regional project for EECCA to review national and international legislation on the monitoring and control of the transboundary movement of hazardous waste and its environmentally safe treatment. As part of this project, the Ministry is preparing a section of the review of the relevant legislation in Belarus. Belarus submits annual reports to the Convention's secretariat. The Ministry established two registers: (1) on waste treatment facilities and (2) on technologies for waste utilization. Belarus is implementing a project within the framework of the strategic plan for the implementation of the Basel Convention 2000-2010 with funding from the Convention's Trust Fund. The Ministry is responsible for issuing permits for the transit and import of waste. Belarus needs to develop a national strategy and action plan for the implementation of the Basel Convention and establish an information exchange mechanism. It has requested funding to this end from the Convention's secretariat.

Stockholm Convention on Persistent Organic Pollutants (POPs)

Belarus acceded to the Stockholm Convention in December 2003. The Convention entered into force in May 2004. The Ministry serves as the national coordination centre for information. It also established a coordination council for the Convention in June 2004. It brings together representatives of Ministries, other governmental bodies and scientific institutions, and has developed a work plan. The Ministry has prepared and submitted a project proposal for GEF funding to draw up a POPs inventory and develop a national action plan for the Convention.

Paris Convention concerning the Protection of the World Cultural and Natural Heritage

Belarus ratified the Convention in 1988. Two Belarusian sites, one cultural and one natural, are on the World Heritage List. The natural site is

Belovezhskaya Puscha/Bialoweza Forest, a transboundary site with Poland (since 1979, extended in 1992). An official of the Ministry of Culture is the national focal point for the Convention. The Ministry of Culture coordinates its activities with the Ministry of Natural Resources and Environmental Protection on issues related to Belovezhskaya Puscha and on preparing the list of sites for potential inscription on the World Heritage List. A report on the application of the Convention at the site is under preparation and was supposed to be submitted to the Convention's secretariat by the end of 2004. The cultural site is Mir Castle Complex. See also chapter 8 on biodiversity and ecotourism.

4.3 UNECE environmental conventions: Assessment of implementation

The Ministry of Natural Resources and Environmental Protection is the leading governmental body responsible for the implementation of all UNECE environmental conventions, except the Convention on the Transboundary Effects of Industrial Accidents.

Convention on Long-range Transboundary Air Pollution (LRTAP) and its protocols

Belarus signed the Convention in 1979 and ratified it in 1980. Of the eight protocols to the Convention, it has ratified the Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), the Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent and the Protocol concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes. It regularly submits reports to the secretariat of the Convention on the emission of major pollutants. Of other Protocols, Belarus is analyzing the feasibility of ratification of the Protocol concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes.

Convention on the Protection and Use of Transboundary Watercourses and International Lakes. (Water Convention), Protocol on Water and Health and Protocol on Civil Liability

Belarus acceded to the Convention in 2003. According to Ministry officials, there are plans to amend to the Water Code in line with the

Convention and taking into account the water basin management principle and the EU Water Framework Directive. Belarus is negotiating several agreements with neighbouring countries on the protection and use of transboundary water resources (see sect. 4.5). No national strategy or action plan for the Convention has been prepared and no information is available on when this will be done. Some measures will be included in the new national environmental action plan for 2006-2010. Belarus has not ratified the Convention's protocols, although it is considering ratifying the Protocol on Water and Health.

Espoo Convention on Environmental Impact Assessment (EIA) in a Transboundary Context and Protocol on Strategic Environmental Assessment (SEA)

Belarus signed the Convention in 1991 but has not ratified it. It has not signed the Protocol on SEA. According to Ministry officials, accession to the Convention is a priority for Belarus and a feasibility study is being prepared. Accession to the Convention and ratification of the Protocol are also listed as priorities in NSSD-2020.

Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters and Protocol on Pollutant Release and Transfer Registers (PRTRs)

Belarus signed the Convention in 1998 and approved it in 2000. In 2001, the Council of Ministers approved the plan of measures to implement the Aarhus Conventions for 2002-2005. The Ministry of Natural Resources and Environmental Protection approved the list that specifies the kind of information that is considered environmental. As part of a project supported by the Danish Environmental Protection Agency for the implementation of the Aarhus Convention (completed in 2004), a gap analysis of national legislation was conducted and a strategy for harmonizing the legislation with the Convention was developed. A draft concept for a law on environmental information was developed. A project on environmental information, education and public access, supported by Tacis, is ongoing. It aims to raise awareness of the Convention among government officials and the general public, in particular on public participation in environmental decision-making. The Public Consultative Council,

comprised of representatives of 17 environmental NGOs, meets regularly with high officials of the Ministry. A number of priorities for the implementation of the Aarhus Convention are listed in NSSD-2020. Belarus is considering ratification of the Protocol on PRTRs. See also chapter 3 on information, public participation and education.

Convention on the Transboundary Effects of Industrial Accidents

Belarus acceded to the Convention in 2003. The governmental body responsible for communication with the Convention's secretariat and for implementation is the Ministry on Emergency Situations. Several laws and by-laws were adopted before accession, including the Law on Industrial Safety of Hazardous Production Sites (No. 363-3 of 10 January 2000) and the Law on the Protection of Population and Territories from Natural and Technogenic Disasters (1998, with amendments 2003). Specific plans and programmes to prevent emergencies and eliminate their consequences have been developed at the national, local and enterprise levels. Belarus has bilateral cooperation agreements with Latvia, Lithuania and the Russian Federation. A similar agreement with Poland is being developed. The Ministry of Natural Resources and Environmental Protection is not directly involved in the implementation of the Convention and is not listed among the competent authorities.

4.4 Assessment of regional cooperation and cooperation with international organizations

In assessing Belarus's participation, a distinction should be made between cooperation with organizations of the United Nations system (including pan-European processes, such as "Environment for Europe", "Environment and Health", and "Transport, Health and Environment") on the one hand and cooperation with organizations of which Belarus is not a member (European Union and Council of Europe) on the other. Belarus, represented by the Ministry of Natural Resources and Environmental Protection or in some cases by the Ministry of Foreign Affairs, participates in the work of many international organizations and in pan-European environmental processes. Officials from the Ministry of Natural Resources and Environmental Protection are also interested in much more active cooperation with EU and the Council of Europe, but, as noted in section 4.1, this has met with difficulties.

Participation in the "Environment for Europe," "Environment and Health," and "Transport, Health and Environment" processes

Belarus participated in the fourth (Aarhus, 1998) and fifth (Kiev, 2003) Ministerial Conferences "Environment for Europe" and in all stages of their preparation. It participated in developing the Environment Strategy for countries of Eastern Europe, the Caucasus, and Central Asia adopted at the Kiev Conference. Belarus also participated in developing the Strategic Partnership on Water for Sustainable Development: EECCA Component of the EU Water Initiative. The Ministry of Natural Resources and Environmental Protection is responsible for following up the conferences and the implementation of their recommendations, including changes in legislation and integration into sectoral policies and strategies.

In the reviewed period Belarus became a Party to three more UNECE conventions and is meeting its commitments under them (see sect. 4.3). It did not sign the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters and the Protocol on Pollutant Release and Transfer Registers (both were open for signature at the Kiev Conference). Belarus participates in the work of the UNECE Committee on Environmental Policy. At its eleventh session, a representative of Belarus was elected a member of the ad hoc Expert Group on Environmental Performance.

In the framework of the Environment Strategy for EECCA countries, Belarus cooperates with OECD. It participates in the work of the Task Force for the Implementation of the Environmental Action Programme for EECCA countries (EAP Task Force), which plays the leading role in facilitating the achievement of the Environment Strategy objectives. Although there are a number of regional environmental projects for EECCA countries, no projects have been geared specifically towards Belarus.

Belarus is a member of the WHO Regional Office for Europe and participated in the third (London, 1999) and fourth (Budapest, 2004) European Ministerial Conferences "Environment and Health." Belarus adopted the National Environmental Health Action Plan (NEHAP) for 2001-2005 developed jointly by the Ministry of Health and the Ministry

of Natural Resources and Environmental Protection. In 2003, the Ministry of Health and MNREP prepared a report “National Environmental Health Action Plan: Effect on the State of the Environment and Health of the Population of the Republic of Belarus”. The two ministries also prepared “Environment and Public Health in Belarus: Analytical Review 1993-2001” with WHO support.

Belarus participates in the Transport, Health and Environment Pan-European Programme (THE PEP). Belarus is currently working on its commitments under this Programme. The Scientific and Research Institute of Transport of the Ministry of Transport and Infrastructure has developed a package of draft documents to establish a national coordinating centre on transport, health and environment that includes a draft concept for reducing adverse impact of transport on the environment. The Government is reviewing these documents.

Cooperation with the United Nations Development Programme and other United Nations organizations

Belarus has an extensive programme of cooperation with UNDP, which provides substantial support in the area of environmental management and sustainable energy. Most projects relate to energy efficiency, renewable energy promotion, protection of biodiversity and combating land degradation. The Ministry of Natural Resources and Environmental Protection and other relevant ministries and governmental bodies have productive working relationships with the UNDP Office in Belarus. Major support is provided by UNDP (with GEF funding) for the implementation of global conventions and reporting.

The development of the National Sustainable Development Strategy for the period to 2020 was facilitated by UNDP. UNDP has been instrumental in ensuring the participation of civil society and NGOs in a number of environmental projects and in developing some policy documents, particularly NSSD-2020. Currently, government bodies are cooperating with UNDP in the preparatory work for the national poverty reduction strategy and for the national progress report on the millennium development goals.

UNEP has supported the production of reports to the secretariat of the Convention on Biological

Diversity, the establishment of a clearing-house mechanism for this Convention and the development of a national policy on biosafety. The International Atomic Energy Agency (IAEA) has contributed substantially to the rehabilitation of territories contaminated by the Chernobyl accident. The United Nations Industrial Development Organization (UNIDO) helped establish a clean technologies centre to promote the introduction of environmentally safe technologies in industry. Belarus enjoys extensive cooperation with WMO, which includes a regular exchange environmental information, including on dangerous hydrometeorological phenomena and environmental pollution; training of Belarusian staff at regional WMO training centres; and the acquisition and use of hydrometeorological equipment according to WMO requirements. Belarus has decided to join the Food and Agriculture Organization of the United Nations (FAO). This would open new opportunities for cooperation on environmentally sustainable agriculture.

Cooperation with the European Union, the Council of Europe and the Organization for Security and Co-operation in Europe

Cooperation with the European Union is currently limited to the European Commission’s Tacis Programme. Technical assistance to ministries, including the Ministry of Natural Resources and Environmental Protection, is limited to cross-border projects. Cooperation takes place almost exclusively with oblast and local authorities and NGOs. In previous years a number of environmental projects and projects with environmental components have been supported by Tacis. They include projects on improving surface water quality in the Neman river basin, on river basin management and the environmental status of the Daugava/Zapadnaya Dvina river basin, on the implementation of environmental policies and NEAP, and several projects to improve the situation in the areas affected by the Chernobyl accident. A major grant was provided by Tacis for the implementation of the Zapadnyi Bug Basin Monitoring and Water Quality Assessment Project. Three major projects currently being implemented are Environmental Information, Education and Public Awareness (Belarus is one of six countries receiving assistance), Technical Assistance to Ukraine and Belarus with Respect to their Global Climate Change Commitments, and Sustainable Development in Oblasts affected by the Chernobyl

Accident (with Ukraine and the Russian Federation).

The European Commission adopted its Country Strategy Paper and National Indicative Programme for Belarus for 2005-2006. Accordingly, the Tacis programme will focus on support to civil society; education and training (in which the projects with an environmental component could be included); and support to Chernobyl-affected areas. Another possibility for environmental projects is in the context of the European Neighbourhood Policy (cross-border projects). The Country Strategy Paper and National Indicative Programme states that, subject to fundamental improvement of EU-Belarus relations, EU would be prepared to provide support beyond technical assistance in a number of policy areas, including environmental protection and public health. The 1997 EC General Affairs Council's conclusions on Belarus, which restrict EU-Belarus relations, will remain valid until there is a substantive change in the internal political situation in Belarus.

However, since the coming into force of Presidential Decree No. 460 and Resolution No. 1522 related to technical assistance in late 2003 the situation has worsened (see sect. 4.1). Projects that have been in the pipeline since early 2004 are awaiting approval by the governmental body under the Council of Ministers. Among the 19 projects for which approval was requested, at least seven have an environmental component.

Belarus applied for membership in the Council of Europe in 1993 and the Parliament of Belarus was granted special guest status in the Parliamentary Assembly of the Council of Europe. This guest status was suspended in 1997. Environmental cooperation is limited to the Biodiversity Strategy developed by the Council of Europe and UNEP.

Belarus has been a member of the Organization for Security and Co-operation in Europe since 1992. Relations with OSCE became particularly strained when the OSCE Assistance and Monitoring Group, responsible for assisting the Belarusian authorities to fulfil their OSCE commitments, was forced to close its office in Minsk in 2002. A new OSCE office with a revised mandate has been operating in Minsk since January 2003. The total annual budget for technical assistance is relatively small – approximately €185,000, of which about a quarter is intended for environmental protection projects. Both OSCE and the Ministry of Natural Resources and Environmental Protection believe that

cooperation between them is good. Among the recently completed projects was the publication of a gap analysis of the environmental legislation to increase awareness about the Aarhus Convention. Another project was intended to facilitate the creation of the Zapadnoye Polesseye Biosphere Reserve and ensure compliance with the UNESCO requirements for a joint biosphere reserve with Poland and Ukraine. Several projects are in the pipeline but they have essentially been put on hold because of difficulties caused by the new procedure for the approval of international technical assistance.

Cooperation with the World Bank and the European Bank for Reconstruction and Development

Belarus has been cooperating with the World Bank on several major environmental projects since 1997 in the context of the World Bank's Global Public Goods programme. This support has included projects on the phase-out of ozone-depleting substances, on environmental compliance and enforcement capacity-building, and on climate change (all GEF-financed). The current Social Infrastructure Retrofitting Project has a strong environmental component, since it envisages retrofitting hospitals and schools to increase energy efficiency. Other areas of support include biodiversity conservation and persistent organic pollutants. The Ministry cooperates actively with the World Bank.

The World Bank produced two major studies in cooperation with the Government of Belarus and IAEA in 2002: "Building Blocks for a Sustainable Future: A Selective Review of Environment and Natural Resource Management in the Republic of Belarus" and "Belarus Chernobyl Review". A World Bank project to finance investment in solid waste management has not been finalized, nor have other items under the World Bank Country Assistance Strategy for Belarus for 2002-2004.

The European Bank for Reconstruction and Development provided a €38 million loan to modernize the Orsha power plant in 1999. No new projects in any area have been signed between Belarus and EBRD since 2001. EBRD has clearly conditioned any future investments in the energy sector on the further restructuring of the power industry. No EBRD projects were directed at the municipal or environmental infrastructure.

4.5 Assessment of implementation of bilateral and multilateral agreements and other forms of cooperation

Belarus has cooperated bilaterally and multilaterally on environmental protection with neighbouring countries and other CIS and European countries. It has signed intergovernmental agreements with Latvia, the Russian Federation and Ukraine. It has signed inter-ministerial environmental agreements with Bulgaria, Denmark, Lithuania, Poland, the Republic of Moldova and Slovakia. With some countries of the European Union there are no formal agreements but environmental projects have been carried out. A number of multilateral agreements have been signed in the framework of CIS. Several agreements on water resources management (bilateral and trilateral) are being prepared.

Bilateral and trilateral agreements with neighbouring and other countries

Inter-ministerial agreement with *Bulgaria* (1995). Except for informal meetings of officials of the Ministries of two countries at international conferences, seminars and workshops, little has been done to implement this agreement. It is dormant and there have been no attempts to revitalize it or sign a new one.

Inter-ministerial agreement with *Denmark* (1994). This agreement has led to several major projects being accomplished. The cooperation included a project to analyse and treat obsolete pesticides, renovate the Brest wastewater treatment plant to reduce environmental threats (with the participation of Poland), and assist in the implementation of the Aarhus Convention. The agreement has expired, and there are no plans to sign a new one.

Intergovernmental agreement with *Latvia* (1994). Cooperation under this agreement focused mostly on the use and protection of water resources in the Daugava/Zapadnaya Dvina river basin. A Tacis project to support these activities has been implemented (the Russian Federation was also a participant). A draft agreement on cooperation in this area between the three countries is under consideration.

Inter-ministerial agreement with *Lithuania* (1995). Cooperation with Lithuania is one of the most developed. The Permanent Belarusian-Lithuanian working group meets regularly (once or twice a

year) to discuss the results of cooperation and approve new objectives. The protection of surface water is a major area of cooperation. This includes visits of specialists to each other's monitoring stations, prompt exchange of information on pollution accidents in the Neman/Nyamunas river basin and work to develop common criteria for pollution. A trilateral agreement (with the Russian Federation) on cooperation on the use and protection of water resources in the Neman/Nyamunas river basin is being prepared. The Ministries conduct joint environmental monitoring in the area adjacent to the Ignalina nuclear power plant in Lithuania. Lithuania has expressed concern over a project to build a hydropower station in Grodno oblast close to the Lithuanian border and would like the environmental impact to be assessed. Negotiations are ongoing on applying the Espoo Convention in a bilateral context. Both sides consider cooperation to be good and productive both centrally and locally.

Inter-ministerial agreement with *Poland* (1992). The current agreement has expired, but the countries continued joint projects and cooperation on practical issues without interruption. A new – intergovernmental – agreement is being negotiated and was supposed to be signed in late 2004. The joint commission and working groups have been meeting regularly. Cooperation focuses primarily on transboundary waters and protection of biodiversity. A joint project on monitoring and assessment of water quality in the Zapadni Bug river basin was completed in 2003. Negotiations are ongoing on a draft agreement on cooperation on the use and protection of transboundary waters.

A trilateral inter-ministerial agreement (with Ukraine) on cooperation on groundwater monitoring in the Zapadni Bug river basin is being negotiated. Additionally, there is a 2003 agreement on cooperation between the Hydrometeorology Department of the Belarusian Ministry of Natural Resources and Environmental Protection and the Institute of Meteorology and Water Resources of Poland, which provides for a regular exchange of hydrometeorological information and joint hydrological measurements in the Zapadni Bug river. There are plans to establish a transboundary biosphere reserve (with Ukraine) and joint activities are taking place. Belarus is currently establishing the “Zapadnoye Polesse” biosphere reserve, which will become part of the transboundary protected area. Both countries assess positively the results of their cooperation, although Poland believes that

certain problems that could be solved locally often require decisions at the national level in Belarus.

Inter-ministerial agreement with the *Republic of Moldova* (1994). A plan for cooperation has been developed and working groups have been created. The Vice-Ministers have met several times. Recently there have been no meetings of the representatives of two Ministries, which, according to Belarus, was caused by the restructuring of governmental environmental protection bodies in the Republic of Moldova. However, there were plans to hold a meeting of the joint commission on cooperation on environmental protection in late 2004 to discuss a draft intergovernmental agreement on environmental cooperation and further cooperation between the Ministries.

Intergovernmental agreement with the *Russian Federation* (1994). Within the framework of this agreement there are several specific agreements. Among them, two between oblast committees on environmental protection (Vitebsk in Belarus and Pskov in the Russian Federation; and Vitebsk and Mogilev in Belarus and Smolensk in the Russian Federation), an inter-ministerial agreement on cooperation on mineral resources and an intergovernmental agreement on cooperation on the protection and rational use of transboundary waters. A joint commission to implement this last agreement is being established. According to officials at the Belarusian Ministry, structural changes in the governmental environmental protection bodies of the Russian Federation resulted in fewer activities between the parties. Cooperation on practical issues takes place mostly locally and in oblasts.

Inter-ministerial agreement with *Slovakia* (1997). Both countries' Ministers met twice at international conferences. The agreement is essentially inactive, and no joint activities or projects have been undertaken.

Intergovernmental agreement with *Ukraine* (1994). A more specific intergovernmental agreement on the joint use and protection of transboundary waters was signed in 2001. Working groups to implement it have been established and the officials responsible for its implementation have met several times. A working group on hydrometeorology met in 2004 to discuss information exchange and joint measurements of water flow in transboundary rivers and approve the plan of activities for 2004-2005. A trilateral agreement (with the Russian

Federation) on cooperation on the use and protection of the Dnieper river basin is being prepared.

Bilateral and trilateral cooperation is developing most successfully with neighbouring countries, where there is a clear understanding of existing or potential environmental problems and a mutual willingness to solve them. Trilateral agreements are still in progress and signing and implementing them should be a priority for Belarus. Bilateral cooperation with donor countries has a potential for growth, but it is unlikely to be realized unless the internal political situation in Belarus changes substantially.

Other forms of bilateral cooperation

France has supported a project to exchange information and education between the Berezin biosphere reserve in Belarus and the Vosges du Nord biosphere reserve in France. It has also supported activities related to preparation and public discussion of the National Sustainable Development Strategy for the period to 2020. *Germany*, through its Ministry of Economic Cooperation and Development and the German Corporation for Technical Assistance (GTZ), has a programme of support for Belarus with four main areas, one of which is energy saving and the use of renewable energy. Six projects in this area were planned for 2003-2004. Other projects with an environmental component are in education.

Sweden has supported environmental protection activities in Belarus. Still ongoing are projects on water management training, on quality control in laboratories monitoring water quality, on environmentally sustainable development, on support of local Agenda 21, on environmental education and on rural development. The Ministry of Natural Resources and Environmental Protection has regular meetings with officials from Sweden, particularly from the Swedish Environmental Agency, to discuss the results of cooperation and prospects for future activities.

Several *United Kingdom*-based foundations have provided support for a number of biodiversity projects. The *United States* Agency for International Development (USAID) does not provide direct support for environmental projects. However, the Eurasia Foundation, with USAID funding, has provided grants to the Initiative for Social Action and Renewal in Eurasia (ISAR) to be used for the small grants competitions among

Box 4.1. Environmental agreements within the framework of CIS to which Belarus is a Party

- Agreement on the List of Rare and Endangered Species of Animals and Plants – Red Book of CIS Member States (1995);
- Agreement on Control over Transboundary Movement of Hazardous and Other Waste (1996);
- Agreement on Main Principles of Cooperation in Rational Use of Water Objects (1998);
- Agreement on Information Cooperation in Ecology and Environmental Protection (1998);
- Agreement on Cooperation in Environmental Monitoring (1999);
- Agreement on Cooperation in Hydrometeorology (1992);
- Agreement on Supply of Equipment for National Hydrometeorological Agencies of CIS Member States (1994, ratified 1997);
- Agreement on Inter-State Hydrometeorological Network of CIS (2001);
- Agreement on Cooperation in Active Impact on Meteorological and other Geophysical Processes (2001)

environmental NGOs in Belarus. The grant competition in 2002-2003 was targeted at increasing the role of NGOs and civil society in environmental decision-making.

Regional and other multilateral agreements

Regional agreements to which Belarus is a Party are all in the framework of CIS (see box 4.1). As with many other agreements within CIS, specific information on their implementation is scarce and does not appear to be a priority. The annual report of the Ministry of Natural Resources and Environmental Protection to the Ministry of Foreign Affairs on the results of cooperation with international organizations does not contain a section on bilateral and multilateral cooperation.

4.6 World Summit on Sustainable Development's commitments: implementation and practical steps

Belarus developed its first government-approved National Sustainable Development Strategy in 1997 (NSDS-1997). It followed the guidelines of Agenda 21 adopted at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, in 1992. Among the most significant accomplishments are accession to a number of global conventions and measures to implement them, resumption of economic growth in the mid-1990s, improvement in living standards, and practical steps to reduce environmental pollution. The last achievement was initially caused by the economic decline after the breakdown of the Soviet Union. However, Belarus was able to maintain these significantly reduced levels of pollutant emissions even after economic growth resumed. In the case of air emissions, the main reason is the high proportion of relatively inexpensive natural gas, supplied by the Russian Federation, in the composition of energy sources. Certain policy

measures, including a more effective application of economic instruments, also played an important role.

The second National Strategy for Sustainable Development is intended for the period to 2020 (NSSD-2020). It was approved by the National Commission on Sustainable Development and the Presidium of the Council of Ministers in 2004. It takes into account global and national changes in recent years, national socio-economic forecasts and international agreements, including the United Nations Millennium Declaration and the Political Declaration and Plan of Implementation of the World Summit on Sustainable Development (Johannesburg, South Africa, 2002). NSSD-2020 is a comprehensive document that identifies problems in achieving sustainable development and sets targets for social policy, development of human potential, economic development, rational use of natural resources and preservation of the environment for future generations. The Strategy analyses the means to accomplish the goals, including financing and investment needs, development of economic and social policy, international cooperation, environmental education and public access to information. An important component of the Strategy is a clear distinction between the medium-term (until 2010) and long-term (2011-2020) actions and measures. Development of this Strategy was made possible with the support of the UNDP Office in Belarus and was an example of good cooperation between all relevant ministries and governmental committees, research institutes and non-governmental organizations.

According to NSSD-2020, it takes into account the implementation of NSDS-1997. A comprehensive analysis of what has and what has not been accomplished under the previous Strategy was prepared in 2002. Such analysis has been useful as

an exercise of “lessons learned” to see clearly which targets have been met, what were the obstacles that prevented other targets from being achieved, as well as what has to be put in the new Strategy again. It is important to have an annual or, at least, biennial follow-up on progress, with a possible review of the Strategy around 2010. It is also important for this document to be viewed as having a similar status to the Programme of Socio-Economic Development for 2001-2005 and the Main Directions of Socio-Economic Development until 2010.

On the local level, understanding of the principles of sustainable development is often insufficient, particularly by *rayon* and municipal officials. There are very few local Agenda 21 projects. Towns where such projects exist, at various stages of development, include Turov, Fanipol, Dzerzhinsk, Disna and Klimovichi, as well as the Pervomayskiy *rayon* of Minsk. They have been initiated under programmes and with financial support of international organizations and bilateral donors. All of them remain pilot projects with little exchange of experience between them and no evidence of spreading to other communities. Local government officials in Dzerzhinsk, for example, are aware of the seminar in 2002 that initiated the local Agenda 21 but had no information on any follow-up or development of an action plan under it.

Another problem is that many sustainable development projects are donor-driven rather than grassroots-initiated, and often become dormant after initial donor financing dries up. For these projects to become really effective, local ownership is indispensable, but there are few examples of this happening.

4.7 Millennium development goals: status of relevant goals and measures for their implementation

Government officials are aware of the millennium development goals and understand their importance. In fact, Belarus is doing better than other EECCA countries on almost all goals and is likely to meet them, according to the World Bank. The exception is goal 6 “combat HIV/AIDS, malaria and other diseases”. Goal 7 “ensure environmental sustainability”, which is the most relevant to this review, is also achievable on all indicators, among them proportion of population with sustainable access to an improved water

source and proportion of land area covered by forest (among the highest in Europe).

The World Bank classifies Belarus as a lower-middle-income country, and the UNDP Human Development Report 2004 ranks it as a country with medium human development. It is therefore expected that the country will set its own targets above those in the millennium development goals. This could be a challenge but would allow Belarus to see clearly ways for improvement and maintain the spirit of the goals. To accomplish this, an analysis of the baseline conditions is necessary.

UNDP is coordinating the preparation of the national progress report on the millennium development goals. The executing agency for drafting this report is the Institute of the Economy of the Ministry of the Economy. It is supposed to be finalized in 2005 and approved by the National Commission on Sustainable Development. According to UNDP officials, all stakeholders, including relevant governmental bodies and NGOs, are to be involved. However, at the time of the review, the Ministry of Natural Resources and Environmental Protection was not aware of the commencement of this effort. It is crucial that the Ministry and environmental NGOs participate in the work on this report at all stages, particularly on the section related to goal 7.

4.8 Conclusions and Recommendations

Belarus pursues international cooperation in environmental protection. Its policy documents, such as the National Action Plan on Rational Use of Natural Resources and Environmental Protection (NEAP) for 2001-2005 and the National Sustainable Socio-Economic Development Strategy for the period to 2020 (NSSD-2020), emphasize international cooperation as one of the ways to solve environmental problems effectively. In the reviewed period, Belarus has continued to harmonize its legislation with the principles and norms of international environmental legislation in line with its international commitments. The Ministry of Natural Resources and Environmental Protection is among the most proactive and effective governmental bodies in promoting international cooperation, facilitating international technical assistance and coordinating relevant activities with other ministries, non-governmental, professional and scientific organizations, and international organizations.

Belarus needs to continue reviewing its environmental legislation and its system of environmental standards, norms and regulations to achieve the stated objective of transition to international standards and norms. National legislation in many areas is lacking or insufficient to ensure Belarus's compliance with its obligations under international agreements. There is a need to reconsider and strengthen the enforcement mechanisms of the existing legislation. An institutional framework, which clarifies designation of responsibilities to agencies for enforcement of laws and regulations, monitoring and evaluation of implementation, collection, reporting and analysis of data, awareness raising and publicity, assistance to courts and other agencies is essential. For all those reasons, the practical implementation of international agreements is slow and implementation procedures are lacking as well.

Also, attracting additional international technical assistance may continue to be difficult considering the prevailing political climate. Moreover, recently introduced internal rules and procedures seriously hamper assistance delivery, which slows down and negatively affects many activities in environmental protection.

Recommendation 4.1:

The Ministry of Natural Resources and Environmental Protection should continue to introduce proposals to develop new and revise existing legislation according to Belarus's obligations under international agreements. The recommendations, contained in the National Sustainable Socio-Economic Development Strategy for the period to 2020, to harmonize national environmental legislation with the principles and norms of international environmental legislation should serve as guidelines. Speedy adoption and development of mechanisms for implementation of the law on environmental information in accordance with the Aarhus Convention should be a priority.

Recommendation 4.2:

The Council of Ministers should take measures to change the rules and procedures for the approval of international technical assistance for environmental protection so as to significantly simplify and expedite the process.

Belarus considers implementation of global and regional conventions and protocols as one of the priorities in international cooperation. Since 1997 it

has continued to apply those it ratified earlier and has become a Party to 10 more conventions and protocols, bringing the total to 20. The Ministry of Natural Resources and Environmental Protection is pursuing a policy of signing up to such agreements and developing measures for their implementation. It is preparing the necessary documents for the ratification of the Espoo Convention and several protocols. However, changes in national legislation to comply with these conventions often lag behind. National strategies and action plans have so far been developed only for the Convention on Biological Diversity, the United Nations Convention to Combat Desertification and the Aarhus Convention, but not for the other environmental agreements to which Belarus is a Party.

Recommendation 4.3:

The Ministry of Natural Resources and Environmental Protection should:

- a) *finalize the necessary documents for the ratification of the Espoo Convention and the Copenhagen, Montreal and Beijing Amendments to the Montreal Protocol;*
- b) *prepare necessary documentation to proceed with ratification of the Protocol on SEA to the Espoo Convention, the Protocol on Volatile Organic Compounds to the LRTAP Convention, and the Protocol on PRTRs to the Aarhus Convention; and*
- c) *continue preparing national strategies and action plans for the implementation of conventions where such documents are lacking. MNREP may wish to continue applying for external funding to build up its capacity.*

Belarus participates in the environmental protection work of a number of regional and international organizations. It maintains a good working relationship with organizations of the United Nations system, including UNECE, UNDP, UNEP, WMO and WHO, and the governing bodies of global and regional environmental conventions. The Ministry's annual reports on cooperation with international organizations and on bilateral agreements are comprehensive, provide a clear picture of the benefits of such cooperation and justify the need for continuing it, including prompt payment of financial contributions to the budgets of international organizations. The relationship of Belarus with some other international bodies, such as the European Union and the Council of Europe,

remain strained. This also affects negatively environmental cooperation.

Belarus has achieved significant progress in the implementation of some bilateral environmental agreements, while activities under other agreements remain low-key or virtually non-existent. Cooperation is most active and productive with its neighbouring countries, particularly Lithuania and Poland. Belarus also cooperates with countries with which it has no formal agreement, and has achieved some success, e.g. in cooperation with Sweden and Germany. Belarus is negotiating one bilateral and several trilateral agreements with neighbouring countries on water resources management that would be beneficial for the quality of transboundary waters in the region as well as other bilateral agreements. There is little information on the implementation of environmental agreements within the framework of CIS.

Recommendation 4.4:

a) *The Ministry of Natural Resources and Environmental Protection should analyse the results of implementation of bilateral and multilateral agreements and other forms of bilateral cooperation. Based on this analysis, it should identify the priorities for cooperation and concentrate its resources on them. It should integrate this analysis in its annual reports to the Ministry of Foreign Affairs;*

b) *The Ministry of Natural Resources and Environmental Protection should finalize preparations for signing intergovernmental agreements with neighbouring countries on the use and protection of water resources of the Daugava/Zapadnaya Dvina, Neman/Nyamunas, Dnepr and Zapadnyi Bug river basins and other bilateral agreements currently being negotiated. Once the agreements come into force, it should, as a matter of priority, develop practical steps to make them fully operational.*

Belarus is pursuing its commitments under the decisions of the World Summit on Sustainable Development and the Millennium Declaration. The adoption, in 2004, of the National Strategy for Sustainable Development for the period to 2020

(second NSSD for Belarus) confirms the country's intention to follow the sustainability strategy in its development. To ensure its effective implementation, it is important for the Strategy to have the same high status as other national policy documents, such as the Programme of Socio-Economic Development for 2001-2005. While the importance of the principles of sustainable development is well understood at the national level, the ideas and practice of sustainable development have not, in general, reached the grassroots level. Awareness of sustainable development objectives is particularly low among the local (*rayon* and town) authorities. There are only few pilot projects on local Agenda 21 at various stages of development. They appear to be almost completely donor-driven and tend to lose momentum when the external funding dries up.

Belarus is in a relatively good position with regard to meeting the millennium development goals compared to other countries with economies in transition. The outlook for meeting the targets in goal 7 "ensure environmental sustainability" is also positive. Nevertheless, there is no room for complacency. The analysis of the baseline conditions and the national report on the progress, currently being prepared, is an important undertaking and should involve all stakeholders.

Recommendation 4.5:

a) *The National Commission on Sustainable Development should prepare, by 2010, an analysis of the achievement of the medium-term goals and progress in the long-term goals of NSSD-2020. Based on this analysis, the Commission should consider revising the Strategy;*

b) *The Ministry of Natural Resources and Environmental Protection should be involved in all stages of the preparation of the national progress report on the millennium development goals, particularly with regard to goal 7. Based on the conclusions of the report, the Government should consider, where appropriate, setting higher targets than those in the millennium development goals to be achieved by 2015 to maintain the spirit of the Millennium Declaration.*

***PART II: MOBILIZING FINANCIAL RESOURCES
FOR ENVIRONMENTAL PROTECTION***

Chapter 5

FINANCING FOR ENVIRONMENTAL PROTECTION

5.1 Management of domestic financial resources

So far, Belarus has relied on its own resources to finance priority environmental protection measures. The main sources of domestic finance include the State budget at all levels (State, oblast and local) as well as the budgetary environment protection funds, budgetary innovation funds and enterprises' own resources. Expenditures for environmental purposes also include environmentally related and not only strictly environmental (or pollution abatement and control (PAC)) expenditures.¹

The data on environmentally related expenditures, in particular domestic, that are used as a basis for this section, have been provided by different sources, mostly the Ministry of Finance, the Ministry of Natural Resources and Environmental Protection and the Ministry of Statistics and Analysis. However, they often produced inconsistent data, which made it difficult to estimate accurately the level of domestic environmentally related expenditures. Moreover, there are few databases, which complicates the flow of reporting even more. For these reasons, the most recent data (2003-2004) were rarely definitely consolidated. They were therefore difficult to interpret.

Domestic environmentally related expenditures

Environmentally related expenditures in Belarus are significant. According to the Ministry of Statistics and Analysis, domestic environmentally related expenditures have steadily increased since 2000 (table 5.1). In 2002, they ranged between 1.8% and 1.9% of GDP. Other, still preliminary, figures for 2003, 2004 and 2005 budget confirm this increasing trend. These figures are high compared

¹ The category "environmentally related" expenditure includes expenditure on pollution abatement and control (PAC), as defined by OECD and Eurostat, plus water supply expenditure and some natural resource management expenditures that are not covered by the OECD PAC methodology.

to other EECCA countries. They are comparable to what OECD countries spend but only when environmental expenditures are calculated on strict PAC terms. In 2002, Belarus spent between US\$ 58 and US\$ 64 per capita on environmentally related expenditure (expressed in purchasing power parities (PPPs)). In 2001 the Republic of Moldova had similar levels of per capita expenditure and only the Russian Federation, with nearly US\$ 160 per capita, spent more than Belarus.

Most of the environmental expenditures in 2000-2002 were spent on protection and rational use of water resources. For example, in 2002, water-related expenditure accounted for about 43% of all environmentally related expenditures, including current, capital repairs and capital investments. Other sources confirm this situation.

Another indicator of a country's commitment to environmental protection is its allocation of environmentally related expenditure to investment and current expenditure. As can be seen in table 5.1, current expenditures are much higher than capital investment, the latter accounting only for 16% of total expenditures over the period 2000 to 2002, a ratio which would be only slightly modified if data on current expenditure for general support of the environmental administration were included in this statistic. According to the Ministry of Finance, expenditures for environmental administration were about Rbl 13.5 billion in 2002, less than 3% of total environmental expenses.

As a share of gross fixed capital formation, the level of environmental investment is very low – 1.7% to 1.9% in 2000-2002. This shows that most of the environmentally related expenditures in the country are spent on maintenance and operation of existing, often polluting, equipment and installations and very few resources are put into introducing new, more efficient and less polluting technologies.

Data from the Ministry of Statistics and Analysis show that most of the investment in environmental

Table 5.1: Domestic environmentally related expenditures, 2000-2002 (including all sources of finance)

Name	2000		2001		2002	
	bill. Rbl	mill. US \$	bill. Rbl	mill. US \$	bill. Rbl	mill. US \$
Total	187	213	346	249	464	259
of which:						
Current expenditure on maintenance of environmental protection installations and on measures reducing environmental impact at industrial, agricultural, transport and other enterprises and organizations	120	137	205	147	274	153
of which:						
Protection and rational use of water resources	61	70	122	88	166	93
Air protection	50	57	64	46	79	44
Land protection from pollution with industrial and municipal waste	7	8	17	12	25	14
Land reclamation	1	1	2	1	3	2
Costs of capital repairs of environmental protection facilities	6	7	12	9	17	9
of which:		0		0		0
Installations for waste-water treatment and rational use of natural resources	4	5	7	5	9	5
Installation and equipment for eliminating harmful substances from gas emissions produced by stationary sources	2	2	4	3	4	2
Expenditure on reserves and national parks, biotechnology measures aimed at protection and reproduction of wild animals and birds	3	3	6	4	8	4
Forestry management costs	28	32	65	47	91	51
Capital investments in environmental protection and rational use of natural resources	30	34	58	42	74	41
of which:		0		0		0
Protection and rational use of water resources	11	13	13	9	27	15
Air protection	9	10	31	22	26	15
Protection and rational use of land	10	11	13	9	18	10
Environmental investments as a share of gross fixed capital formation (GFCF) *	1.7		1.9		1.7	

Source: Environmental Protection in Belarus, Ministry of Statistics and Analysis, Minsk 2003.

Notes:

The above excludes expenditure on environmental protection administration and controlling bodies, current expenditure on related research work, environmental education and awareness raising

* CIS Yearbook 2002.

protection is undertaken by legal entities (enterprises and organizations). In 2002, the allocation of total investments (US\$ 41 million) could be broken down as follows: 4.7% from the State budget, 27.3% from local budgets, 9% from innovation funds (budgetary funds that belong to different government agencies) and 58% (or US\$ 24 million) from enterprises. As can be seen in table 5.2, in 2002, environment protection funds allocated about US\$ 24 million to enterprises, which is exactly the amount that enterprises

reported to have spent on environmental investment, showing that these investments are entirely subsidized and that the contribution from the funds is not used as leverage.

These data show that environmentally related expenditures in Belarus are significant. As in most EECCA countries, domestic rather than international sources account for the largest share of environmental expenditure (for more information on foreign sources, see section 5.3).

Table 5.2: Revenues and expenditures of the environment protection funds, 1995-2004

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total revenues*, in million Rbl	385	881	1,271	1,633	4,389	9,098	28,325	82,376	174,505	282,992
in million US\$	33	66	49	35	18	10	20	46	85	131
in % from GDP	0.30	0.46	0.35	0.23	0.15	0.10	0.16	0.32	0.47	0.56
Total expenditures, in million Rbl	337	874	1,247	1,567	4,078	8,572	21,941	74,309	163,325	282,482
in million US\$	29	66	48	34	16	10	16	41	80	131
including capital investment**	235	608	879	909	2,464	4,981	14,352	42,748	92,918	150,379
in million US\$	20	46	34	20	10	6	10	24	45	70
in % of total expenditure	70.0	70.0	70.0	58.0	60.0	58.0	65.0	58.0	56.9	53.2

Source: Ministry of Natural Resources and Environmental Protection, 2005.

Notes: *Including water and air pollution charges. **Figure for 2004 does not include capital investments for flora and fauna protection

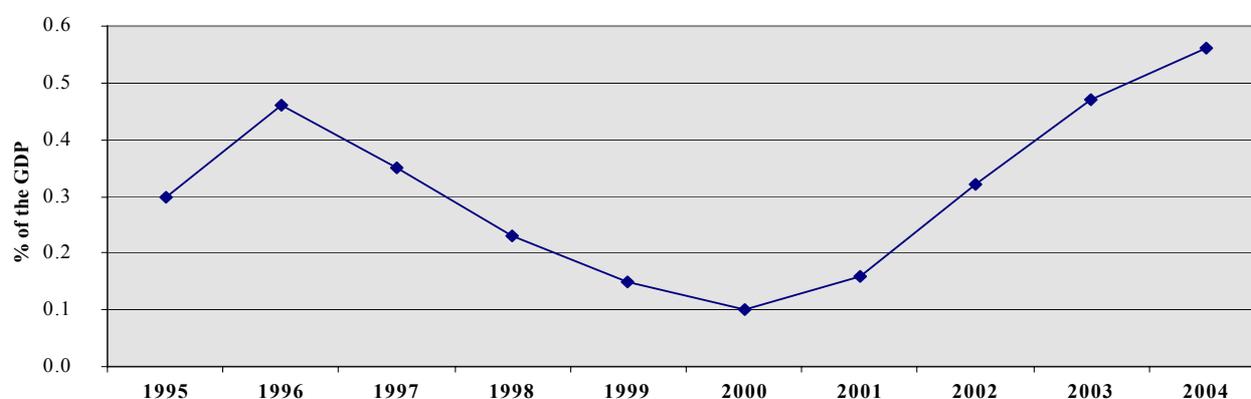
Environment Protection Funds

Environment protection funds are one of the major sources of domestic environmentally related expenditure. Environment protection funds (at the national, oblast and local levels) accounted for 16% in 2002 of total public environmentally related expenditures. Funds' revenues have been steadily increasing since 2000, the year when the funds saw the lowest level of revenue in the reviewed period. Due to high inflation, 1998-2000 saw a significant erosion of the funds' revenue. The recovery started in 2001, as inflation was contained and the collection of pollution charges that feed the funds improved (the rate of collection varies across the years but it can be as high as 97-98% for certain local funds). In addition, in 2001, the Ministry of Natural Resources and Environmental Protection began establishing emission limits based on the

actual production of enterprises rather than their nominal capacity, which resulted in more realistic figures and thus an increase in charges and fines for excess pollution. Table 5.2 presents the dynamics of the revenues and expenditures of the funds in 1995-2004.

Figure 5.1 shows the revenues of the environment protection funds as a percentage of GDP in 1995-2004. In 2001, the revenues started rising again after several years of significant and steady decrease.

The system of environment protection funds was established in 1990, as part of the efforts of the former State Committee for Environmental Protection (the Ministry of Natural Resources and Environmental Protection's predecessor) to introduce new economic instruments for

Figure 5.1: Revenues of the environment protection funds as % of GDP

Source: Ministry of Natural Resources and Environmental Protection, 2005.

environmental policy. Pollution charges were introduced and extrabudgetary environmental funds established to collect and disburse the revenue generated by these charges. The framework Law on Environmental Protection (1992, last amended in 2002) provides the legal basis for the environmental protection funds and their operation. The Resolution of the Cabinet of Ministers on Extrabudgetary Environment Protection Funds (1993) established the regulations for administering these funds. Currently, the annual Law on the Budget and an annual Resolution of the Council of Ministers define the funds' revenue sources, procedures for revenue collection and areas of expenditure.

The environment protection funds have been operational since March 1993. Pursuant to the 1998 Law on the Budget, all extrabudgetary funds were consolidated in the State budget but their resources remained earmarked for environmental improvements. The legal basis of the funds is further determined by the Law on Local Administration and Self-Governance (1991, with latest amendments 2004), the Resolution of the Council of Ministers on Environment Protection Funds (2004, 2005), the Resolution of the Ministry of Natural Resources and Environmental Protection and the Ministry of Finance on Approval of Regulations on Procedures for Calculating and Payment of Charges to the Budgetary Environment Protection Funds (2001), and the Resolution of the Ministry of Finance on Budgetary Classification (1999). After the review mission, a new piece of legislation, Presidential *Ukaz* on Improving Efficiency of Use of Resources of Environment Protection Funds, was adopted in July 2005.

Currently, there is a three-tier system of Environment Protection Funds:

- The National Environment Protection Fund managed by the Ministry of Natural Resources and Environmental Protection;
- Six oblast and Minsk city environment protection funds managed by the oblast and Minsk city committees on natural resources and environmental protection; and
- Local (city and rayon) environment protection funds managed by local natural resources and environmental protection inspectorates.

The environment protection funds are functionally and legally part of the respective budgets. The

Ministry and its oblast and local bodies are responsible for the disbursement of the financial resources of the respective environment protection funds. The annual budget of the Environment Protection Fund on the national level is approved as part of the Law on the Budget, while the budgets of the oblast and local funds are approved as part of the local budgets. Decisions on investments financed by the environment protection funds are approved by *ukazes* of the President based on proposals submitted by the Council of Ministers. The Ministry of Finance, the Ministry of Economy and the Ministry of Natural Resources and Environmental Protection are involved in drafting these proposals.

The main sources of revenue of the environment protection funds, according to the above-mentioned legislation, are: air and water pollution charges; industrial and household waste disposal charges; compensation for environmental damage; fees for reprocessing of plastic packaging waste; and pollution fines. In addition, the funds may also receive voluntary donations from legal and natural persons. The pollution charges provide the bulk of the revenues: in 2000-2003, more than 80% came from the water and air pollution charges and between 6-13% from waste charges. However, until the end of 2004 data on revenue from air and water charges were collected together and could not be disaggregated. It was, therefore, difficult to assess which of the two contributed more. This situation has only been changed in early 2005. The fees for reprocessing of plastic packaging waste (introduced in 2003) and fines contribute only marginally to the total revenue stream. There have been no voluntary contributions so far.

Revenues generated by the pollution charges are collected by the Ministry of Taxes and Duties and allocated to the three levels of the environment protection funds: 20% goes to the national level, 30% to the oblast level, and 50% to the local (*rayon* and city) level. In case of the Minsk city, the respective fund gets 80%. All revenues are earmarked for environmental measures.

Financing from the environment protection funds is provided in the form of financial assistance and subsidies. These are disbursed almost exclusively as grants, although some information suggests that loans may also have been provided. Almost all support goes to state-owned organizations and enterprises.

The Resolutions of the Council of Ministers on Environment Protection Funds (2004, 2005) identify 27 potential areas for funding. However, these areas are too broad and vague and could cover any type of environmental measure. They are not specified in terms of annual priorities with corresponding budgets in any legal documents. This lack of clearly stated objectives makes it difficult to assess the performance and efficiency of the environment protection funds.

The environment protection funds finances both investment and non-investment projects. The Environment Protection Fund at the national level provides significant support for the cost of environmental protection administration (about 40% in 2003). This also includes support to the National Environmental Monitoring System and analytical laboratories. Support for investment provided by the Environment Protection Fund at the national level (some 60 to 70% of total Fund resources according to table 5.2) also goes to projects included in the State Investment Programme managed by the Ministry of the Economy. The Ministry of Natural Resources and Environmental Protection collects such project applications and submits them to the Ministry of the Economy. The decision on inclusion of projects in State Investment Programme is taken by the Council of Ministers and approved by *Ukaz* of the President. In addition, the Environment Protection Fund at the national level provides funding for capital repairs and non-investment projects such as studies commissioned by the Ministry of Natural Resources and Environmental Protection itself.

For investment projects, the Ministry of Natural Resources and Environmental Protection conducts only a rough evaluation before transferring them to the Ministry of the Economy for approval. The same is true for smaller capital repair types of projects. Projects are subjected to some basic screening to ensure that they fall into one of the many categories eligible for support from the Fund. At the same time, there are no clear eligibility criteria, rules and procedures for applying for support from the Fund. Eligibility criteria are not specified in terms of types of projects, types of project owners, co-financing requirements, environmental, technical or financial requirements. This may create unrealistic expectations among potential beneficiaries, resulting in a great number of applications, which the small staff administering the Fund cannot handle.

The application form itself is very basic. It requires information on total investment costs, but not on operating and maintenance costs, which are crucial in determining the financial viability of projects. In addition, there are no transparent criteria for selecting individual projects for financing and it is not obvious if the most environmentally and cost-effective projects are subsidized. Often a project's completion is delayed because full financing has not been secured from the outset. Such delays also lead to an increase in the project's overall costs compared to the initially approved cost. As mentioned earlier, final decisions on financing individual investment projects (as part of the State Investment Programme) are proposed by the Ministry of the Economy and approved by the President. Smaller non-investment or capital repairs projects are evaluated by expert from the Ministry of Natural Resources and Environmental Protection and approved by the Minister.² For these projects, there are no clear criteria or rules and procedures for selection in any administrative documents of the Ministry.

It is difficult to assess the effectiveness of the environment protection funds in terms of environmental improvements. The resources are often scattered among too many projects to be able to have a serious impact. In addition, there are no progress reports on projects that received funding. Reporting is done purely for statistical purposes – using standard statistical reporting forms in terms of financial flows – as well as in the form of long lists of projects that have received support from the environment protection funds. There is no fully developed reporting system covering both financial reporting and performance results, and therefore no assessment of the environmental improvements resulting from the subsidies provided by the environment protection funds, in terms of, at least, pollution cuts.

5.2 Use of economic instruments

Progress since the first review

From 1991 onwards, Belarus has introduced economic instruments for pollution control (air, water and waste) and natural resource management. In addition to pollution charges, which are used to capitalize the environment protection funds,

² Since July 2005 all financing from environment protection funds, even for small projects, is approved by the *Ukaz* of the President

Box 5.1. Main and secondary legislation on economic instruments for environmental protection

- Law on Environmental Protection (1992, with latest amendments 2002);
 - Tax Code (2002, with latest amendments 2004);
 - Law on Tax for the Use of Natural Resources (Environmental Tax) (1991, with latest amendments 2004);
 - Resolution of the State Tax Committee, the Ministry of Natural Resources and Environmental Protection and the Ministry of Finance on the Procedures for the Calculation and Payment of Pollution Charges to the Budgetary Environmental Funds (2001);
 - Resolution of the Council of Ministers on Rates of Payment for Waste Disposal and Procedure for Setting Limits on the Disposal of Industrial Waste (2002);
 - Resolution of the Ministry of Taxes and Duties on Approving Instructions on Procedures for the Calculation and Payment of the Environmental Tax to the Budget (2002);
 - Resolution of the Council of Ministers on Some Issues Related to Plastic Waste Disposal (2003);
 - Resolution of the Council of Ministers on Setting Rates for Providing Technical Services to Housing and Tariffs for Municipal Services for Households (2004);
 - Resolution of the Council of Ministers on Rates of Environmental Tax, Limits on the Use of Natural Resources and Permissible Emissions of Pollutants (2002);
 - Resolution of the Council of Ministers on Increasing the Payments for the Use of Natural Resources and Expanding the Incentive Structure for Implementing Environmental Measures (2004).
- The last two Resolutions are no longer valid with the adoption of the following Ukaz of the President:*
- Ukaz of the President On Tax Rates for Use of Natural Resources (Environmental Tax) and Conditions of Full or Partial Exemption from Payments for Air Emissions, Wastewater Discharges or Emissions of Pollutants into Environment, and Waste Disposal (2005).

Belarus also levies environmentally related taxes that include tax on the use of natural resources (including water abstraction, extraction of mineral resources, and obtaining objects of fauna). There are also user charges for municipal environmental services. The latest amendments to the 1991 Law on Tax for the Use of Natural Resources (Environmental Tax) date from 2002 and secondary legislation was developed mostly after 2001 (box 5.1).

This body of laws and by-laws provides the legal basis for mandatory pollution charges and taxes on the use of natural resources. They define the institutional set-up for enforcing these economic instruments and delineate the responsibilities of relevant government agencies in this regard. Specific secondary legislation identifies the objects on which the charges and taxes are due, the base as well as the rates. It also sets the methods for calculating charges and taxes as well as the rules and procedures for their payment and collection. Exceptions are also specified.

*Pollution charges*³

³ In Belarus, water and air pollution charges together with the tax on the use of natural resources are part of the so-called environmental tax. Waste disposal charges have also become part of the environmental tax since early 2005. Environmental tax also covers payment for the use of natural resources and for refining crude oil and oil products.

A prevalent feature of these charges is that they are closely integrated with the system of pollution emissions or natural resource limits, where enterprise-specific emissions limits are laid down in environmental permits. Pollution charges are levied universally on all “nature users”, including legal entities and physical persons that are subject to environmental permits. They are levied on over a hundred air pollutants (divided into four classes of toxicity and non-classified pollutants), on three categories of cleanliness of wastewater as well as on the disposal and storage of four classes of hazardous waste (based on toxicity) and non-toxic solid waste. Generally, a base-rate pollution and user charges apply to emissions and use within the defined annual limits, while emissions and use above the limits are charged at higher, non-compliance rates. The applicable rate for exceeding emission limit values is 10 times the base rate for natural resources use and 15 times for air emission charges (there are no limits for mobile sources), wastewater discharge and waste disposal. In the case of waste disposal charges, this increase was fivefold until the end of 2004.

Annual emission limits are set on the basis of the pollution volume discharged into the environment in the current year and adjusted for expected economic growth (and expected pollution levels) in the following year. Nationwide limits are approved through resolutions of the Council of Ministers (for natural resources use, air emissions and wastewater discharges) and are fixed in permits issued by the territorial bodies of the Ministry of Natural

Resources and Environmental Protection (oblast committees and rayon and town inspectorates).

In theory, the pollution charges are derived from the cost of the estimated economic damage resulting from the pollution. In practice, the damage is not easy to calculate and there are no clear methodological documents to guide the setting of rates. Some methodological guidance can be drawn from legal clauses which state that pollution charges should be included in the company's production cost when emissions and natural resources use are within the limits. In most cases, environmental charges paid by one polluter do not constitute more than 1% of the company's production cost. However, when emissions are above the permissible levels, the pollution charges are paid out of the polluter's profits. Charges are paid monthly by organizations and quarterly by private entrepreneurs. Polluters are not penalized if they do not pay on time but serious violators can be taken to court.

At the time of the review mission the charge rates were developed by the Ministry of Natural Resources and Environmental Protection, submitted to other ministries and governmental bodies for consultation, and finally approved by the Council of Ministers.⁴ There is no automatic indexation mechanism to adjust for inflation but the rates are adjusted from time to time taking into account macroeconomic indicators. If the industry perceives the charges to be too high, they lobby with the sectoral ministries to get additional subsidies from the Environment Protection Fund. Thus, in general, charges do not seem to pose a heavy burden on polluters or to induce environmentally positive changes in polluters' behaviour.

Air pollution charges

Table 5.3 presents the charges on stationary sources for some of the major air pollutants.

Class I includes pollutants such as lead and its components. Class II includes nitrogen oxides, benzene and hydrogen sulphide. Class III includes sulphur dioxide, methanol and ethyl benzene. Some of the major pollutants included in class IV are carbon monoxide, hydrocarbons, butane and ammonia. Non-classified pollutants include, for example animal feedstuff powder (protein) and fibreglass plastic powder. The rates for certain

classes show almost a fourfold increase over the reviewed period. Belarus has one of the highest charges for air pollutants in EECCA. However, there are a number of cases where they are legally reduced or waived completely. For example, if polluters engage in the construction, reconstruction or rehabilitation of equipment for cleaning up flue gases or introduce automatic controlling system for air emissions, the amount of pollution charges to be paid is reduced by the amount of investment made. The Resolution of the Council of Ministers on Rates of Tax on Use of Natural Resources and Permissible Emissions of Pollutants (2002) (replaced in June 2005 by the *Ukaz* of the President On Tax Rates for Use of Natural Resources (Environmental Tax) and Conditions of Full or Partial Exemption from Payments for Air Emissions, Wastewater Discharges or Emissions of Pollutants into Environment, and Waste Disposal) also provides that pollution charges are reduced by 10% if a polluter obtains an environmental certificate according to ISO 14000. A number of other exceptions exist where certain groups of economic agents (e.g. agricultural companies and companies involved in new housing construction) are allowed not to pay air and water pollution charges or to pay them at a reduced rate. Legal entities (such as schools, hospitals and libraries) financed from the State budget are also exempt from paying environmental taxes.

Enterprises are required to monitor their own pollution emissions and calculate the amount of pollution charges that they have to pay. Their calculations are verified by environmental inspectorates and sent to the tax authorities.

Water effluent charges

The system of water effluent charges in Belarus is simpler than in many EECCA countries. The charges are based on the amount of wastewater discharged and do not take account of the individual water pollutants contained in it, which is the most current approach in Europe. As a result, there are no charges for individual water pollutants. Charges are set for three main categories of wastewater: water treated according to standards, insufficiently treated water and untreated water, as well as wastewater of non-categorized quality.

⁴ This procedure was changed in June 2005. The rates are now approved by the *Ukaz* of the President.

Table 5.3: Charges per ton of air pollutant by class of toxicity

Class of toxicity	2001		2002		2003		2004	
	1000 Rbl	1000 US\$	1000 Rbl	1000 US$	1000 Rbl	1000 US$	1000 Rbl	1000 US$
Class I	4,636	3.34	11,127	6.21	22,255	10.85	31,513	14.59
Class II	139	0.10	333	0.19	666	0.32	943	0.44
Class III	46	0.03	110	0.06	220	0.11	312	0.14
Class IV	23	0.02	55	0.03	109	0.05	155	0.07
Non-classified pollutants	115	0.08	276	0.15	551	0.27	781	0.36

Source: Ministry of Natural Resources and Environmental Protection, 2004.

The rates are further differentiated by type of receiving water body, i.e. water reservoirs, rivers and streams, underground aquifers, filtration fields, sewage ponds or septic tanks. Rates are set per cubic metre of waste water. For example, for 2004, the rate for discharging 1 m³ of insufficiently treated water into aquifers was Rbl 2,340 (US\$ 1.08). For discharges into surface water bodies, the rate was between Rbl 189/m³ (US\$ 0.09) and Rbl 3,180/m³ (US\$ 1.5). The rates for discharges of properly treated water are lower. Some cross-subsidization between users is obvious. For example, in 2004, the charge paid by public water utilities for waste water discharged into surface water reservoirs and classified as properly treated was set at Rbl 0.86/m³ (US\$ 0.0004) for households but at Rbl 150/m³ (US\$ 0.069) for other users (industry, services, etc.).

Assessment of the pollution charge system

The pollution charges constitute by far the largest single source of revenue for the environmental funds. They provide a relatively stable revenue stream due to the high collection rate ensured by the tax authorities. However, the environmental effectiveness of particular charges has been difficult to assess, as data on revenues from water and air pollution charges were not presented separately until the end of 2004. The separate collection of information on air and water pollution charges introduced in early 2005 would make it easier monitor them as well as evaluate them as incentives for environmental improvement rather than view them as only revenue raisers.

Pollution charges apply to a large number of air pollutants. Rationalizing this system, by focusing on fewer and major charges for revenue raising and/or incentive purposes could help streamline the system and make it more efficient. For the sake of comparison, in most OECD countries where air pollution charges exist (e.g. Sweden, Denmark,

France, Italy), these are limited to SO₂ and NO_x and to large combustion plants only. In addition, most SO₂ are levied on the sulphur content of the fuel used. Applying charges to such a large number of pollutants as in Belarus may not be cost-effective.

In Belarus, except for the recently introduced charge on plastic packaging, there are no charges applied to products. Product charges are often used in OECD countries. These charges are best applicable to products that pollute during consumption (e.g. used batteries, tyres and light bulbs). They are easy to monitor and enforce and their administrative costs are significantly lower than those for pollution charges. They can ensure a more stable and predictable revenue stream. Belarus may wish to consider such charges.

Belarusian system of pollution charges has a number of discretionary elements and exemptions. One of these is the possibility given to enterprises to avoid paying charges if they undertake environmental investments. The intention is to encourage polluters to spend more on environmental protection by alleviating their tax burden.

Although the top rates of some pollution charges in Belarus are high by international standards, they do not have much impact. For economic instruments to have an incentive effect they need to convey price signals, i.e. to increase significantly the production (and then product) costs, thereby creating a competitive disadvantage compared to other similar products on the market. Then enterprises driven by efficiency considerations respond to this fiscal pressure by making investments from their own resources in order to comply with environmental regulations and consequently diminish the charges. However, these market forces do not function in Belarus today as most enterprises are State-owned and subsidized from the budget, which drastically erodes the incentive effect of the charges.

Paradoxically, it is this absence of a market economy which may have given Belarus the opportunity for introducing such high pollution charges, as industry can afford them under the current softened budget constraints. When Belarus begins its real transition to a market economy, the charge system could begin to work. At that time, discretionary elements will need to be eliminated, enforcement of pollution charges improved and the number of charges decreased. Perhaps some of the revenue from the pollution charges will still need to be channelled back to the industry but this will have to be done in a transparent way that does not lead to distortions.

Waste-related charges and fees

There are different rates for the disposal and storage of the four classes of hazardous waste (based on toxicity) and of non-toxic solid waste. In 2001, the charge for the disposal of hazardous waste was between US\$ 6.3 per ton for the least toxic class and US\$ 125.6 for the most toxic. These rates were substantially increased in 2004 to US\$ 34.1 and US\$ 682 respectively (see table 5.4). This is much higher than in the rest of EECCA. If disposal exceeds maximum permissible levels, the increase over base rate was fivefold until the end of

2004 (since early 2005 this increase has been changed to 15 times over base rate).

In 2003, Belarus introduced a fee for reprocessing of plastic packaging waste. It is imposed on legal entities and individual entrepreneurs who as part of their business use plastic packaging for the goods they produce or import goods wrapped in plastic. Payments are made every six months. At the time of the Review, the charge was about US\$ 435 per ton of plastic waste. The revenue from this charge goes to the environment protection funds. So far, there has been very little experience with this charge and it is too early to assess its effectiveness.

Tax on the use of natural resources

Usually, extraction taxes are a percentage of the market value of the extracted product. In Belarus, they are determined as fixed amounts per ton of extracted mineral. It is not clear what the justification for this is. If the intention is to raise revenue from State-owned assets, then the rates should reflect market prices, the value of the deposit and the cost of extraction and transport, and vary across different parts of the country. As table 5.5 shows, these taxes are low and do not seem to cover the above considerations.

Table 5.4: Selected charges for disposal and storage per ton of waste, 2004

	Rbl	US\$
For disposal		
Non-toxic solid waste	5,805	2.69
Hazardous industrial waste of which		
Class I	1,472,640	682.03
Class II	441,792	204.61
Class III	147,688	68.40
Class IV	73,632	34.10
For storage		
Non-toxic solid waste	1,274	0.59
Hazardous industrial waste of which		
Class I	125,910	58.31
Class II	37,807	17.51
Class III	12,573	5.82
Class IV		
Lignite	2,576	1.19
Waste from potassium salt production	18	0.01

Source: Resolution of the Council of Ministers on Increasing the Payments for the Use of Natural Resources and Expanding the Incentive Structure for Implementing Environmental Measures, No. 787, 30 June 2004.

Table 5.5: Tax on the use of selected natural resources

Natural resource	Rbl	US \$
	per ton	per ton
Sand for glass	183	0.085
Dolomite	225	0.104
Peat	50	0.023
Potassium salt	508	0.235
Sodium salt	906	0.420
Oil	1,660	0.769
Chalk	99	0.046
Surface water	..	0.000
Used by households	8	0.004
Groundwater	..	0.000
Households	12	0.006
Mineral water - for commercial use	2,760	1.278
Gold	1,614	0.747

Source: Resolution of the Council of Ministers on Increasing the Payments for the Use of Natural Resources and Expanding the Incentive Structure for Implementing Environmental Measures, No. 787, 30 June 2004.

As they are now, these taxes have no incentive or conservation purpose. Their main function is to generate revenue for local budgets. The limits and rates of the taxes are established by the Council of Ministers. The tax is paid once a month. In 2003, it generated about US\$ 17 million. After a sharp increase in rates in 2004, the revenues for 2004 were about US\$ 44 million.

Belarus imposes stumpage fees (also known as forestry tax) for cutting trees. The payment is determined for each tree and is based on a number of parameters – the tree species, the diameter of the trunk and the nature of felling (if for main or interim use). The rates are set by the Ministry of Forestry but they have been very low over the years, even in comparison with other EECCA countries. The revenue stays at a local level and is used for reforestation mainly. In 2004, there was an increase in rates for this fee and it generated around US\$ 22 million compared to US\$ 11 million in

2003. Data on revenues from environmentally related charges and taxes are presented in table 5.6.

User charges

User charges are aimed at covering the cost of providing a service, typically for water supply and sewerage or municipal solid waste collection, treatment and disposal. User charges for individuals are set by the Ministry of the Economy and approved by the Council of Ministers. Tariffs for industry and organizations are established by the oblast executive committees. *Vodokanals* (local water-supply and wastewater discharge companies) collect the payments for water.

Although the rates are very low compared even to other EECCA countries, in summer they represent about 3.5% of household income. In the winter, this figure can significantly increase. As can be seen from table 5.7, tariffs are much higher for industrial

Table 5.6: Revenues from environment-related charges and taxes

	2002		2003		2004	
	mill. Rbl	thous. US\$	mill. Rbl	thous. US\$	mill. Rbl	thous. US\$
Revenues from environmental charges accruing to the environment protection funds*						
Tax on natural resources use	82,376	45,997	174,505	85,072	282,992	130,999
Forestry tax	24,623	13,749	35,306	17,212	95,596	44,252
Land tax	17,195	9,601	23,187	11,304	46,756	21,643
	74,174	41,417	258,007	125,779	299,121	138,465

Source: Ministry of Finance, 2005.

Note: * Include air, water and waste pollution charges.

Table 5.7: Tariffs for water supply, waste-water discharge and waste management in selected oblasts, 2004

	Industry / Organizations		Households	
	Rbl	US\$	Rbl	US\$
City of Minsk				
Water supply (per cubic metre)	806	0.4	242	0.1
Sewage (per cubic metre)	317	0.1	242	0.1
Waste (per ton)	..	..	..	..
Gomel Oblast				
Water supply (per cubic metre)	1,835	0.8	136	0.1
Sewage (per cubic metre)	430	0.2	106	0.0
Waste (per ton)	..	..	3,435	1.6
Grodno Oblast				
Water supply (per cubic metre)	1,210	0.6	136	0.1
Sewage (per cubic metre)	552	0.3	106	0.0
Waste (per ton)	7,697	3.6	3,435	1.6
Brest Oblast				
Water supply (per cubic metre)	2,202	1.0	136	0.1
Sewage (per cubic metre)	851	0.4	106	0.0
Waste (per ton)	6,300	2.9	3,435	1.6

Source: Resolution of the Council of Ministers on Setting Rates for Providing Technical Services to Housing and Tariffs for Communal Services for Households, No. 479, 28 April 2004, and Ministry of Natural Resources and Environmental Protection, 2004.

users than for households. There is massive cross-subsidization between the industrial sector and households.

The financial situation of the water and sanitation sector is difficult due in particular to the extremely low collection rate of water and wastewater bills. On the other hand, the billing of residential consumption is in most cases based on norms rather than on metering and, due to low tariffs for households, there is little incentive to reduce a very high level of water consumption. Individual meters are now regularly installed in new residential buildings. The population has started installing water meters in old buildings as well. Where this is the case, consumers pay only 25% of their water bill for the next three years. Current tariffs are insufficient to cover the maintenance and operating costs of the *vodokanals*.

Experience shows however that, in the long term, user charges are the only and most sustainable source of finance for infrastructure. Budgets can play an important role and be a substitute but only in the short to medium run. To ensure the sustainable finance of the infrastructure, tariffs should reflect the real cost of maintaining and operating the system.

5.3 Bilateral and multilateral cooperation, and cooperation with international financing institutions

There are a number of presidential decrees that regulate international aid in Belarus, e.g. the Decree on Receiving and Using Gratuitous Foreign Aid (2003), which regulates humanitarian aid, and the Decree on International Technical Assistance (2003), also known as Decree No. 460, which regulates the implementation of programmes and projects approved by the President or the Government or implemented under international agreements. See also chapter 4 on the implementation of international agreements and commitments.

The priorities for Belarus in terms of international technical assistance (ITA) for 2001-2005 set forth in the current National Programme on ITA are:

- Facilitating economic reforms;
- Promoting a supportive environment for foreign trade and international cooperation;
- Developing investment, innovation, science and technology;
- Supporting the social sector; and

- Environmental protection and mitigation of the consequences of the Chernobyl nuclear power plant accident.

A special commission on ITA cooperation under the Council of Ministers was set up to develop national ITA policy and the national ITA programme. The Commission oversees the implementation of ITA projects in priority areas and ensures the effective use of ITA funds. One of the main objectives of the National ITA Programme is to help raise additional resources through in-country co-financing, including funds from central government bodies, legal entities and individuals. The Commission also sets the rules and procedures for registering foreign programmes and projects.

Bilateral and multilateral assistance

Table 5.8 shows that over the period 1996-2002, in absolute terms, environmentally related aid to Belarus from bilateral donors totalled about US\$ 7.5 million. This assistance has been very uneven and volatile – peaking in 2001 at US\$ 1.5 million and reaching its lowest level of US\$ 416,000 in 1998. Denmark was by far the largest donor (about 55% of all aid provided to Belarus), followed by the Netherlands (12.5%) and Sweden (11.6%). The three countries together account for about 80% of all bilateral aid to Belarus in the reviewed period. Since 2002, however, the Danish international aid policy has changed and aid to Belarus has drastically decreased. Aid from Sweden is increasing (be it in small amounts), while aid from the Netherlands was one-off (2001).

In addition, in 2003 only Sweden and the Netherlands provided small amounts of less than US\$ 50,000 altogether. According to the Ministry

of Natural Resources and Environmental Protection, in 2004 no bilateral environmental aid was provided to Belarus.

Table 5.9 shows environmentally related aid by sector over the period 1996-2002. Aid for general environmental protection (i.e. general environmental administration, management and education, training and information) received by far the largest share (33%). Water resources protection (12%) together with water supply and sanitation (10%) came second with 22%. However, this is the result of one-off aid for water resources protection in 1996 and since then only an insignificant amount of aid for water supply and sanitation has been provided. Waste management received the third largest support (17%) but again this lasted only until 1999. Renewable energy sources, and more specifically wind power and biomass, attracted some aid in 2001-2002. In general, international aid to Belarus has been very irregular with ups and downs over the years reflecting also donors' priorities.

A comparative study on international commitments to the environment, conducted by OECD, shows that Belarus is among those EECCA countries that received the lowest amounts of bilateral environmental assistance over the period 1996-2001, totalling about US\$ 6.4 million (e.g. Russian Federation received US\$ 330 million and Ukraine US\$ 104 million).

Per capita over the period 1996-2002, Belarus received only US\$ 0.1 on average per year (while Armenia, Azerbaijan and Georgia received US\$ 1.6, US\$ 0.7 and US\$ 2.0, respectively). In addition, in terms of environmentally related

Table 5.8: Environmentally related bilateral aid to Belarus by donor, 1996-2002

	1996	1997	1998	1999	2000	2001	2002	Total
	thousand US\$							
Total	1,699	1,694	416	578	749	1,464	929	7,528
Canada	..	..	..	..	..	..	330	330
Denmark	1,326	1,503	213	55	675	354	..	4,127
Finland	206	183	..	..	..	..	..	389
France	..	..	..	77	..	..	42	118
Germany	139	8	1	..	25	177	198	548
Netherlands	..	..	..	..	..	932	..	932
Sweden	28	..	196	280	..	..	360	864
United Kingdom	..	..	7	82	49	..	..	137
UNDP	..	..	..	84	..	..	..	84

Source: OECD, Creditor Reporting System aid activity database, donors reporting.

Note: Data refer to donors' commitments of official development assistance / official assistance.

Table 5.9: Environmentally related aid to Belarus by sector, 1996-2002

	thousand US\$							
	1996	1997	1998	1999	2000	2001	2002	Total
Total	1,699	1,694	416	578	749	1,464	929	7,528
General environmental protection	29	26	119	471	169	1,110	371	2,295
Water resources protection	1,089	..	..	..	..	..	..	1,089
Water supply and sanitation	..	..	36	77	555	..	..	668
Waste	..	1,184	177	10	..	..	..	1,371
Biodiversity	208	216	..	..	..	176	..	601
Biomass	..	..	..	..	..	..	11	11
Forestry policy	234	259	83	20	..	..	..	597
Wind power	..	..	..	..	..	177	187	364
Urban development	..	..	..	..	..	..	360	360
not specified	139	8	1	..	25	..	..	173

Source : OECD, Creditor Reporting System aid activity database, donors reporting.

Note: Data refer to donors' commitments of official development assistance / official assistance.

bilateral assistance as a share of GDP, Belarus received less than 0.01%, the lowest of all EECCA countries, and equal only to what Turkmenistan received (for comparison, Armenia received 0.32% of its GDP).

Multilateral assistance (excluding international financial institutions) for environmental purposes, including ongoing projects, to Belarus over the period 1996-2004 amounted to about US\$ 25 million and is its biggest source of external finance for environmental projects. GEF and EU Tacis were by far the largest multilateral donors to Belarus, with contributions of US\$ 15.7 million and US\$ 8.1 million, respectively.

Most of these international (bilateral and multilateral) environmental projects in 1996-2004 were run through the Ministry of Natural Resources and Environmental Protection. EU Tacis support has gone to policy development, legislation, institutional strengthening and capacity-building mostly in the water sector. The biggest multilateral donor was GEF, whose resources were disbursed through the World Bank, UNEP and UNDP. The two most significant projects supported by GEF concerned the phasing-out of ozone-depleting substances (US\$ 6.9 million, completed in 2000) and an ongoing project of about US\$ 7.2 million to prepare a strategic action programme for the Dnepr river basin and the development of implementation mechanisms. In addition, UNDP and UNECE have prepared jointly with the Government a project to remove barriers to energy efficiency improvements in the State sector which amounts to about US\$ 226,000 and will be funded by GEF.

Most of these projects focus on policy and institutional measures and very little goes to actual

investments. One major reason might be the low capacity of environmental authorities to identify and develop well-prepared investment projects to be included in bilateral or regional cooperation programmes. Experience shows that donors usually look for such projects but they have difficulties identifying them.

Cooperation with international financing institutions

Belarus has pursued a very cautious borrowing policy over the 1996-2004 period. It borrowed about US\$ 23 million for environmental purposes from international financing institutions (IFIs) (for comparison, Russian Federation and Ukraine borrowed US\$ 614 million and US\$ 242 million respectively over the same period). IFI lending for environmentally related purposes (1996-2002) to Belarus accounted for 0.02% of GDP on average, which together with the Russian Federation (at 0.03% of GDP) represents one of the lowest borrowing rates in EECCA.

The World Bank is the major IFI that has been working with Belarus and extending loans to its environmental sector. However, due to a perceived lack of progress on policy reforms that has affected the delivery of projects, the World Bank reduced its activities from March 1996 and has focused on non-lending services, including grants and analytical work. The only ongoing and most significant environmentally related World Bank project is the Social Infrastructure Retrofitting Project in the energy sector, with a US\$ 22.6 million loan, which began in 2001. It aims to assist in the rehabilitation of the heating system, thermal insulation and lighting in over 450 public buildings across the country. The project targets schools,

hospitals, orphanages, and community homes for the elderly and the disabled. It also includes measures to reduce energy consumption.

As the above analysis shows, over the period 1996-2004, total environmentally related assistance to Belarus, including bilateral and multilateral donors, as well as IFIs, amounted to about US\$ 55 million. This amount is about six times less than what Belarus spent from domestic sources in 2002-2003 alone. In this regard the situation in Belarus is similar to that in other EECCA countries where domestic sources of finance provide a higher level of environmental expenditure than foreign aid.

5.4 Conclusions and recommendations

Since the first Review, Belarus has relied mostly on domestic resources for financing environmental protection. In general, public financing for the environment has increased over the past several years. Foreign public and private sources account for a small share of environmental expenditure (15-16%). Notwithstanding the problems with the quality of expenditure data, the ranges and best estimates suggest that the levels of domestic environmentally related expenditure in Belarus are substantial.

The public sector seems to bear a high financial burden for environmental expenditures in Belarus. There is a very high dependence on subsidies, which is contrary to the “polluter pays” principle. In addition, most of the public resources are spent on current expenditure rather than investment in new, less polluting technologies.

Good-quality data on environmental financing are key in the decision-making process. It is obvious that the data collection system and reporting in Belarus need further improvement. The interpretation of data regarding environmental revenues as well as environmentally related expenditure is rendered extremely difficult for several reasons: different official sources of information give diverging, incomplete and inconsistent data; the data collection system often produces only aggregated data, making any in-depth analysis impossible; the scope and reporting of expenditures are unclear and not according to internationally accepted definitions; it is difficult to track flows and transfers between the public sector and enterprises; the uncertainty over the level of current expenditure on environmental administration affects the reliability of some

indicators. Consistent and reliable data could help policy makers better understand actual financing needs and develop more realistic environmental programmes and subsequent strategies for their effective financing.

Recommendation 5.1:

The Council of Ministers should aim to improve the data collection system on environmental expenditures. It should coordinate efforts to improve the quality of these data. Particular focus should be placed on improving the definition and scope of environmental expenditure in line with international standards. Transfers between the public sector and enterprises should be rigorously reported and a distinction between enterprise and public resources made to avoid double-counting.

The environment protection funds are functionally and legally part of the respective budgets. The Ministry of Natural Resources and Environmental Protection and its oblast and local bodies are responsible for the disbursement of the financial resources of the respective environment protection funds. The environment protection funds play a significant role in financing environmental expenditure in Belarus. While the funds’ revenues have been steadily growing since 2001, the expenditure management side remains weak. One positive development has been the transformation of the funds from extrabudgetary to budgetary, which has helped increase government control over their expenditures. The lack of clearly defined objectives and transparent criteria and rules for the allocation of resources does not make it possible to properly assess funds’ performance. If the funds are to become more credible and better appreciated by all stakeholders (including foreign ones, such as donors and IFIs), they need to be strengthened and brought in line with good international practices. The Ministry of Natural Resources and Environmental Protection and its bodies play only a limited role in the process of approval of the projects financed from the environment protection funds even though they have the experience and expertise to appraise environmental projects.

Recommendation 5.2:

The Council of Ministers should improve the mechanism for the use of resources of the environment protection funds. The improved mechanism should include:

(a) Identifying priorities where resources can make a significant difference;

(b) Developing clear procedures for selection of the projects for financing. The cost-effectiveness of the projects should become an important appraisal and performance evaluation criterion;

(c) Establishing specialized unit responsible for funds management within the framework of the Ministry of Natural Resources and Environmental Protection, in accordance with accepted standards of good governance for such institutions; and

(d) Improving the reporting of the results achieved with the support from environment protection funds.

Belarus has introduced a number of economic instruments, including pollution charges, taxes on the use of natural resources and user charges for the provision of municipal environmental infrastructure services, which produce revenues for environmental protection. The top rates of some of the pollution charges are high by international standards. However, as enterprises are not operating in market-based competitive conditions with tight constraints on production costs and as they benefit from a number of protection measures, including some exemptions and subsidization, the incentive effect of the pollution charge system is undermined. Economic instruments work properly in a functioning market economy, when enterprises respond to market signals and are driven by efficiency considerations. If Belarus wants to be prepared for real transition to a market economy, the environmental authorities should redesign the system of economic instruments, and particularly the pollution charges and taxes on the use of natural resources, for which they have a direct responsibility.

Recommendation 5.3:

The Ministry of Natural Resources and Environmental Protection, in coordination with the Ministry of Finance, Ministry of the Economy, Ministry of Taxes and Duties and other relevant governmental bodies should:

a) Revise the number of pollution charges in order to make the system more efficient and cost-effective. The focus should be on those pollution charges that correspond to the environmental priorities, can be monitored at a reasonable cost and generate significant revenue;

b) Consider introducing charges on environmentally damaging products or transactions (e.g. on used batteries and tyres), which can ensure a more stable and predictable revenue stream for environmental purposes; and

c) Establish a transparent procedure that involves stakeholders for regularly revising and adjusting the rates. The primary objective of the system of charges should be pollution reduction rather than revenue raising.

Belarus has included environmental protection in its major policy documents as a priority for international technical assistance. However, the country has not been very successful so far in attracting donor assistance in the environment sector. Most of the aid has gone to support policy and institutional reforms. Aid has not been translated into significant investment support by donors. One major reason is the insufficient capacity of environmental authorities to identify and develop well-prepared environmental investment projects to be included in bilateral cooperation programmes. Experience shows that donors usually look for such projects but they have difficulties identifying them in Belarus.

Recommendation 5.4:

The Ministry of Natural Resources and Environmental Protection, in cooperation with the Ministry of Economy and relevant sectoral ministries, should aim to identify priority environmental investment projects, which could be included in donor cooperation programmes. Cooperation programmes should evolve into more long-term multi-year strategic partnerships rather than individual ad hoc activities.

***PART III: INTEGRATION OF ENVIRONMENTAL
CONCERNS INTO ECONOMIC SECTORS AND
PROMOTION OF SUSTAINABLE DEVELOPMENT***

Chapter 6

ENVIRONMENTAL MANAGEMENT IN INDUSTRY, ENERGY AND TRANSPORT

6.1 Introduction

Belarus was the most industrialized among the former Soviet republics, and it succeeded in preserving its industrial structure after its independence in 1991. The former big manufacturing enterprises, chemical and petrochemical industries, construction materials, wood and paper enterprises are still the backbone of the national economy and they provide jobs for many people. This sector is also one of the major polluters, together with energy and transport.

Belarus is poorly endowed with energy and mineral resources. It satisfies only 16% of its energy requirements with domestic resources, including small quantities of hydrocarbons and more significant resources of biomass, mainly wood/wood waste and peat. Its coal reserves consist of low-grade lignite (1,500-1,700 kcal/kg) and their use is seen as unacceptable for environmental reasons. Belarus is a flat country with no potential for hydropower. Nor does Belarus foresee that other non-conventional sources of energy, such as wind power, solar and geothermal power, will contribute significantly to the energy market in the future.

6.2 Economic policy: Dynamics of macroeconomic indicators, 1995-2003

The country's economic objectives are defined in the Programme of social and economic development for 2001-2005 and in the Main directions of social and economic development until 2010.

Two macroeconomic scenarios were developed, in parallel, for the period to 2020, each based on different criteria. The first, the "inertia scenario," was based on past performance. The second, the "target scenario", was based on targets to be achieved by 2005, 2010 and 2020. Both scenarios assume that, while industry's share in the overall

structure of the economy will decrease, GDP from this sector will grow. According to the "target scenario," GDP should increase by 20% by 2005 compared with 1995 (in September 2004, the Government reported 19% GDP growth for 1990-2004), by about 60% by 2010 and by 2.4-2.6 times by 2020, compared to 1995. By implementing a vigorous energy conservation programme, this high GDP growth should be possible with an increase in energy consumption of only 15-16%, or an average 0.8% a year until 2020.

The dynamics of the main macroeconomic and some basic energy/emissions indicators from 1995 to 2003 can be summed up as follows:

- The national economy has been constantly recovering, with average annual real GDP growth of 6.3%, while energy consumption has remained approximately at the same level.
- This achievement has led to a significant reduction in the national economy's energy intensity, down by 5.8% a year on average. Thus, energy intensity has declined by 38% during the period of consideration.
- The share of industry, including the energy sector, in the GDP structure has declined slightly from 27% in 1995 to 24% in 2003, while its real gross output in 2003 was 94% higher than in 1995.
- Total emissions into the atmosphere, both greenhouse gas (GHG) emissions and anthropogenic emissions, have decreased noticeably, as later registered under the UNECE Convention on Long-range Transboundary Air Pollution; these reductions ranged between 35 and 40%.

The reasons behind these results are the following. Unlike other East European economies in transition, Belarus has not yet pushed through macroeconomic reforms, for instance to get rid of the most polluting and energy-consuming

enterprises. As said earlier, the industrial sector is almost as large as it was ten years ago although some enterprises have been refurbished, thus reducing substantially their energy consumption. Two primary factors led to positive economic and environmental developments, namely (i) the increased share of natural gas in the supply mix; and (ii) energy-efficiency improvements and savings in all economic sectors. Changes in GDP

structure could be defined as a third factor, but they were not so significant, despite the share of services gradually increasing. These positive changes together led to substantive reductions in atmospheric emissions although GDP continued to grow. Between 1995 and 2003, GDP grew by 63%, energy intensity declined by 38% and conventional air pollutants decreased by 40% (table 6.1 and fig. 6.1).

Table 6.1: Main macroeconomic and environmental indicators since the first review

Indicators	Values			Change in per cent			Annual growth rate, per cent
	1995	2000	2003	1995/2000	2000/2003	1995/2003	1995-2003
Population (millions)	10.2	10.0	9.9	-1.8	-1.1	-2.9	-0.4
GDP in constant domestic prices (1995=100)	100.0	135.9	163.1	35.9	20.0	63.1	6.3
Total primary energy supply (TPES) (in Mtoe);	24.4	23.8	24.7	-2.5	3.8	1.2	0.2
Energy consumption (toe/capita)	2.4	2.4	2.5	stable	stable	stable	..
Energy intensity (toe/1000 US\$)	2.3	2.3	1.4	..	..	..	..
Energy intensity (1995=100)	100.0	72.0	62.0	-28.0	-38.0	-38.0	-5.8
Electricity consumption (TWh)	28.4	24.4	24.5	..	..	..	-1.8
Electricity consumption (1995=100)	100.0	85.9	100.4	-14.1	0.4	-13.7	..
Total emissions of conventional air pollutants (10 ³ tons/year)	2,200.0	1,311.0	1,327.0	-40.4	1.2	-39.7	-6.1
GHG emissions (CO ₂ in 10 ⁶ tons)	65.2	52.4	n.a.	-19.6	not yet calc.	not yet calc.	..
GHG per capita (tons CO ₂ per capita)	6.4	5.2	n.a.	-19.0	..	..	..
Share of industrial value in GDP, %	27.0	26.0	24.0	-3.7	-7.7	-11.2	..
Real gross industrial output (1995=100) including energy sector	100.0	164.2	194.2	64.2	32.0	94.2	8.7

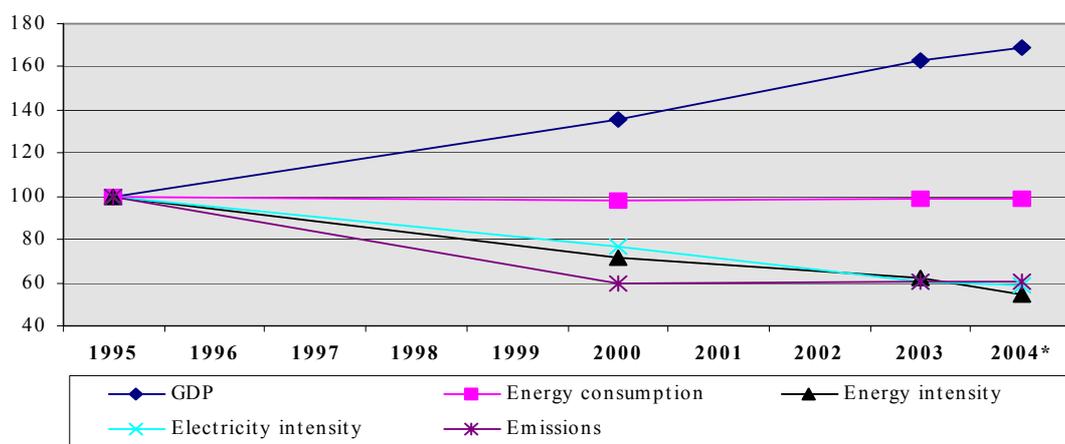
Sources:

Population, GDP and industrial output: UNECE Macro-economic Database, 2004.

GHG emissions: Belarus National GHG Inventory, 2003.

Other information: Ministry of Natural Resources and Environmental Protection, Ministry of Energy and Committee on Energy Efficiency, 2004.

Figure 6.1: Trends in main energy indicators, 1995-2004, 1995=100



Source: Committee on Energy Efficiency, 2004.

Note: * Estimates, same source.

6.3 Policy objectives and institutional and legal framework

Policy framework

The National Strategy for Sustainable Social and Economic Development for the Period until 2020 (NSSD-2020), endorsed by the Presidium of the Council of Ministers in June 2004, defines the long-term objectives, priorities and indicators of sustainable development of Belarus. It recommends the further restructuring and refurbishing of the industry, energy and transport sectors, and the integration of environmental policy into these sectors. Particular attention is paid to the rational use and protection of natural resources as well as to the efficient production and use of energy. The introduction of advanced environmentally sound technologies is urgent, more than 70-80% of current technologies and equipment are obsolete. According to the Strategy, a national programme for the technological renovation of industry and the energy sector should be completed by 2006. It should set out the legal, regulatory and investment schemes needed to overcome the current barriers and define the means for selecting "tailored" cost-effective technologies for each sector, taking into account local resources and circumstances. Such a renovation should lead, in the case of electricity generation, to lower specific fuel consumption per kWh of electricity produced, and hence to lower harmful air emissions. The Strategy outlines the main objectives to be pursued through the introduction of environmentally clean technologies in various sectors. The sectoral policies and programmes are driven by the macroeconomic programmes of social and economic development and since last year have to take into account NSSD-2020.

The National Action Plan for the Rational Use of Natural Resources and Environmental Protection for 2001-2005 (NEAP) determines air pollution reductions, specifies the necessary improvements in air quality norms and standards, and envisions improving the air pollution monitoring system and making it more effective. NEAP is integrated in the energy, industry and transport sectors in the following way. Each oblast has its own action plan based on the national one. Both are structured by economic sector. In parallel, the ministries develop their own sectoral programmes on environmental protection linked with NEAP. For example, the Ministry of Industry has a sectoral programme on environmental protection for 2002-2005. A similar

programme also exists in the BELNEFTEKHIM Concern.

Energy

The national energy policy is defined in the Main directions for energy policy for the period 2001-2005 and for the period until 2015 adopted by the Council of Ministers in 2000, introducing new challenges related to the security of supply and the reliability of the functional operation of the energy sector. The key objectives are to improve the security of the energy supply, including by diversifying the energy mix, increase the share of domestic energy sources from 16 to 25%, promote the efficient use of energy on both the supply and demand sides, and better protect the environment.

The National Programme on Energy Saving for 2001-2005 (adopted in 2001) specifies two strategic objectives, namely (a) to ensure the planned GDP in 2005, without an increase in energy consumption; and (b) to reduce the energy intensity of the economy to the level of industrialized countries by 2015. According to the Programme, the country's energy saving potential during 2001-2005 should be in the order of 4.3-5.1 Mtoe. The implementation of this Programme was reinforced by the Resolution of the Council of Ministers on Additional Measures Related to the Efficient Use of Fuel and Energy Sources (2002). It set additional targets for major energy consumers (industry, energy, agriculture, households) for 2003-2005, in terms of energy consumption, energy intensity, energy imports and related accounting procedures.

A new five-year national programme for 2006-2010 is being prepared.

Industry

The policy of this sector is formulated in the Concept and programme for the development of the industrial sector for 1998-2015. The document describes the future of different subsectors of industry and the changes needed in its structure, through the promotion of advanced, less polluting and less energy-consuming technology. The programme predicts a slowdown of traditional metal- and energy-intensive subsectors and production facilities and the promotion of other subsectors such as food, timber, wood pulp and paper industries. Refurbishing in the steel industry would lead to a reduction in energy consumption. Polluting companies in the chemical subsector,

such as for the production of ammonia, nitric and sulphuric acids, are also subject to this technical re-equipment programme. Refurbishing them should improve not only productivity but also the quality of their products. Some enterprises already meet ISO 14001-2000 standards. Another 90 enterprises, including some high-polluting industrial sources, are intending to do likewise. The programme does not provide information about organizational restructuring or managerial improvements.

Transport

The Ministry of Transport and Infrastructure and the Ministry of Natural Resources and Environmental Protection are currently preparing a national programme and related action plan. The "Programme to reduce the negative impact of transport on the environment" is a strategy paper identifying the key challenges that the sector faces. It defines the objectives, basic principles, directions as well as the scope of activities.

The primary objective of the Programme is "to reduce, up to the level of existing international norms in force in Europe, the harmful impact of transport on the environment and to shift the national transport sector to a more sustainable path of development." To achieve this objective, the following recommendations, *inter alia*, are formulated to policy-making: (i) develop and set up the environmental requirements for transport, including requirements related to vehicles, fuels and infrastructure; (ii) develop concrete short-, medium- and long-term programmes with measures to support government policies to reduce the harmful impact of transport on the environment and public health; (iii) create a sustainable national and regional transport network; (iv) develop a set of mechanisms and harmonize these with those of other European countries to improve the reliability and safety in international transport networks.

Legal framework

Energy

There is no general law on energy that provides a legal framework for energy production, transmission, distribution and use. Only one part of this framework exists, namely the Law on Energy Saving (1997), which is the legal basis for energy-efficiency and conservation activities. It is complemented by about 30 resolutions of the Council of Ministers and 15 other normative acts

on the rational use of energy in industry and households.

One of these is the Resolution of the Council of Ministers on the Procedure for Developing and Implementing the National, Regional and Sectoral Programme on Energy Saving (1998). In accordance with this Resolution, the energy, industry and transport sectors develop each year sectoral programmes to reduce their energy intensity. Each sectoral programme is coordinated with the Committee on Energy Efficiency and is reviewed and approved by the Council of Ministers. The programmes are financed by the enterprises and the innovation fund of the respective Ministry or another governmental agency.

Generally, the sector is managed along administrative command principles. The Main directions for energy policy for the period 2001-2005 and for the period until 2015 recognizes the need to create a legal and regulatory framework, to complete the full cycle of the energy market, to define the new relations between the State and companies, and between the energy producers and consumers; to determine the rules and conditions for unbundling the vertically integrated energy structures and introducing market competition; to promote best practices in managing public and private energy companies; and to improve the environmental performance of the energy sector.

Under such conditions, the Law on Energy Saving might become a part of a comprehensive law on energy, with necessary amendments to make it compatible with the new requirements.

Industry

There is no law providing a legal framework for the development of the industrial sector. Such legislation is needed to provide the conditions for an efficient and smooth restructuring of the industrial monopolies.

Transport

The Law on Road Transport (2002) provides a number of regulations including control and inspection of emissions from private and public vehicles.

*Institutional framework*Energy

The Ministry of Energy is responsible for recommending and implementing energy policy. Operationally the management of the energy sector is divided among a few State-owned companies, according to the nature of the activities. In parallel, the National Programme on Energy Saving for 2001-2005 is under the control of the Committee on Energy Efficiency, which reports directly to the Council of Ministers. BELENERGO, the State-owned company that manages large generation capacities, is under the Ministry of Energy. A large number of small utilities supplying energy are under the administration of the Committee on Energy Efficiency. The division of responsibilities between the Ministry and the Committee is not always clear.

Industry

Different industrial activities belong to different ministries and other institutional entities. The Ministry of Industry covers only 30-40% of the industrial sector. The most important, in terms of GDP and pollution, are the chemical and petrochemical sectors, managed by the BELNEFTEKHIM Concern, a governmental entity which draws up policy for this subsector and reports directly to the President. The production of construction materials is under the Ministry of Architecture and Construction.

These institutions draw up similar five-year sectoral programmes, which include a subprogramme on energy-saving measures and another one regarding technical measures for environmental improvements. Both subprogrammes are periodically coordinated and approved by the Committee on Energy Efficiency and the Ministry of Natural Resources and Environmental Protection respectively. For example, the programme of BELNEFTEKHIM includes 130 programme elements for environmental protection. Furthermore, in implementing remedial measures for the environment, industry may benefit from the National Action Plan on the Rational Use of Natural Resources and Environmental Protection, which envisions the use of environmental funds for environmental improvements in a number of industrial subsectors.

Almost every sectoral Ministry has a scientific and research institute to update the normative base, suggest technological improvements and develop policies.

Transport

The Ministry of Transport and Infrastructure is responsible for developing and implementing policies in this sector limited to road and water transport. It also has control functions carried out by BELTECHOSMOTR, a State service of the Ministry. The latter issues licences and monitors all 150 diagnostic stations.

The Ministry's Scientific and Research Institute on Transport (BELNIIT) prepares norms, standards and programmes concerning the environment and safety. The draft environmental standards developed by BELNIIT are coordinated with the Ministry of Natural Resources and Environmental Protection before submission to the National Centre for Standardization and Metrology.

6.4 Energy and environment

Security of energy supply is crucial for a country and its economy. It is defined primarily by three parameters, namely (a) availability, (b) accessibility and (c) acceptability. Availability of energy and energy sources relates to the long-term continuity of energy supply without risk of interruption for political or economic reasons. The best pattern of "availability" or so-called right energy mix relies on a well-diversified portfolio of domestic and regionally traded sources, and diversified in term of suppliers too.

Accessibility to energy and energy services means that energy must be available at prices which are both affordable (cheap enough for low-income groups) and sustainable (to reflect the real cost through the full chain of the energy system, e.g. production, transmission and distribution) in order to support the financial ability of the energy companies. Finally, acceptability relates to social and environmental concerns, for example land deterioration and regional air pollution due to energy resource exploitation and use.

Belarus imports 84% of its energy requirements, in particular 95-98% of its natural gas, 70-75% of its oil and 20-25% of its electricity. Worse, from a security point of view, it is almost totally dependent on one single source: the Russian Federation

(98%). Moreover, natural gas is imported at below-market price. Belarus has considered various alternatives so as to diversify its suppliers and energy sources (e.g. building a coal-fired power plant based on Polish coal; improving electricity interconnection systems, to increase trade with Ukraine, Poland and the Russian Federation; importing gas from Turkmenistan, through Ukraine), but they seem too costly to implement in the medium term. The building of nuclear capacities is not under consideration. The initial alternative of importing coal from Poland is no longer viable, since the Polish Government has recently decided to limit coal production and to stop coal exports. Consequently, Belarus is currently among the countries most dependent on energy imports in Europe (the average in Europe is 55-60%).

Belarus is likely to remain highly dependent on hydrocarbon imports from the Russian Federation until 2020. The policy makers see only two ways of reducing this dependency: the first is to increase the share of domestic energy sources from the current level of 16% to 25% by the year 2020; and the second to decrease the energy intensity of the national economy, which is still very high.

In September 2004, the Government adopted a new programme to increase domestic energy sources in

the energy mix from 16% to 25% by the year 2020. The programme is very ambitious and, in particular, it focuses on the promotion of two major available domestic resources, biomass/wood and peat, recommended for use in small capacities for cogeneration, e.g. combined power and heat production. The use of these resources can be increased by a factor of three or four, but their role in the energy mix would still be only complementary. This programme's success is paramount if the Belarusian economy is to reduce its dependence on energy imports and meet its growing need for energy by 2020. The potential for decreasing energy intensity is discussed below.

Energy supply

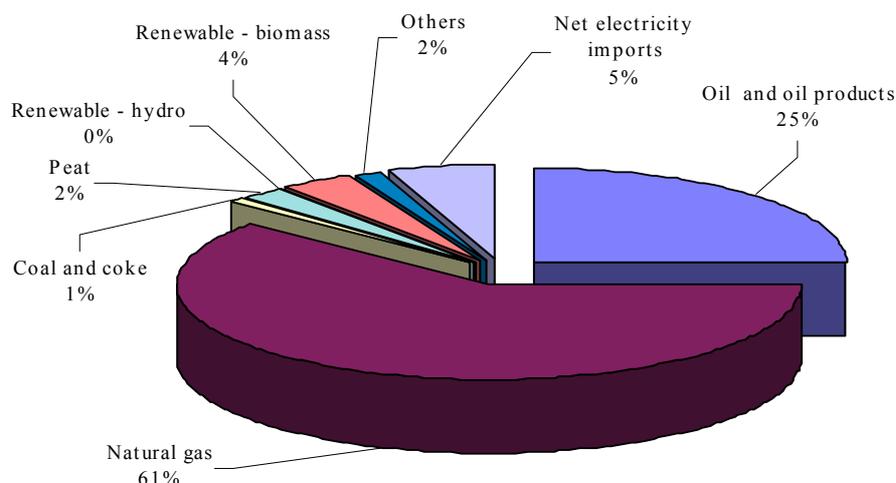
The energy sector throughout the world is the biggest air polluter. Throughout Belarus, electricity and heat production are based on thermal power generation, which is not the most environmentally friendly option. The combustion processes generate substantive GHG emissions. However, the energy mix is very favourable: the share of natural gas for all uses in 1995 was 46%, it grew to 61% in 2003. At the same time, consumption of oil and oil products shrank from 38% in 1995 to 25% in 2003 (fig. 6.2). Natural gas and oil currently meet 84-86% of total energy demand (table 6.2).

Table 6.2: Total primary energy supply, 1995-2010

Energy source	1995	2000	2003	Percentage change 1995-2003	Expected		Percentage change 2003-2010
					2005	2010	
Total	24,377	23,790	24,672	1.2	24,071	26,530	7.5
Oil and oil products	9,245	6,132	6,194	-33.0	6,121	7,410	19.6
Natural gas	11,288	14,080	15,046	33.3	15,264	14,220	-4.5
Coal and coke	690	345	230	-66.7	106	143	-37.8
Peat	751	586	510	-32.1	710	850	66.6
Renewable, of which:	440	801	949	216.0	1,268	2,227	235.0
hydro	4	5	6	150.0	28	107	18 times
biomass	436	796	943	216.3	1,240	2,120	225.0
Others	541	491	387	-28.5	411	490	26.6
Net electricity imports	1,422	1,355	1,356	-4.7	1,291	1,190	-12.3

ktoe

Source: Committee on Energy Efficiency, 2004.

Figure 6.2: Total primary energy supply, 2003

Source : Committee on Energy Efficiency, 2004.

As of 1 January 2004, the total installed thermal capacities amount to 7,847 MW. In 2003, they generated 26.6 GWh and 27.7 million Gcal. The State-owned power engineering concern BELENERGO produces almost all the electricity and half of the heat. The main consumer of electricity is industry (60%), while households consume about 60% of heat. The electricity and heat production within BELENERGO is based on two fuels: natural gas and heavy oil. The latter is used more during winter, when power plants operate at full capacity. In 1995 the ratio between natural gas and heavy oil was 67% to 33%, but it had changed significantly by 2003, when the share of natural gas for electricity generation increased to approximately 95%, with a concomitant decrease in heavy oil to only 5%.

These fuel structure changes brought about environmental improvements. First, they led to a large reduction in air pollutants, in particular SO₂ emissions, which declined from 121,000 tons in 1995 to 21,000 tons in 2003. Second, the specific fuel consumption to produce 1 kWh of electricity and 1 Gcal of heat were reduced, so less fuel is burnt to produce the same amount of energy (table 6.3.). However, the forecast shows that the fuel mix for electricity generation would likely change after 2010 to the detriment of natural gas, which could stabilize at around 70%, mainly because gas prices are edging upwards. Therefore, some of the alternatives put forward by policy-makers are to (a) promote combined gas-steam turbines with higher energy efficiency; and (b) reconsider the conditions for returning to nuclear power.

Table 6.3: Electricity generation

Source of energy	1995	1997	2000	2003
Fuel mix, % of total				
Natural gas	67.3	83.9	92.8	94.5
Heavy oil	32.7	16.1	7.2	5.5
Specific consumption				
Specific fuel consumption for producing 1 kWh, in g/kWh	282.0	276.5	274.8	267.0
Specific fuel consumption for producing 1Gcal, in kg/cal	174.0	173.1	172.3	169.7

Sources: BELENERGO Company and Ministry of Energy, 2004.

Energy efficiency and conservation

To reduce the country's energy dependency the Government also relies on radical measures to reduce the energy intensity of the national economy, which is still very high, in particular in industry. It, therefore, launched the National Programme of Energy Saving for 2001-2005, adopted by the Council of Ministers in January 2001, to ensure the planned GDP growth during this period without an increase in energy consumption and to reduce the economy's energy intensity by 15-19% between 2000 and 2005.

The Programme was coordinated with the different ministries, institutions, State companies and regions, and it set annual and five-yearly cumulative energy-saving targets (table 6.4). It lists many technical measures, such as increasing electric power from co-generation plants, expanding combined-cycle electricity generation, converting boilers into small co-generation plants and constructing new ones (called mini-power plants), optimizing electricity loads in the transport system, improving the insulation of boilers and heat pipelines, installing heat accumulators, introducing metering throughout the energy chain, modernizing control devices and systems. Attention is paid to measures to save energy in residential, institutional and commercial buildings, where the potential is recognized to be large.

The Programme's implementation is monitored by the Committee on Energy Efficiency (created in 1993), which has an effective staff network at regional level, too. The Programme is financed by

different sources: half from the enterprises' own sources, another large part from the so-called innovation fund collected and allocated by the Ministry of Energy, and smaller sums from other sources, such as State and regional budgets, credits and loans. Foreign investments are virtually non-existent. Some projects have been financed by international organizations. For example, UNDP and GEF provided funding for projects to use biomass for heating and heat water supply and to overcoming the barriers to improving the energy efficiency of State-owned enterprises. The World Bank financed a project to retrofit heating and lighting systems in the public sector (schools and hospitals). In 2001-2003, investment into the Programme totalled US\$ 390 million.

Energy prices

Energy prices play a crucial role in balancing energy supply and demand; they also have a strong influence on energy intensity, energy efficiency and investments into the energy sector. Energy prices define the accessibility to energy and energy services, the second important parameter of energy security. Energy pricing is a powerful instrument for affecting the behaviour of consumers and, hence, for reducing consumption. In Belarus, market mechanisms for setting energy tariffs are still lacking and prices are fixed by the Government. Between 1995 and 2003, it periodically raised electricity prices for industry and households at different intervals and paces; the price remains lower for households and does not cover costs.

Table 6.4: Targets for energy savings among the major energy consumers

Ministry, institution, company	Consumption 1999	Planned energy savings					
		2001	2002	2003	2004	2005	2001-2005
Total	23,370.5	402.2	373.4	441.0	425.2	420.0	2,064.5
Ministry of Housing and Municipal Services	1,437.0	34.0	30.0	31.5	29.9	30.6	156.0
Ministry of Architecture and Construction	157.0	46.9	48.7	50.1	53.5	55.2	254.4
Ministry of Transport and Infrastructure	127.0	1.3	0.7	0.3	0.7	0.4	3.4
Ministry of Agriculture and Food	2,241.0	79.7	63.2	59.8	54.9	53.8	311.0
Ministry of Industry	1,154.0	43.1	46.1	48.1	51.2	53.8	242.3
BELNEFTEKHIM	5,330.5	44.2	45.6	47.0	47.6	49.6	234.0
BELENERGO	12,297.0	80.1	73.9	135.1	121.6	121.3	532.0
BELLESBUMPROM (wood and paper products)	627.1	6.2	6.3	6.4	6.5	6.6	32.0
Others	..	66.7	62.2	62.6	59.3	48.6	299.4

ktoe

Source: Committee on Energy Efficiency, 2004.

In 2000, the average price of electricity for industry was 4.2 US cents per kWh against 1.2 US cents for households. No official figures are available for 2004, but, according to government officials, the average price of electricity for industry is currently around 4.5 US cents per kWh. There is a similar procedure for the price of heating, which is relatively high for industry and low for households (the latter consume 60% of production). The Government's policy is to reduce the price gap between industry and households over the next few years. At this stage, however, the main objective is to raise tariffs for households to a level that covers the minimum economic cost of energy but remains affordable. It is still too early to talk about sustainable energy prices promoting energy-efficiency improvements. According to the Ministry of Energy, however, the gradual increase in tariffs to households, during the first 10 months of 2003, led to a recovery of the cost of electricity by 108% and of the cost of heating by 81%, a result which seems very encouraging. Presumably, the local cost of electricity is low, as the country imports natural gas at preferential prices and the fuel cost represents 65% of the total cost of electricity production.

The lack of market mechanisms and the limited financial independence of the State-owned energy companies fail to stimulate competition or to provide incentives to lower energy production and transmission costs. There are no radical administrative, organizational or methodological changes under way. The energy prices for industry are fixed by the Ministry of the Economy, those for households by the Council of Ministers. The introduction of the "economic method"¹ for fuel cost distribution between heating and electricity generation at the power plant had a positive impact on the tariff-setting procedure, but at sectoral level only, the official statistical information continues to use the "physical method",² thus creating cross-sectoral subsidies to cover heating production costs or reduce the heating price for the end-user. Furthermore, neither the price of fuels nor the tariff-setting mechanisms were made transparent to energy producers and consumers. The reason is that there is no independent State institution dealing with this issue by cooperating with the interested parties. Household energy use is subsidized by

industry, both for heating and electricity. Energy pricing has not been well managed yet, but the national programme on energy conservation has led to the installation of meters in all buildings and individual apartments even if, in many cases, the single pipe systems do not allow individual customers to adjust their heating use. Individual heating meters are installed in all the industrial utilities.

Compliance and enforcement

As stationary sources, all power plants, utilities and industrial enterprises must have approved limits on air pollutant emissions. The oblast committees of natural resources and environmental protection and local inspectorates set these limits and regularly check them. The procedure for calculating and setting the emission limits has not changed much since the first review. The inspectorates calculate rather than measure the maximum level for each pollutant, using complex dispersion models. Since 2000, the ground-level concentration of air pollutants from large-scale stationary sources has been evaluated periodically according to a methodology, adopted by MNREP (1999). Depending on the production capacity, emission limits are set and reviewed annually. The emission charges are based on the emission limit and level of toxicity (all pollutants are divided into four categories of toxicity). For new installations or the refurbishing of existing ones, the Law on State Ecological Expertise (2000) requires a State ecological expertise, performed according to the Instruction on Procedures for Conducting State Ecological Expertise (2001).

Enterprises conduct self-monitoring and local monitoring of air pollutants, including at the most polluting points of the technological process. The polluting points are determined by the Guidelines for performing local environmental monitoring by physical persons/enterprises exploiting technology/equipment with harmful impact on the environment (annex 7, list of equipment). All large enterprises have their own accredited laboratories. In most cases, monitoring emissions is part of their daily functions as the same employees usually perform control of technological processes and production quality. The power plants and industrial enterprises are not yet equipped with continuous automatic outlet measurement and recording of air pollutants. Recent resolutions of the Council of Ministers "On Increasing Payments for Use of Natural Resources and Extending Application of

¹ "Economic method" is a cost-based method for fuel cost distribution between heating and power generation.

² "Physical method" is a quantitative method that does not take into account the costs.

Incentives for Nature Protection Activity” (June 2004) and “On Tax Rates for Use of Natural Resources (Environmental Tax)” (February 2005) that replaced the former, encourage enterprises to install such equipment by providing tax reductions and waivers of the environmental charges. The first automatic measuring equipment is supposed to be installed at one of the power plants of the State-owned BELENERGO.

6.5 Industry and environment

The industrial sector in Belarus is very diversified in terms of processes and activities. Its harmful impact on the environment is also very broad, depending on the specificity of each subsector. However, as a whole, it is a highly energy-intensive sector and a source of air emissions, water pollution and industrial waste. The national programme on energy conservation was extended to all subsectors of industry, and the targets fixed to save energy have been supplemented by refurbishing and upgrading many of the technologies used in industry. Should the programme be properly implemented, industry as a whole would save the most, i.e. 0.92 Mtoe or 45% of the planned energy savings for the period 2001-2005.

The largest industrial subsectors in terms of GDP output are:

- (1) Petrochemical and chemical industries with a very large range of activities, including oil extraction, oil refineries (two refineries), production of chemical products, such as caprolactam, sulphuric and nitric acids, ammonia, and mineral fertilizers. Four of these, which deal with oil-gas transport, are State-owned; the other five are joint-stock companies. They are spread out throughout the country, in Brest, Minsk, Gomel, Grodno and Mogilev oblasts.
- (2) Manufacturing/machinery industries also with a large range of activities including iron/steel production and their final products; manufacturing of household appliances such as refrigerators; and a number of big enterprises making cars, trucks, mini-buses and tractors. Most are concentrated in Minsk, Vitebsk, Mogilev, Gomel, and Zhodino.
- (3) Construction, production of construction materials and architecture is a sector in full restructuring and renovation, introducing new construction materials and advanced technologies in construction and insulation, promoting technology for recycling and reusing construction

materials, refurbishing cement factories by introducing modern dust electro-precipitators. This is a sector with a high potential for reducing energy consumption and improving its environmental impact.

Industrial air emissions

The biggest polluter is the chemical/petrochemical industry (95% of SO₂, 21% of NO_x and 97% of ammonia). These emissions are linked to particular chemical processes, such as the production of sulphuric acid (SO₂); nitric acid (NO_x and NO₂); caprolactam (CO and NO_x) and ammonia. Another polluting sector is metallurgy (62% of CO, 79% of NO_x and 90% of CH₄). These emissions are generated by steel production (CO, NO_x, CH₄), ferrous metal rolling processes (CO, NO_x) and cast-iron production (CO). The third sector, which emits fewer anthropogenic pollutants but is responsible for CO₂ emissions, is the production of construction materials, namely cement and lime (table 6.5). It is expected that the above-mentioned industrial processes will further reduce their air emissions through technical measures and sectoral programmes, including the restructuring, refurbishing or closure of some of the most polluting and energy-intensive processes.

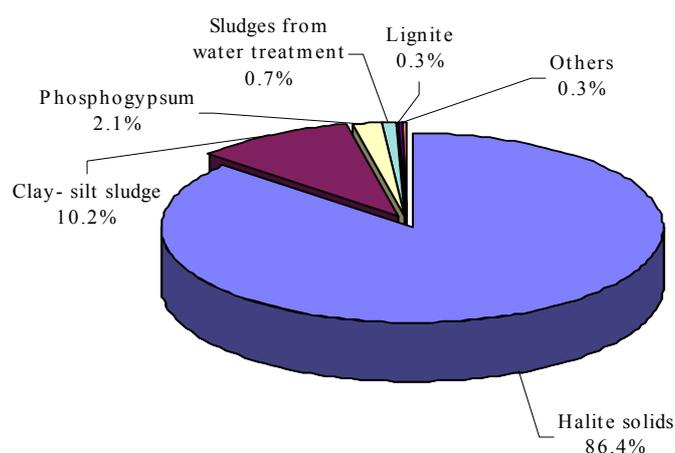
Industrial waste

Industrial waste is a serious problem. It covers approximately 2250 hectares and requires another 25 hectares each year. Its disposal has a harmful impact on land, air and water, in particular on underground reservoirs. In 2003, around 28.0 Mt was stored throughout the country. This is 7% more than in 2002 and 44% than in 1995. According to the National Statistical Bulletin on Ecology (2003), only about 16% of industrial waste (wood waste, rubber, oil, organic waste) generated in 2003 was recycled and reused. The remaining 84% was stored at industrial sites, disposed in landfills or sludge ponds. This growth in waste comes from bulk waste from the mining and beneficiation processes of sylvite mineral (potassium chloride), up from 20.6 Mt in 2002 to 22.3 Mt in 2003 as the production of fertilizers continues to increase. The largest industrial waste generator is a potassium mine near Soligorsk (660 Mt as of end 2003), the second largest is the Gomel chemical plant producing mineral fertilizers and generating phosphogypsum (16.3 Mt as of end 2003) (fig. 6.3).

Table 6.5: Distribution of air pollutants by industrial subsectors, 2002

Industrial sector	per cent of total					
	CO ₂	SO ₂	CO	NO _x	CH ₄	ammonia
Metallurgy total	..	..	62	79	90	..
steel production	..	..	28	39	90	..
ferrous metal rolling	..	..	28	40	..	..
iron casting	..	..	6	..	..	..
Chemical/Petrochemical total	..	95	38	21	10	97
caprolactam	..	..	31	4	..	..
sulphuric acid	..	95	..	..	..	..
nitric acid	..	..	..	14	..	..
ammonia	..	..	5	..	..	83
other chemicals	..	..	2	3	10	14
Construction materials total	100	5	..	..	..	3
cement production	64	5	..	..	..	..
lime production	36	..	..	..	..	..
asphalt	..	..	..	..	..	3

Source: First National Communication to United Nations Framework Convention on Climate Change, 2003.

Figure 6.3: Structure of accumulated industrial waste, end of 2003

Source: State of the Environment in the Republic of Belarus. Ministry of Natural Resources and Environmental Protection, Minsk 2004.

At the end of 2003, the accumulated amount of hazardous waste reached 1.592 Mt, of which 118,000 tons from the classes 1 (0.3%), 2 (3.5%) and 3 (96.2%). The accumulated industrial waste in class 4 has reached 1.474 Mt, or 93% of total hazardous waste. Hazardous waste is defined as waste whose reactive or toxic properties create direct or potential hazards to human health and the environment. The four classes are defined

according to the degree of toxicity. Waste in the first two classes is considered highly toxic, containing heavy metals, oil, spent chemical products, or residue from varnish and paint activities. The third class includes ash and slag from fuel combustion processes, lime and gypsum waste and plastics. The fourth class includes phosphogypsum and sludge from wastewater treatment (table 6.6).

Table 6.6: Distribution of hazardous waste by class, end of 2003

Class	Thousand tons	Per cent of total
Class 1	0.37	0.02
Class 2	4.13	0.26
Class 3	113.50	7.13
Class 4	1,474.00	92.59
Total	1,592.00	100.00

Source: State of the Environment in the Republic of Belarus. Ministry of Natural Resources and Environmental Protection, Minsk 2004.

The bulk of waste in class 1 is highly poisonous chemical substances (63%) and galvanic sludge (19%). In class 2, it is mineral sludge (66%) and galvanic sludge (20%), while in class 3, the sludge from wastewater treatment represent 47%, followed by mineral and oil sludge, petrochemical waste, etc. Contamination of land and groundwater by heavy metals is a major problem at industrial disposal sites for sludge from waste treatment. For industrial waste that cannot be recycled, there are 80 specially equipped storage sites, at industrial sites, with good insulation and protection. However, some 8% of waste disposals do not comply with the norms and represent a real danger to groundwater. The Law on Waste (2002) envisages a number of changes in the regulations and norms for waste disposal, and promotes low-waste technology and waste recycling. The Law on Waste was backed by a number of by-laws, including resolutions of the Council of Ministers aimed at reducing waste and promoting economic incentives to industrial enterprises. Information on waste disposal management was not available at the time of the mission.

Compliance and enforcement are discussed in the section on energy and environment.

6.6 Transport and environment

In 2003, total air emissions amounted to 1,327,000 tons, of which 955,000 tons (72%) from the transport sector. The bulk of CO and NO_x

emissions, about 87% and 60% respectively, were emitted by road transport. Some highly toxic emissions, including benzo(a)pyrene (0.75 ton/year), are linked to road vehicles. At the same time, lead emissions are now negligible because no leaded petrol has been either produced or imported since 1997.

Road transport is becoming one of the most significant environmental problems in Belarus. Over the past ten years, the number of motor vehicles has doubled: the number of private cars is up by 101% and that of company vehicles and public transport vehicles is up by 70%. Up to 70% of the car fleet is old and often uses low-grade fuel.

The national statistics on transport show that emissions from mobile sources declined by 35-40% between 1995 and 2003. According to the environmental authorities, this reduction has been achieved thanks to three major factors: (a) the partial restructuring of the transport sector with a much larger share of relatively small private cars, as well as the partial replacement of older vehicles with smaller, less fuel consuming trucks and buses by enterprises; (b) the conversion of a significant number of motor vehicles to natural gas; and (c) since 1997, the ban on leaded petrol. At the same time, emissions from mobile sources have not declined since 2000 due to a continuous rise in the total number of vehicles and are now growing at an annual rate of 3% (table 6.7).

Table 6.7: Emissions of sulphur and nitrogen oxides from motor transport

Pollutant	thousand tons				
	1995	2000	2001	2002	2003
SO ₂	57.1	36.4	36.2	35.2	36.2
NO _x	140.7	84.5	83.2	82.1	84.4

Source: Ministry of Natural Resources and Environmental Protection, 2004.

Private cars are often imported by private companies from Western Europe at a low price. They are in a bad mechanical state and are rarely equipped with catalytic converters. The Government has imposed a differentiated tax scheme for imported cars, to be paid by owners according to the age of the car (cars up to 3 years; between 3 and 14 years; and more than 14 years), ranging from €0.5/cm³ to €3.0/cm³. The higher rates are levied on the old cars primarily to discourage the import of old vehicles with higher emissions. At the same time, higher rates are also due on cars under 3 years (usually the least polluting) mainly to boost budget revenues. The tax differentiation needs to be supplemented by such measures as updating standards for domestically manufactured trucks and smaller vehicles, making catalytic converters compulsory for vehicles with petrol engines, and adopting and enforcing stricter norms for transport fuels.

Compliance and enforcement

GOST standards (used in the Soviet Union) on exhaust emissions (such as carbon monoxide, hydrocarbons and smoke) are outdated and have not been revised. CO and CH are measured on petrol-fuelled cars only; smoke is measured on diesel vehicles. NO_x is not measured directly, emissions are calculated on a fuel basis. All individual motor vehicles under 10 years must undergo biennial inspections, and those older than 10 years annual inspections. Public transport vehicles and those of dangerous goods undergo inspections twice a year. According to the Law on Road Transport (2002), all motor vehicles must be inspected at the licensed diagnostic stations only. There are about 150 such stations in the country. Around 60 of them are well equipped with modern control equipment, but others need to be modernized.

The diagnostic stations measure exhaust emissions and issue certificates on the basis of which the Ministry of Internal Affairs decides whether a car or truck is authorized to circulate. The Ministry of Natural Resources and Environmental Protection and its local inspectorates inspect mainly State transport enterprises, but since recently can also inspect the cars owned by individuals, through technical road inspection jointly with the so-called ecological police. In addition, the Ministry of Transport and Infrastructure performs environmental control of the enterprises under its auspices. A new legal and normative framework is

under preparation and is expected to bring substantive changes to the system of inspections.

The Ministry of Transport and Infrastructure and the Ministry of Natural Resources and Environmental Protection are developing a national programme for mitigating the environmental impact of transport on the environment. It includes economic mechanisms to encourage environmental improvements. The programme is supposed to incorporate the “polluter pays” principle through the internalization of external costs, i.e. the negative impact of transport on the environment and human health. A differentiated tax system is envisioned to stimulate the shift to a more sustainable transport system. Practical measures would include applying such principles as a higher tax on motor vehicles with worse environmental characteristics and on those that operate primarily in areas with a higher level of pollution and higher health risks. The programme also envisages tax incentives for cleaner vehicles and cleaner fuel and for initiatives leading to a reduction in air pollution such as installing catalytic converters, as well as facilitating low rates for loans used to renovate the car fleet. Revenues from higher taxes on more polluting vehicles would finance these incentives.

6.7 Conclusions and recommendations

National long-term programmes suggest further restructuring energy and industry and adapting these sectors to market conditions. The suggested model is a gradual transformation of the present State-owned enterprises into joint-stock companies. The programmes recognize the urgent need for a legal and regulatory framework for restructuring, but they do not define, apart from technical measures, what the sector should look like under market conditions. There is no clear vision of the legal basis on which industry would be decentralized and changes in ownership may happen, what the relationship between the State and industry would be, what rules should be applied to deregulate the market and introduce wholesale and retail competition, and whether and how the new companies would be responsible for past environmental damage.

The process of changing ownership affects the entire functioning of the energy sector. A new legal and regulatory framework should therefore provide a package of normative acts to help transform the sector into a well-functioning competitive market,

aimed at increasing energy efficiency and improving the quality of energy services.

Recommendation 6.1:

The Council of Ministers should develop a law on energy covering all aspects of the energy sector, including production, transport, distribution and consumption. The Law on Energy Saving and other energy-related legislation should become part of the law on energy with the necessary amendments.

The Government sets tariffs on electricity and heating. The Ministry of the Economy approves them for industry, the Council of Ministers for households. This corresponds to the management of a vertically integrated monopoly structure, all the way from electricity generation to energy distribution. There is no transparency regarding the tariff-setting mechanisms. Neither the energy producers nor the consumers have any influence over the process of decision-making. Furthermore, tariffs do not reflect economic changes related to the costs, for example changes in inflation rate or fuel price. Restructuring of the energy sector, unbundling energy production from energy distribution and thus gradually creating a competitive energy market, makes it more attractive to investments.

Recommendation 6.2:

The Council of Ministers should consider reforming the current energy tariff-setting policy and improve the entire energy chain with a purpose of creating a competitive energy market to make it more attractive to investments.

Transport is a major air polluter in Belarus, with the bulk of emissions of nitrogen oxides, carbon monoxide and volatile organic compounds generated in this sector. The number of motor vehicles has doubled in ten years. Many of the vehicles are old and not equipped with catalytic converters. Notwithstanding attempts to discourage the import of old second-hand cars through higher import duties, their number continues to increase.

Regular technical inspections of all motor vehicles at properly licensed diagnostic stations is mandatory according to the Law on Road Transport. Half of the diagnostic stations are equipped with modern control equipment, the other half need re-equipment. However GOST standards on exhaust emissions (such as carbon monoxide, hydrocarbons and smoke) are outdated and have not been revised.

The Ministry of Transport and Infrastructure and the Ministry of Natural Resources and Environmental Protection are currently preparing a national programme to mitigate the environmental impact of transport. The programme is necessary to update and improve government policies related to the environment and public health. The programme is supposed to take into account Belarus's international commitments under a number of European initiatives in transport and environment, its socio-economic situation and the interests of all stakeholders and to bring sustainability to the functioning of the transport sector.

Recommendation 6.3:

a) The Ministry of Transport and Infrastructure, the Ministry of Natural Resources and Environmental Protection and other relevant governmental bodies, when finalizing the national programme to mitigate the environmental impact of transport, should give particular attention to:

- *Updating the standards on exhaust emissions from mobile sources in line with those in force in the European Union;*
- *Setting specific targets for public transport, including targets for emission reductions and energy consumption for each transport mode.*
- *Setting regulations for the environmental impact assessment of new transport infrastructure and traffic restrictions for freight transit in environmentally sensitive areas.*

b) In connection with the implementation of this programme, the Government should establish a national coordinating centre to promote policies for sustainable development of the transport sector

Chapter 7

ENVIRONMENTAL MANAGEMENT IN AGRICULTURE AND FORESTRY

7.1 Introduction. The socio-economic importance of agriculture and forestry

Belarus has a population of 9.9 million; 28% live in rural areas, 14% are employed in agriculture and 2% in forestry. Agriculture provides 10% of GDP. Forestry's share of GDP is about 4%.

Belarus covers about 21 million hectares; 44% or 9.1 million hectares is agricultural land. The past 10 years have seen a decrease of 0.6 million hectares, which have mainly become forest. Two thirds or 5.8 million hectares is arable land, the remaining third natural grasslands. Agricultural production was on the decline during the 1990s and was lower by about 30% in 2000 compared to 1990. The share of livestock production has also decreased from 65% in 1990 to 45% today. Belarus's role as a surplus milk and meat producer during Soviet times was based generally on high-input agriculture plus large-scale imports of feed-grain. This production provided jobs, income and environmental problems, such as leaching of plant nutrients from fertilizers and manure, with ensuing water pollution, and the negative effects of pesticide use, including leaching. Agricultural production began to increase again in 2000 and has reached 80% of the 1990 production level, continuing upwards. Ideally, future crop production and livestock production will develop in balance, nationally and within individual farms. Livestock production should be mainly based on the country's own feed-grain resources, and with manure loads not exceeding the nutrient uptake capacity of crops.

Forests cover 38% of the country, after a massive reforestation effort during the 1950s and 60s, plus a recent drive to plant trees on marginal farmland. The share will probably pass the 40% mark. As a result, forests are relatively young. But considerable areas are approaching maturity. In 15 years, the harvestable volume will double. Traditionally, forests are used for hunting, and

intensive mushrooming and berry-picking by both the rural population and city dwellers are part of the Belarusian lifestyle.

7.2 Agriculture and land management

Overview of agricultural activities and trends

Organization of agriculture

Agricultural land is used by three types of farms:

This structure has been stable for 10 years now. About 2,500 large-scale farms produce 60% of the country's agricultural output (crops plus animal products), private farms about 1% and household plots close to 40%. However, these plots partly use inputs from large-scale farms, e.g. feed-grain. On a typical household plot we find one dairy cow, one calf for fattening, two pigs and 10 poultry. These figures have been stable since 1990. Belarusian household plot owners have used their increased area to significantly expand crop production, whereas their livestock production has remained constant. This is atypical in the Commonwealth of Independent States (CIS), where a significant part of herds – especially dairy cows – have moved from collective barns to sheds on household plots. Among the possible main reasons for the different situation in Belarus are: strong administrative pressure on large-scale collective farms to maintain herds; continued State ownership of dairy plants, slaughterhouses and trade channels, and low, regulated prices. As a consequence, Belarus has not experienced the sharp increase in manure production and hygiene problems in villages that are typical of much of CIS.

Table 7.1: Distribution of agricultural land, 2002

	per cent
Farm enterprises / large-scale farm	84
Private farms	1
Household plots	15

Source: The World Bank. Technical paper no 475. Farm sector restructuring in Belarus.

Land use

Of the arable land, about 90% is cultivated for crops, 10% left fallow. Most of the cropped area (50-55%) is under grain, primarily barley, followed by wheat and rye. Forage crops (grasses for hay and silage, corn/maize for silage) are the second most important user of land; they occupy some 35%. Potatoes, an important crop in Belarus, are grown on 8-10% of the arable land. Technical crops such as sugar beet and oilseeds, etc. use maximum 5%. There are differences among farm types. On household plots, potatoes and vegetables dominate, with respectively 55 and 8% of the area (3% on large-scale farms); grains (for animals) use 25% and hay 10%. The small number of private farms concentrate on crop production: grains 65%, potatoes and vegetables (respectively 10% and 2%), forage 18%. Large-scale farms go on using their land, buildings and equipment for both crop and livestock production. The latter, though, with much of the old capacity underused. Almost all of them have dairy cows and other cattle; half of them keep pigs; 5% have large-scale poultry production.

Land privatization

Land reform started in 1990. Some 2,600 private, commercial farms were created, typically with 50-100 hectares of land, which is similar to West European family farms. These farms were registered as business entities, with requirements for bookkeeping, payment of value-added tax, etc. The share of such farms reached a very modest 0.6% of agricultural land (Russian Federation 6%, Ukraine 8%). This process ceased in 1994.

Another aspect of the land reform, with a much greater impact, was an increase in the size of farm workers' household plots. Households were now allowed one hectare, twice the earlier limit. Thus, the share of farmland used by households more than doubled in the short period between 1990 and 1992, from 7 to 15%.

Households have a right to own land, but relatively few have gone through the process of ownership registration. This means the majority of households cannot sell or transfer their land. All other agricultural land remains in State ownership. Large-scale farms and private farms lease the land they use from the State.

This picture has remained constant for almost ten years.

During the past two years, the increasingly untenable financial position of large-scale farms seems to have renewed interest in reforms. Already 25 bankrupt kolkhozes (1% of the total) – i.e. the kolkhozes as firms, with their equipment, buildings, animals, but not the land (which remains State-owned, but is leased to the farmer-entrepreneur) – have passed into private hands, usually successful private farmers and neighbours.

Expected trends in agricultural production practices and crop structure

Radical changes in crop patterns – as a percentage of arable land – or production practices are not expected. Reforested agricultural land will mainly reduce the area of natural grasslands, not arable land. Renewed growth in agriculture is likely to lead to a gradual increase in fertilizer and pesticide use. The development of livestock production is mainly dependent on its profitability, which in turn depends on future agricultural policy and the State's ability to pay subsidies.

Environmental concerns in agriculture

Impact of the Chernobyl accident on Belarusian agriculture

After the Chernobyl accident, agriculture, both crop and livestock production, was banned on 264,000 hectares with caesium-137 concentrations above 1,480 kBq/m². This is 3% of the country's agricultural area. A further 1.1 million hectares, or 12% of the agricultural area, with lower levels of contamination were made subject to a control regime. All products, also wild berries and mushrooms, must undergo radiation measurement before they can be eaten or sold. More than 900 control points have been established in the areas concerned. Permissible radiation levels are stricter than international standards. This control functions well for products delivered to the food industry or trade channels. For home-produced food, however,

only a small percentage is estimated to be brought to control points for testing. There is also a general system of food monitoring, based on sample collection and measurement, under the Ministry of Agriculture and Food.

During the 18 years since the accident, radiation levels have decreased somewhat. Also, field inventories and measurements have shown great variation. A system of liming and fertilizer application to prevent plant uptake of radionuclides is said to have used 20% of the State's budget for Chernobyl measures. Many of the 600 large-scale farms in contaminated areas have applied for clearance of individual fields. Through a complex system of measures, developed by Belarusian research institutes, which diminish radionuclides uptake by plants and animals, some restricted areas have been opened up for production. These measures include, in addition to choice of soils and systematic liming and fertilizer application, choice of crops and varieties, crop rotations, the use of caesium-binding agents in livestock feed, quarantine periods on "clean" forage before slaughtering of cattle, etc. Belarus is implementing its General programme for overcoming the consequences of the Chernobyl Nuclear Power Plant disaster for 2001-2005 and up till 2010.

Of the 1.1 million hectares of agricultural area originally under the control regime, 400,000 hectares have been freed, mainly grasslands.

Low Belarusian radiation limits (20% of the comparable international standards) for declaring food products fit for human consumption have been questioned by international experts. Belarusian authorities acknowledge this discussion, but insist that national standards will remain unchanged. One reason is that the population of Belarus is under permanent pressure from radiation, which is not taken into account in international norms.

Agricultural practices and related environmental problems (Groundwater and surface water pollution due to manure, fertilizers and pesticides)

During the 1990s, lower application of chemical fertilizers due to economic constraints has meant fewer nutrient losses to surface and groundwater. The same goes for pesticides. A programme for subsidizing fertilizers (the farm pays 20% of the price, State and oblast budgets share the remaining 80%) is now paying off with production increasing.

But the risk of negative impact on the environment also increases.

Manure and other waste from livestock production also decreased during the 1990s, which resulted in fewer direct nutrient losses to groundwater and surface water. However this process was also accompanied by poorer manure handling that led to increased losses per ton of manure.

About 300 large livestock complexes are producing today, although many at only 30-50% capacity. Every *rayon* has one or several such complexes. The average pig production complex holds 100,000 pigs, the maximum is 140,000. Most of them were built during the 1970s or 1980s, some of them in unsuitable locations, some technically and biologically ill-suited for their purpose, and many with manure systems using great quantities of water. During the 1990s close to 500 production buildings, mainly in water protection areas, were taken out of production or relocated. So were almost 1,000 fertilizer and pesticide storage facilities.

Manure handling has suffered through:

- A strong decrease of peat use due to increasing price and transport costs. Dried peat has the twin advantage of (a) being a good agent for improving the humus content and structure of soils and (b) having great capacity for taking up and holding urine and faeces, with their valuable content of plant nutrients;
- In irrigation systems based on a water/urine mix, spreading areas have been too small for the nutrient load;
- In some cases these ageing systems have technical problems, aggravating the situation;
- Most farms have sufficient areas for manure uptake; but economic factors, e.g. the higher price of diesel oil, limit the actual radius of manure transport to a minimum. So, close to farm centres there is excessive application of manure, beyond the uptake capacity of crops, resulting in leaching of nutrients to groundwater and surface water; and
- Storage capacities are insufficient; manure/waste is often spread in winter, on the snow, then becoming run-off in spring.

The overall manure load has decreased, and measures are being taken to solve manure-related

problems. But there is still local pollution from manure, fertilizers and pesticides; the quality of surface waters and groundwater is of serious concern in many areas. The rayon water inspectorate is responsible for the control of water quality. In rural areas, 75% of all wells have nitrate levels above the norm.

Regarding the pollution of rivers and lakes, the three main sources – industry, population centres and agriculture – cannot at present be discerned from each other. In many European countries, agriculture as a polluter became visible only when the waste-water problems of the two other culprits were solved. Measuring and identifying the relative role of the three polluters would clarify the situation and make it easier to discuss the appropriate action.

With fertilizer and pesticide use on the increase again, and manure volumes possibly also increasing, action should be taken. The answer is timely advisory services to farmers about environmental aspects, but also improved economic insights of farmers and farm managers. Manure/waste should be seen as the plant nutrient resource that it is, and recirculated into crop production in correct doses. This means rules for the number of animals per hectare, manure storage capacity, etc. Environmental rules have to be clarified and enforced. At the same time, agricultural policy should increasingly reward good environmental behaviour. It should be noted that the preferred form of subsidy in Belarus, i.e. lowering the price of inputs such as fertilizer, is environmentally counterproductive. Supporting product prices is better, although frowned upon from a trade policy point of view. Support to environmentally good practices is the ideal, e.g. subsidies for building extra manure storage capacity.

Storage of fertilizers and pesticides

Measures have been taken to improve the storage facilities for fertilizers and pesticides, but problems remain. Between 1971 and 1988, 4,000 tons of obsolete pesticides were buried as a supposed means of destruction. In 1988 this practice was banned and new inventories were drawn up. Stock-taking in 2001 at the initiative of the Ministry of Natural Resources and Environmental Protection disclosed 1,486 tons of such pesticides in the distribution system and on farms. Under a Danish cooperation programme, as a pilot project, over 300

tons of these pesticides were repackaged and brought to safe storage. The question of destruction has not yet been solved, however. The burial sites are being monitored, but remain a potential hazard.

Soil quality, erosion, desertification and other degradation

The sustainable fertility of soils is dependent on the replacement of nutrients taken away with crops. The soils of Belarus, mainly sandy and podzolic soils with low humus content, are not fertile like the chernozem - black soil - of Ukraine or the southern Russian Federation. They are also mainly acidic, needing liming. This means that they have to be carefully managed to keep their production potential. Part was lost during the 1990s.

Of Belarusian farmland, 6% or 0.5 million hectares is classified as eroded and another 38% as erosion-prone. Water erosion dominates, affecting 84% of eroded land, mainly in the hilly northern and central parts of the country. The 16% harmed by wind erosion are mainly in the drier and warmer south. Much of the problem stems from land reclamation campaigns during the 1960s and 1970s. Then large-scale drainage projects, ploughing of hillsides and sandy pastures, etc., brought land into use against ecological and economical good sense. Some of the solutions are: afforestation, return to grass cover, changed crop rotations and a return to wetlands.

Part of the problem – desertification and other degradation – is a consequence of large-scale drainage of wetlands in the Polesye area, in the south; 1.1 million hectares of wetlands with a young and thus shallow peat layer, typically one metre or less, were drained and cultivated. In a well-known phenomenon, these peat layers were consumed by agricultural use over 20-40 years. The material under them proved to be mighty layers of barren sand. On these depleted soils, wind erosion is starting to create desert-like conditions. Peat fires caused by self-ignition or human carelessness is another factor in degradation of wetlands.

There are plans for the worst hit 200,000 hectares to be turned into forest (130,000 hectares) or restored wetlands (70,000 hectares). The Government of Belarus, with the Committee on Land Resources, Geodesy and Cartography under the Council of Ministers as the lead agency, is preparing a programme to protect soils from erosion for 2006-2010 within the framework of the United Nations Convention to Combat

Desertification. In December 2004, the first draft was circulated to the relevant governmental bodies for comment. Sources and levels of funding for its proposed objectives have not been included in the draft. The programme is supposed to be finalized during 2005. See also chapter 4 on the implementation of international agreements and commitments.

Water, drainage and wetlands

Only 1.5% of agricultural land is under irrigation in Belarus. Drainage is much more important, considering the country's relatively high precipitation and abundance of wetlands.

One third or 2.9 million hectares of its agricultural land has some kind of drainage system, 2.5 million hectares of which is in the Polesye area. This figure includes the 1.1 million hectares of peat bogs mentioned earlier. Changes in nature were considerable – in many places the groundwater level was lowered 3-4 metres. In the whole country, wetlands in 1960 took up almost 3 million hectares; today 1 million remain. The difference is “ameliorated” farmland. Drained areas, of course, have effects on water systems far beyond their limits. In terms of catchments, half of Belarus is affected.

From another perspective, the drained agricultural area consists of 1.1 million hectares of peat bogs and 1.8 million hectares of mineral soils. No new drainage projects have taken place during the past 15 years. Instead, drainage systems have deteriorated due to a lack of funds for maintenance. Some lands have become unusable, a greater part stayed in use but with lowered production potential, perhaps half or less of the original. An inventory was made in 1998-99, resulting in the Programme for the preservation and use of ameliorated lands 2000-2005. Budgetary funds are used for rehabilitating canals and decaying technical equipment, and for research and development around the problem.

A continuation of the Programme is being discussed, according to the Belarusian Research Institute of Land Reclamation and Meadow Management. Approximately US\$ 100 million a year is supposed to be spent on the actions under

this Programme.¹ Even these sums will cover only part of the original drained area. Ideally, the areas that agricultural interests want to reclaim should be different from those that should be returned to their original wetland status based on environmental priorities. But the best farmland may well coincide with the most valuable potential wetland.

Scientists are working with models that try to include all variables, also economic, and make a rational choice between areas to rehabilitate for agricultural use and those to return to nature. Admittedly, these models aim to optimize agricultural aspects. In the end, political decisions will be required.

Changes in legal and institutional framework for agriculture between 1997 and 2004

Legal and policy framework

The basic legal document for agriculture is the Land Code. The 1990 version was amended in 1999, mainly with rules for land-use rights. The Code is an expression of the Belarusian policy of very cautious reform. A new version is being processed in Parliament. It is said to maintain the cautious attitude to reform, but to contain inter alia more flexible rules for the leasing of land. Both the 1999 and the new text contain environmental provisions. The idea of a complementary law on the protection of soils is being discussed.

Another document regulating agriculture is the Programme for the improvement of the agricultural complex 2001-2005. Its goal is to make agriculture more efficient through more stringent economic requirements for farm enterprises. Loss-making farms can be forced into bankruptcy or restructuring, in practice it is usually the latter. A new legal form (e.g. joint-stock company or cooperative) or a merger with another entity are among the options, often combined with the write-off of debt.

A number of operational programmes are directed at specific problems:

- The General Programme for overcoming the consequences of the Chernobyl nuclear power plant disaster for 2001-05 and up till 2010. It

¹ After the review mission, in May 2005, the Programme “Preservation and Use of Ameliorated Lands for 2006-2010” was adopted by the Council of Ministers.

contains inter alia the regulations for radiation levels in agricultural fields, in food products, in forests and in forest products. It also specifies funding for measures such as liming and application of fertilizers to decrease levels of radioactivity in agricultural products.

- The Programmes for the preservation and use of ameliorated lands for 2000-2005 (described above) and for 2006-2010.
- The State Programme on Revitalization and Development of Rural Areas for 2005-2010 was approved by the *Ukaz* of the President in March 2005 (after the review mission). The Programme aims at the development of rural areas by inter alia increasing the level of income of the rural population, enhancing social and other infrastructure, improving environmental conditions, and optimizing investments.
- In the framework of the United Nations Convention to Combat Desertification, the Government is preparing a programme for protecting soils from erosion for 2006-2010. Work on the programme is supposed to be completed in 2005.

Institutional framework

The Ministry of Agriculture and Food and the Ministry of Natural Resources and Environmental Protection have joint responsibility for agro-environmental matters. Exchange of materials and daily informal consultations are the predominant method of cooperation, which both Ministries describe as functioning well. But in a pattern well-known from most other countries, the Ministry of Agriculture and Food tends to defend the interests of production, and the Ministry of Natural Resources and Environmental Protection insists on faster environmental improvements.

In the oblasts and *rayons*, committees for agriculture and food are responsible for planning, administration, distribution of subsidized credits and means of production, and control of production quota fulfilment. These committees do not supply extension (advisory) services in the internationally accepted sense of the term.

Monitoring of soil quality and of the use of fertilizers and pesticides is well developed. The first objective is to be a tool to improve the productivity of agriculture, but the monitoring and control aspect is also satisfied. Oblast agro-

chemical laboratories are responsible for regular soil sampling on farms, analysis, and recommendations for fertilizer application and liming. Data are used primarily by the farms, *rayon* and oblast agricultural administrations, and the Ministry of Agriculture and Food. The Belarusian Institute of Soil Science and Agro-Chemistry is responsible for research into soil fertility, and threats against it such as contamination with pesticides and radionuclides.

Higher education in agriculture offers special courses on environmental aspects, with an emphasis on Chernobyl-related problems.

Scientific institutes in agriculture and the environment do high-quality work. Science is especially developed in the obvious Belarusian priorities of Chernobyl consequences and the question of wetlands versus drainage for efficient agriculture.

Measures for good agricultural practices

The idea of promoting environmental awareness among agricultural producers and of good agricultural practices is closely linked to the work of agricultural extension services, at the regional and local levels. Such services are not part of the Belarusian organizational tradition. They need to be developed.

Referring to the low use of fertilizers and pesticides, representatives of Belarusian agriculture often refer to it as ecologically clean. But organic farming, in the sense of systematically controlled and certified production, does not exist. Some farms, sensing demand for organic products, are beginning to look into the possibilities. Unfortunately, the legal framework necessary for the development of control and certification is lacking.

International experience

The potentially strongest international experience that Belarus may use is the EU Nitrate Directive and Water Framework Directive (the parts that concern agriculture) and member States' work with their implementation. This would also be consistent with Belarus's attempts to make its legislation compatible with that of European Union in environmental matters.

The Nitrate Directive concerns the protection of water against pollution by nitrates from agricultural sources. It requires member States to designate vulnerable zones and implement action programmes and prescribed measures for reducing pollution from agriculture in these areas. The list of measures contains: period of fertilizer (both of mineral and animal/manure) origin) prohibition; restricting the use of fertilizer on steep slopes; restricting the use of fertilizer on soil saturated with water, and frozen or snow-covered soil; restricting the use of fertilizer in proximity to water bodies; effluent from livestock manure storage; livestock manure storage capacities; rational fertilizing; rotation, maintaining permanent crops; vegetation cover in rainy periods and winter; fertilizer plans; specific date and limit value of nitrogen application through livestock manure; and other measures.

The Water Framework Directive (WFD) concerns all aspects of water management; agriculture is only a part of the issue. Among its main objectives are: expanding the scope of water protection to all water (surface water and groundwater); achieving “good status” for water by set deadlines, all water to have reached this status by 2015; water management based on river basins; establishing a coherent managerial frame for all water-related legislation, thus allowing for consistency in planning and measures.

WFD requires all partners in a given river basin to manage their water in close cooperation. It stipulates that, where several countries are involved, they should set up a common river basin management plan. WFD also demands the integration of its rules into other policies, e.g. agricultural policy. In agriculture and the environment, WFD interacts with the stipulations of the Nitrate Directive.

Belarus may also benefit from the experience of the Contracting Parties to the Convention on the Protection of the Marine Environment of the Baltic Sea Area and its governing body, the Baltic Marine Environment Protection Commission (HELCOM). Belarus is an observer on the Helsinki Commission. It has also participated for 15 years in the HELCOM process implementing the Baltic Sea Joint Comprehensive Environmental Action Programme (JCP), with a specific focus on so-called pollution hot spots. The specific task force within HELCOM overlooking JCP was closed down in 2003. HELCOM also has an ongoing activity to assess the significance of the

transboundary pollution load coming from the non-Contracting Parties in the catchment area, including Belarus, in more detail.

HELCOM has substantial experience in developing action programmes to control non-point-source pollution (primarily nutrients and pesticides) from agriculture. Sweden, Denmark and Norway have been cooperating on a bilateral basis with the Baltic States, Poland and the Russian Federation in strengthening legislation, institutions, environmental surveillance and improving farming practices. International organizations, such as the Global Environment Facility (GEF), the World Bank and the Nordic Environment Finance Corporation (NEFCO), are also cooperating with HELCOM on agriculture and environment, for example within the Baltic Sea Regional Project. The initiatives build on lessons learned and combine the strengthening of institutions with support to environmental investments in agriculture.

7.3 Forestry

Overview of forests and forestry and recent trends

Today, 7.9 million hectares or 38% of Belarus is covered with forest. The area is growing due to the continuing afforestation of marginal farmland and is supposed to reach beyond 40% within five years.

Belarusian forests have a very uneven age distribution. This is a result of the Second World War period, during which considerable forest destruction occurred, and of the overexploitation of mature forest for post-war reconstruction. Massive reforestation campaigns during the 1950s and 1960s have been successful, resulting in large areas of young forest, now approaching maturity. In 15 years, the harvestable volume will be twice today's. In “production forests” open for exploitation and making up about 60% of forest land, areas with forest older than 60 years were 15% of the total in 1996; in 2006 the share will be 26% and in 2016 31%.

However, it has been decided to gradually raise the definition of mature forest, ready for cutting, when calculating annual harvestable volumes. The age limit will be increased by 20 years for pine, spruce and oak, and by 10 years for birch and aspen. Until now the age limits have been a compromise between good forestry practice and the needs of the

industry, and forest has been cut before reaching the optimal age.

Belarusian forests are divided in two groups:

- Group I: protected forests; and
- Group II: production forests.

Group I forests enjoy a certain degree of protection; they can be harvested, but they are protected from clear-cutting. In much of those areas forests are managed to give soil, water, air and/or erosion protection. Sandy soils require stabilization, riparian areas require greater vegetation cover to eliminate erosion and regulate water run-off, and green belts are required near cities and major highways to improve air quality. Protected forests cover about 50% of the forest area, or 4.6 million hectares, part of which is located in protected areas (strict nature reserves (*zapovedniks*), national parks, and less strictly protected natural areas (*zakazniks*)).

Group II forests, covering 4.7 million hectares have until now been managed for growth, production and final clear-cutting. New ideas are manifested in the Strategy for the development of forestry till 2015 (see below), which introduces environmental aspects also in the management of production forests:

- Protection of key biotopes;
- General respect for environmental aspects in practical forestry, inter alia a move away from clear-cutting to more gradual harvesting; and
- Certification.

The State owns all forest land. There are about 100 *leskhoz*s, i.e. forestry organizations under the Ministry of Forestry, responsible for the management of forests during their lifecycle. After final cutting, *leskhoz*s plant, re-establish and take care of new forest generations. The average area of a *leskhoz* is 85,000 hectares. *Leskhoz*s are furthermore responsible for surveillance and the enforcement of forestry rules in their areas. They also do some (partial) cutting during the lifetime of the growing forest, but not the final cutting. They also own some processing industry, usually small and medium-size sawmills.

Their expenditures are covered mainly (about 70%) by the State budget. The rest is covered by income from various forest products. But the bulk of the income, the payment for the final product, mature

trees ready to cut, are passed on to *rayon* budgets. There are plans to change this structure so that *leskhoz*s will be getting 30% of their revenues from the budget and 70% from forest income.

Commercial and informal forest uses

Sawmills and paper mills are mainly State-owned, grouped in the Belarus Wood and Paper Industry holding company (*Bellesbumprom*). This holding company buys 60% of the country's production of timber and pulpwood at fixed State prices. They buy mature, standing forest and have special departments for cutting and transport. Another 20% is sold at auctions, an increasing practice, for domestic processing or export, usually at prices more than twice the fixed ones. The remaining 20% is sold at two thirds of the fixed price to needy or social buyers: private persons, schools and hospitals, farms. Criticism against the distortions of this system is one of the problems behind the Strategy for the development of forestry till 2015 (approved in 2000).

Non-tree or informal forest uses are important. Picking wild mushrooms and berries is a national passion, and gathering wild medicinal herbs has a long tradition. Citizens have free access to forests and to these resources, specially protected territories excluded.

Environmental concerns

Impact from Chernobyl

The Chernobyl accident contaminated some 1.6 million hectares of forest in Belarus, i.e. 20% of all forests, with radioactivity above 1 Ci/km² or 37 kBq/m². Radionuclide fallout was the highest in the south and east. The highest levels of contamination (greater than 40 Ci/km²) are found in an area within 30 km of the reactor site. About 60,000 hectares of this land are covered by forest.

During the initial period after the accident, tree canopies caught radioactive particles. After some months, litter-fall and through-fall transferred radionuclides to the forest floor. By 1996, 95% of the total Caesium-137 contamination was to be found there, beginning to migrate into the soil. Only 5% of the total Caesium-137 contamination was stored in the trees by then. Bark, young needles and branches and the outer growth rings of the trunks contain the highest levels of contamination. Concentrations in tree biomass have continued to

increase but are supposed to peak in 2004, then slowly decline.

Belarusian forests were divided into four zones depending on the radioactive contamination level of forest soil by Caesium-137: greater than 40 Ci/km²; 15-40 Ci/km²; 5-15 Ci/km²; and 1-5 Ci/km².

The Ministry of Forestry is monitoring radioactivity on about 100 sample plots. Samples of soil, bark, wood, needles and ground vegetation are routinely analysed. Results from measurements and scientific research led to the issuing of comprehensive radiation protection guidelines for forestry in 1995. These guidelines are still in place. They specify radionuclide concentration levels – so-called intervention levels – for various foodstuffs, firewood, lumber, etc. as well as guidelines for exposure during forest operations. Food from the forest must not be gathered where radiation levels exceed 5 Ci/km². Areas with contamination below 15 Ci/km² may be used for wood production – with the proviso that radiation levels (in wood) are constantly monitored. In areas where radiation levels exceed 15 Ci/km², all forestry activities are totally banned. The question of safe food is complicated; some mushrooms, for instance, concentrate radioactivity to dangerous levels; others, picked in the same place, are harmless.

Slowly decreasing radiation levels, as they appear in monitoring results, have made some reclassification of zones possible during the 18 years since the accident.

Contaminated areas are under increased forest fire surveillance and have been given extra resources for fire prevention and fire fighting. It is estimated that a large-scale forest fire in the most contaminated areas could have serious consequences. The fire would provide a mechanism for releasing radioactivity into the atmosphere.

Impact from industrial pollution

Air pollution from the combustion of fossil fuels – mainly from the industrial, power and transport sectors – is causing acidification of Belarusian forests. Sulphur dioxide and nitrogen oxides are the most important. Trans-border pollution dominates. Due to its geographical position, Belarus imports 80% of its sulphur dioxide precipitation, and exports 60% of its own emissions to neighbours. Air pollution is monitored at 16 points throughout the country. For forestry purposes alone 1,000

permanent plots have been established. Verification of defoliation and discoloration, damage to leaves and needles, the presence of lichens and mosses on branches, and conventional tree size and growth data are collected.

Rehabilitation, restoration and conservation

As described above, forest rehabilitation and restoration has been very successful in quantitative terms. Some problems have been encountered with afforestation of marginal farmland: small tree plants have difficulty competing with long-established grasses; insect pests or rodents might harm plantations. They are registered as forest only after seven years.

Certification of forest products

One of the *leskhoz*s, used as an experimental area to test the ideas of the Strategy, has recently been certified according to Forest Stewardship Council (FSC) rules. The experience will be used to make more *leskhoz*s apply for certification, making their products more valuable in export markets but also domestically. This is an essential ingredient of the Strategy.

Policy objectives, legal and institutional framework

The present Forestry Code, approved in 2000, replacing an obsolete code from 1972, is the main policy document. Its basic method of meeting environmental protection goals is to create different types of protected forests. The remainder, production forests, are to be managed with traditional biological skill and experience, while production remains the ultimate goal. But the Code, experts say, is open enough for the realization of the Strategy for the development of forestry till 2015, also adopted in 2000. The Ministry of Forestry, re-established in August 2004, is responsible for the sector. For aspects of forestry and the environment, the Ministry of Forestry and the Ministry of Natural Resources and Environmental Protection are jointly responsible. But the latter has the last word, according to representatives of the former.

For protected areas, however, rules are slightly different. A division of the Presidential Administration, presumably with a view to better and more forceful control, runs *zapovedniks* and the natural parks. The Ministry of Forestry and its organizations manage most of the other types of

protected areas. The Ministry of Natural Resources and Environmental Protection is responsible for inspections and the enforcement of policies within all specially protected areas. The Ministry of Forestry has the same duties for protected forests, within and outside the specially protected areas. This system has not changed since 1997.

Integration of nature conservation objectives

Protected areas and protected forests, under the existing system, have been discussed above. New ideas, formulated in the above-mentioned Strategy, aim to integrate environmental concerns in all forests, including the 50% classified as production forests. This is a great step forward from the less flexible method of dividing forest land into protected areas and production forests. Results on the ground are, so far, limited to one experimental *leskhoz*. But ambitions are great, and part of a wider change in the practice and economics of forestry in the direction of a market economy. Mature forest, ready for cutting, will be sold at market prices, mainly determined by auction. The present systematic undervaluation of forests and forest products will vanish. Market forces, i.e. primarily the demands of environmentally conscious consumers in high-price export markets, will also require certification based on environmentally friendly forestry management methods. This will, as a bonus, increase the productivity of forests in the long run.

Information, participation, and public awareness

The role of NGOs in forest policy formulation is non-existent. But in a wider sense, forests and forestry are everybody's concern in Belarus, and a politically sensitive issue. Local abuses, real or suspected, have frequently provoked great public indignation. The ongoing NGO campaign against forest-cutting in the Belovezhskaya Pushcha national park is an example.

International experience

The Strategy for the development of forestry till 2015 is the prime example of the willingness of the Belarusian forestry sector to use international experience. It has drawn mainly on Finnish, Swedish and German forestry practice. As to continued State ownership of forest land, Belarusian policy makers refer not only to the country's tradition but also to the Canadian system:

State ownership combined with long-term leasing to users.

7.4 Conclusions and recommendations

The basic environmental problems of Belarusian agriculture, with the exception of the consequences of the Chernobyl accident, are, like in Western Europe and the United States, the inheritance of agricultural practices formed during the 1970s and 1980s. High input of mineral fertilizers and pesticides, livestock production in large units with great concentrations of manure, and ensuing problems for surface water and groundwater, are the main elements. The consequences of the Chernobyl accident became a serious burden on Belarus's agriculture. Large areas of agricultural land had to be taken out of cultivation because of high levels of radioactive contamination. Other areas, with lower levels of contamination, are subject to a control regime.

Legislation and rules affecting agriculture are today to be found in many different sources: Land Code, Water Code, numerous presidential decrees, programmes and other governmental documents. At the same time, there is no comprehensive strategy document for agricultural policy, including production, markets, economics, forms of ownership, rural development and the environment. The European Union's Nitrate Directive and Water Framework Directive may be useful both in making Belarusian legislation more compatible with that of EU in the area of the environment and in helping Belarus solve its environmental problems in agriculture. As an observer on the Baltic Marine Environment Protection Commission (HELCOM), Belarus may benefit from the experience of the Contracting Parties to HELCOM in various environmental issues in agriculture, including adjusting legislation and policies.

Recommendation 7.1:

a) *The Council of Ministers should initiate the drawing-up of a comprehensive strategy document for the development of agriculture, which would integrate environmental aspects.*

b) *The Ministry of Agriculture and Food, in cooperation with the Ministry of Natural Resources and Environment Protection, should analyse the environmental and agricultural aspects of the European Union's Nitrate Directive and Water Framework Directive and use their provisions as*

guidelines when improving national legislation and practice where applicable.

In Belarus, scientific research institutes and universities have been responsible for the transfer of new knowledge to farmers. During the transition this function has deteriorated due to a lack of resources. International experience also shows that advisers need to be based closer to practical agriculture.

Recommendation 7.2:

The Ministry of Agriculture and Food should initiate the creation of extension (advisory) services in agricultural committees in oblasts and rayons. Advisory services of other organizations and private consultants should also be encouraged in order to improve the level of agriculture in general and to be instrumental in integrating environmental aspects and good agricultural practices in production.

Organic production is one of the ways of making agriculture environmentally friendlier. It is also an underused market opportunity for Belarusian agriculture.

Recommendation 7.3:

The Ministry of Agriculture and Food should promote organic production by creating a regulatory framework, a certification system and through extension (advisory) services. Among the first steps that it might consider are the development of a strategy, awareness raising seminars, education and training.

An important issue in Belarus is the drainage of wetlands to use the land for agriculture versus their preservation and restoration. In 1960, 2.4 million hectares were wetlands. After large-scale drainage projects during the 1960s and 1970s, only 1 million hectares remain. The difference is “ameliorated” farmland. Drainage systems deteriorated during the 1990s due to a lack of funds for maintenance. The Programme for the preservation and use of ameliorated lands (2000-2005) and a new Programme for 2006-2010 envision rehabilitating part of these systems.

Recommendation 7.4:

The Ministry of Agriculture and Food, the Ministry of Natural Resources and Environment Protection, the Committee on Land Resources, Geodesy and Cartography, Ministry of Forestry, and other relevant bodies should give high priority to saving and restoring valuable wetlands when developing plans to rehabilitate ameliorated areas.

Chapter 8

ECOTOURISM AND BIODIVERSITY

8.1 Introduction

Tourism in Belarus is mainly related to history, nature and sports (hiking and trekking). It also includes leisure and recreation tourism, as well as tourism related to business trips (e.g. side trips for participants during conferences). Ecotourism includes those forms of nature-based tourism that have a minimal negative impact on the environment or, ideally, preserve the environment. In particular:

- Ecotourism involves travel to nature destinations, in remote areas.
- Ecotourism minimizes environmental impact. This requires the numbers of tourists as well as their behaviour to be regulated to ensure limited damage to the ecosystem.
- Ecotourism builds environmental awareness, which means education for both tourists and residents.
- Ecotourism provides financial benefits for nature conservation. Raising funds from ecotourism could help protection, research and education. It can be done through different mechanisms, such as park fees, travel agency, accommodation and carriage taxes, and voluntary contributions.
- Ecotourism provides financial benefits to and empowerment of local people. To have a successful protection scheme for natural areas, local people must be involved and receive income and/or other substantial benefits (water, transport and tourist infrastructure, health care).

Rural tourism, such as holidays on the farm and rural activities, provides peace, quiet and relaxation in rural areas. It could provide additional jobs and income for local residents and enjoyable and inexpensive holiday for tourists, and promote social, cultural and economic relationships.

Tourism in nature areas should be carefully developed by establishing critical loads on biodiversity for each area subject to tourism development. Revenues from tourist fees can substantially contribute to biodiversity

conservation. Benefits from tourism activities may modify the management of nature areas.

The Chernobyl accident had a significant negative impact on tourists' perception of the country. The Chernobyl Nuclear Power Plant is located 7 km from the Belarusian border and 400 km from Minsk. Belarus has taken numerous measures to overcome the consequences of the accident. It makes efforts to inform both the international community and the local population about improvements in the situation and to change the negative perception created by the accident.

8.2 General background on ecotourism

Belarus has huge forests, bogs and wetlands, lakes and rivers with a rich biodiversity. The country is located at the crossroads between Western and Eastern Europe. Its transport infrastructure, road and rail communication, is convenient for tourists. The most attractive routes for tourism by car are Grodno-Slonim-Kobrin-Malorita, Brest–Minsk-Orsha, Verkhnedvinsk-Polotsk-Vitebsk and Minsk-Molodechno-Ashmiany.

Thanks to its geographical situation and favourable nature conditions, many transit tourists stop over in Belarus for one or more days.

The Government is developing ecotourism and considering the opportunities for promoting it, particularly along the following lines:

- Organization of eco-tours for students depending on their curricula;
- Photo safaris in virgin nature areas (reserves, rivers, lakes, forests, meadows, bogs and marshes); and
- Special tours in:
 - Lake and river ecosystems by rowing and sailing boats;
 - Virgin nature areas to stay in tents, prepare food in camps, horse riding and biking; and
 - Virgin forest ecosystems, including specially protected areas with horse riding and biking.

Belarus's rich biodiversity is an important asset with economic benefits that must also be preserved for the next generations.

8.3 Ecotourism assets

Fauna and flora

The formation of the fauna and flora took place in the Holocene period, after the last two glacial periods. The glaciers did not cover the entire country, and nature areas in the south, such as Polessye, have a more complex formation. The watersheds of the Black and Baltic Seas cover part of Belarus. These geological and geographical factors influence the distribution of fauna and flora as well as ecosystems in the country.

Fauna

During the glaciations, fauna migrated in from neighbouring territories and this resulted in three complexes: European, Mediterranean and Siberian. The fauna is composed of 467 vertebrate species (shown in fig. 8.1) and of more than 30,000 invertebrate species. The Belarusian mammal group includes 76 species.

There are 309 species of birds, of which 227 live permanently in Belarus and the rest are migratory

species. Several species of nesting birds that are new to Belarus have appeared in the past two or three decades (they are referred to as accidental birds).

Of the country's 61 species of fish, 24 are widely found. The rest can be found either in the Baltic Sea or the Black Sea watersheds.

Flora

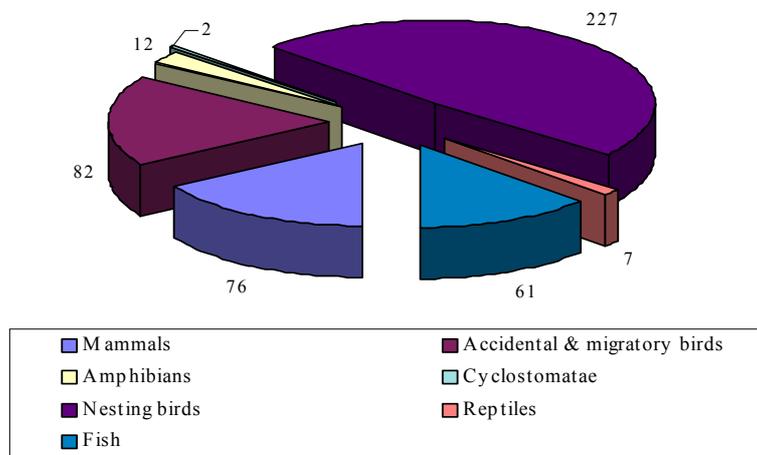
The vegetation of Belarus includes about 11,700 species of plants, including 2,100 species of higher plants (fig. 8.2). The vascular plant flora includes 1,638 species, with herb plants being absolutely dominant (about 1,500). There are 107 wild indigenous species of wood plants, of which 28 are trees and the others are bushes, shrubs and dwarf shrubs.

Bird and plant areas

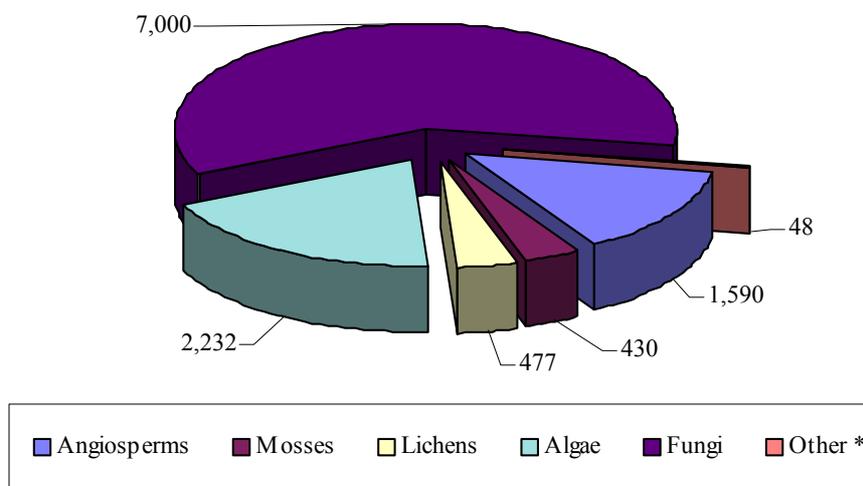
Important bird areas

Human activities, erosion and desertification reduce suitable habitats. Birds now depend on the remaining areas for nesting, wintering and migration. Important bird areas are not only important for birds, but also support biodiversity in areas with rare and endangered species of plants and animals.

Figure 8.1: Vertebrate fauna distribution



Source: Ministry of Natural Resources and Environmental Protection, 2004.

Figure 8.2: Flora distribution

Source: Ministry of Natural Resources and Environmental Protection, 2004.

Note: * including: Club-moss 6, Quilwort 1, Horsetail 9, Ferns 28, Gymnosperms 4.

The European Important Bird Area Programme, developed by Birdlife International, is an efficient way to conserve these areas. Belarus joined the programme in 1996 and 20 sites were identified; 16 are planned to be awarded the status of the territories of international importance and 4 have national protection status. In 2004, 11 important bird areas are protected, 4 under partial protection and the 5 remaining sites have no protection status. Most Belarusian sites have international significance because they host breeding populations of globally threatened bird species, such as the aquatic warbler, the corncrake, the great snipe, the white-tailed eagle and the ferruginous duck.

Nature-based tourism, including bird watching, is an economic activity that has notably increased in Belarus. This activity takes place at sites such as the Belovezhskaya Pushcha National Park and the Berezinski Biosphere Nature Reserve, and highlights the need to protect those natural resources that attract tourists.

Important plant areas

Important plant areas are natural sites exhibiting exceptional botanical richness and supporting an outstanding assemblage of rare, threatened and endemic plant species and vegetation complexes of high botanical value. The aim of Plantlife International's programme for important plant areas

is to identify and protect a network of the best sites for wild plants, fungi and their habitats around the world, to ensure their long-term survival. Belarus has already identified 10 such areas, of which eight are already in the protected areas network. The remaining areas do not yet have protection status.

Specially protected natural areas

The Law on Environmental Protection (1992, last amended in 2002) includes a section on natural objects subject to particular or special protection. It defines three types of objects: the specially protected natural areas, the natural territories under special attention and habitats of rare wild species, which should be specially protected. Under the Law on Specially Protected Natural Areas (1994, last amended in 2000), the following categories of specially protected natural areas are established: strict natural reserves (*zapovednik*); national parks; preserves (*zakaznik*); and nature monuments (See Map 8.1).

Belarus has not adopted the World Conservation Union's (IUCN) classification (see table 8.1). Nevertheless, the protected areas of Belarus are in its World Database of Protected Areas. In 2004, the Database listed two protected areas of category Ia, three of category II, 340 of category III and 558 of category IV.

Table 8.1: IUCN categories

IUCN Category	Description
I	Scientific reserve/strict nature reserve
II	National Park
III	Natural monument/natural landmark
IV	Managed nature reserve/wildlife sanctuary
V	Protected landscapes
VI	Resource reserve
VII	Natural biotic area/anthropological reserve
VIII	Multiple-use management area/managed resource area

Source: www.iucn.org

A strict natural reserve (*zapovednik*) is an area for preserving nature in its natural condition, for studying genetic material of animals and plants, typical and unique ecological systems and landscapes; and for creating conditions for the natural flow of processes in nature. Any economic activity is prohibited in *zapovednik*. Recreational activities are limited.

A national park is an area for the preservation of nature in its natural condition and the restoration of disturbed nature with special environmental, historic, cultural and aesthetic value, and its sustainable use for natureconservation, scientific, educational, health-improvement and recreational purposes.

A preserve (*zakaznik*) is an area for the preservation, reproduction and restoration of nature or natural resources of one or several types, in combination with limited and approved use of other natural resources.

Nature monuments, which include small protected territories, are selected objects protected by land users. Protected zones, described below, are established around these objects within which economic activity is regulated in the interest of the conservation of these monuments.

Furthermore, for national parks, four zones located inside the above-mentioned specially protected natural territories are defined. Economic and commercial activities that do not have any adverse effects on specially protected territories are allowed in recreation and economic zones. They are defined as follows:

The **protection zone** is established for securing conditions of natural development. Within its boundaries, all activities, except for scientific research and conservation of the zone, are prohibited.

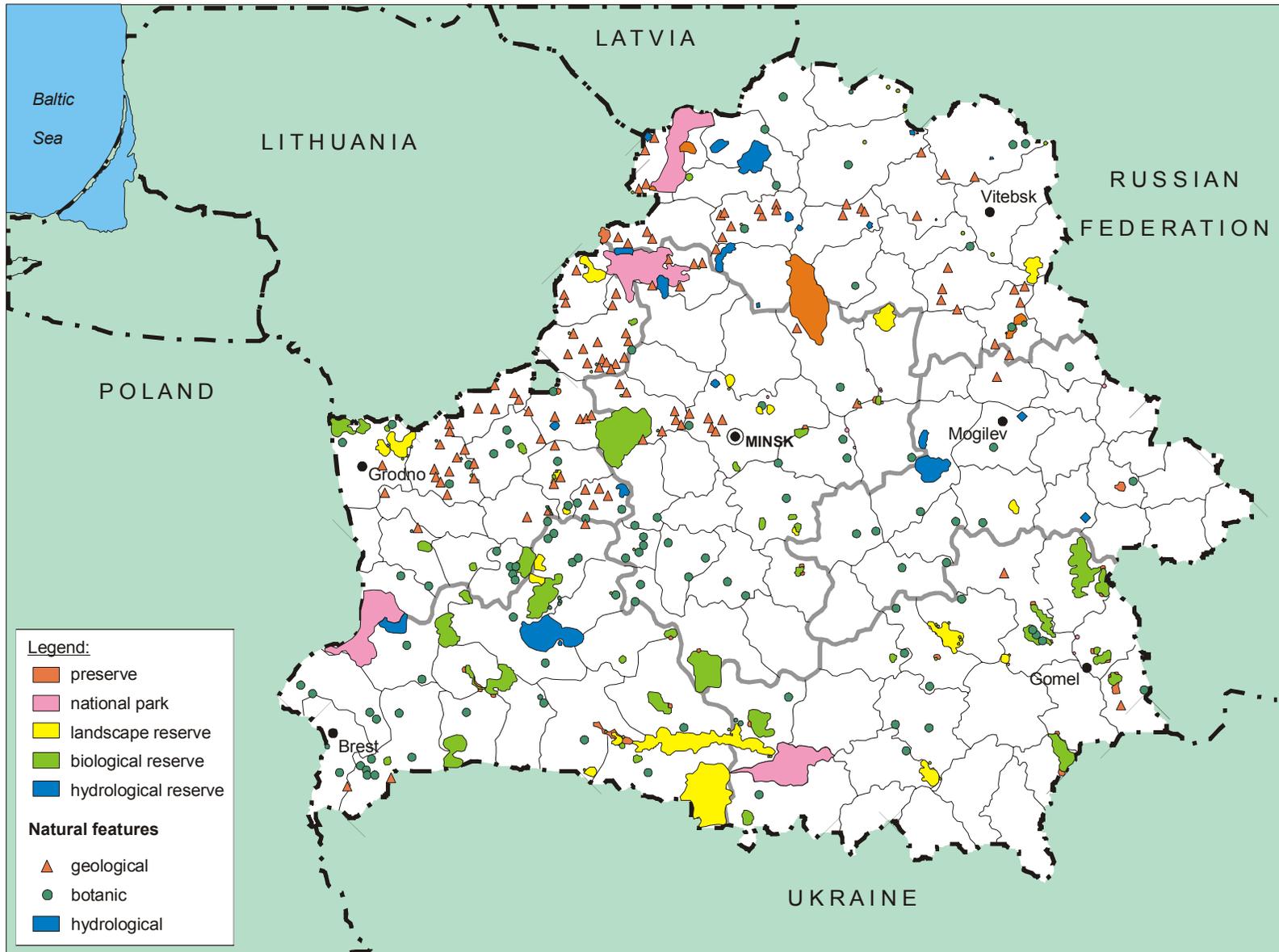
The **regulated use zone** is established for securing conditions of natural development and restoration. Within its boundaries, a regime of protection and use is established with clear separation of economic and other activities, and activities related with the use of natural resources in conformity with regulations on the national park.

The **recreational zone** is established for tourism, recreation and health improvement. Within its boundaries, a regime is established to secure the protection and sustainable use of recreational resources.

The **economic zone** is established for securing operations of the national park. Within its boundaries, economic and other activities use nature-conservation technologies and do not harm the preservation of protected natural assets or tourism and recreational resources.

In 1997, the protected areas represented 7.4% of the country's territory. In 2004, they totalled about 15,828,000 ha or 7.6% of the territory (see table 8.2). The country plans to extend these areas to 9% by 2015. Some *zakazniks* of local value created in the 1970s were removed from the list because they did not meet the requirements of the current legislation (see table 8.2). The following list shows the main specially protected areas and their surface area under the protection regime for the preservation of fauna and flora.

Map 8.1: Specially protected natural areas



- Belovezhskaya Pushcha National Park. The park was extended from 87,400 ha to 152,200 ha by the *Ukaz* of the President (2004). Situated on the watershed of the Baltic Sea and the Black Sea, 340 km southwest of Minsk near Brest, this immense forest range, consisting of evergreens and broad-leaved trees, is home to remarkable animal life, including rare mammals such as wolf, lynx and otter, as well as some 300 European bison, a species which has been reintroduced into the park.
- Narochanski National Park. With an area of 94,000 ha and located 180 km northwest of Minsk, it is mainly used for the conservation of natural complexes and for recreation.
- Braslav Lakes National Park. With an area of 69,100 ha and located 250 km northeast of Minsk, the park is composed of a natural complex of lakes with endemic fauna and flora.
- Pripyatski National Park. The park was a State reserve and became a national park in 1996. Located 260 km south of Minsk in the vast areas of the Belarusian Polesse, the park occupies 82,300 ha and is mainly used for conservation of natural complexes of the Pripyat river flood plain and research on nature changes caused by drainage of the lands.
- Berezinski Biosphere Nature Reserve occupies 120,000 ha with a protected zone of about 82,000 ha and is located 120 km north of Minsk (See box 8.1).
- “Pribuzhskoye Polesse” Biosphere Reserve, located in Brest oblast, is a part of the planned Transboundary Biosphere Reserve “Zapadnoye (Western) Polesse”, which will include the

border territories of Poland and Ukraine. According to the Resolution of the Council of Ministers, the Reserve is 7,900 ha and is expected to be extended to 48,000 ha. The reserve is expected to occupy 200,000 ha in all.

The Berezinski Biosphere Nature Reserve and the Belovezhskaya Pushcha National Park were included in 1978 and 1993 respectively in the list of biosphere reserves under the United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and Biosphere programme. In 2004, the “Pribuzhskoye Polesse” Biosphere Reserve was included in the list for its international importance.

Among other protected sites are sanctuaries, natural monuments, reserves, which include unique or typical landscapes, swamps, forests, biological, geological and hydrological sites. In 2004, 456 *zakazniks* and 909 natural monuments of national or local value were listed (see table 8.2).

The Belovezhskaya Pushcha National Park and the Berezinski Biosphere Nature Reserve received the European Diploma Type ‘A’ from the Council of Europe in 1997 and 1995 respectively. In 2004 the diplomas were renewed.

The Polesse Radiation Ecological Reserve was created in the zones affected by the Chernobyl accident in 1988. It covers 215,500 hectares. It does not belong to the protected natural areas network. Rather it is meant to prevent human activities and to enable rehabilitation work.

Box 8.1: Berezinski Biosphere Nature Reserve

The Berezinski Biosphere Nature Reserve has four kinds of ecosystems: forests, bogs (swamps), water reservoirs and meadows. The unique Belarusian swamps occupy 43,000 ha in this reserve. The Berezina river with 50 small tributaries cross this reserve and create beautiful views. There are about 6,000 biological species in the reserve.

The reserve has its own Museum of Nature, which displays 300 endemic species and has an education centre. Forests occupy about 85%. Most trees are spruces and pines, which are typical for southern taiga forests.

The flora found there represents about 50% of Belarus’s flora diversity: 768 species of vascular plant species, 216 moss species, 198 lichen species and 463 mushroom species. The fauna is represented today by 56 species of mammals, 230 species of birds, five reptiles and 11 amphibians. The most important species of mammals are: European bison (reintroduced in 1974), brown bear, wolf, lynx, Eurasian otter, elk and beaver.

There is a very rich diversity of birds in the reserve. There are many rare birds, like wood grouse and black grouse, great grey shrike, Ural owl, short-eared owl, greater and lesser-spotted eagles. The natural mires are home to: snipe, grey and black stork, partridge and corncrake.

The Berezinski Biosphere Nature Reserve is also known for its historic sites such as Slavic tombs, ancient trade routes and battlefields between the Russian and French armies in 1812. It also has a unique water-supply system, which consists of remains of canals from the 19th century.

Table 8.2: Protected territories

Categories	1997	2004
Strict nature reserves (<i>Zapovedniks</i>)	2	1
National parks	3	4
<i>Zakazniks</i> , national importance	85	97
<i>Zakazniks</i> , local importance	697	456
Nature monuments, national importance	283	337
Nature monuments, local importance	378	572
Surface (million hectares)	14	16
Percentage of the territory	7.4	7.6

Source: Ministry of Natural Resources and Environmental Protection, 2004.

Areas of historic and cultural value

As a result of being at a cultural crossroads, Belarus has historic buildings and monuments. During the Second World War, a large number of historical buildings and monuments were destroyed. Some were restored; others are still being restored. The most remarkable is Mir Castle, built in the 16th century in Grodno oblast. It is on the UNESCO Cultural Heritage list.

Other important historic places are:

- Novogrudok: the first capital of the Great Principality of Lithuania;
- Polotsk: the historical capital of the Principality of Polotsk with its valuable architectural monuments such as the Sofia Cathedral and Saviour Transfiguration Church with unique frescoes of the 11th century;
- Turov and Grodno: centres of Slavic Principalities in the 9th and 12th centuries; and
- Mstislavl: the centre of a large *voevodstvo* (province of a Polish-Lithuanian state) in the 16th century.

Ancient temples and cloisters, palaces and castles are preserved in towns and cities. Over 20,000 historic and cultural monuments and about 100 centres of arts are inventoried in Belarus. Settlements and towns have complex memorials to represent their historic environment and traditional way of life (Motol, Gorodnya, Ivenets and Nesvizh). The authorities have started to develop a cultural route for tourists, which is linked by secondary roads to the main transport infrastructure.

Sliding glaciers brought stones and boulders from the rocky shores of Scandinavia. Tribes created folklore around these giant stones with legends and songs describing the stories of their magical appearance and worshiped them. A map of their location was drawn up and some are stored in the Minsk Museum of Stones. The largest boulder is 11 metres long.

Other assets

Belarus is a country of forests, rivers and lakes. It enjoys beautiful landscapes, natural ecosystems relatively preserved from human activities, mineral waters with healing properties, peat balneology and villages with traditional architecture. The most aesthetically valuable and diverse natural landscapes are located in the north and in the centre.

8.4 Infrastructure, financing and education

Infrastructure

There is already some infrastructure in place for eco- and agro-tourism, such as campsites, as well as private houses in villages that offer bed and breakfast.

At present 276 private and State lodgings with electricity, water and access to sewage systems are registered (see table 8.3). This creates a basis for tourism development, including ecotourism.

From the beginning of 2003 to September 2004, 554 tourism activity licences were registered, including 476 for tour operators. The State Customs Committee reported that in 2001 about 2 million foreigners entered the country, of whom about 270,000 stated "tourism" as the main objective of their visit. No tourism activity can be started without certification by the Ministry of Sport and Tourism.

Table 8.3: Tourist accommodation, 2003

Oblast	Facilities	Capacity
Total	276	23,170
Brest	47	3,438
Vitebsk	38	2,598
Gomel	48	3,808
Grodno	30	2,364
Minsk city	27	4,934
Minsk oblast	51	3,542
Mogilev	35	2,486

Source: Ministry of Sport and Tourism, 2004.

Financing

The Ministry of Sport and Tourism receives no funding from the State budget for tourism promotion. It is seeking voluntary funding from travel agencies and hotels to publish promotional leaflets and brochures.

To improve this situation and promote tourism and ecotourism, the Ministry of Sport and Tourism needs:

- Methodological studies based on international experience;
- International expert evaluation and know-how on tourism;
- Extension and improvement of training for tourism professionals; and
- Wider participation in international tourism fairs and other events.

Education

The Faculty of Tourism in the Belarusian State University in Minsk trains professionals and awards degrees in tourism management. The Ministry of Sport and Tourism, in cooperation with the Ministry of Culture and the Ministry of Natural Resources and Environmental Protection, plans to include ecotourism issues in the curricula. The college in Gorodok (Vitebsk oblast) organizes training courses in ecotourism activities. In 2004, the National Tourist Agency within the Ministry of Sport and Tourism trained 120 possible new entrepreneurs in ecotourism and rural tourism issues.

8.5 Environmental issues

Impacts

The impact from tourism has not yet been assessed in Belarus. The authorities are aware that mismanagement of tourism can have an environmental impact. Tourism, if not controlled, can cause the same forms of pollution as any other industry: air emissions, noise, waste and littering, sewage, oil and chemicals, as well as architectural and visual pollution.

Tourism, especially nature tourism, is closely linked to biodiversity and the attractions created by a rich and varied environment. It can also cause the loss of biodiversity when land and resources are strained by excessive use, and when the impact on vegetation, wildlife, and water resources exceeds the carrying capacity.

Protection of biological resources

The second edition of the Red Data Book, which lists animal and plant species, was published in 1993. The third edition is split into two parts. In 2004, the lists of animal and plant species and the part on animal species of the Red Book were published. The part on plant species is supposed to be published in late 2005.

Scientific studies carried out after the second edition took into consideration newly endangered varieties but also removed from the list those that were no longer endangered due to effective protection. On the basis of these studies, several new species were included in the Red Data Book, for example, three fish species (Atlantic salmon, brown trout and river lamprey), three bird species (corncrake, ruff and great snipe), two insect species (short-winged and long-winged cone-heads), two species of butterfly (Scarce's fritillary and

Assman's fritillary), and, among the mammals, the European mink. The latest edition lists 189 species of animals (182 in the second edition), 221 plants (180), 24 lichens (17) and 29 mushrooms (17).

8.6 Policy objectives and management

Policy framework

Biodiversity

The National Strategy and Action Plan for the Conservation and Sustainable Use of Biological Diversity was approved in 1997. Its most important objectives are:

- Improving legislation, State management and control over biodiversity;
- Assigning priorities in the conservation of biological diversity and in the ecological optimization of various types of economic activities along with the development of the system of specially protected natural territories; and
- Improving ecological education and awareness of biodiversity conservation.

Belarus has implemented some actions described in the Action Plan. The main obstacle to fully implementing this Strategy is the lack of institutional arrangements and of financing. The creation of a coordination committee in the Ministry of Natural Resources and Environmental Protection with the participation of other ministries and bodies involved would facilitate and speed up the implementation. The part concerning the further development of specially protected territories has been implemented. Progress has also been made in the development of new legislation. In addition, work on inventory and possible use of bioresources has been undertaken. Activities concerning forest certification are also going on.

Belarus approved the Pan-European Biological and Landscape Diversity Strategy in 1995. Belarus considers it important to develop its ecological network and include it in the Pan-European Ecological Network, and to incorporate biological diversity into agricultural production. Belarus is working on establishing its national ecological network, which will be part of the Pan-European Ecological Network. Under the auspices of the Ministry of Natural Resources and Environment Protection, the National Academy of Sciences is

carrying out special tasks of the State scientific and technical programme "Ecological safety." Its implementation is supposed to be finished by the end of 2005. The Plan of Rational Location of Specially Protected Natural Areas serves as a basis for development. The aim is to optimize the management of economic activities, functions and nature protection modalities of the specially protected natural areas.

- The National Strategy for Sustainable Development until 2020 proposes for environment and nature conservation an overall strategy for the reestablishment of a favourable environment, better living conditions and public health and environmental security.

Ecotourism

The State Investment Programme "The Golden Ring of Belarus" was developed 10 years ago with the aim of ensuring the rational use of the national cultural heritage and the most valuable natural complexes for tourism purposes linked with all sectors of the economy. It included all the administrative centres of oblasts and other historical towns and territories such as Mir, Nesvizh, Novogrudok, Polotsk, Turov, David-Gorodok, Pinsk, and lakes of the Naroch and Braslav group. However, because of insufficient investments, the Programme was not implemented.

The main purpose of the National Programme for Tourism Development in Belarus 2001-2005, adopted in 2002, is to set up and develop a modern and competitive market-type tourism industry that meets the requirements of national and foreign tourists. It would contribute to the development of the national economy by creating jobs, generating income, bringing in foreign currency and making a rational use of the historical and cultural heritage.

In addition, the main tasks are:

- Creating favourable conditions for the development of tourism in the country for both domestic and foreign markets;
- Improving the legal and institutional framework, including norms and standards for the tourism industry;
- Promoting a positive image of Belarus and its further integration into international tourism networks;

- Further developing the tourism infrastructure (establishment of tourist zones and centres, new tourist regions and itineraries);
- Modernizing the hotels to international standards; and
- Strengthening the educational base for the development of tourism and training personnel in the tourism industry.

The National Programme for Tourism Development contains sections on ecotourism and rural tourism. Some concrete actions have already been taken:

- Setting up a network of tourist information and promotion centres, with modern information technology with leading tourist companies and agencies, providing updated information on tourist capacity and conditions;
- Creating cultural tourist centres on the main tourist routes;
- Providing information on Belarusian products;
- Building a large tourist complex in Minsk with branches in oblasts according to international standards;
- Starting construction of new motels, campsites, roads, petrol stations, food and commercial shops on the main tourist routes;
- Developing facilities and tourist services for water sports; and
- Reducing waiting time and improving procedures for customs control and formalities on the borders.

Based on the results of these actions, a new programme is under development for the period 2006-2010. The ecotourism and rural tourism sections will be covered in more detail. At the regional level, the oblast authorities develop their own programmes, which follow the directions given by the national programme. *Rayons* and towns may develop their own programmes based on the oblast programme.

Legislative framework

Biodiversity

After developing and starting the implementation of national strategies and policies concerning biodiversity, the Government was intensively involved in developing and implementing the legal basis for environmental protection, including laws, by-laws, norms and standards.

The following laws are related to biodiversity and ecotourism:

- The Law on Environmental Protection (1992, last amended in 2002);
- The Law on Specially Protected Natural Areas (2000);
- The Land Code (1999, last amended in 2002);
- The Forestry Code (2000);
- The Water Code (1998);
- The Law on Tax for Use of Natural Resources (Environmental Tax) (2002);
- The Law on Plants (2003);
- The Law on the Protection and Use of Animals (1996); and
- The Law on State Ecological Expertise (2000).

The Criminal Code and the Code on Administrative Offences contain sections on ecological offences and ecological crimes. Belarus has ratified six conventions of importance to biodiversity, of which three after the first EPR review in 1997.

Belarus ratified the 1971 Ramsar Convention on Wetlands on 25 August 1991. Belarus has currently seven wetlands of international importance under the Convention with a total area of 276,307 ha.

Belarus ratified the 1972 Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention) on 12 October 1988. In 2004, Belarus had two sites on the World Heritage List. One is the Belovezhskaya Pushcha/Bialowieza Forest, a transboundary property with Poland, a natural site. The other is Mir Castle, a cultural site.

The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) entered into force for Belarus on 8 November 1995 (by accession). A State register of CITES animals is supposed to be developed by the end of 2005. Eighty animal and plant species living in the country are under the Convention. Forty-seven of them are rare and endangered and already in the Red Data Book of Belarus. An important issue is the storage of CITES species discovered during customs controls. There is no practical way to preserve them in appropriate conditions. A study is ongoing for the creation of a detention point for these species.

Belarus ratified the 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals on 1 September 2003. In 2003 the Ministry of Natural Resources and Environment Protection developed a programme of action in the framework of the Convention. In this connection, Belarus, together with eight other countries (Bulgaria, Germany, Hungary, Latvia, Lithuania, Senegal, Spain and United Kingdom) and BirdLife International, signed a memorandum of understanding and action plan concerning conservation measures for the aquatic warbler. The Ministry prepared a set of documents for the expansion of a key ornithological area (of national value), the *zakaznik* "Zvanets". Corridors for migrating species were defined. These corridors were also agreed with neighbouring countries. However, there is a problem in the Belovezhskaya Pushcha National Park, where physical fences prevent big mammals to follow their normal migratory path. Under Belarus's programme of action for 2004-2006 related to its obligations under the Convention, a centre for ringing and tagging birds is being created to carry out activities for bird life management.

Belarus ratified the 1992 Convention on Biological Diversity in 1993 and the Cartagena Protocol on Biosafety in 2002. The 1998 first national report on the implementation of the Convention focused on article 6. This article commits the Parties to developing national strategies, plans and programmes for the conservation and sustainable use of biological diversity, and to integrating measures for conservation and sustainable use of biological diversity into relevant or cross-sectoral plans, programmes and policies.

Belarus acceded to the 1994 United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa on 27 November 2001. An evaluation of the existing potential and requirements of Belarus for the implementation of this and two other UN conventions (Convention on Biological Diversity and United Nations Framework Convention on Climate Change) was prepared by a group of national experts supported by UNDP through GEF financing. The report lists proposals for improving national programmes, action plans, legal and normative bases, financial and economic

mechanisms, access to information and its analysis, training and education in order to implement provisions of the three Conventions at the national level.

Belarus participated in the fifth Ministerial Conference "Environment for Europe," where Environment Ministers and other heads of delegation endorsed the Kiev Resolution on Biodiversity. They reinforced the common objective of halting the loss of biological diversity at all levels by the year 2010 through concerted actions and a joint commitment to achieving the key targets.

See also chapter 4 on the implementation of international agreements and commitments.

Ecotourism

The current Law on Tourism dates from 1999 and does not contain any provisions relating to ecotourism. However, the Ministry of Sport and Tourism, in cooperation with the Ministry of Natural Resources and Environmental Protection and other stakeholders, including non-governmental organizations, has recently prepared a new draft. It is based on EU directive 90/314/EEC on package travel, package holidays and package tours, tourism laws of other countries (e.g. Austria, Germany, Ireland, Sweden, United Kingdom and EECCA countries) and adjusted to World Tourism Organization recommendations.

The draft law defines several types of tourism including ecotourism, business, cultural, festival, recreational, religious, rural, social and sports tourism. It takes into account ecological tourism activities and makes provisions for infrastructure, safety, sanitation and transport. Labelling and certification and a list of requirements for rural tourism facilities are also included.

The draft law has been submitted to the Parliament and is expected to be adopted in 2005.

Belarus is not yet a member of the World Tourism Organization although the Ministry of Sport and Tourism has already paid Belarus's membership fee and the President approved adherence to this Organization. Parliament has to approve the membership.

Institutional framework

Governmental institutions

The Ministry of Natural Resources and Environmental Protection is responsible for drafting laws on biodiversity conservation and protection, for controlling scientific and economic activities, implementing and watching over the compliance with norms and standards, for participating in the development of new projects, including those under State ecological expertise.

The Ministry of Forestry is responsible for biodiversity in forests management, the Ministry of Agriculture and Food in agriculture. The Ministry of Emergency Situations and the Committee on Problems of Consequences of Chernobyl NPP Disaster under the Council of Ministers are involved in monitoring biodiversity in the areas affected by the Chernobyl accident.

The Affairs Management Department in the Administration of the President is responsible for the overall management of the specially protected natural areas (1 *zapovednik* and 4 national parks) and activities to protect biodiversity within these territories, including all measures to preserve fauna and flora. The Department carries out economic activities allowed in these areas, including tourism. It is also responsible for managing tourism activities in some resorts outside the parks and is involved in preventing poaching in the specially protected natural areas.

The State Inspectorate on Fauna and Flora Protection under the President of the Republic of Belarus is responsible for preventing poaching and illegal logging and exercises the state control over the fauna and flora protection and use.

The National Commission on Problems of Biological Diversity meets once a year to follow all the work done to protect biodiversity. The Commission may make recommendations on biodiversity management to the Government.

The Ministry of Sport and Tourism is responsible for managing and promoting the tourism sector. It works closely with the Ministry of Natural Resources and Environmental Protection, and private and public enterprises on issues related to ecotourism. The aim is twofold: the promotion of sustainable tourism and the sustainable use of natural resources. The Ministry of Sport and

Tourism cooperates with the Ministry of Natural Resources and Environmental Protection in developing laws and regulatory documents. It has a web site <http://www.mst.by>.

Created in 2001 by the Ministry of Sport and Tourism, the National Tourist Agency (NTA) is a State agency for the promotion of tourism in Belarus (<http://www.touragency.by>). It provides information on travel agencies, accommodation and tour packages. It has an educational centre for training personnel in tourism services and trains specialists for the tourist business. Its department of certification of tourism and hotel services accredits tourism and hotel services.

Although the Ministry of Foreign Affairs is not directly involved, it distributes booklets and information leaflets on tourism opportunities in Belarus through its Embassies in other countries.

Local authorities are responsible for the development and management of economic activities in *zakazniks* in compliance with the law. They are also responsible for the implementation of the National Programme for Tourism Development.

Scientific institutions

The National Academy of Sciences, through the Institute of Zoology and V.F. Kuprevich Institute of Experimental Botany, and the Forest Institute and the Botanical Garden are involved in the monitoring and study of biodiversity. They develop scientific methodologies for the conservation of fauna and flora and help the Ministry of Natural Resources and Environmental Protection to implement them. In cooperation with the Ministry, they have developed a methodology for monitoring of flora and fauna that takes into account ecosystems and habitats and is supposed to be implemented in 2005.

Non-governmental organizations

The Ministry of Natural Resources and Environmental Protection cooperates with non-governmental organizations (NGOs) such as BirdLife Belarus, Ecodom and Ecological Initiative, which dealing with biodiversity. Their main activities in the area of biodiversity are conservation, information dissemination and monitoring of the existing sites and identification of new sites such as important plant areas and important bird areas. NGOs produce educational

programmes for nature conservation. They play a role in the development of ecotourism and rural tourism and participated in drafting the new law on tourism. They are also involved in the preparation of the management plans of the specially protected natural areas.

The Belarusian Ecotourism and Rural Tourism Association was created in November 2002 and includes 250 members (organizations and individuals). It organized the Conference and Workshop on Rural Tourism in 2002 with international support. The goal was to demonstrate ecotourism to the local population as an economic activity. The Association manages the only agro-cultural site "Dudutki" located 40 km south of Minsk.

8.7 Conclusions and recommendations

According to the National Programme for Tourism Development 2001-2005, ecotourism is one of the priorities for the future development of tourism in Belarus. A new programme for 2006-2010 is being developed and considers all types of tourism to be a potentially important economic sector. Tourism from Northern Europe and the Commonwealth of Independent States may be the most promising markets for ecotourism in Belarus. Given the lack of funding for ecotourism and tourism in general, marketing efforts may be more effective if directed at the travel industry, rather than at the final consumer.

Belarus has a considerable and growing potential for ecotourism. To realize this potential, it is important that suppliers have very distinct products to offer. Some of the priorities of the current National Programme for Tourism Development are designing national tourism products, improving service quality through standards, certification and licensing, and strengthening cooperation with the World Tourism Organization.

The standards to underpin certification need to be defined, and could include proof of well-trained (certified) staff and knowledge of good practices in tourism, including ecotourism and rural tourism, reliable and efficient services, restrictions on means of transport or access to vulnerable sites, use of local products and cooperation with local communities.

A rigorous certification scheme approved by the World Tourism Organization and following the

recommendations of the Quebec Declaration could be used to promote the distinct tourist products of Belarus abroad.

Recommendation 8.1:

The Ministry of Sport and Tourism, in cooperation with the Ministry of Natural Resources and Environmental Protection, the Affairs Management Department of the Presidential Administration, tour operators and non-governmental organizations, should:

- *Develop an action plan for the new national programme for tourism development, to set clear priorities, identify sources of financing, and specify actions for the development of infrastructure and conditions in rural areas for the promotion of ecotourism.*
- *Adopt a set of tourism standards for certification based on international standards;*
- *Develop indicators based on international standards to monitor and review the development of tourism; and*
- *Develop and apply a certification scheme for ecotourism.*

The National Strategy and Action Plan for the Conservation and Sustainable Use of Biological Diversity has not been fully implemented. Although few actions were implemented on flora, a number of actions listed in the documents do not even have a project development. No sectoral programmes or plans for the conservation of biodiversity or ecosystems are developed. There is only limited scientific support for analytical and coordination activity in the organization and management of conservation and sustainable use of biodiversity.

Belarus joined the European important bird areas programme in 1996. It has identified 20 sites, 16 of which are planned to be awarded the status of territories of international importance and four will keep the national protection status. In 2004, 11 important bird areas were protected, 4 were under partial protection and the 5 remaining sites had no protection status. Belarus also has identified 10 important plant areas, of which eight are included in the protected areas network.

Recommendation 8.2:

The Ministry of Natural Resources and Environmental Protection should:

- *Draw up specific programmes and projects for those parts of the National Strategy and Action Plan on Biodiversity that have not been*

implemented and identify sources of financing for them; and

- *Integrate those important bird areas and important plant areas, which are not yet part of the network of the specially protected natural areas, into this network.*

In the framework of the 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals, the country started to define corridors for migratory species, mainly for birds. However, no corridors have been established in the Belovezhskaya Pushcha National Park and mammal

species cannot follow their natural migratory paths in the park between Belarus and Poland.

Recommendation 8.3:

The Affairs Management Department of the Presidential Administration, the Ministry of Natural Resources and Environmental Protection, and the State Committee on Border Guards should promote the creation of corridors for migratory species, particularly mammals, in specially protected natural territories, especially in the Belovezhskaya Pushcha National Park.

ANNEXES

ANNEX I

IMPLEMENTATION OF THE RECOMMENDATIONS IN THE FIRST REVIEW*

1. Integrating Environmental and Other Policies

Economic transition and environmental performance

- Pursue changes in economic structures and develop economic reforms both to renew economic growth and to foster a less resource- and pollution-intensive economy
- Promote low-cost cleaner production techniques in industry and improve industrial environmental management

In 2000, an analysis was made of the level and impact of the various environmental charges, and it was concluded that their level was not sufficient to motivate polluters to change their behaviour. It was also clear that the resources available in the Environment Fund were insufficient for implementing the 2001-2005 National Action Plan for Rational Use of Natural Resources and Environmental Protection and its action plans at national and regional levels.

As a result, charges have been raised in real terms over several years, incrementally, for water extraction, wastewater discharge, air emissions and waste disposal. One indicator of the success of this action was an increase in the revenues of the Environment Protection Fund by a factor of 13, from US\$ 9.5 million in 2000 to about US\$ 125 million in 2004.

The Government also prepared a package of economic incentives to encourage good environmental practices and the introduction of clean technologies. These include:

- waiver of the environmental tax in the amount invested in improving environmental management;
- application of a differentiated tax on fuels, ranging from 0.3 for natural gas to 0.8 for diesel to 1.0 for gasoline;
- reduction of environmental charges in case of constructing, reconstructing, and modernizing gas cleaning facilities to reduce volume of air emissions; setting up automatic air emission control systems and installing meters on wastewater discharges; and
- reduction of environmental tax for an enterprise that is in the process of introducing ISO 14000 standards.

In addition, the tariffs charged for leasing water bodies and forests to individuals or companies for economic activities have increased by 500% in order to stimulate more rational use of natural resources.

In 2003 a system of “extended producer responsibility” for collection and secondary use of municipal waste was established. As a pilot, the system has been introduced for collection of plastic waste, which is considered to be the most visible and prevalent municipal waste, and there are plans to extend the system to include glass and paper packaging as well.

Currently, waste producers have to pay an annual amount of approximately US\$ 435 per ton of plastic waste, and this payment goes to the Environment Protection Fund. Under the new plan, a producer can choose one of the following options: to pay the fee or to ensure plastic waste recycling using its own means or by legal entities and individual entrepreneurs, who collect and process such waste.

* The first review of Belarus was carried out in 1997 by OECD in cooperation with UNECE

The Environment Protection Fund, which had originally been placed directly under the Ministry of Natural Resources and Environmental Protection, became a budgetary fund in 1998 in order to provide greater transparency.

- Reinforce the integration of environmental concerns within economic sectors, with particular emphasis on industry, agriculture and energy

Integration takes place through the State requirement that relevant ministries must review and comment upon all proposals for State programmes. Integrated permitting, which is being considered on a pilot basis, could provide another important instrument of integration.

There is also well-established machinery for coordination and integration at local, oblast and national levels. At the local level, problems are identified through coordination of oblast environmental committees, rayon and staff inspectors. At the oblast level, the Board (Collegium) of the environmental committees may meet with the oblast executive committees to identify and solve environmental problems. At the national level, ministries may establish special working groups that meet periodically throughout the year for specific purposes. They may also convene Joint Board meetings to address a specific and significant problem that cannot be handled at the local or oblast levels. If a problem cannot be successfully addressed through Joint Board meetings, a Ministry may bring the issue to the attention of the Council of Ministers.

In addition, beginning in 2004, the State has introduced a system of environmental control in all ministries and enterprises separate from the inspectorates. In this system, on each site a person is designated with the responsibility for helping to ensure compliance with environmental legislation through training of the staff, distribution of relevant information, and notification of new guidelines. The Ministry of Natural Resources and Environmental Protection facilitates this programme by providing training and methodological assistance.

More information is provided in Chapter 1 on Legal and policy-making framework and sectoral integration mechanisms

- Focus state ecological examinations (environmental impact assessments) on projects with potential for major impact on the environment, and increase related public involvement

Belarus adopted a Law on State Environmental Expertise in 2000, and a revision of the Law on Environmental Protection in 2002, which also addresses procedures for state ecological expertise and environmental impact assessment. There are additionally two relevant Resolutions of the Ministry of Natural Resources and Environmental Protection: Resolution No. 1, 5 February 2001, on Adoption of Instruction on procedure of conducting assessment of impact of planned economic and other activities on the environment and the Register of types and objects of economic and other activities for which EIA is required; and Resolution No. 8, 11 May 2001, on Adoption of Instruction on procedure of conducting State Environment Expertise.

Belarus signed the Espoo Convention and is in the process of ratifying it. Further, the Ministry of Natural Resources and Environmental Protection is preparing guidelines that would, among other things, provide for public participation in the process of Environmental Impact Assessment (EIA). This draft regulation is currently under legal assessment in the Ministry of Justice.

More information is provided in Chapter 1 on Legal and policy-making framework and sectoral integration mechanisms and in Chapter 3 on Information, public participation and education.

- Orient environmental planning and programming more towards priority setting and measurable results; review the achievement of environmental objectives and commitments more systematically

Planning is done on the basis of the National Action Plan for the rational use of natural resources and environmental protection, which identifies priorities in five-year cycles. Early versions of the Plan were weak in priority-setting, but Belarus has gained from its experience. The National Action Plan also contains a series of indicators to measure implementation to the extent possible (e.g., for air, water and waste). Not all indicators

are measurable (e.g., for biodiversity, information, and education). The Ministry of Natural Resources and Environmental Protection reviews the National Action Plan and its priorities annually.

The Ministry is also now in the process of drafting a new strategy of environmental policy, to the year 2015. The last such policy was prepared in 1997. The new strategy will identify overall national ecological priorities.

Dealing with effects of the Chernobyl accident

- Continue and strengthen monitoring and research programmes to help guide public health and safety policy actions

Belarus has continuous monitoring programmes in the areas affected by the Chernobyl accident and undertakes a strong research programme on issues such as the impacts of radiation on health, biodiversity, and ecology.

Aside from the monitoring and research, there are very few environmental activities. The environmental situation is considered to be stable, although considerable work remains to be done to rehabilitate the territory. Most of the focus is now on the social needs of the population that was affected by the disaster.

- Continue and expand public information and education programmes

Information on the situation in contaminated regions is made widely available through the local press, which, among other things, provides daily information on the level of radiation. Officials also make use of television broadcasts to provide information and especially to quell any unfounded rumors that may arise. In addition, the Center for Radioactive Control shares the results of its scientific research and makes special maps available for national authorities and for the public that indicates the current situation and provides future projections.

Special information is provided through lectures on ways to live safely in the resettled areas and on activities that could be undertaken to reduce radioactive pollution. Relevant information has also been integrated into the curricula of higher educational institutions. A number of projects have been undertaken to strengthen education on the impacts of Chernobyl, with support of the United Nations Development Programme, the World Bank and the Organization for Security and Cooperation in Europe.

- Give increased attention to cost-effectiveness in designing, implementing and monitoring countermeasures

Belarus has been carrying out research on possible countermeasures, such as growing plants that do not retain radiation or fast-growing trees that could be used by industry, but all of the measure so far have proven to be too costly for the country to implement broadly.

- Continue and finalise the review of the 1991 laws that classify contamination zones and define countermeasures

A number of laws have been reviewed. Secondary legislation, such as Resolutions of the Council of Ministers that provide for practical implementation of the necessary measures, has also been introduced.

Biodiversity and agriculture

- Continue the efforts to extend protected areas

In 1997, the value of special protected territories was 1,438,000 hectares, or 7.4% of the territory of the State. This included two conservation areas, Berezin Biosphere Reserve and Pripjat Landscape-Hydrological Reserve; two national parks, Belovezhskaya Pushcha and Braslav Lakes; 83 sanctuaries and 238 natural monuments of national importance. The country plans to extend these areas to 9 per cent by 2015. There are currently four national parks and one preserve.

Since 1997, one national park, Narochansky, 29 sanctuaries and 99 natural monuments have been added. Currently, a new Scheme of rational allocation of specially protected natural areas is being developed for the period 2005-2025.

There is also work underway to identify the key ornithological territories (KOT) as potential protected areas. At the first stage, 20 such territories were identified, eleven of which have been recommended for special protection. Further work is being done through a project through which an additional 25 KOTs are marked for inclusion in the specially protected natural areas in 2005-2015. Work has also begun on identifying key botanical territories.

More information is provided in Chapter 8 on Ecotourism and biodiversity.

- Establish sufficient legal protection for remaining wetlands

Article 30 of the Law On Specially Protected Areas (23 May 2000) identifies new sanctuaries, including wetlands, designated for conservation, particularly as habitats of water birds, including during the migratory period.

Following the requirements of the Ramsar Convention, seven applications have been made for Ramsar sites, totaling 275,000 ha (1.3% of the State territory). These include the following sanctuaries: Sporovsky (1999); Srednyaya Pripyat and Olmanskie bolota (2001); and Elny, Osveysky, Zvanets and Cotra (2002). Work in this area is continuing with the expectation that new projects will be prepared in 2005.

- Strengthen management and control of protected areas by establishing clearer responsibilities

Through UNDP project on Implementation of urgent recommendations of the management plans for key biodiversity areas in Belarus, management plans have been developed and approved by the local executive authorities for sanctuaries Dikoe, Zvanets, and Sporovsky. The Ministry of Natural Resources and Environmental Protection initiated the process of establishing permanent steering bodies for the most important sanctuaries and such structures have already been set up for three national sanctuaries by decisions of local executive committees.

There are plans to expand the Law on Specially Protected Areas to allow for improved management of protected areas and to widen the categories of such territories. The structure of the national park management was already included in the Law.

Also since 1997, the Department of Protected Territories, Forestry and Agriculture and the State Inspectorate for Fishing were placed under the President's administration, rather than under the Ministry. The Department is responsible for managing the use of SPAs, while the Ministry is responsible for inspection of flora and fauna.

Since 1994 the Department of Protected Natural Complexes and Nature Use is part of the structure of the Affairs Management Department of the President. Its main function is to ensure protection of natural reserves and sanctuaries and national parks.

In 2003 the Department for Protection of Fish Resources and Game of the Ministry of Natural Resources and Environmental Protection was transformed into the State Inspectorate for Protection of Fauna and Flora under the President. The main functions of the State Inspectorate are control over compliance and enforcement of legislation on flora and fauna, including in the specially protected natural territories.

The Ministry of Natural Resources and Environmental Protection is responsible for management of protection and use of the specially protected natural territories, fauna and flora.

- Encourage the development of nature tourism while examining such questions as the activities to be allowed in protected areas and formulating a code of good practices

Belarus adopted a National Action Programme on the development of tourism for 2001-2005, and is in the process of developing one for the period 2006-2010. Both ecotourism and agro-tourism are identified as important areas to pursue.

One element of UNDP Project on Implementation of urgent recommendations of the management plans for key biodiversity areas in Belarus is the development of ecotourism in the sanctuaries of Dikoe, Zvanets and Sporovsky. Ecotourism is under development in Sporovsky, where seven homesteads have been identified for use by tourists, an ecological center established and school excursions organized.

- Finalise work on the national strategy on biodiversity

The National Strategy and Action Plan on Biodiversity was adopted by the Council of Ministers in, but has not been fully implemented and needs to be revised.

- Integrate environmental concerns in agricultural policies and practices; establish farm extension services providing training in good agricultural practices

Integrating environmental concerns into agricultural policies and practices remains a challenge. The Ministry of Natural Resources and Environmental Protection and the Ministry of Agriculture are collaborating on a joint activity to handle obsolete pesticides. They will also work together to develop both a national plan of action to reduce land degradation and a strategy in the field of land resources in the context of Belarus' membership in the Convention on Desertification.

Other progress has been made in addressing some of the environmental problems associated with agriculture. Overall, however, environment is not in the forefront of agricultural policy.

To date, extension services have not yet been established.

For more information, see Chapter 7 on Environmental management in agriculture and forestry.

- Consider a more systematic approach to converting marginal agricultural lands to non-agricultural use

Resolution of the Council of Ministers No. 79, 20 January 2000, established measures for the effective use of agricultural lands. This Resolution allows local level authorities (*rayon* commission) to take non-productive lands out of agriculture. In general, the wetlands are left to rest, and the other non-productive lands are transferred into the forest fund.

2. Implementing Environmental Policies

Strengthening the environmental policy framework

- Reinforce priority setting, on the basis of economic analyses

In general, priority-setting is not done on the basis of economic analysis. However, there are significant efforts to raise financing for priority activities through economic instruments.

The Ministry of Natural Resources and Environmental Protection recognizes that it needs to strengthen its capacity to carry out economic analyses.

- Continue improving environmental legislation; in particular, proceed with the adoption of prepared revisions to laws, such as those on water and air

From 1996 to 2004, almost all of the environmental legislation was revised. In addition, proposals are currently being made to amend the following to make them consistent with practical use and international treaties and to take into account the relevant EU Directives:

- Law on Protection and Use of Fauna;
- Law on Air Protection ;
- Law on Drinking Water Supply;
- Law on Specially Protected Natural Areas; and
- Water Code.

- Further develop environmental information and its availability for the public and various sectors in society, and encourage the participation of environmental NGOs in environmental policy making

MNREP, Ministry of Health and Ministry of Statistics and Analysis are publishing a number of regular publications relating to the environment. MNREP, for instance, is publishing annually a Bulletin on the State of Natural Environment in the Republic of Belarus and a review on “National system of environmental monitoring in the Republic of Belarus: Monitoring results” and, quarterly, the “Information Bulletin on Exceedances of Norms for Emissions or Discharges of Polluting Substances into the Environment by Enterprises of the Republic of Belarus”. It published a National State of the Environment Report in 2002. These and other environmental publications are accessible to the public. MNREP operates a very informative and regularly updated web site (<http://www.minpriroda.by>). An Internet-based database on the NSEM Programme is under development at the Belarus Research Centre Ecology under the MNREP (<http://ecoinfoby.net/>). An Aarhus Convention website has been recently launched with the Ministry (<http://www.ac.minpriroda.by/>) to facilitate the access of the general public to environmental information.

Belarus ratified the Aarhus Convention on Access to Environmental Information, Public participation in Environmental Decision-making and Access to Justice on Environmental Matters on 14 December 1999. The Council of Ministers adopted Resolution of 29 December 2002 that established measures to implement the Aarhus Convention in 2002-2005. MNREP, with the financial support from Denmark, has published a list of public authorities of the Republic of Belarus that collect, store and distribute environmental information. In July 2001, MNREP established Public Coordinating Environmental Council at the Ministry composed of representatives of non-governmental organizations.

- Complete the introduction of a unified environmental monitoring system and ensure that it supports policy making

Progress has been made in the development of the State Programme of National System of Environmental Monitoring (NSEM). It includes, at present, 11 individual monitoring activities that cover all environmental media and most important sources of adverse environmental impact. The MNREP conducts 7 out of 11 environmental monitoring activities and coordinates activities of other governmental bodies through the Inter-agency Coordinating Council for the Implementation of the NSEM Programme. Since 2000, resources for the implementation of the NSEM Programme have been earmarked in the State budget. Progress in the NSEM Programme is reported to the Government.

- Continue to support environmental education and training programmes

The Law on Environmental Protection of 1992 was amended in 2002 to include an article on environmental education and research. In 1999, MNREP and the Ministry of Education adopted the Concept of Environmental Education and the National Programme of Improving Environmental Education up to the year 2005. The latter included measures to improve environmental education in pre-school, school and higher education institutions. MNREP is providing financial assistance for this purpose from the Environment Protection Fund. The National

Training Courses for Environmental Experts were operating until 2004 at the Belarus Research Centre on Ecology under MNREP. To promote environmental awareness of the general public, in 2003 MNREP initiated annual National Environmental Forums. MNREP and the Ministry of Education jointly organized a conference in 2003 on Environmental Education for Sustainable Development: National and International Experiences.

Improving the cost-effectiveness of environmental policies

- Analyse the number and level of ambient environmental standards on the basis of the specific context of Belarus and the experience of other countries, and introduce a more realistic set

The Council of Ministers has decided that Belarus should review and revise its old GOST standards to make them as consistent as possible with EU legislation. As a result, a Law on Technical Norms and Certification was adopted in January 2004 and, since July 2004, a Committee on Standardization, Metrology and Certification of the Council of Ministers has been elaborating a draft programme for issuing the technical regulations, with a deadline for completion in 2007.

In addition, the Minister of Natural Resources and Environmental Protection has called for the establishment of a working group within the Ministry to begin drafting the applicable legislation.

- Consider streamlining the permitting system and extending the validity of permits

Belarus has had a system of permitting for emissions and waste disposal for some time. Recently, Belarus has been working with the Swedish International Development Agency (SIDA) on a pilot project for integrated permitting at three enterprises in the Grodno oblast. At the end of the pilot project, the results will be analyzed and, if successful, the necessary legislation drafted to introduce integrated permitting throughout the country.

- Continue to index environmental charges and fines to keep pace with inflation and consider progressively strengthening them to introduce incentives for technological change

Environmental charges and fines are not indexed, but they have been increased at a rate greater than inflation in order to adjust for the too low charges of the past.

- Strengthen the system of Environmental Funds by developing a training programme for funds' staff members and streamlining operating procedures

The recommendation is no longer relevant since, by Presidential decision, the Environment Protection Fund was moved from the Ministry of Natural Resources and Environmental Protection in 1998 and integrated into the national budget. The legislative basis for the Fund provides for clear and strict procedures.

Air

- Introduce domestic standards conforming more closely to international standards for ambient air quality, emission limits and deposition levels

Belarus has indicated its intent to move toward EU standards for a number of air pollutants.

The Law on Technical Norms and Certification of 2004 calls for the establishment of norms consistent with European standards. Since the law came into force, the Committee on Standardization, Metrology and Certification of the Council of Ministers has been elaborating a draft programme for issuing the technical regulations, step-by-step, from 2004 to 2007, with a clear indication of priorities. Two new regulations have already been approved: for diesel fuel and for gasoline. Norms for gasoline are under review.

The National Action Plan for Rational Use of Natural Resources and Environmental Protection called for reviewing the system of quality standards for atmospheric air and bringing them into accordance with international standards. Pursuant to this, the Ministry of Natural Resources and Environmental Protection in

cooperation with the Ministry of Health have elaborated maximum allowable concentrations (MAC) for ozone in the air consistent with those established by the World Health Organization. In October 2004, the two Ministries were supposed to complete a project for elaboration of norms for total suspended particles (TSP) less than 10 microns and less than 2.5 microns. The date set in the NEAP for completion of this exercise is 2006.

Belarus has moved close to EU norms for NO₂, but it will be difficult to do so for SO₂ in the near future for cost reasons.

- Improve the cost-effectiveness of permitting for stationary sources

Belarus has revised its permits and has begun a pilot in Grodno region on implementing an integrated permit system.

- Update vehicle exhaust emission limits; reinforce controls on in-use vehicles; adhere to relevant UN/ECE agreements; and ensure increased availability of unleaded gasoline in major cities and along main national roads

In 2003, Belarus established a system for state technical expertise of automobiles at diagnostic and inspection stations in order to control the technical condition of the cars and their emissions. Leaded gasoline was prohibited in 1997, and, in 2004, by Presidential decree, customs payments by importers of cars older than 14 years increased 400 percent, from 0.5 Euro per cm³ of engine volume to 2 Euro/cm³.

Belarus produces pick-up trucks, minibuses, agricultural trucks and smaller vehicles in accordance with EURO-2 and EURO-3.

To decrease the impact on the environment by the cars currently in operation, the Ministry of Natural Resources and Environmental Protection together with the Ministry of Transport and Communications, is elaborating a programme and plan of action that would include, among other things, the establishment of a coordination centre that would carry out research in this area.

- Strengthen the emphasis on energy efficiency, with greater stress on: i) energy price setting for households and other users, and ii) energy savings programmes for the residential sector; the decree of September 1996 to increase heating tariffs for households should be implemented

Belarus developed its first National Programme for Energy Savings to the Year 2000 in 1996, setting out a series of measures for energy efficiency and establishing a State Committee on Energy Efficiency. Funding for the Programme has come from a Special Fund for Energy Conservation, set up under the Committee, as well as from the innovation fund and from local and national budgets. A new programme was developed in 2001 for the period up to 2005. The programme is largely considered a success, but it primarily targets industry, not households. Some additional measures have been taken to promote energy efficiency among households as well, including, for example, regulations on metering and norms for construction and insulation.

- Improve fuel quality, notably the sulfur content of oil products such as diesel

As noted, pursuant to the Law on Technical Norms and Certification of 2004, new standards for diesel fuel and for gasoline have been approved, and norms for gasoline are under review. Since 2003 in most of the diesel fuel amount of sulphur does not exceed 0.035%.

Water

- Review water management priorities with the aim of increasing efforts to prevent pollution at source

In 2001, the Ministry of Housing and Communal Services and the Ministry of Natural Resources and Environmental Protection developed State Programme on Water Supply and Sanitation "Clean Water" for the period 2001-2005, containing a number of indicators that aim at providing people with good quality water

supply and sanitation. This Programme identifies priorities for funding by the State, the environmental protection fund and the communal utilities.

In addition, the National Plan of Action on Rational Use of Natural Resources and Environmental Protection for 2001-2005 envisages a 50% reduction of sewage water from the level of 2000. By mid-2004, a reduction of 42.3% had already been achieved.

- Continue putting priority on drinking water quality, but give more attention to rural areas; in this respect, increase the emphasis on reducing diffuse pollution by agriculture

Management of drinking water has been transferred from the authority of agricultural enterprises (kolkhozes) to the local housing and municipal services companies. In addition, there is under preparation a programme for each oblast aimed at providing the rural population with clean drinking water. The programmes largely involve constructing new infrastructure, which will require considerable expense. Funds should be made available from the local budgets and the environmental protection fund. Before the transfer of authority in each oblast can be completed, the kolkhozes are required to undertake some of the infrastructure reconstruction.

Regulation on water protection zones and riversides for large and middle-size rivers has been approved by the Resolution of the Council of Ministers in 2003. The Regulation specifies sizes and borders of the water protection zones and riversides as well as modalities for economic and other activities in these areas. It is foreseen to elaborate projects on water protection zones and riversides for each large and middle-size river.

- Apply minimum pre-treatment standards for main industrial polluters and consider gradually increasing charges to induce technological change

Industrial wastewater has to go through pre-treatment before being discharged into municipal sewage system. Maximum allowable concentrations (MAC) of pollutants in wastewater that is discharged into a water body are set up individually for companies. Environmental charges for wastewater discharge depend on the concentration of pollutants in the wastewater and its quantity.

Belarus is in the process of revising its Water Code. For this purpose, MNREP is working with the Ministry of Health to establish rules to protect surface waters from discharges, setting limits and indicators.

- Continue efforts to build or renovate waste water treatment plants, taking into account low-cost treatment methods

There is an annual programme of reconstructing or building new wastewater treatment plants. In 2004, 52 wastewater treatment facilities were under construction or renovation. The total amount of resources, allocated for this purpose from the Environment Protection Fund, amounted to more than 60 billion Rbl.

To the extent possible, Belarus is also using new technologies that support low-cost treatment methods, and it is in the process of reviewing the feasibility of replace all of the old technologies with more energy-efficient and modern technologies in a number of cities.

- Progressively bring the price of drinking water for households towards the total production costs of water supply

While there has been a step-by-step increase of the cost of water used by industries over the past few years, the cost of drinking water for households has not increased, largely for social reasons.

- Consider introducing a river-basin approach in water management policies to improve cost-effectiveness of measures and expenditures

Belarus is moving forward in this area. The Ministry of Natural Resources and Environmental Protection is reviewing the Water Code with a view to revising it to include river basin management. The Ministry also intends to elaborate a Plan on the River Basin Approach.

Waste

- Introduce incentives for enterprises to gear production towards low-waste technologies and develop waste reuse and recycling

The Law on Waste was last revised in 2002, and a third revision is currently being drafted. The 2002 Law has as its objective maximizing the volume of recycled materials. The Law includes:

- development and adoption of the production waste generation norms;
- establishment of limits for the placement of production waste;
- application of environmentally clean and low-waste technologies; and
- payment for the waste disposal by “toxicity class”. During the last years the amounts of payment have been increased considerably. For example, the rate increased by a factor of three from 2002 to 2003.

In addition, a number of new Resolutions have been put into effect, including among others:

- prohibiting the disposal of secondary raw materials (Resolution of the Ministry of Natural Resources and Environmental Protection No. 1, 11 February 2004);
 - collecting of wastepaper, glass waste and secondary textile materials (Resolution of Council of Ministers No. 269, 27 February 2003);
 - waiver of payments for waste equal to the amount invested in capital improvements to reduce waste (Resolution of Council of Ministers, No. 461, 7 April 2003); and
 - expanded responsibility of producers for plastic, glass and paper (cardboard) packaging (Resolutions of Council of Ministers No. 261 and No. 269, 27 February 2003). On the basis of Resolution No. 261, a pilot programme has been introduced for collection of plastic waste, and there are plans to extend the system to include glass and paper packaging as well.
- Strengthen monitoring, treatment and disposal of hazardous waste

Further to the 2002 amendments to the Law on Waste, a number of regulations have been adopted that concern transport, storage, and calculating the amounts of all waste, including hazardous waste. There are facilities for treatment of some types of hazardous waste (e.g., mercury light bulbs, oil derivatives), and a large complex for treatment and disposal of up to 30,000 tons per annum of hazardous waste is under construction in Gomel oblast (Chechersk). Construction began in 1997, and some parts of the complex for disposal only are already in operation, but there have been problems with its completion. It was the first such experience among the EECCA countries, and the design was not the most appropriate. It may be necessary to revise the plans. In addition, US\$ 20 million has already been invested in the project, but significantly more funds are required. All of the necessary infrastructure, such as special supplies of water and energy, still need to be built.

- Devote special attention to the treatment and proper disposal of accumulated waste on enterprise premises

Further to the National Plan of Action on Rational Use of Natural Resources and Environmental Protection, the different sectors of industry have elaborated their own programmes on waste management for 2002 to 2005. The task now is to analyze the impact of these programmes as a basis for preparing new programmes for 2006 to 2010. In general, industrial waste is stored on land belonging to the enterprises, and falls under regulations agreed upon by the enterprise and the local committees of the Ministry of Natural Resources and Environmental Protection. Fees for waste storage at the territory of enterprises are governed by Resolution of the Council of Ministers No. 386, 29 February 2002.

- Improve landfilling conditions and strengthen related controls; improve treatment of medical waste

The Ministry of Natural Resources and Environmental Protection annually finances the renovation of old landfills and the construction of new ones from the environment protection funds. A licensing system was put into effect for waste deactivation activities, including landfilling (Resolution of the Council of Ministers No. 1371, 20 October 03).

Handling of medical wastes is governed by the 2002 Law on Waste and other normative legal acts, including:

- Regulation on rules and methods of storage of transportation means, products for medical use and medical equipment and Regulation on rules and methods of deactivation of drugs, products for medical use and medical equipment (Resolution of the Council of Ministers No. 1178, 29 August 2002); and
- Regulations on rules and methods of deactivation of drugs, products for medical use and medical equipment (Resolution No. 81 of the Ministry of Health, 22 November 2002).

The Belarusian National Technical University is carrying out research on the handling of medical waste, with the intention to adopt international norms of medical waste disposal and handling (including Basel Convention Technical guidance on medical wastes handling).

- Consider devoting more financial resources to waste management, through various means, including an increase of waste charge levels

In 2003, the Environment Protection Fund allocated 5.1 billion Rbl. for renovation and construction of areas for waste storage. In addition, all fees from plastic waste recycling should be earmarked for improving the system of recycling.

3. Strengthening International Co-operation

- Translate bilateral and regional agreements into concrete programmes and projects

This is being done. Examples include:

- Cooperation with Lithuania in surface water management, environmental monitoring (e.g., of environment around Ignalina Nuclear Power Plant), hunting and fishing, protected areas and biological diversity, hazardous waste and chemicals management.
- Cooperation with Poland on transboundary protected areas (Pribuzhskoe Polessye) and monitoring transboundary water resources.
- Cooperation with the Russian Federation on mineral resources and transboundary water bodies.

Several new bilateral and trilateral agreements are being developed, including:

- Agreement with Latvia and Russian Federation on use and protection of water resources of the river Zapadnaya Dvina/Daugava;
- Agreement with Lithuania and Russian Federation on water resources of the river Neman/Nyamunas; and
- Agreement with Poland on transboundary water resources.
- Become a party to international conventions, such as the UN/ECE conventions on international watercourses, prevention of industrial accidents, environmental impact assessment, and the Geneva and Oslo Protocols under the Long-range Transboundary Air Pollution Convention, as well as the Basel, Ramsar and Bonn Conventions

Following recommendations of the first EPR, Belarus worked intensively with Secretariats of the global and regional environmental conventions and during the past six years has joined the following:

- Aarhus Convention (1999)
- UNFCCC (2000)
- Basel Convention (1999)

- Ramsar Convention (1999)⁵
- UNCCD (2001)
- Protocol on Biosafety to the Convention on Biological Diversity (2002)
- Convention on the Conservation of Migratory Species of Wild Animals (2003)
- Convention on the Protection and Use of Transboundary Watercourses and International Lakes (2003)
- Convention on Persistent Organic Pollutants (2003)
- Kyoto Protocol to the United Nations Framework Convention on Climate Change (2005)

For more information, see Chapter 4 on International Agreements and Commitments.

- Ratify the Framework Convention on Climate Change

This was accomplished in 2000.

- Strengthen international environmental co-operation by increasing MINNAT's international capacity, by establishing priorities for action and by reviewing systematically the implementation of environmental obligations

Priorities for international cooperation have been established through the National Action Plan for Rational Use of Natural Resources and Environmental Protection 2001-2005, the NSSD in 1997 and the NSSD 2020. Results are reviewed annually and updated as required.

The NEAP 2001-2005 identifies the following priorities:

- Cooperation with international organizations
- Implementation of the obligations under the conventions
- Active involvement in the "Environment for Europe" process, "Health and Environment" and "Transport and environment"
- Building on bilateral and multilateral agreements
- Attracting investments to the environment field.

The NSSD 2020 identifies the following:

- Improving environmental policy and development economic mechanisms for nature use
- Conservation and rational management of natural resources
- Safe application of biotechnologies and biological safety
- Safe use of toxic chemicals
- Reclamation and detoxification of industrial and municipal waste
- Protection of population and territories from natural and technological disasters
- Ecological security of defense facilities
- Development of areas that suffered
- Mitigation of consequences of the Chernobyl accident
- Harmonization of environmental legislation with international agreements and legal acts.

⁵ According to Ramsar Convention Secretariat, Belarus has been legally a party to the Ramsar Convention since 1991.

ANNEX II**SELECTED REGIONAL AND GLOBAL ENVIRONMENTAL AGREEMENTS**

Worldwide agreements		Belarus	
Year		Year	Status
1971	(RAMSAR) Convention on Wetlands of International Importance especially as Waterfowl Habitat	1991	Ra
	1982 (PARIS) Amendment		
	1987 (REGINA) Amendments		
1972	(PARIS) Convention Concerning the Protection of the World Cultural and Natural	1988	Ra
1973	(WASHINGTON) Convention on International Trade in Endangered Species of Wild Fauna and Flora	1995	Ac
	1983 (GABORONE) Amendment		
	1987 (BONN) Amendment		
1979	(BONN) Convention on the Conservation of Migratory Species of Wild Animals	2003	Ac
	1991 (LONDON) Agreement Conservation of Bats in Europe		
	1992 (NEW YORK) Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)		
	1995 (THE HAGUE) African/Eurasian Migratory Waterbird Agreement (AEWA)		
	1996 (MONACO) Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS)		
1985	(VIENNA) Convention for the Protection of the Ozone Layer	1986	Ra
	1987 (MONTREAL) Protocol on Substances that Deplete the Ozone Layer	1988	Ra
	1990 (LONDON) Amendment to Protocol	1996	Ra
	1992 (COPENHAGEN) Amendment to Protocol		
	1997 (MONTREAL) Amendment to Protocol		
	1999 (BEIJING) Amendment to Protocol		
1989	(BASEL) Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	1999	Ac
	1995 Ban Amendment		
	1999 (BASEL) Protocol on Liability and Compensation		
1992	(RIO) Convention on Biological Diversity	1993	Ra
	2000 (CARTAGENA) Protocol on Biosafety	2002	Ac
1992	(NEW YORK) Framework Convention on Climate Change	2000	Ra
	1997 (KYOTO) Protocol	2005	Ra
1994	(PARIS) Convention to Combat Desertification	2001	Ac
2001	(STOCKHOLM) Convention on Persistent Organic Pollutants	2003	Ac

Ac = Accession; Ad = Adherence; De = denounced; Si = Signed; Su = Succession; Ra = Ratified.

Selected bilateral and multilateral agreements (*continued*)

Regional and subregional agreements		Belarus	
Year		Year	Status
1979	(GENEVA) Convention on Long-range Transboundary Air Pollution	1980	Ra
1984	(GENEVA) Protocol - Financing of Co-operative Programme (EMEP)	1985	Ra
1985	(HELSINKI) Protocol - Reduction of Sulphur Emissions by 30%	1986	Ra
1988	(SOFIA) Protocol - Control of Emissions of Nitrogen Oxides	1986	Ra
1991	(GENEVA) Protocol - Volatile Organic Compounds		
1994	(OSLO) Protocol - Further Reduction of Sulphur Emissions		
1998	(AARHUS) Protocol on Heavy Metals		
1998	(AARHUS) Protocol on Persistent Organic Pollutants		
1999	(GOTHENBURG) Protocol to Abate Acidification, Eutrophication and		
1991	(ESPOO) Convention on Environmental Impact Assessment in a Transboundary	1991	Si
	2003 (KIEV) Protocol on Strategic Environmental Assessment		
1992	(HELSINKI) Convention on the Protection and Use of Transboundary Waters and International Lakes	2003	Ac
	1999 (LONDON) Protocol on Water and Health		
	2003 (KIEV) Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters		
1992	(HELSINKI) Convention on the Transboundary Effects of Industrial Accidents	2003	Ac
1998	(AARHUS) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters	2000	Si
	2003 (KIEV) Protocol on Pollutant Release and Transfer Register		

Ac = Accession; Ad = Adherence; De = denounced; Si = Signed; Su = Succession; Ra = Ratified.

ANNEX III**SELECTED ECONOMIC AND ENVIRONMENTAL DATA****Belarus: Selected economic data**

	1998	1999	2000	2001	2002	2003	2004
TOTAL AREA (1 000 km²)	207.6	207.6	207.6	207.6	207.6	207.6	207.6
POPULATION							
Total population, (million inh.)	10.1	10.0	10.0	10.0	9.9	9.9	9.8
% change (1995=100)	98.8	98.4	98.1	97.8	97.4	96.9	96.4
Population density, (inh./km ²)	48.5	48.3	48.2	48.0	47.8	47.6	47.3
GROSS DOMESTIC PRODUCT							
GDP, (million US\$)	15,222.0	12,138.0	10,418.0	12,355.0	14,595.0	17,825.0	22,889.0
% change (1995=100)	144.7	115.4	99.0	117.4	138.7	169.4	217.5
per capita, (US\$ 1000/cap.)	1,512.0	1,210.0	1,041.0	1,239.0	1,471.0	1,805.0	2,330.0
INDUSTRY							
Share of GDP (% of GDP)	29.0	27.6	26.5	26.1	25.4	26.1	26.8
Industrial output (1995=100)	138.2	152.4	164.3	174.0	181.9	194.8	225.7
AGRICULTURE							
Share of GDP (% of GDP)	11.5	12.2	11.6	9.7	9.5	7.7	9.7
ENERGY SUPPLY							
Total supply, (Mtoe)	..	..	23.8	..	..	24.7	..
% change (1995=100)	..	..	97.5	..	..	101.2	..
Energy intensity, (toe/US\$ 1000)	..	..	2.3	..	..	1.4	..
% change (1995=100)	..	..	72.0	..	..	62.0	..
Structure of energy supply, (%)							
Solid fuels	..	..	7.3	..	..	6.8	..
Oil	..	..	25.8	..	..	25.1	..
Gas	..	..	59.2	..	..	61.0	..
Nuclear	-	-	-	-	-	-	-
Hydro, etc.	..	..	7.8	..	..	7.1	..
ROAD TRANSPORT							
Road traffic volumes							
- freight: million ton km	40,180.0	39,830.0	41,214.0	40,037.0	45,665.0	51,306.0	..
- % change (1997=100)	100.7	99.9	103.3	100.4	114.5	128.6	..
- million passenger km	27,084.0	31,686.0	32,449.0	30,345.0	29,281.0	28,195.0	..
- % change (1997=100)	107.2	125.4	128.4	120.1	115.9	111.6	..
Road vehicle stock,							
- 1 000 vehicles	1,349.5	1,422.2	1,492.4	1,539.5	1,628.1	1,740.8	..
- % change (1997=100)	112.8	118.9	124.7	128.7	136.1	145.5	..
- per capita (vehicle/100 inh.)	7.5	7.1	6.7	6.5	6.1	5.7	..

Source: UNECE and National Statistics

Belarus: Selected environmental data

	1998	1999	2000	2001	2002	2003	2004
LAND							
Total area (1 000 km ²)	207.6	207.6	207.6	207.6	207.6	207.6	207.6
Major protected areas (% of total area)	7.6	7.2	7.6	7.6	7.5	7.6	..
Fertilizer use (kg/ha agricultural land)	75.7	75.5	69.1	88.5	88.9	89.3	..
FOREST							
Forest area (% of land area) ¹⁾	35.5 ²⁾	..	37.8	..	..	..	..
Use of forest resources (harvest/growth)	..	..	..	..	..	..	..
Tropical wood imports (US\$/cap.)	..	..	..	..	..	..	..
THREATENED SPECIES							
Mammals (% of species known)	18.42 ³⁾	22.36 ⁴⁾	..
Birds (% of species known)	24.27 ³⁾	23.62 ⁴⁾	..
Fish (% of species known)	8.19 ³⁾	16.39 ⁴⁾	..
WATER							
Water withdrawal (million m ³ /year)	1,851	1,851	1,837	1,833	1,824	1,832	..
Fish catches (% of world catches)	..	..	..	..	..	..	..
Public waste water treatment (% of population served)	..	..	..	..	..	..	..
AIR							
Emissions of sulphur dioxide (kg/cap.)	18.8	16.3	14.0	14.6	13.9	13.3	..
" (kg/US\$ 1000 GDP)	12.5	13.5	13.5	11.8	9.4	7.4	..
Emissions of nitrogen oxides (kg/cap.)	16.2	14.1	13.5	13.5	13.7	14.2	..
" (kg/US\$ 1000 GDP)	10.8	11.7	12.9	10.9	9.4	7.9	..
Emissions of carbon dioxide equivalents (ton/cap.)	7.5	7.2	6.8	7.6	7.0	7.3	..
" (ton/US\$ 1000 GDP)	5.0	6.0	6.5	6.1	4.8	4.0	..
WASTE GENERATED							
Industrial waste (kg/US\$ 1000 GDP)	1,451	2,010	2,233	1,987	1,783	1,569	..
Municipal waste (kg/cap.)	179.6	190.5	196.1	199.9	207.5	231.0	..
Nuclear waste (ton/Mtoe of TPES)	..	..	..	..	..	..	..
NOISE							
Population exposed to leq > 65 dB (A) (million inh.)	..	..	..	..	..	..	..

Source: UNECE and National Statistics

.. = not available. - = nil or negligible.

Notes :

ANNEX IV

*LIST OF ENVIRONMENT-RELATED
LEGISLATION IN BELARUS*

Constitution of the Republic of Belarus, No. 2875-XII, 15 March 1994, with amendments of 24 November 1996 and 17 October 2004.

Codes (in alphabetical order)

Civil Code of the Republic of Belarus, No. 218-3, 7 December 1998.

Forestry Code of the Republic of Belarus, No. 420-3, 14 July 2000, with amendments No. 271-3, 27 February 2004 and No. 310-3, 4 August 2004.

Land Code of the Republic of Belarus, No. 226-3, 4 January 1999, with amendments No. 99-3, 8 May 2002.

Code on Mineral Resources of the Republic of Belarus, No. 103-3, 15 December 1997.

Tax Code of the Republic of Belarus, No. 166-3, 19 December 2002, with amendments No. 184-3, 4 January 2003 and No. 309-3, 3 August 2004.

Water Code of the Republic of Belarus, No. 191-3, 15 July 1998.

Laws of the Republic of Belarus (in alphabetical order)

On Air Protection, No. 29-3, 15 April, 1997, with amendments No. 59-3, 10 July 1997.

On Architectural, Urban Construction and Construction Activities in the Republic of Belarus, No. 300-3, 5 July 2004.

On Automobile Transport and Freight Traffic, 21 July 2001, No. 50-3, with amendments No. 134-3, 24 July 2002.

On Budget of the Republic of Belarus (adopted annually).

On Drinking Water Supply, No. 271-3, 24 June 1999.

On Education, No. 1202-XII, 29 October 1991, version of 19 March 2002, No. 95-3, with amendments No. 311-3, 4 August 2004.

On Energy Saving, No. 190-3, 15 July 1998.

On Environmental Protection, No. 1982-XII, 26 November 1992, version of 17 July 2002, No. 126-3.

On Hydrometeorological Activity, No. 256-3, 10 May 1999.

On Industrial Safety of Hazardous Production Sites, No. 363-3, 10 January 2000.

On Informatization, No. 3850-XII, 6 September 1995.

On International Agreements, No. 1188-XII, 23 October 1991, with latest amendments No. 401-3, 16 June 2000 and № 331-3 of 15 November 2004.

On Local Governance and Self-Governance, No. 617-XII, 20 February 1991, with latest amendments No. 362-3, 10 January 2000).

On Normative Legal Acts, No. 361-3, 10 January 2000, with amendments No. 81-3, 4 January 2002 and No. 321-3, 1 November 2004.

On Ozone Layer Protection, No. 56-3, 12 November 2001.

On Flora, No. 205-3, 14 June 2003.

On Protection and Use of Fauna, No. 598-XIII, 19 September 1996.

On Protection of Population and Territories from Emergency Situations of Natural and Technogenic Character, No. 141-3, 5 May 1998, with amendments No. 183-3, 4 January 2003.

On Public Associations, No. 3254-XII, 4 October 1994, with latest amendments No. 36-3, 22 June 2001 and No. 213-3, 26 June 2003.

On Sanitary and Epidemic Well-being of the Population, No. 2583-XII, 23 November 1993, version of 23 May 2000, No. 397-3

On Specially Protected Natural Areas, № 3335-XII, 20 October 1994, version of 23 May 2000, No. 396-3.

On State Ecological Expertise, No. 419-3, 14 July 2000.

On Tax for Use of Natural Resources (Environmental Tax), No. 1335-XII, 23 December 1991, with latest amendments No. 134-3, 24 July 2002 and No. 167-3, 28 December 2002.

On Tourism, No. 326-3, 25 November 1999, with amendments No. 257-3, 15 December 2003.

On Waste, No. 2609-XII, 25 November 1993, version of 26 October 2000, No. 444-3, with amendments No. 134-3, 24 July 2002.

Decrees and Directives (*Ukazes*) of the President (in alphabetical order)

On Approval of Concept of National Safety of the Republic of Belarus, No. 390, 17 July 2001.

On Approval of Programme of preparation of drafts of legislative acts for 2003-2005 and further possible codification of legislation of the Republic of Belarus, No. 450, 12 August 2002.

On Approval of Programme of Social and Economic Development of the Republic of Belarus for 2001-2005, No. 427, 8 August 2001.

On Approval of State Programme on Investments, No. 97, 18 February 2004, with numerous later amendments.

On Approval of State Programme on Revitalization and Development of Rural Areas for 2005-2010, No. 150, 25 March 2005.

On Concept on improving the legislation of the Republic of Belarus, No. 205, 10 April 2002.

On Establishing State Inspectorate for Protection of Animals and Plants under the President of the Republic of Belarus, No. 45, 27 January 2003.

On International Technical Assistance to the Republic of Belarus, No. 460, 22 October 2003.

On National Park Belovezhskaya Pushcha, No. 460, 27 September 2004.

On Programme for Improvement of Agroindustrial Complex of the Republic of Belarus for 2001-2005, No. 256, 2001.

On Receiving and Using Gratuitous Foreign Aid, No. 24, 28 November 2003

Resolutions of the Council of Ministers (Cabinet of Ministers) (in alphabetical order)

Aspects of Political Parties and Other Public Associations in the Republic of Belarus, No. 76, 3 February 1995.

On Activities of Belarus State University Institution “National Research Centre for Monitoring Ozonosphere” on Organization and Conduct of Ozone Layer Monitoring, No. 1719, 12 December 2002.

On Additional Measures on Efficient and Effective Use of Fuel and Energy Resources, No. 1820, 27 December 2002, with latest amendments No. 799, 30 June 2004.

On Approval of Forest Monitoring Procedure, No. 915, 21 June 2001, with amendments No. 1179, 22 September 2004.

On Approval of List of State Scientific-Technical Programmes on Solving Most Important Economic, Environmental and Social Problems for 2001-2005 (includes State Scientific-Technical Programme “Ecological Safety” for 2001-2005), No. 141, 1 February 2001.

On Approval of Main Directions of Energy Policy of the Republic of Belarus for 2001-2005 and for the period till 2015, No. 1667, 27 October 2000.

On Approval of Main Directions of Social and Economic Development of the Republic of Belarus for the Period until 2010, No. 445, 3 April 2000.

On Approval of Measures of National Programme of Tourism Development in the Republic of Belarus for 2003-2005 (Additions to National Programme of Tourism Development in the Republic of Belarus for 2001-2005), No. 1829, December 2002.

On Approval of National Action Plan for Rational Use of Natural Resources and Environmental Protection of the Republic of Belarus for 2001-2005, No. 912, 21 June 2001.

On Approval of National Programme of Land Management and Improvements of Territories of Human Settlements for 2004-2005, No. 1714, 30 December 2003.

On Approval of National Strategy and Action Plan for Conservation and Sustainable Use of Biological Diversity of Belarus, No. 789, 26 June 1997.

On Approval of Procedure for Exercising Economic Activities by Persons Who Are Not Authorized Subjects of Economic Activities, No. 513, 6 August 1996.

On Approval of Regulation on Licensing of Activities Related with Use of Natural Resources and Impact on the Environment, No. 1371, 20 October 2003.

On Approval of Regulation on Ozone-layer Monitoring within National System of Environmental Monitoring in the Republic of Belarus and Use of Monitoring Data, No. 161, 16 February 2004.

On Approval of Regulation on Procedure for Developing and Implementing National Sectoral and Regional Programmes on Energy Saving, No. 1731, 11 November 1998, with amendments No. 302, 17 March 2004.

On Approval of Regulation on Procedure for Financing Scientific, Research and Development and Innovative Activities with Use of National Budget Funds, No. 1084, 10 July 1998, with latest amendments No. 282, 15 March 2004.

On Approval of Regulation on Procedure for Preparation and Implementation of State Scientific-Technical Programmes, No. 1652, 29 October 1998, with amendments No. 737, 5 June 2002 and No. 282, 15 March 2004.

On Approval of Regulation on State Database on the State of Environment and its Pollution, No. 793, 1 June 2000, with amendments No. 1847, 22 December 2001.

On Approval of Regulations on Animals and Radiation Monitoring within the National System of Environmental Monitoring in the Republic of Belarus and Use of Monitoring Data, No. 576, 17 May 2004.

On Approval of Regulations on Issuance of Permits for Special Water Use and Allocation of Water Objects for Separate Water Use, No. 669, 7 May 1999.

On Approval of Regulations on Monitoring of Surface Water, Groundwater, and Air, and Local Environmental Monitoring within National System of Environmental Monitoring in the Republic of Belarus and Use of These Monitoring Data, No. 482, 28 April 2004.

On Approval of Regulations on Plants and Geophysical Monitoring within the National System of Environmental Monitoring in the Republic of Belarus and Use of Monitoring Data, No. 412, 14 April 2004.

On Certain Measures to Enforce Presidential Decree No. 460 of 22 October 2003, No. 1522, 21 November 2003.

On Concept of Development of Forestry Complex of the Republic of Belarus, No. 1502, 29 September 1999.

On Concept of State Programme of the Republic of Belarus for Overcoming the Consequences of Chernobyl NPP Catastrophe for 2001-2005 and for the period till 2010, No. 444, 3 April 2000.

On Creation of National Research Centre for Monitoring Ozonosphere, No. 484, 14 May 1997, with amendments No. 1719, 12 December 2002.

On Developing Programme of Social and Economic Development of the Republic of Belarus for 2006-2010, No. 86, 27 January.

On Establishing Fee for Issuance of Permits for Disposal of Production Waste and Special Water Use, No. 247, 26 February 2003, with amendments No. 964, 21 July 2003.

On Establishing National Commission on Sustainable Development of the Republic of Belarus, No. 197, 20 March 1996, with amendments 11 January 2001.

On Establishing National System of Environmental Monitoring (NSEM) in the Republic of Belarus, No. 247, 20 April 1993.

On Implementation of Programme of National System of Environmental Monitoring in the Republic of Belarus, No. 1344, 27 August 1998, with amendments No. 1690, 28 October 1999.

On Improving of System of Collection and Use of Certain Types of Recyclable Materials, No. 269, 27 February 2003, with amendments No. 1675, 22 December 2003.

On Increasing Efficiency of Forestry Resources Use, No. 245, 7 March 2004.

On Increasing Payments for Use of Natural Resources and Extending Application of Incentives for Nature Protection Activity, 30 June 2004, No. 787 (no longer in force, replaced by Resolution No. 118, 1 February 2005, see below).

On List of Information Resources of State Importance, No. 784, 29 May 2001, with latest amendments No. 1056, 1 September 2004.

On Local Environmental Monitoring in the Republic of Belarus, No. 201, 8 February 1999.

On Measures for Implementation of Provisions of the Convention on Access to Information, Public Participation in the Decision-Making and Access to Justice on Environmental Matters in 2002-2005, No. 1900, 29 December 2001.

On Membership of Interdepartmental Coordination Board for Implementation of Programme of National System of Environmental Monitoring in the Republic of Belarus, No. 927, 10 July 2002.

On National Environmental Health Action Plan for 2001-2005, No. 1892, 12 December 2000.

On National Landscape Preserve “Pribuzhskoye Polessye”, No. 736, 30 May 2003, with amendments No. 1179, 22 September 2004.

On National Programme for Rational Use of Natural Resources and Environmental Protection for 1996-2000, No. 667, 15 October 1996.

On National Programme of Energy Saving for 2001-2005, No. 56, 16 January 2001, with amendments No. 1820, 27 December 2002 and No.1735, 31 December 2003.

On National Programme “Preservation and Use of Ameliorated Lands for 2000-2005”, No. 76, 20 January 2000, with latest amendments No. 1697, 31 December 2004.

On National Programme “Preservation and Use of Ameliorated Lands for 2006-2010”, No. 459, 5 May 2005.

On National System of Environmental Monitoring in the Republic of Belarus, No. 949, 14 July 2003, with amendments No. 250, 10 March 2004 and No. 298, 16 March 2004.

On Preparation of Regulation on Land Monitoring and Use of its Data, No. 250, 10 March 2004.

On Procedures for Collection of Information in the Field of Protection of Population and Territories from Emergency Situations of Natural and Technogenic Character and for Exchange of this Information, No. 1280, 23 August 2001, with amendments No. 302, 17 March 2004.

On Programme of Development of Transit Movement of Cargo and Passengers by Railway and Automobile Transport through the Territory of the Republic of Belarus until 2005, No. 33, 11 January 2001, with amendments № 302, 17 March 2004.

On Programme of National System of Environmental Monitoring in the Republic of Belarus, No. 311, 20 June 1995.

On Sectoral Programme of Communal Waste Management, No. 1232, 1 October 2004.

On Some Aspects of Processing of Plastic Waste, No. 261, 27 February 2003.

On Some Aspects of Recording and State Registration of Organizational Structures of Political Parties, Trade Unions, Other Public Associations, No. 903, 15 June 1999.

On Some Aspects of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, No. 1586, 31 October 2001, with latest amendments No. 303, 17 March 2004.

On State Cadastres of Natural Resources, No. 248, 20 April 1993.

On State Programme "Health of Nation" for 1999-2005, No. 393, 23 March 1999.

On State Programme on Securing State System of Prevention and Elimination of Emergencies for 2002-2006, No. 1848, 22 December 2001.

On State Programme on Water Supply and Wastewater Disposal "Clean Water" 2001-2005, No. 52, 17 January 2002, with amendments No. 259, 11 March 2004.

On State Registration of Information Resources, No. 1344, 28 August 2000, with amendments No. 69, 23 January 2004.

On Tax Rates for Use of Natural Resources (Environmental Tax), No. 118, 1 February 2005.

On Unified Tariffs for Electric Energy, No. 709, 25 November 1992, with amendments No. 110, 2 March 1995.

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Resolution on Approval of Instruction on Organization of Enterprise Control in the Area of Environmental Protection and Instruction on Procedure for Developing, Coordinating and Approving of Instruction on Implementation of Enterprise Control in the Area of Environmental Protection, No. 4, 17 March 2004.

Resolution on Approval of Instruction on Procedure for Conducting Environmental Impact Assessment of Planned Economic and Other Activities in the Republic of Belarus and of List of Types and Objects of Economic and Other Activities for which Environmental Impact Assessment of Planned Economic and Other Activities is Mandatory, No. 1, 6 February 2001.

Resolution on Approval of Instruction on Procedure for Conducting Local Environmental Monitoring by Legal Persons Operating Sources of Adverse Environmental Impact, No. 20, 22 July 2004.

Resolution on Approval of Regulations on Issuance, Suspension and Cancellation of Permits for Disposal of Production Waste, No. 21, 23 October 2001, with amendments No. 1, 11 February 2004.

Resolution on List of Data Relating to Environmental Information, No. 22, 29 May 2003.

Resolution on Some Aspects of Processing Permits for Special Water Use and Documents Submitted to Obtain them, No. 14, 2 April 2003.

Order on Checking of Organization of Enterprise Environmental Control, No. 232, 30 August 2004.

Order on Distribution of Responsibility for Implementation of Provisions of International Agreements and for Cooperation with International Organizations, No. 189, 20 July 2004.

Order on Introducing Additions to the Procedure of Issuing One-time Permits for Movement (Import, Export, Transit) of Ozone Depleting Substances and Products that Contain them via Customs Border of the Republic of Belarus, No. 387, 28 December 1999.

Order on Methodological Recommendations on Organization of Sectoral Control in the Area of Environmental Protection, No. 234, 2 July 2003.

Order on Methodology of Calculation of Ground-level Concentration of Pollutants of Various Averaging Periods Applicable to Large Point Sources, No. 390, 30 December 1999.

Regulation on Procedure of Issuing One-time Permits for Movement (Import, Export, Transit) of Ozone Depleting Substances and Products that Contain them via Customs Border of the Republic of Belarus, No. 120, 2 June 1997.

Instruction on Procedure for Conducting State Ecological Expertise in the Republic of Belarus, No. 8, 11 May 2001.

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Concept of Environmental Education and National Programme of Environmental Education, approved by Resolutions of the Board of the Ministry of Natural Resources and Environmental Protection, No. 3.1, 19 March 1999, and the Board of the Ministry of Education, No. 12/362, 21 April 1999.

National Strategy for Sustainable Social and Economic Development of the Republic of Belarus for the Period until 2020, endorsed by National Commission on Sustainable Development, Protocol No. 11/15 PR, 6 May 2004, and by Presidium of the Council of Ministers, Protocol No. 25, 22 June 2004.

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