FRESHWATER COUNTRY PROFILE

LITHUANIA

Decision-Making

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Decision-Making: *Sustainable development*: A National Council for Sustainable Development of the Republic of Lithuania has been approved by the Government in 2000. Several governmental bodies and research institutes as well as various NGOs are represented. It is headed by the Prime Minister of the Republic of Lithuania. The main institutions responsible for integrating environment and development in the Country are national ministries and the local authorities. The main principles of environmental legislation are fixed in the Constitution of the Republic of Lithuania and in the Law on Environmental Protection. Further environmental principles and integration of environmental requirements into other activities are embodied in the Laws on Taxes for the State Natural Resources and Taxes for the Pollution of the Environment as well as in the Law on Environmental Impact Assessment. EIA is foreseen in the Law on Environmental Protection, in the Law on Protected Areas, the Law on Construction, in the Law on Territorial Planning and other laws and legal documents, such as the Waste Management Law, Law Hazardous Materials and Products, Law on Radiation Protection, Law on Management of Radioactive Waste, Law on Nuclear Energy, Fauna Law, Flora Law, Law on Protected Fauna, Flora and Mushroom Species and Communities, etc. Lithuania's first Environmental Protection Programme was developed in 1992. A new programme was developed within the framework of the Lithuanian Environmental Strategy, adopted by the Parliament in 1996. The effective implementation of this Strategy Action Programme requires good coordination and feed-back between all involved state, municipal and non-governmental organizations.

Water resources: There are several bodies at the national level responsible for coordinating water resource management and development: the Ministry of Environment, the Lithuanian Geological Survey and the Lithuanian Hydrographical Network Survey. There are eight regional environmental protection departments and forty-four environmental protection agencies at the local level. The general legislation and regulatory framework for water management includes: Lithuanian Environmental Strategy and Action Programme (1996), Law on Water(1997, amendments in 2000), Law on Taxes on State Natural Resources (1991, amendments in 1996, 2000), Law on Pollution Taxes (1991, new wording in 1999, amendments in 2000, 2002), Law on Environmental Impact Assessment of the Proposed Economic Activity (1996, new wording in 2000), Law on Monitoring (1997), Law on the Protection of Marine Environment *(1997)*, Draft Law on Drinking Water, Code on the Internal Water Transport (1996), and Regulations on the Establishment of the Water Bodies Protection Zone. There are pricing policies for water use in every sector, and costs for water supply and treatment are fully covered by user charges. Representatives from Lithuanian Municipality Association, Lithuanian Manufactures Confederation and some other NGOs participate in preparation laws and strategies on environmental protection issues. The role of the private sector is not substantial in this sector.

Programmes and Projects:

A. Integrated Water Resources Development and Management: The Water Resources Management Department has been established under the Ministry of Environment to facilitate effective implementation of EU requirements in Water sector. According to the national programme for adoption of Aquis, Lithuania transposed all the EU requirements in water sector until the year 2002. These requirements will be fulfilled by the year 2004 with the exception of urban wastewater treatment directive, which will be implemented by the year 2010. Tertiary wastewater treatment plants will be built in forty-seven Lithuanian cities and towns (tertiary treatment exists in eighteen cities and towns already).

B. Water Resources Assessment: No information available.

C. Protection of Water Resources, Water Quality and Aquatic Ecosystems: Fresh water resources protection and rational use was ensured through means of making comprehensive plans of settlements meeting existing requirements of regulations. In 1993, pilot programme “Tatula” to develop organic agriculture in the Karst region was started. The scope of the Programme is far reaching. It involves design and construction of water cleaning equipment to protect the underground water from the pollution,

application of other environmentally sound measures to improve the agro-environmental situation and proceeds with environmental monitoring in the region. Furthermore, in the framework of "Tatula" programme consulting services are delivered. The principles of "best available technology" and "best available practice" are under implementation in Lithuania. Water pollution has been reduced substantially both by improvements in processing techniques and by cleaning emissions. In 1997, the Ministries of Environment of Lithuania and Norway signed the Protocol on the cleaner production training programme in Lithuania for 1997-2000. The main effort in this Programme was focused on training of the Lithuanian enterprises and experts. Around sixty industrial enterprises and organizations have participated in the training course and around 100 local experts have been trained. Projects to transfer EST's include the following: a Danish project on Implementation of Demonstration Projects in Cleaner Technology in the Lithuanian Galvanic Industry; a PHARE project on Strengthening Water Utilities Management; a Norwegian project on Capacity Building Programme in Cleaner Production in Industry in the Baltic Region; and a Danish EPA project on Environmental Efficiency in the Lithuanian Food Processing Industry. The Project involved environmental auditing in seven companies from different food industry sectors of Lithuania.

D. Drinking Water Supply and Sanitation: Access to clean water and sanitation is rather sufficient with some scarce exceptions.

E. Water and Sustainable Urban Development: No information available.

F. Water for Sustainable Food Production and Rural Development: No information available.

G. Impacts of Climate Change on Water Resources: The project "Strengthening of Institutional Capacity to Implement EU requirements on chemicals and genetically modified organisms management, IPPC and climate change (to be carried out within Phare 2001 programme)" will provide for the training for governmental officials on notification and risk assessment issues (procedures, documentation, data basis, management and etc.) as well as training for enforcement bodies and preparation of guidance document for them.

Status: The main source of drinking water in Lithuania is groundwater. However, due to different environment, water supply technologies, a great variety of drinking water quality is observed. The great majority of the population is the consumers of public supplied artesian groundwater. However, the quality of drinking water sometimes getting worse in cases of insufficient treatment in water plants or old water pipes in distribution system. As a result, quite a high level of iron has already been estimated in about a half of tested samples. The manganese concentrations and turbidity of drinking water is pretty high. Different fluoride levels in drinking water of different regions in Lithuania also raise public health problems. Artesian water of the North West and West part of the country has too high fluoride levels (from 1,5 to 5 mg/l). For about 90.000 of the population is exposed by excessive fluoride concentrations in drinking water. This is reason of higher dental fluorosis prevalence. Drinking water of the East and South East part of Lithuania has low fluoride levels and therefore prevalence of dental caries among population is almost 100 percent.Over a million of population (mainly the inhabitants of suburbs and rural areas) are not supplied by public drinking water system and the main source of drinking water for them is the shallow groundwater from dug wells. This individual supplied water is often affected by chemical contamination of nitrates (about 30 percent of samples exceeded the maximum allowed level) as well as microbiological contamination (almost half of water samples from wells identified with increased microbial pollution). Lithuanian Parliament adopted Drinking Water Law. Responsibility for public supplied drinking water lays down mainly on municipalities and drinking water suppliers, state control is under responsibility of State Food and Veterinary Service. Parameters for drinking water quality assessed according to the regulations of the European Community by the Order of the Ministry of Health.

Socio-economic aspects: The unemployment rate in Lithuania increased during the past few years, and this has led to a substantial reduction in standard of living in some sectors of society. Access to primary health care, clean water and sanitation, and primary education is rather sufficient with some exceptions. For the last five years demographic changes in Lithuania have violated long-term trends. For the first time after post-war period the population started to decrease: total population of Lithuania in 1995 - 3717.7 thous, in 2000 - 3698.5 thous, in 2001 - 3692.6 thous, in 2002 – 3469.1 thous. The population distribution is decreasing in the towns and increasing in the rural areas. Most of the families in Lithuania have one or two children. For the few last years, the fertility indicators decreased among women in all fertility groups. Economic difficulties, housing problems and unemployment are the main reasons for this decrease in births. Unemployment rate in the beginning of 2001 in Lithuania was 13.2 %. Life expectancy at birth is slightly increasing in Lithuania: in 1995 - 71.49 (Males - 63.53, Females - 75.15), in 2000 - 72.87 (Males - 67.62, Females - 77.93), 2002 – 71,91 (males – 66,21, females – 77,58).

Indicators	Figures
Life expectancy at birth (2002)	71.91
Number of live births per 1000 population (2002)	8.6
Total fertility rate (TFR), number of children per woman (2002)	1.24
Maternal mortality rate, per 100 000 live births (MMR) (2002)	20.4
Under-five mortality rate, per 1000 live births (UFMR) (2002)	10.4
Infant mortality rate per 1000 live births (IMR) (2002)	7.86
DPT3 immunization (%)	94.8
Standard death rate (SDR), per 100 000 population (2002)	1183.9
Viral hepatitis per 100 000 population (2002)	12.4
Tuberculosis incidence per 100 000 population, all forms (2002)	60.5
Syphilis incidence per 100 000 population (2002)	15.5
AIDS incidence per 100 000 population (2002)	0.3
Human development index (HDI)	0.789
Percent of regular daily smokers age 15+ years, men/women (2001)	51,5 % / 15,8 %

The Lithuanian agriculture employs 18.7 % of the employed; they create 8% of the GDP per year. About 50% of the employed of the country are related to agriculture: employees of processing enterprises, construction, trade, transport and other service sector, therefore the Lithuanian agriculture is fully integrated into the economic and social life of the country. When implementing the historical justice that was trampled in the years of occupation, ownership rights to land have been restituted to 80 % of the former landowners. Annual exports of the agricultural production makes almost 0.5 billion US$ and is directed to the European Union (35 %), the CIS countries (26 %) and the Baltic States (19 %). The quality of Lithuanian food products has received recognition all around the world as the majority of farmers' apply environmentally friendly principles in the farming activities.

Tourism is one of the most important sectors of the Lithuanian economy, and its further development is encouraged. Exports of tourism services form 14% of total exports of Lithuanian goods and services. The total contribution to GDP in 2000 from expenditure by foreign visitors was 5 %. The revenue from international tourism is expected to be more than US$ 600 million.

Land: The forest management has always been under strict professional control therefore annual felling has never exceeded the sustainable limits of the allowable annual cut. Over the recent years the felling accounts about 5 million m^3 annually. According to experts the potential annual cut of 6.2 million m^3 could be maintained for coming ten years. Forestry and forest industries play important role in

Lithuania's economy. During recent years value added in forest and timber industry sector was increasing steadily, annually contributing 2.6-3.0 % of gross domestic product in Lithuania.

Lithuania is the most southern of the three Baltic States, bordering Latvia to the north (610 km long border), Belarus to the east and south (720 km), Poland (110 km) and the Kaliningrad region of the Russian Federation (303 km) to the south - west. The Lithuanian coastline is 99 km long. With a surface area of 65 301 km^2, Lithuania is the largest of the three Baltic countries. The country forms part of the great North European Plain and the landscape alternates between hilly areas and flat plains. Forests cover 30 % of the territory. The forest cover has increased over the past 50 years, from 21.8 % in 1937 to about 30 % in 1997. However, it is lower than in Latvia (41.7 %), Estonia (39.2 %) or Belarus (34.6 %). Agriculture uses 54 % of the land, two thirds is arable. Bogs and marshlands now cover 7 % of its territory. Most are in the west, the south and the east. Some 77 % of wetlands have been drained for agricultural purposes. Over the last few decades the intensification of large-scale agriculture, cutting of forests and draining of bogs have contributed to erosion and loss of soil productivity. At present, about 15 % of the country's farmland is severely eroded. Soil quality varies considerably. Good quality agricultural soil is found on only 34 % of the agricultural area. The measures taken to combat soil erosion such as reducing crop cultivation on eroded areas, sowing prennial grasses on fragile soils and planting trees on the steeper slopes are not sufficient to solve the problem. Three main regions can be identified by soil productivity: the lowlands in central Lithuania have the most productive soils, followed by the low, deeply washed carbonate soils in west Lithuania. The wooded moraine hills and interspersed sandy plains in east Lithuania have a relatively low agricultural productivity. The most characteristic soils are turfy podzolic loam and gley. The Karst Zone (Birzai and Pasvalys districts, Northern Lithuania), one of the most environmentally vulnerable areas of Lithuania, is known for both its water pollution and soil erosion problems. There is elaborated short reference list on land degradation issues, i.e. Soil erosion (wind, water) is detected mainly due to: loss of forests/vegetation, coastal erosion, aridity, inappropriate land use. Loss of Soil Fertility is detected mainly due to water logging and pollution/contamination of the soil (in some areas of the country).

Water resources management: Over 250 millions US$ have been invested into the wastewater treatment in Lithuania since 1990. This, together with the industry decrease, brought impressive results. Amount of pollutants discharged to the surface waters from point sources has been reduced significantly since 1992: BOD - 80 %, suspended solids - 80 %, N - 65 %, P - 55 %. The usage of fertilizers and pollution from agriculture has been also reduced considerably. With the reduction of pollution loads, water quality in rivers and lakes has improved but these changes are not as dramatic as reduction of pollution load. The main problems remain to be pollution by nutrients and eutrophication. Nevertheless all Lithuania's rivers are of "salmonid" or "cyprinid" quality. Wastewater treatment systems are mostly under the authority of municipalities. Surface water bodies can be owned by the State or by individuals. Lithuania is located in a very humid zone and abounds in water resources. Therefore exceptionally ground water is being used for drinking water supply systems. The main contaminants into surface water are BOD7, suspended substances, N total, P total, oil products. According to the Statistics Department's data, industry consumed 0.8 % of the total freshwater amounts in 1996. This percentage is less than in previous years due to the recession Lithuania has been experiencing.

Capacity-Building, Education, Training and Awareness-Raising: See under G. Impacts of Climate Change on Water Resources on Programmes and Projects.

Information: Reports with statistical data are available on the Ministry's Environment computer net. Reports on "Environmental Protection in Lithuania" are published annually. Computer systems are usually used for data collection. The satellite-based remote sensing maps and GIS are used as well. Geographic Information Systems are used for physical planning of territories and development of data bank for territorial planning. Management system of water basins with integration into GIS is under

development. The GIS systems and analysis tools are used in high scale in the development of management system of protected areas, register of water bodies, the cadastre of forests, geological survey. A few modeling systems are used for water management.

Research and Technologies: See under C. Protection of Water Resources, Water Quality and Aquatic Ecosystems on Programmes and Projects.

Financing: Costs for water supply and treatment are fully covered by user charges. As a contracting organization, the 'Tatula' fund finances the construction of wastewater treatment plants and other environmental facilities. For aspects related to funding from international sources, see under Cooperation.

Cooperation: External resources come mainly from bilateral donors such as Sweden, Finland, Norway and Denmark, and also from PHARE, EBRD, NEFCO, WB and ISPA. Lithuania currently takes part in the following agreements concerning the use of international watercourses, lakes or groundwater: 1992 Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area and 1992 UN ECE Convention on the Protection and Use of Transboundary Water Courses and International Lakes. The Lithuanian Government has signed bilateral intergovernmental co-operation agreements in the field of environmental protection with Latvia, Sweden, Russian Federation and the Government of Flanders, the Ministry of Environment has signed bilateral agreements with related ministries and other institutions of Austria, Denmark, United States, Poland, Finland, Byelorussia, Slovakia, and the Netherlands. A trilateral agreement in the field of environmental protection was also signed between the Governments of the Republic of Lithuania, Latvia and Estonia.

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