JOHANNESBURG SUMMIT 2002

LATVIA

COUNTRY PROFILE

UNITED NATIONS

INTRODUCTION - 2002 COUNTRY PROFILES SERIES

Agenda 21, adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, underscored the important role that States play in the implementation of the Agenda at the national level. It recommended that States consider preparing national reports and communicating the information therein to the Commission on Sustainable Development (CSD) including, activities they undertake to implement Agenda 21, the obstacles and challenges they confront, and other environment and development issues they find relevant.

As a result, in 1993 governments began preparing national reports for submission to the CSD. After two years of following this practice, the CSD decided that a summarized version of national reports submitted thus far would be useful. Subsequently, the CSD Secretariat published the first Country Profiles series in 1997 on the occasion of the five-year review of the Earth Summit (Rio + 5). The series summarized, on a country-by-country basis, all the national reports submitted between 1994 and 1996. Each Profile covered the status of all Agenda 21 chapters.

The purpose of Country Profiles is to:

- Help countries monitor their own progress;
- Share experiences and information with others; and,
- Serve as institutional memory to track and record national actions undertaken to implement Agenda 21.

A second series of Country Profiles is being published on the occasion of the World Summit on Sustainable Development being held in Johannesburg from August 26 to September 4, 2002. Each profile covers all 40 chapters of Agenda 21, as well as those issues that have been separately addressed by the CSD since 1997, including trade, energy, transport, sustainable tourism and industry.

The 2002 Country Profiles series provides the most comprehensive overview to date of the status of implementation of Agenda 21 at the national level. Each Country Profile is based on information updated from that contained in the national reports submitted annually by governments.

Preparing national reports is often a challenging exercise. It can also be a productive and rewarding one in terms of taking stock of what has been achieved and by increasing communication, coordination and cooperation among a range of national agencies, institutions and groups. Hopefully, the information contained in this series of Country Profiles will serve as a useful tool for learning from the experience and knowledge gained by each country in its pursuit of sustainable development.

NOTE TO READERS

The 2002 Country Profiles Series provides information on the implementation of Agenda 21 on a country-by-country and chapter-by-chapter basis (with the exception of. chapters 1 and 23, which are preambles). Since Rio 1992, the Commission on Sustainable Development has specifically addressed other topics not included as separate chapters in Agenda 21. These issues of trade, industry, energy, transport and sustainable tourism are, therefore, treated as distinct sections in the Country Profiles. In instances where several Agenda 21 chapters are closely related, for example, chapters 20 to 22 which cover environmentally sound management of hazardous, solid and radioactive wastes, and chapters 24 to 32 which refer to strengthening of major groups, the information appears under a single heading in the Country Profile Series. Lastly, chapters 16 and 34, which deal with environmentally sound management of biotechnology, and transfer of environmentally sound technology, cooperation, capacity-building respectively, are presented together under one heading in those Country Profiles where information is relatively scarce.

At the release of this Country Profile, Latvia had not updated it and therefore any new changes will appear on our web page http://www.un.org/esa/agenda21/natlinfo

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LIST OF COMMONLY USED ACRONYMS

ACS	Association of Caribbean States
AMCEN	Africa Ministerial Conference on the Environment
AMU	Arab Maghreb Union
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CARICOM	The Caribbean Community and Common Market
CBD	Convention on Biological Diversity
CIS	Commonwealth of Independent States
CGIAR	Consultative Group on International Agricultural Research
CILSS	Permanent Inter-State Committee for Drought Control in the Sahel
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COMESA	Common Market for Eastern and Southern Africa
CSD	Commission on Sustainable Development of the United Nations
DESA	Department for Economic and Social Affairs
ECA	Economic Commission for Africa
ECCAS	Economic Community for Central African States
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FIDA	Foundation for International Development Assistance
GATT	General Agreement on Tariffs and Trade
GAW	Global Atmosphere Watch (WMO)
GEF	Global Environment Facility
GEMS	Global Environmental Monitoring System (UNEP)
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GLOBE	Global Legislators Organisation for a Balanced Environment
GOS	Global Observing System (WMO/WWW)
GRID	Global Resource Information Database
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IAEA	International Atomic Energy Agency
ICSC	International Civil Service Commission
ICSU	International Council of Scientific Unions
ICT	Information and Communication Technology
ICTSD	International Centre for Trade and Sustainable Development
IEEA	Integrated Environmental and Economic Accounting
IFAD	International Fund for Agricultural Development
IFCS	Intergovernmental Forum on Chemical Safety
IGADD	Intergovernmental Authority on Drought and Development
ILO	International Labour Organisation

IMF	International Monetary Fund
IMO	International Maritime Organization
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IPCS	International Programme on Chemical Safety
IPM	Integrated Pest Management
IRPTC	International Register of Potentially Toxic Chemicals
ISDR	International Strategy for Disaster Reduction
ISO	International Organization for Standardization
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature and Natural Resources
LA21	Local Agenda 21
LDCs	Least Developed Countries
MARPOL	International Convention for the Prevention of Pollution from Ships
MEAs	Multilateral Environmental Agreements
NEAP	National Environmental Action Plan
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organizations
NSDS	National Sustainable Development Strategies
OAS	Organization of American States
OAU	Organization for African Unity
ODA	Official Development Assistance/Overseas Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
PRSP	Poverty Reduction Strategy Papers
SACEP	South Asian Cooperative Environment Programme
SADC	Southern African Development Community
SARD	Sustainable Agriculture and Rural Development
SIDS	Small Island Developing States
SPREP	South Pacific Regional Environment Programme
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNCED	United Nations Conference on Environment and Development
UNCCD	United Nations Convention to Combat Desertification
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRO	Office of the United Nations Disaster Relief Coordinator
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNU	United Nations University
WFC	World Food Council
WHO	World Health Organization

WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization
WWF	World Wildlife Fund
WWW	World Weather Watch (WMO)

CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES - TRADE

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 3: COMBATING POVERTY

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION AND PRODUCTION PATTERNS

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: See in Chapter 9 under **Status** .

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION AND PRODUCTION PATTERNS - ENERGY

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: See in Chapter 9 under **Status**.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION AND PRODUCTION PATTERNS - TRANSPORT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: See in Chapter 9 under **Status**.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Cooperation: No information available.

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CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: See in Chapter 18 under **Programmes and Projects** and under **Status**.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

Decision-Making: See Chapter 18 under **Decision-Making**.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 9: PROTECTION OF THE ATMOSPHERE

Decision-Making: The Environmental Protection Department of the Ministry of Environmental Protection and Regional Development is responsible for the development of environmental protection policy (including laws and regulations), planning, and supervision of their implementation and operation. The Department develops and implements norms and standards to ensure environmental requirements and to improve the conditions and quality of the environment. Latvian Environmental Agency is responsible for the development and co-ordination of a national environmental monitoring system, including air, and integrated monitoring. Regional Environmental Boards implement state environmental protection and regional development policy in districts and cities of Latvia. Regional Environmental Boards operate in Riga, Valmiera, Madona, Daugavpils, Ventspils, Rezekne, Liepaja and Jelgava. The boards organize environmental impact assessments and issue licenses for emissions of noxious substances in the atmosphere of waters. The boards determine limits for pollution. The environmental laboratories of the boards conduct analyses of air. The Inspection sector of the boards determines administrative sanctions for non-observance of norms and assesses damage to the environment (www.varam.vdc.lv/eng/enforce/regioni.htm). Latvian Hydro Meteorological Agency implements policy in the field of hydrometeorology (www.meteo.lv/). The following legislation has been implemented in Latvia: laws - on Environmental Protection (06.08.1991), on Environmental Impact Assessment (31.08.1998), on Natural Resource Tax (14.05.1995), and on the UN Framework Convention on Climate Change (23.02.1995); and, the Cabinet of Ministers regulation on Protection of the Ozone Layer (09.12.1997). The Policy Plan for Mitigation of Climate Change in Latvia (1998) defines the framework, specific goals, and principles of climate change mitigation. The policy instruments and measures required in the energy, industry, agriculture, forestry and waste managements sectors are given.

Programmes and Projects:
The National Programme "Phase out of Ozone-depleting Substances in Latvia" (1995, additions in 1997): The programme defines the actions required for protection of the ozone layer in Latvia. Implementation of the programme has already resulted in phase-out of ozone-depleting substances from production of aerosols and foam. These substances will be removed from cooling systems, beginning in 2001. For operation of the programme and the associated projects, Latvia has received finances of about 1,000,000 Latvian Lats (Ls). The Programme was developed in co-operation with UN Environmental Programme (UNEP) consultants.

Project "Implementation of a National Programme for Recovery & Recycling of Refrigerants" (1999 – 2001): The goal of this joint project between the UN Development Programme (UNDP) and the Ministry of Environmental Protection and Regional Development is to phase-out ozone-depleting substances (CFC-12) from refrigeration systems. As part of the project, 40 devices were installed for pumping out and collection of coolant, and two devices for the regeneration of the coolant. The devices are scattered throughout Latvia, and centres for refrigerant regeneration have been established. The regenerated ozone-depleting substances can be used for and additional 3 – 5 years. About 10 tons of CFC-12 can be regenerated with these devices each month. Financing of over 76,000 Ls has been received from the Global Environmental Facility (GEF). Information available on the website: www.undp.org/.

There are several other technology-specific projects being implemented. Within the joint Latvian-Swedish project *"Removal of Ozone-depleting Substances from Refrigeration Systems"* (1998), a device was imported for reprocessing of freon, education material was produced, and lectures and users of this technology were trained. A Latvian Cooling System Engineer Association was created, which in the future will promote the removal of freon from trade in refrigeration systems and will oversee work in companies offering the respective services. Within the project *"Transition to CFCs-free technologies in production of aerosols"* (1999 – 2001), an aerosol production line was upgraded, such that its operation and filling of containers did not utilize ozone-depleting substances. Project costs were about 500,000 Ls. Within the project *"Conversion to CFC-free technology in the manufacture of rigid polyurethane foam"* (1999 – 2000), two devices for polyurethane foam production utilizing freon-free technologies were installed in the company Ritols. Coasts amounted to more than 62,000 Ls. *Ainazi Wind Generators*: Two wind generators have been installed in Ainazi, outside of Riga Gulf protection belt where they will not disturb migrating birds.

Status: The air quality in Latvia is generally acceptable and meets the required standards, due to the vast forests, low population density and moderate municipal and industria l energy consumption. The main source of pollution is motor vehicles, the exhaust gases of which sometimes lead to excessive pollution values in urban environment. Over half of total amount of air pollution is emitted from automobile transport. In the beginning of 1999, there were 650,000 road vehicles registered in Latvia, a number twice that registered in the beginning of the 1990s. While the amount of pollution from automobile transport is not registered, it is transport emissions do affect the soil close to roads and the air quality in Riga, as shown by the monitoring of air quality in Riga. Stationary pollution sources produce such pollutants as sulphur dioxide, carbon dioxide, nitrogen oxide, and solid particles. Among the stationary sources, the largest polluters are boiler houses and thermal electrical power plants, which produce 80% of the total amount of pollution from stationary sources. The combustion of fossil fuels (oil, coal) in boiler houses and thermal-electrical power plants releases large amounts of carbon dioxide to the atmosphere. It is estimated that, since the beginning of the 1990s, the amount of pollution from stationary sources has decreased by about half. Agriculture is the main source of methane, released from the decomposition of livestock manure and from belching of ruminants (cows, sheep), and a major source of nitrogen oxide (N_2O).

In Latvia and neighbouring countries, air pollution from energy production, industry and transport can be carried for large distances by wind. It is estimated that the greatest amounts of pollution in Latvia are received from Poland, Germany and Czech Republic. There are two stations in Latvia for monitoring of transboundary air pollution. Increased acidity of rain and raised heavy metal concentrations have been observed at the monitoring station located in southwest of Latvia. A total of 11 monitoring stations are in operation in Latvia (Riga, Ventspils, Valmiera, Daugavpils and Saldus District), where continuous measurements are made for the concentrations of nitrogen dioxide, ozone benzene, toluene, paraxylene, formaldehyde and sulphur dioxide in the air. *Sulphur dioxide*: Sulphur dioxide (SO_2) is mainly emitted from boiler houses burning coal, peat or oil. The allowed mean daily SO_2 concentration in air is 125 ìg/m3. The concentrations of this compound depend on the season. In the heating season (November to April) the concentrations are about 2-3 times higher than in the summer months. The highest mean annual concentrations of SO_2 in air are recorded in Ventspils and Daugavpils, where the most common heating fuels are oil and coal. *Nitrogen dioxide*: The main source of nitrogen dioxide (NO_2) is emissions from transport. The maximally allowed concentration in air is 40 ìg/m3. Elevated NO_2 concentrations were observed in 1999 in the Riga centre in the area of the most intensive transport. In South-West of Saldus region, the NO_2 concentrations are 3-4 times higher than the mean level in Latvia, due to emissions from the oil refinery in Mazeikiai, Lithuania. *Benzene*: Benzene is a carcinogenic substance. The maximal concentration of benzene, mainly produced from transport emissions, is 100 ìg/m³. The concentrations of this compound in Saldus region, around the oil refinery in Mazeikiai, Lithuania, are about 1.5 times higher than in large cities.

Stratospheric Ozone Depletion: In the latitudes of Latvia, as in the rest of the world, the ozone layer is becoming depleted at a rate of about 3,4% every 10 years. Ozone depletion is seasonal, being most intensive in the cold season. At Latvia's latitude, the thickest ozone layer occurs in April, and the thinnest in November. Between 1961 and 1999, a monitoring station has recorded the total ozone levels in the atmosphere seven times daily in suitable weather conditions, and the information is made available to international institutions such as the World Ozone Data Bank. The highest ozone levels were observed in Latvia on 11-12 May 1978, and the lowest (46% below normal levels) on 28 February 1992. Between 1992 and 1993, the ozone levels were low, on average 7-11% below the normal level. About 250 tons of ozone-depleting substances are consumed yearly in Latvia. Environmental legislation in Latvia calls for the removal of all ozone-depleting substances from economic use. The sale of these substances is already rapidly declining, particularly regarding their use in aerosol production, refrigerator systems, fire extinguishers, and foam blowing. As of the year 2000, the use of ozone-depleting substances, such as halons and CFCs, is banned from import. The other substances will gradually be phased out until 2020. Compared with the end of the 1980s, the use of ozone-depleting substances in production has rapidly decreased. For example, the use of CFCs has fallen by 200 times, the use of carbon tetrachloride by 6 times, and halons are no longer in use. Calculations indicate that the contribution of Latvia in produced greenhouse gases is small in comparison with developed countries. For example, the total CO_2 production in Latvia, as one of the main greenhouse gases, is 10 times less than in Denmark. After the year 2000, considering the expected economic development, it is predicted that the emissions of greenhouse gases will gradually increase.

Capacity-Building, Education, Training and Awareness-Raising: See under **Programmes and Projects**.

Information: Latvian Environmental Agency supervises the testing of environmental quality in Latvia, and maintains an environmental database for storage of information. The centre develops a laboratory system for testing of environmental quality that meets standards of the European Union, regularly tests sources of emissions, and ensures qualitative and quantitative determination of pollutants in cases of environmental accidents. It also prepares and publishes reports on the environmental conditions in Latvia, implements the Helsinki Convention and prepares informative material on the conditions of the Baltic Sea (www.vkmc.gov.lv/). Environmental Impact Assessment State Bureau organizes environmental impact assessment as required, and develops and maintains a database for the respective information (www.varam.gov.lv/ivnvb/default.htm). Also see under **Status**.

Research and Technologies: See under **Programmes and Projects**.

Financing: The Environmental Protection Fund oversees the special budget for environmental protection, formed from the Natural Resource Tax payments. The fund, supervised by an approved council of the Ministry, finances environmental projects (including air, waste management, and environmental education) and provides subsidies for industries involved in reprocessing of harmful substances. The Latvian Environmental Investment Fund procures local and foreign finances, issues credits with eased terms for municipal governmental institutions and for the private sector concerning various environmental protection projects. The Council of the Latvian Environmental Investment Fund is represented by members form the Ministry, municipal governmental institutions, foreign finance institutions, and other interest groups. Also see under **Programmes and Projects**.

Cooperation: In 1995, Latvia ratified the United Nations Framework Convention on Climate Change. The Kyoto Protocol of the UN Framework Convention on Climate Change was ratified in 1998, thereby making a commitment to reduce greenhouse gas emissions by 8% during the years 2008-2012, compared with the levels in 1990. In accordance with the UN Framework Convention on Climate Change, Latvia is required to communicate to the Convention parties, information on the emissions and sinks of greenhouse gases, as well as policies and measures taken to mitigate climate change. The First National Communication was prepared in 1995, and the Second in 1998 (www.unfccc.de/), by representatives of all ministries, research institutes, non-governmental organizations and foreign consultants. The Third National Communication of the Republic of Latvia is being prepared during 1999-2001. Within the Climate Change Convention, already 30 small projects have been implemented, with the goal to improve energy efficiency in heat supply. Small boiler houses utilizing wood fuel have been constructed, heat insulation in building has been upgraded, and heat supply systems have been improved. Latvia also participates in several other international conventions, such as: Convention For the Protection of the Ozone Layer, Vienna (1985, ratified 1995); Protocol on Substances Depleting the Ozone Layer, Montreal (1987, ratified 1995); On Long-range Transboundary Air Pollution, Geneva (1979, Latvia ratified in 1994); and, Protocol on Cooperative Programme for Monitoring and Evaluation of Long-range Transmission of Air Pollutants in Europe, Geneva (1984). See also under **Status**.

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CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES

Decision-Making: Environmental Protection Department of the Ministry of Environmental Protection and Regional Development develops environmental protection (including nature protection) policy and planning, and supervises their implementation and operation. The work of the Department includes the integration of environmental demands into the strategic plans and programmes of other sectors. The Department develops and implements norms and standards to ensure environmental requirements and to improve the condition and quality of the environment (www.varam.gov.lv/viddep/index.htm). The State Geological Survey, as an institution under the supervision of the Ministry of Environmental Protection and Regional Development, is responsible for ensuring sustainable use and supervision of subsoil resources. The Survey conducts inventory of the resources, determines production limits, develops norms and regulations regarding exploration and protection of subsoil resources, issues licenses for their use, and approves the resources and reserves (www.mapx.map.vgd.gov.lv/geo3/). The State Environmental Inspectorate has a control role in environmental protection and use of natural resources, and it co-ordinates work of the Regional Environmental Boards, Marine Environmental Board, and environmental inspectors in protected territories. The Inspectorate also controls the management of particularly protected areas and monuments, and the observance of the protection requirements for plant and animal habitats. The Regional Environmental Boards implement state environmental protection and regional development policy in districts and cities of Latvia. Regional Environmental Boards operate in Riga, Valmiera, Madona, Daugavpils, Ventspils, Rezekne, Liepaja and Jelgava. The boards organize environmental impact assessments and determine limits for use of natural resources and for pollution. The environmental laboratories of the Board conduct analyses of water and soil pollution, water treatment sludge, and background radiation. The inspection sector of the boards determines administrative sanctions for non-observance of norms and assesses damage to the environment (www.varam.vdc.lv/eng/enforce/regioni.htm). The local authorities issue permits for the extraction of the common minerals in locations where their reserves have been determined by the State Geological Survey.

The concept "The subsoil of Latvia" (1995) is focused on the development of national policy regarding the subsoil resources, survey of resources and their quality, and information storage and dissemination, to ensure sustainable and comprehensive use and protection of the subsoil. The legislative framework for the management of land use is provided by the following laws: on Environmental Protection (06.08.1991), on Environmental Impact Assessment (31.08.1998), on the Natural Resource Tax (14.05.1995), on Land Use and Survey (21.06.1991), on the Subsoil (02.05.1996), on Specially Protected Nature Territories (16.03.1993), on Agriculture (24.10.1996), on Protection Belts (05.02.1997), on Plant Protection (17.12.1998), on Building (10.08.1995), on Restoration of Property Rights to the Land Where Specially Protected Objects Are Located (14.09.1995), on Melioration (20.04.1993), and on Control of Food Produce Distribution (20.03.1998); and, by the Cabinet of Ministers Regulations: on Use of Sewage Sludge for Soil Improvement (09.09.1997), on Plant Quarantine (19.10.1999), on Distribution, Storage and Use of Plant Protection Aids (07.09.1999), on Procedure for Registration of Plant Protection Aids (05.10.1999), Concept "The Subsoil of Latvia" (09.05.1995), on the Use of Minerals, Deposits and Subsoil Areas of State Importance (08.07.1997), and on the Use of Subsoil (08.07.1997).

Programmes and Projects:
The Programme "Geology for the Community": The State Geological Survey implements this programme, which is aimed to produce and distribute informative publications for the education of subsoil resource owners and potential users. The material also includes information on the sustainable use and protection of subsoil resources. Work has continued since 1998 on the on the improvement of a 1:200,000 scale geological map and its publishing, providing also a text with explanations. In 1997, geochemical mapping of Latvia at the 1:500,000 scale began for the first time. Fieldwork will be completed in 2000, and the reporting - in 2001. In 1998-1999, the reserve balance was surveyed, and a cadastre of mineral deposits was prepared. Preparation of passports of mineral deposits and licensing of the use of subsoil resources has continued since 1998.

Development of a strategy for multiple use of sewage sludge in Latvia (1998 – 2000): Within this Latvian-Swedish project, the potential use of sewage sludge produced during wastewater treatment will be explored. The sludge can be used not only for soil fertilization in agriculture, but also in forestry, as liners in solid waste landfill sites, and for landscaping.

Status: Latvia is not rich in precious minerals, and its soils are not among the richest in the world. The main national values are the convenient geographical situation and comparatively low anthropogenic impact, which has favoured the preservation of vast semi-natural and natural areas, highly productive forests, and remarkable biological diversity. Soil is one of the most used of the renewable natural resources. Soil productivity is determined by the soil type, soil texture, nutrient levels, and soil reaction, as these factors affect uptake of nutrients to plants. For the most part, the soils in Latvia are poor, and they require both regular liming to prevent acidification and fertilization. The most productive soils are found in the southern parts. The most common soil texture is light or medium sandy clay. Subsoil resources are sediments, rocks and minerals, underground heat, as well as geological and geomorphologic monuments such as bedrock exposures and large field boulders. The subsoil of Latvia is rich in building materials. One of the valuable subsoil resources is gypsum, which Latvia supplies to the other Baltic countries. The total gypsum deposits have reserves of 25,000,000 m³. Dolomite is a widely distributed, mined rock in central and eastern Latvia, used as a mechanically resistant building material. Its total reserves comprise 355,000,000 m³, but the production in 1999 was only 643,000 m³. This mineral is used for production of crushed stone, dolomite flour, and as a finishing stone. Limestone deposits, which are concentrated in southwestern Latvia, are used in the concrete, glass and sugar industries. The limestone deposits (180 millions m³) can fully ensure the industrial demand for this raw material. Other recorded subsoil resources include: sand and grit – 785 millions m³; peat – 797 millions m³; sapropel – 103 millions m³; quartz and sand – 39 millions m³; and, clay – 222 millions m³.

The national-level solutions to the problems regarding land management are complicated by land ownership in many cases, as the Civil Law stipulates that the subsoil resources are owned by the landowner. The problems inherent in the use and protection of subsoil resources can be classified as: protection of resource quality and protection of resources from pollution; and, rational use of resources, ensuring their supply for economic demand both in the present and future. A decline in mining has left many abandoned quarries that have not been ameliorated and are not used efficiently, for example, they are used as illegal dumpsites. These territories spoil the landscape and can lead to contamination of deposits and groundwater. Poor quality forests and shrubs are growing over vast areas of arable land due to the declining agriculture. A large number of protected territories are under private ownership due to the land reform process. Soil has often been left polluted in the former Soviet military bases. Many illegal waste dumps exist, and the legal waste landfill sites are not properly managed or planned.

Capacity-Building, Education, Training and Awareness-Raising: See under **Programmes and Projects**.

Information: Latvian Environmental Agency supervises the testing of environmental quality in Latvia, and maintains an environmental database for storage of information (www.vdc.lv/). It is responsible for development and co-ordination of national environmental monitoring system, involving terrestrial and marine systems, underground water, air, forests, protected areas, soil, geological processes, and integrated monitoring. The Agency prepares and publishes reports on the environmental condition (www.vkmc.gov.lv/). The Environmental Impact Assessment State Bureau organizes environmental impact assessment as required, and develops and maintains a database for the respective information. Since the creation of the Bureau in 1999, the environmental impact assessment procedure has been utilized for more than 20 different projects (www.varam.gov.lv/ivnvb/default.htm). See also under **Programmes and Projects**.

Research and Technologies: No information available.

Financing: The Environmental Protection Fund oversees the special budget for environmental protection, formed from Natural Resource Tax payments. The fund, supervised by and approved by the council of the ministry, finances environmental projects (water, air and nature protection, waste management, biological diversity, and environmental education) and provides subsidies for industries involved in reprocessing harmful substances. The Latvian Environmental Investment Fund procures local and foreign finances, issues credits with eased terms for municipal governmental institutions and for the private sector concerning various environmental protection projects. The Council of the Latvian Environmental Investment Fund is represented by members from the Ministry of Environmental Protection and Regional Development, municipal governmental institutions, foreign finance institutions, and other interest groups.

Cooperation: No information available.

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CHAPTER 11: COMBATING DEFORESTATION

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: See in Chapter 15 under **Status**.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: See in Chapter 14 under **Status**.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

This issue is not applicable to the country.

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CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

Decision-Making: Legislation and regulations with respect to agriculture include the following: laws - on Agriculture (24.10.1996), on Melioration (20.04.1993), on Control of Food Produce Distribution (20.03.1998); and, Cabinet of Ministers regulations - on Use of Sewage Sludge for Soil Improvement (09.09.1997), on Plant Quarantine (19.10.1999), on Distribution, Storage and Use of Plant Protection Aids (07.09.1999), and on Procedure for Registration of Plant Protection Aids (05.10.1999). In 1999 Latvia initiated Provisions for Good Agricultural Practice in Latvia. The provisions are a summary of the existing legislation and recommendations, developed based on the EU Nitrate Directive and HELCOM recommendations. The goal of the document is to reach a condition when farmers will take sufficient regard to environmental requirements in agriculture. Also see under **Decision-Making** in Chapter 10.

Programmes and Projects:
"Rural development for Latvia" - special action programme for agricultural and rural development (2000): One of the main goals of the SAPARD programme is to provide subsidies to farmers in the EU who utilise agricultural practices in harmony with the environment, in this way implementing environmental policy in the agricultural sector.

Baltic environmental agriculture run-off project in Latvia (BEAROP II) (1994 – 2000): Within the joint Latvian-Swedish project, a network of stations for quantitative and qualitative monitoring of agricultural runoff were established in Latvia. The obtained results will be used to develop recommendations for use of environmentally friendly methods in agriculture. In the farm "Kaudzites" in Zana Pagast, Saldus District, manure management was improved, forming a pilot farm for education of farmers in good practices for storage and use of manure. The project will continue through the year 2000.

"Balticum project"- environmentally friendly agriculture (1995 – 1999): Five model farms were created in Latvia where mineral and organic fertilizers, and pesticides, are stored in accordance with environmental requirements. Field demonstrations are available, and farmers from across Latvia can become acquainted with environmentally friendly farming. For example, at the farm "Upmali" in Rendas Pagast, Kuldigas District, environmentally safe manure storage facility has been built, and test fields are used for efficient and environmentally friendly use of fertilizers.

With the Latvian-Danish project "*On transposition of the EU nitrate directive"* (1999 –2000), Cabinet of Ministers regulations are being developed, which are in accordance with the EU Nitrate Directive and HELCOM recommendations. Environmental standards will be used to regulate use of fertilizers in agriculture. Within the Latvian-Swedish project *"Development of a strategy for multiple use of sewage sludge in Latvia"* (1998 - 2000), the potential use of sewage sludge produced during wastewater treatment will be explored. The sludge can be used not only for soil fertilization in agriculture, but also in forestry, as liners in solid waste landfill sites, and for landscaping.

Status: Agricultural soils cover 39% of the territory of Latvia, or 2,488,100 ha, including 1,840,000 ha of arable land (74%), 238,000 ha of meadows (10%), and about 379,000 ha of pasture (15%). Compared with the beginning of the 1990s, the coverage of agricultural land has increased by almost 5%, but still a large proportion of the former agricultural land is not utilized for farming. About 155,000 ha of the land previously used for agriculture is overgrown by weeds, 23,000 by shrubs, and 5,500 ha are becoming waterlogged. Research has shown that 38% of surveyed agricultural land is becoming acidic. To prevent further acidification, about 100,000 ha of agricultural land should be limed annually. However, only 2,500 ha were limed in 1998. Soil acidification and reduction in organic matter content will lead to less nutrient uptake by plants, but increased uptake of pollutants (heavy metal, radioactive elements). During the recent years, many farms have been utilising intensive agricultural methods, and as a result, in some regions biological diversity can be affected. Already in the 1970s and 1980s, installation of land drainage systems led to the creation of large uniform fields, destroying the habitats of many plants and animals. Intensively managed areas have practically lost all of the important landscape elements, which support biological

diversity – individual trees or their groups and ponds. The creation of large uniform fields has promoted soil erosion by wind and water. About 15% of agricultural land is sensitive to wind erosion, and 24% to water erosion. The implementation of environmentally friendly, sustainable agriculture is a policy goal of environmental protection. Of the sustainable agricultural practices used presently in Latvia, biological agriculture is the most utilized. This method is based on promoting natural self-regulation processes, improvement of soil biological activity, and abdication from use of artificial fertilizers and pesticides. Its goal is to produce wholesome and healthy produce. Biological agriculture is a stable sector since the beginning of the 1990s, and currently about 200 farms with a total area of 2,750 ha (0,1% of the agricultural land) employ these methods.

Capacity-Building, Education, Training and Awareness-Raising: See under **Programmes and Projects**.

Information: See in Chapter 10 under **Information**.

Research and Technologies: No information available.

Financing: See in Chapter 10 under **Financing**.

Cooperation: No information available.

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CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

Decision-Making: One of the primary responsible institutions in respect to the issue of biodiversity is the Department of the Nature Conservation of the Ministry of Environmental Protection and Regional Development. The main task of the Department is development of legislation in the sector of nature conservation. The Department also must follow up the implementation of the National Programme for Biological Diversity. In order to reach these goals, the legislation of the sectors should be harmonized, as well as an appropriate institutional structure and uniform monitoring network for biological diversity should be developed. Management of protected nature areas and designing of the protection plans should be provided, too (www.varam.gov.lv/viddep/index.htm). Other responsible institutions involved in decision-making include Latvian Environmental Agency, State Environmental Inspectorate, regional environmental boards, Environmental Impact Assessment State Bureau (www.varam.gov.lv/ivnvb/default.htm), Latvian Environmental Protection Fund, and Latvian Environmental Investment Fund. In 1995, Latvia implemented the National Environmental Policy Plan, which is a strategic document developed for a 25 – 30 year period. One of its main goals is to prevent a decline in biological diversity. The mentioned possible solutions to meet this goal are protection of species and habitats, protection and improvement of migratory routes, and further development of the network of protected territories.

The following legislation further forms the framework for conservation of biological diversity: laws (information available at: www.varam.gov.lv/vad/Latviski/Likumd/Likumi.html) - on Environmental Protection, on Specially Protected Nature Territories, on the Protection of Species and Habitats, on Hunting, on Fishing, on Restoration of Property Rights to the Land Where Specially Protected Nature Territories are Located, on North Vidzeme (Ziemelvidzeme) Biosphere Reserve, on Kemeri National Park, on Protected Belts, on Particularly Protected Nature Territories in Rural Areas of the Latvian Republic, on the 1974 and 1992 Helsinki Conventions on the Protection of the Marine Environment of the Baltic Sea Area, on the 1971 Convention on Wetlands of International Importance, Particularly as Waterfowl Habitats, on the Convention on Protection of the World Cultural and Natural Heritage, on the Washington (1973) Convention on International Trade in Endangered Species of Wild Fauna and Flora, on the Bern (1979) Convention on the Conservation of European Wildlife and Natural Habitats, on the Rio de Janeiro Convention (1992) on Biological Diversity, on the Bonn (1979) Convention on the Conservation of Migratory Species of Wild Animals, on the Protection of Animals, on Forests, on Gauja National Park, on Grini Nature Reserve, on Moricsala Nature Reserve, on Teici Nature Reserve, on Krustkalni Nature Reserve, on Slitere National Park; and, regulations of the Cabinet of Ministers - on General Provisions for the Protection and Use of Specially Protected Nature Territories, on the Procedure of Designation of Protected Belts of the Baltic Sea and Riga Gulf, on Hunting, on Fishing, on the Lake Engure Nature Park, on Territorial Planning, on Classification of Forests into Categories and Designation of Specially Protected Forest Lots, on the Specially Protected Cultural-Historical Territory of Abava Valley "Abavas Ieleja", on the Lake Engure Nature Park Council, on the Administration of the Kemeri National Park, on the Procedure for Licensing of amateur fishing (angling) in Waters of the Republic of Latvia, on the Administration of the North Vidzeme (Ziemelvidzeme) Biosphere Reserve, on the Implementation of 5 June 1992 Rio de Janeiro Convention on Biological Diversity, on Trade in Threatened and Protected Species of Plants and Animals, on Protected Landscape Territories, on Nature Parks, on Restricted Use Nature Territories, on the Protection and Use of Lake Liepaja "Liepajas ezers" Restricted Nature Territory, and on the Protection and Use of Lake Babite "Babites ezers" Restricted Nature Territory.

Programmes and Projects:
The National Programme of Biodiversity (1997 – 1999): This programme, which contains both a strategy and an action plan, was created with the financial assistance and supervision of the Global Environmental Facility and the United Nations Development Programme. The goal of the programme were: to promote sustainable use of natural resources while at the same time protecting nature, to guide nature protection activities from a national level to a municipal governmental levels to the community, to ensure the international commitments of Latvia, and to aid foreign and local businesses in perceiving priorities for investment and technical assistance projects. During the project, seminars were held which were attended by about 100 participants from various ministries, state institutions, universities, research centres, non-governmental organizations and independent experts. The action programme on biological diversity was developed for a period of 10 years, until 2010. Finances to carry out the

actions will be secured from the state budget, the Environmental Protection Fund, international funds, and through co-operation programmes (information available at: www.varam.gov.lv/vad/Latviski/Plani/BD_nac_progr.html).

CORINE (Co-ordination of information on the environment) biotopes co-ordinated environmental data (1994 – 1997): The most current information on the most important habitats is summarized in the CORINE database. Selection of CORINE biotopes locations began in the beginning of 1994. The selection criteria used were: presence of threatened plant and animal species, sensitive habitats, high diversity of specific taxonomic groups (species with similar features), and high diversity of natural habitats. According to the above criteria, a total of 251 areas were selected with a total coverage of almost 600,000 ha. Excluding 5 areas with large portions of marine waters, the total coverage of CORINE locations inland, including waters, is 500,000 ha or 7,8% of the land area of Latvia. The areas were chosen independent of their protection status or ownership. About 34,6% of CORINE areas are nationally protected within particularly protected areas or their parts (information available at: www.daba.lu.lv/ldf/CORINE/Latviski/Corine_lat.html).

Wetland Inventory and Assessment (1995 – 1996): Inventory of wetlands (areas permanently of periodically covered by no more than 6 m water) was conducted in Latvia between 1995 and 1996. As a result, the important Latvian and Ramsar Convention wetlands were identified. These areas require actions for protection as internationally and locally important water bird locations meeting the respective criteria. More than 60 wetlands were assessed according to their value and protection status. Presently, the greater part of these wetlands is within protected nature areas, mostly in restricted nature areas. According to criteria of the Ramsar Convention, the following wetland types were identified: 1. very high ecological value, which are internationally important or rare and characteristic of the Baltic region; 2. high ecological value, which are nationally important or rare and characteristic of Latvia; 3. ecologically important on a regional level, or rare and characteristic for a geobotanical regions and; 4. locally important for different regions of Latvia (www.daba.lu.lv/LDF).

Development of Management Plans for Protected Territories (1995 – 2000): Legislation stipulates that every protected nature territory must have a nature protection plan. Presently, state budget financing has allowed to develop about 30 plans. Foreign aid has helped in development (completed or near completion) of protection plans for Lake Engure, Lake Pape, Lake Kanieri, the Kemeri National Park. The goal of these plans is, based on research, to develop a territorial zoning by level of restriction on use. The plans include management actions required to balance the conservation of nature values with social/economic development of the area. The planned timing of the actions, their costs, possible sources of funding, and executors are given. The protection plans must be considered in the municipal spatial plans. Together with the plan, individual regulations on protection and use are usually produced and accepted by the Cabinet of Ministers.

Species and Habit Project (1998 – 2000): In recent years, Latvia has joined several international Conventions involving the protection of biological diversity. As Latvia is harmonizing its legislation with that of the European Union (EU), Latvia will need to fulfil the obligations of the EU Bird and Habitat directives. In this regard, Latvia needs to acquire information on many internationally important species and habitats (www.varam.gov.lv/vad/Latviski/SuguBiotopuProj/Default.html). Another co-operation project is *Integrated Coastal Zone Management Plan for the Baltic Countries and Poland (1998 – 1999).* The goals of this 18-month project were to develop a geographical information system (GIS) database, to provide the ministry with respective equipment, and to train the employees in its operation. A digital coastal base map was produced, along with an orthophoto map of the Slitere National Park, a pilot-project territory. Presently, a 5-kilometre-wide coastal zone has been digitized, along with the 300 m strictly protected belt.

Status: The term biological diversity encompasses the diversity of plants, animals, micro organisms, and ecosystems. The nature of Latvia is very rich, compared with that in other European countries. Latvia is the home for many of the globally threatened species, such as, the black stork, corncrake, lesser spotted eagle, lamprey, eel, wolf, and lynx. About 27,400 plant and animal species are found in Latvia. The presently known species include more than 18,000 animals, about 5,000 plants and 4,000 fungi. However, the actual number of species may be larger than 30,000. Scientists have estimated that about 907 species (3,3 % of the total number) are rare and threatened. *Sea*: The biological diversity in Latvia is enriched by the fish resources of the coastal waters of the

Baltic Sea and the Gulf of Riga. The sea deeps are important fish spawning areas. Large numbers of water birds depend on the waters of the Gulf of Riga and the Irbe Straight for wintering. Along the 500 km long seashore of Latvia, a length of about 300 km, mostly on the Kurzeme shore, supports ecosystems which have been little disturbed and which include many species adapted to this unique environment. A common nesting bird is Black-headed gull (Larus ridibundus). About 110,000 pairs nested in 1992, but numbers have rapidly decreased to 40,000 - 50,000 pairs. *Lakes*: Latvia has almost 3,000 lakes with a total area of 1,000 km². The lagoon lakes have particularly high natural values. The lakes Pape, Liepaja, Engure, Kanieris and Babite support high species diversity, especially regarding water birds. For example, at least 30 bird species, which are rare and threatened in Europe, nest in Lake Engure. Mute Swan (Cygnus olor) commonly nests in Latvia, particularly in the West. More than 600 pairs were recorded in 1997. In mild winters, several thousand birds over winter in shallow lagoon lakes and in the Riga Gulf. The main wintering site is in Lake Liepaja, but only in winters when the lake is not completely frozen. *Rivers*: The 12,500 rivers of Latvia have a total length of 38,000 km. Rivers are the home for more than 26,000 beavers and almost 5,000 otters. Crayfish populations have recently returned to the rivers, confirming improvement of water quality. About 40 fish species live in inland waters, of which 19 have commercial importance. Dipper (Cinclus cinclus) is fairly common migrating bird and winter guest near rapid rivers, which do not freeze. Numbers are low – from 250 to 1000 pairs. The low nesting numbers are not only due to Latvia's location at the border of the species habitat area, but also due to the lack of suitable nesting sites. *Wetlands*: Wetlands cover almost 5% of the area. Specific plant and animal communities have formed in wetlands, and many of the typical species of these habitats are rare or threatened. A total of 12% of the wetlands are under national protection. Elk (Alces alces) is the largest member of the Cervidae (Deer) family in Latvia.

Meadows: Semi-natural, non-cultivated meadows support the highest diversity of plants and invertebrates, and about one-third of Latvia's flowering plants and ferns can be found in this habitat. Semi-natural meadows are the habitat for 40% of the rare and threatened plant species, and they are the nesting and feeding areas for many birds. Among the rare species is a Konik breed wild horse, descendent of the Tarpan – an extinct European horse. These horses have preserved the ancient features, which help survival in the wild. They wander through the Pape meadows in a 200 ha territory, feeding on grass and reed shoots. *Forests*: Forests cover 44,6% of the territory of Latvia. Approximately two-thirds of the area is covered by coniferous forests, in which pine is the most widespread. Birch, white alder and aspen grow in considerable areas, while the surviving old oak and ash woods are very few. Lynx (Felis lynx) is the only wild member of the Felidae (Cat) family in Latvia. *Caves*: In river valleys, a few thousand bedrock exposures and 211 natural caves have been found. Rare algae, lichen and plant species have adapted unique traits to allow survival in these unique habitats. In Latvia, caves are unique natural sites, and therefore most of them are included in the list of Particularly Protected Natural Monuments. Most commonly, the caves are formed in sandstone, but some are several hundred meters long. Adapted animal species live in caves that have minimal visitor impact, and several are important wintering locations for bats. Bats (Chiroptera) are the only actively flying mammals. Bats winter in basements and caves where humidity is fairly high. Populations of some species migrate to wintering sites in other countries of Europe. There are 15 bat species in Latvia.

Human impact, particularly by sectors of the economy that utilize natural resources (forestry, fishery, peat extraction and agriculture), is a major factor decreasing biological diversity. Inconsiderate actions during the development of branches of the economy have led to the extinction of several plant and animal species and to destruction of habitats. Presently, 907 species (3,3% of the total number) are protected. It is thought that 31 plant and animal species have become extinct in Latvia. Introduced species, such as the American mink, raccoon dog and giant hogweed have had an impact on the local populations and ecosystems. *Forestry*: Wood is an important export item, and its utilization has increased two-fold over the last 5 years. The rapid harvest of forests threatens biological diversity. In Latvia, conditions characteristic to natural forests have been preserved only in a small number of areas. The coverage of these natural forests is continuing to decrease, and their protection is now a priority in protection of biological diversity. *Peat Extraction*: Peat extraction sites cover 4.2% of the total peat land area. Interest in the economic use of peat in Latvia has been increasing in recent years, particularly by countries (Germany, Ireland and The Netherlands) where the peat resources have dwindled. Rising peat extraction poses a threat to peat lands and their characteristic plants and animals. *Agriculture*: Agricultural land covers 39% of the area of Latvia. During the 1970s and 1980s, installation of land drainage systems resulted in large expanses of fields, destroying the habitats and feeding areas for many species. Recently, many farms have been utilising intensive agricultural methods, and in

the future they can cause considerable losses to biological diversity in some regions. *Fishery*: Negative changes in ecosystems or even a decrease in biological diversity can be caused by illegal fishing (for example, using electrical fishing), non-sustainable use of fish resources, and unconsidered artificial fish breeding. Construction of small hydroelectric stations affects ecosystems in rivers and fast-flowing sections. *Transport*: Specific ecosystems and species are affected also by the transport and energy sectors. The transport intensity has rapidly grown recently, along with the extent of road repair and construction. While the effect of transport on biological diversity has not been monitored, it is known that the losses of birds and other animals on roads are significant. Nature is affected also by pollution of water and air.

Species, habitats and ecosystems are protected within territories where a protection regime is ensured by regulations on protection and use. The Specially Protected Nature Territories cover 8.7% of the country. There are 7 categories of protected territories: nature reserves, biosphere reserves, national parks, restricted nature territories, nature parks, nature monuments and protected landscape territories. The first protected nature territories in Latvia were created almost 100 years ago. Latvia now has 3 national parks (Gauja, Kemeri and Slitere), 22 nature parks, 211 restricted nature areas, 4 nature reserves (Teici, Krustkalni, Moricsala, Grini), 6 protected landscape territories, 381 nature monuments and North-Vidzeme Biosphere Reserve. Work has continued for four years on development of management plans for the protected nature territories. Over 30 management plans have been developed for specific territories, which define the territorial zoning, management regimes and the required actions for maintenance of nature values, in accordance with sustainable use of land. A protected belt extends for 500 km along the Baltic seacoast, in which a strict protection regime is designated for a 300 m wide zone. To ensure protection of the rare and unique coastal ecosystems, economic activities (construction, forest and land use) are strictly restricted in this zone. Similar regulations apply for river and lake protected belts. Their width, depending on river length or lake size, can even reach 500 m or more. Information on the total surface area of protected belts has not yet been compiled. Forests with a strict protection regime cover 1,1% of the area of Latvia, but 7,7% of the forest area has a restricted use regime.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: See under **Programmes and Projects**.

Research and Technologies: No information available.

Financing: The Latvian Environmental Protection Fund oversees the special budget for environmental protection and awards grants in the form of partial or full financial assistance for various environmental projects, including biological diversity. The Latvian Environmental Investment Fund procures local and foreign finances, issues credits with eased terms for municipal governmental institutions and for the private sector concerning various environmental protection projects. Also see under **Programmes and Projects**.

Cooperation: The following conventions reflect co-operation in the field of biodiversity: On Wetlands of International Importance, Particularly as Waterfowl Habitat, Ramsar (1971, Latvia ratified in 1995), UNESCO Convention on Protection of the World Cultural and Natural Heritage (1972, Latvia ratified in 1995), CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington (1973, Latvia ratified in 1996), On the Conservation of European Wildlife and Natural Habitats, Bern (1979, Latvia ratified in 1996), On the Conservation of Migratory Species of Wild Animals, Bonn (1979, Latvia ratified in 1999), On Biological Diversity, Rio de Janeiro (1992, Latvia ratified in 1995), On the Protection of the Marine Environment of the Baltic Sea Area, Helsinki (1974, Latvia ratified in 1994), and On the Protection of the Marine Environment of the Baltic Sea Area, Helsinki (1992, Latvia ratified in 1994).

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CHAPTER 16 AND 34: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY AND TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING

Decision-Making:
Technology: No information available.
Biotechnology: No information available.

Programmes and Projects:
Technology: See in Chapters 9, 14, 15, 17 and 18 under **Programmes and Projects**.
Biotechnology: No information available.

Status:
Technology: No information available.
Biotechnology: No information available.

Capacity-Building, Education, Training and Awareness-Raising:
Technology: No information available.
Biotechnology: No information available.

Information:
Technology: No information available.
Biotechnology: No information available.

Financing:
Technology: No information available.
Biotechnology: No information available.

Cooperation:
Technology: No information available.
Biotechnology: No information available.

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CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-CLOSED SEAS AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

Decision-Making: There are several institutions involved in the decision-making process. The main tasks of the Environmental Protection Department of the Ministry of Environmental Protection and Regional Development are to develop environmental protection policy and planning, and to supervise their implementation and operation. The work of the Department includes the integration of environmental demands into the strategic plans and programmes of other sectors. The Department develops and implements norms and standards to ensure environmental requirements and to improve the condition and quality of the environment. The Investment Department develops an investment programme, co-ordinates implementation of environmental protection projects, and secures financing from international financial institutions, European Union programmes and funds, and co-operation partners - Finland, Sweden, Denmark, Germany, Netherlands, USA, and others (www.varam.gov.lv/viddep/index.htm). The main tasks of the Marine Environment Board are to assess and conserve the marine environment, its biological diversity, and to ensure the sustainable use and protection of natural resources. The board summarises and distributes information on the condition of the marine environment, the use of natural resources, co-ordinates monitoring of the marine environment, and ensures the control of environmental protection and fishing in the economic zone of the Baltic Sea, in territorial and interior waters, and in harbour waters (www.jvp.vdc.lv/). Latvian Hydro-meteorological Agency implements policy in the field of hydrometeorology. Environmental pollution monitoring stations continuously monitor pollution levels, including areas of small river basins flowing into the Baltic Sea, and along the Baltic Sea coast and in the Irbe Straight (www.meteo.lv/). Legislation regarding protection oceans and seas include: laws - on Environmental Protection, on Environmental Impact Assessment, on the Natural Resource Tax, on Protection Belts, on Specially Protected Nature Territories, on Municipal Governmental Institutions, on Fishing, on Subsoil, on the Protection of Species and Biotypes, on the North Vidzeme (Ziemelvidzeme) Biosphere Reserve; and, Cabinet of Ministers Regulations - on Water Use Permits, Maritime Code, on the Procedure of Designation of Protected Belts of Waters and Water Courses, on Hygienic Requirements in Bathing Areas, on Obligate Safety Standards for Drinking Water, on the Procedure of Designation of Protected Belts of Water Abstraction Locations, and on the Procedure of Lease of Water Bodies, and Procedure for Use of Commercial Fishing Rights and Fishing Rights.

Programmes and Projects:
The Baltic Sea Joint Comprehensive Environmental Action Programme (JCP) was approved in 1992 by all of the countries in the Baltic Sea drainage basin, to renew the ecological balance of the Sea. The goal of the programme is to eliminate the impact of large pollution sources (hot spots) within the entire drainage basin to the Baltic Sea, harmonizing economical and environmental protection objectives. The nine largest pollution sources in Latvia were determined (three municipal, five industrial and one agricultural source). The condition has already been considerably improved at the municipal hot spots, where major investment projects for large cities have successfully improved the wastewater treatment and water management sectors. The most part of the industrial hot spots do not correspond any more to the initial definition as large pollution sources, due to changes in production profile, implementation of cleaner technologies, and connection to waste water treatment facilities. Two of the original industrial hot spots have ceased the production and have been proposed for removal from the list.

The Blue Flag Movement (1998): This movement in Latvia was initiated by Ministry of the Environmental Protection and Regional Development in 1997. The national operator – the Environmental Protection Club of Latvia – the largest environmental non-governmental organization – was accepted as the representative of the European Blue Flag Movement. The goal of the Blue Flag Movement is to promote sustainable use of coastal resources, by establishment of services and improvement of beaches. In 1999, the Blue Flag was raised for the first time at the Ventspils beach, and certificates indicating improvement were issued for the Jurmala and Liepaja beaches. In 2000, three flags were raised – at the Ventspils and Jurmala beaches and at the yacht harbour "Andrejosta". Two improvement certificates were issued as well – to the Liepaja beach and to the yacht harbour SIA "Enkurs" in Ventspils. The Blue Flag is raised on June 9, and is approved yearly (www.vak.lv/zk/index.html).

Protection of the Baltic Sea from agricultural runoff: Within the joint Latvian-Swedish project, a network of stations for quantitative and qualitative monitoring of agricultural runoff was established in Latvia. The obtained results will be used to develop recommendations for use of environmentally friendly methods in agriculture. Manure management in the farm "Kaudzites" in Zana Pagast, Saldus District, was also improved, forming a pilot farm for education of farmers in good practices for storage and use of manure.

Development of an oil drift forecasting system (1998 – 2000): The main project goals were to improve leadership and decision-making in extreme situations, and to decrease the time required for the necessary action. The derived model is used to determine the pollution cause (possible source) and location. The model is made available to the Latvian Hydro-meteorological Agency and Marine Environment Board.

Equipment for liquidation of oil spills in small harbours of Latvia (1999): Within the project, five small harbours in Latvia and one large harbour (Liepaja) received equipment for the liquidation of oil spills. The equipment includes devices for oil collection from the water surface and from rocks and other surfaces, for containment of oil spills, and also a rubber motorboat and electrical generators for liquidation work.

Status: Latvia is located across from the central part of the Baltic Sea – the Gotland Basin. The seacoast extends for almost 500 km, of which 308 km is along the Gulf of Riga. About 64 fish species are found in the Baltic Sea. The Gulf of Riga and the Irbe Straight are internationally important wintering sites for water birds, where the total bird number in the autumn-winter period can exceed 2,000,000. The Gulf of Riga is a relatively shallow water basin with a maximum depth of little over 60 m, but nevertheless it is one of the most productive fishing areas in the Northern Hemisphere. As the sandy beaches are exceptional along 80 km of the coast, particularly on the Gulf of Riga, they are popular recreation areas. The average salinity of the Baltic Sea is less than one-third of the ocean salinity, due to large inputs of fresh water and the narrow connection with the ocean.

The main problems regarding the protection of the Baltic Sea include eutrophication and oil spills. Eutrophication or enrichment by nutrients (phosphorus and nitrogen) raises organic matter concentrations, which results in degradation of the marine environment, by rapid algae growth, high number of bacteria in shore waters, and large amounts of decomposing organic matter. Eutrophication is caused by unsuitable agricultural methods, as well as by inputs of insufficiently treated municipal and industrial wastewater into water bodies. The territory of Latvia accounts for approximately 7% of the total annual water inflow into the Baltic Sea and the Gulf of Riga. These discharges contribute to the nutrient load with 17% of the total nitrogen and 5% of the total phosphorus into the sea. Wastewater contributes the larger part of nitrogen and phosphorus inputs into inland waters of Latvia, and further on into the Gulf of Riga. Annual output of wastewater in 1991 was 570 million m³ (321 million m³ of it untreated), and in 1998 it was 135 million m³ (28 million m³ of it untreated). Territorial environmental health centres of the Ministry of Welfare conduct water quality monitoring in bathing waters every year, already two weeks before the swimming season, and regularly throughout the season, in interior water bodies, and along the Baltic Sea and the Gulf of Riga. Most of the recorded oil spills have been along the Baltic Sea shore where the two largest harbours in Latvia are located. Frequently the oil spills have been caused by illegal marine dumping discharge of storage of oily wastes from ships to the sea tankers. The prevailing water and air currents bring pollution with oil products also from Lithuania into Latvian waters. The amount of beached oil waste on the Latvian shore has fluctuated in recent years from 3 kg to 100 kg per month. Deaths of fish, birds or other animals resulting from oil spillage have not been recorded, except in the case of the largest spillage in 1996, but clean up has required substantial expenditures from municipal and state resources.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: Latvian Environmental Agency supervises the testing of environmental quality in Latvia, and maintains an environmental database for storage of information. The agency is also responsible for development and co-ordination of national environmental monitoring system, involving terrestrial and marine systems. It prepares and publishes reports on the environmental condition, implements the Helsinki Convention on Protection of the Marine Environment of the Baltic Sea Area and prepares informative material on the condition of the Baltic Sea. See also web sites under **Decision-Making** and **Programmes and Projects.**

Research and Technologies: No information available.

Financing: Latvian Environmental Protection Fund oversees the special budget for environmental protection, formed from Natural Resource Tax payments. It finances environmental projects (water, air and nature protection, waste management, biological diversity, and environmental education) and provides subsidies for industries involved in reprocessing harmful substances. Latvian Environmental Investment Fund procures local and foreign finances, issues credits with eased terms for municipal governmental institutions and for the private sector concerning various environmental protection projects.

Cooperation: Concerning protection of oceans and seas, Latvia participates in the following international conventions: on Protection of the Marine Environment of the Baltic Sea Area, Helsinki (1974, Latvia ratified in 1994), on Transboundary Impact of Industrial Accidents, Helsinki (1992), International Convention for the Prevention of Pollution From Ships (MARPOL Convention), London (1973), on Fishing and Conservation of the Living Resources in the Baltic Sea and the Belts, Gdansk (1973), on the Protection and Use of Trasboundary Watercourses and International Lakes, Helsinki (1992, Latvia ratified in 1995), on Wetlands of International Importance Especially as Waterfowl Habitat Ramsar, (1971, Latvia ratified in 1995), on the conservation of European Wildlife and Natural Habitats, Bern (1979, Latvia ratified in 1996), on Protection of the Marine Environment of The Baltic Sea Area, Helsinki (1992, Latvia ratified in 1994), on Environmental Impact Assessment in a Transboundary Context, Espoo (1991, Latvia ratified in 1998), and on Access to Environmental Information, Public Participation in Environmental Decision Making and Access to Justice on Environmental Matters, Aarhus (1998).

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CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES

Decision-Making: For the main responsible institutions see Chapter 17 under **Decision-Making.** Besides, State non-profit company BOVU "Vides Projekti" provides services to projects in the environmental sector, to promote development of State and municipal infrastructure, including water supply, wastewater treatment, collection and storage of hazardous waste, and improvement of energy efficiency. A unit within the company is responsible for co-ordination of water management project development and implementation within the programme "Water Supply and Sewerage in Medium-Sized and Small Towns in Latvia" – "800+". A responsibility of municipal governmental institutions is to ensure residents with municipal services (water supply, sewage systems, collection, transport and treatment of wastewater) regardless of ownership of housing. For legislation involving water resources see Chapter 17 under **Decision-Making**. Additional regulations concerning fresh water resources include the Cabinet of Ministers regulations: on Obligate Safety Standards for Drinking Water (23.02.1999), on Use of Sewage Sludge for Soil Improvement (09.09.1997), on Procedure of the Use of Minerals, Deposits and Subsoil Areas of State Importance (08.07.1997), on Procedure for Use of Subsoil (08.07.1997), on Environmental Quality Standards for Petrol Stations, Oil Storage Facilities and Mobile Cisterns (03.08.1999), and on the Lake Engure National Park (24.02.1998).

In 1995, Latvia implemented National Environmental Policy Plan - a strategic document developed for a long-term period (25 – 30 years), with a goal to improve environmental quality, integrating environmental protection policy into all spheres of life, to create the foundation of national sustainable development. The plan describes the need for sustainable development of the community and the nation. Three main objectives concerning water protection are defined: decrease total nitrogen inputs from point sources to waters by 50% before the year 2010; decrease losses of nutrients form agricultural practice by 50% before the year 2010; establish an early warning system along the Daugava River to protect drinking water abstraction sites from chemical pollution. National strategy for protection of groundwater (1998) states that the use of groundwater in water supply should be gradually increased, at the same time ensuring rational water use and storage. Also, protection of underground drinking water and improvement of water supply systems are considered to be priorities.

Programmes and Projects:
National programme "Water Supply and Sewerage in Medium-Sized and Small Towns in Latvia"- "800+" (1997): In 1995, water management was surveyed throughout Latvia, and the National programme 800+ was developed, with a goal to improve water supply and water treatment in all residential areas with populations of over 2000 residents, before the year 2010. Since 1997, several water management projects have been initiated within the 800+ programme. Projects for 6 towns are now complete, and 55 are in various stages of implementation. *The national subprogramme "Survey of Water Supply Sources in Small and Medium-Sized Towns in Latvia*: Assessment and Approval of Groundwater Reserves, and Technical Assessment of Water Supply Sources" was conducted within the framework of the programme "Water Supply and Sewerage in Medium-Sized and Small Towns in Latvia – 800+". In 47 towns the hydro geological conditions were investigated, the amounts and quality of the drinking ground water was assessed, the best locations of the well fields and their protection zones were determined, water abstraction schemes and monitoring programmes were prepared. Groundwater monitoring is included in the European Environmental Agency programme EUROWATERNET, which is the monitoring programme for freshwater in the European Union and the associated countries.

Development of groundwater treatment system (1995 – 2000): In cooperation with Danish Environmental Protection Agency, a soil and groundwater treatment system was constructed in 1998. Using this system, the floating oil product layer can be removed, as has been done at the Riga Grease Factory and at the Riga Airport.

Several local water management projects have been implemented in various regions of Latvia. *Cesis water management development project (1995 – 1999)*: The project covered renewal of a sewage pressure-pipe from the pump station to the sewage treatment facility, and construction of a release main to the Gauja River from the

sewage treatment facility. Planning of a drinking water purification plant has begun. *Liepaja water management project (1994 – 2000)*: Within the project, the sewage treatment facility in Liepaja was reconstructed and sewage mains were installed. Sewage is transported for treatment through new pump stations and pipe junctions, eliminating the previous release of sewage to the city canal and Lake Liepaja. Tests of the treated wastewater show that international standards are now met and that the treated waters have no impact on the Baltic Sea. *Sewage pressure-main Jurmala – Riga (1989 – 1998)*: The Jurmala – Riga pressure-main and sewage pump station pump sewage from Jurmala to the treatment plant in Riga. The project was initiated because the treatment plant in Jurmala had become absolute. Total length of the pressure-main is over 10 km. *Water management project for Riga and the surrounding environment (1996 – 2002)*: The project covered modernization of the sewage treatment plant Daugavgriva. In the reconstruction, a new aeration system was installed, increasing capacity to ensure treatment of all sewage from Riga as well as from the nearby urban areas. The new aeration system utilizes the newest technology and is completely automated. The next stage of the project will involve reconstruction of the sludge processing cycle and is expected to be completed by the end of the year 2000 (www.rw.lv/).

Daugava project (2000 – 2002): The project goal is to improve water resource management in Latvia. A management plan for the Daugava River basin will be developed which will meet the EU standards, and recommendations will be made regarding its implementation. Latvian specialists will be trained during development of the plan. The project participants include several interest groups: State and municipal governmental institutions, non-governmental organizations, water users and enterprises.

Status: Surface waters cover 4% of the area of Latvia. The 12,500 rivers have a total length of 38,000 km. Most of the rivers are shorter than 10 km, 880 are longer than 10 km, and only 17 are longer than 100 km. Three of the major transboundary rivers of Europe cross Latvia: Daugava, Lielupe and Venta. The Daugava River, the largest in Latvia, has to a large extent been associated with the historical development of the country. The rivers are the home of about 26,000 beavers and almost 5,000 otters. Crayfish populations have recently returned, confirming improvement of water quality. Inland waters support about 40 fish species, of which 19 have industrial importance. In the 1995 European Environmental Agency report on the state of the environment of Europe, 805 of the Latvian rivers were described as having good or almost good quality, which means insignificant pollution levels, moderate nutrient levels, sufficient oxygen concentrations, rich flora and fauna, and large fish populations. Since then, the pollution levels have continued to decrease. The cleanest river is Salaca. Moderately polluted and polluted rivers include mostly small rivers in the Lielupe drainage basin, for example, the Musa, Berze, Misa, and Iecava Rivers. The Lielupe River is still the most polluted in Latvia. There are more than 3,000 lakes with a total area of 1000 km² in Latvia. More than 2,000 lakes are larger than 1 ha, but only 16 lakes are larger than 10 km². Study of lake water quality is conducted only in specific regions. Lake Engure is one of the cleanest lakes in Latvia, and research conducted by scientists at the Institute of Biology has shown that about 40% of the lakes have shown minimal impact from anthropogenic activities. A survey conducted in 1999 showed that 76% of surface waters can be considered to be almost clean. Monitoring of surface water quality is conducted in the drainage basins of the main rivers of Latvia (Salaca, Gauja, Daugava, Lielupe, and Venta), in small river basins flowing into the Baltic Sea, and in coastal waters of the Baltic Sea and in the Irbe Straight. A total of 68 water quality-monitoring stations have been established in Latvia. An automatic early-warning station to warn of transboundary pollution entering from Belarus is in operation since 1996 on the Daugava River at Iedruja. The National Environmental Health Centre (Ministry of Welfare) conducts monitoring of bathing waters in swimming areas.

Latvia is rich in groundwater of different quality. Groundwater is included in the list of nationally important mineral resources. The total amount of fresh groundwater, which can be used annually, is 5 km³. Presently, 20 – 30% of that amount is utilized for water supply. Most (75%) of fresh groundwater is used by residential users, and the remaining part - for industry, agriculture and other needs. Groundwater, which is more protected than surface water, is available for use as drinking water almost everywhere in Latvia. Generally, the groundwater quality in Latvia meets the European standards, except typically high iron content and, sometimes, high water hardness. Latvia is also rich in various types of mineral water. The most common type is chloride-sodium water, which are used for drinking and medicinal purposes, as well as for baths. The Kemeri and Baldone areas are unique for their resources of balneological sulphide mineral water. Salt water with high temperature is found in the Liepaja, Jelgava and Dobele Districts, and in the future it may be used as a heat energy source.

The main water quality problems are caused by discharges of municipal, industrial and agricultural wastewaters into natural reservoirs. These problems have adverse ecological impact on the sea, rivers, lakes and ground waters, threatening the animals and plants living there and contaminating fresh water resources. The release of untreated sewage into water bodies can significantly affect surface water quality. Compared with the beginning of the 1990, the amount of untreated sewage has decreased by 4 times, and now contributes 5% of the total amount. The total amount of wastewater has also decreased, almost by half, due to the decline in industry. Among the cities, the most wastewater in 1998 was produced in Riga, Daugavpils and Liepaja. There are several water pollution hot spots in Latvia: Liepaja – Town of Liepaja (municipal pollution), port of Liepaja (oil pollution); Jurmala – Sloka Paper and Pulp Mill; Gulf of Riga – discharge of nutrients leading to eutrophication of the Gulf; Riga – Riga Wastewater Treatment Plant, Factory "VEF", Factory "RER", other industries in Riga; Olaine – Pharmaceutical factory "Olainfarm"; Daugavpils – Daugavpils Wastewater Treatment Plant. Poorly planned agricultural practices affect surface water quality by releasing nutrients (mostly nitrogen and phosphorus) to water bodies. Nutrient runoff causes eutrophication and overgrowth of lakes and rivers, which has a damaging affect of the fish populations. Discharge of organic and biogenic substances into inland waters of Latvia by wastewater in 1991 included the following: 40,432 tons of BOD, 7,053 tons of total nitrogen, 816 tons of total phosphorus; in 1998 – 6,679 tons of BOD, 5,361 tons of total nitrogen, and 996 tons of total phosphorus.

The main problem in the use of groundwater as drinking water is the high iron content. The water hardness problem occurs in the central and southwestern Latvia as well. While both above-mentioned parameters do not affect the human health, they cause crust in heating systems, baths etc. Various projects are underway in Latvia for the construction or reconstruction of iron removal plants at groundwater abstraction locations. Groundwater pollution further limits the use of this type of water resources. Several hundred small-size contaminant plumes in shallow groundwater were verified beneath household waste disposal sites, industrial waste pools, former Soviet military bases, petrol stations, oil storage facilities, railway stations, airports and industries. Widespread diffuse contamination of different degree is common in shallow groundwater in all larger towns. There are few hot spots in Latvia where contamination in groundwater has spread to great distances or depths. At one of these, the Incukalns sulphuric acid tar waste pool, a part of a groundwater treatment system has been constructed. Since cleanup projects for groundwater and soil contamination require large financial resources, few are implemented, and only in extreme cases where the risk is high. During the 1970s – 1980s, due to over-exploitation of groundwater, an extensive depression cone covering the central and southwestern Latvia was formed. After 1991, when water use declined, particularly in manufacture, groundwater levels have slowly recovered.

Capacity-Building, Education, Training and Awareness-Raising: See under **Programmes and Projects**.

Information: See Chapter 17 under **Information**.

Research and Technologies: No information available.

Financing: The governmental investment programme contributed to the water management infrastructure the following amounts (in millions of lats): in 1995 – 4,35; in 1996 – 7,23; in 1997 – 11,72; in 1998 – 19,57; and in 1999 – 24,3. Also see Chapter 17 under **Financing**.

Cooperation: See Chapter 17 under **Cooperation**.

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CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS

Decision-Making: See Chapters 20-22 under **Decision-Making**.

Programmes and Projects: See Chapters 20-22 under **Programmes and Projects**.

Status: See Chapters 20-22 under **Status**.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 20 TO 22: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS, SOLID AND RADIOACTIVE WASTES

Decision-Making: The main institutions involved in the decision-making include: Environmental Protection Department of the Ministry of Environmental Protection and Regional Development (www.varam.gov.lv/viddep/index.htm), Latvian Environmental Agency (www.vdc.lv/, www.vkmc.gov.lv/), State Environmental Inspectorate, regional environmental boards (www.varam.vdc.lv/eng/enforce/regioni.htm), the Environmental Protection Fund, Latvian Hydro-meteorological Agency (www.meteo.lv/), the Environmental Impact Assessment State Bureau (www.varam.gov.lv/ivnvb/default.htm), and the Committee for Control of Goods Having Strategic Importance, which issues licenses for import, export and transit of goods of strategic importance, for example, nuclear material, pure graphite, and high-technology computers (the committee consists of representatives from all ministries (except the Ministries of Culture and Education), their subsidiary institutions, and the Latvian Development Agency). Several laws provide general environmental legislation that includes waste management - on Environmental Protection (06.08.1991), on Environmental Impact Assessment (31.08.1998), and on the Natural Resource Tax (14.05.1995).

Hazardous Wastes: Latvia has developed Hazardous Waste Management Strategy for the years 1999 – 2004. During development of the strategy, the legislation and system of administrative institutions associated with waste management were assessed. The strategy defines practical actions to be implemented between 1999 and 2004, to establish the main elements of hazardous waste management required to meet European Union standards. The legal basis for decision-making is provided by the Law on Hazardous Waste (30.03.1993), and the Cabinet of Ministers regulations - on the Procedure for Submission of Documents Concerning Work with Hazardous Waste (17.09.1996), on Classification of Hazardous Waste and Criteria of Dangerousness (12.08.1997, modified 11.01.2000), and on Types of Waste Processing and Storage, and on Procedure for Issue of Licenses for Waste Processing and Storage (29.06.1999). Municipalities are involved in the cleanup of spills resulting from work with hazardous waste. Upon direction from regional environmental institutions, municipalities issue and annul permits to persons and companies for work with hazardous waste. Municipalities accept registry of companies dealing with hazardous waste processing and utilization on a local scale, as well as approve locations for storage facilities. They also approve plans prepared by persons and companies for safety, accident prevention and accident cleanup regarding work with hazardous waste.

Solid Wastes: The goal of the Municipal Waste Management Strategy for the Years 1998 – 2010 (1998) is improvement of municipal waste management and reduction of the environmental impact of waste dumpsites. In municipal waste management, it is planned to improve service quality and to render services to a grater number of residents. The number of municipal waste dumpsites will be gradually lowered. The following legislation has been implemented in respect to solid waste management: Law On Municipal Waste (15.10.1998); Cabinet of Ministers Regulations - On Classification of Municipal Waste (09.02.1999), On Registration of Physical and Juridical Persons Conducting Collection, Storage, Processing, Transfer, or Transport of Municipal Waste (08.06.1999), and On Construction, Management and Closure of Municipal Solid Waste Landfills (08.02.2000). In accordance with the Law on Municipal Waste, municipalities co-ordinate municipal waste management on their territories, make decisions regarding installation of waste landfills, and develop regulations concerning municipal waste management. Municipalities also decide regarding co-operation in the field of municipal waste management.

Radioactive Wastes: The following laws provide legal basis for decision-making: Law on Radiation Protection and Nuclear Safety (01.12.1994), Law on the European Energy Charter (13.09.1995), Law on the Chernobyl Nuclear Power Station Accident Clean-up Workers and Social Protection of Persons Disabled as a Result of the Accident (09.09.1999), Law on the Privileges and Immunity of the International Atomic Energy Agency (04.11.1999), and Criminal Law (17.06.1998, modifications 18.05.2000). There are also several Cabinet of Ministers regulations: on Safe Transport of Radioactive Substances (28.07.1998), on Control of Radioactive Contamination in Animal Feeding Products (09.03.1999), on Protection against Ionizing Radiation (12.08.1997), on Control of Goods of Strategic Importance (16.12.1997), List of Medicinal Contraindications (17.03.1998), on the Procedure for Inventory and Control of Nuclear Material (14.04.1998), on Control of Radioactive Contamination in Food

Products (26.05.1998), on Radioactive Waste Management (03.08.1999), on the Procedure for Issue of Licenses for and Permission to Work with Radioactive Substances and Other Sources of Ionizing Radiation (20.06.1996), and on Measurement of Radiation in Cargo Crossing the Border of the Republic of Latvia (10.09.1996).

Programmes and Projects:

Hazardous Wastes:

Installation of hazardous waste incinerator (2000 – 2001): In mid 2000, an environmental impact assessment (EIA) was begun on five potential locations for a hazardous waste incinerator, which is expected to be complete by the end of the year 2000. Operation of the incinerator is planned to begin in the second half of 2001. The project is financed by the Latvian government and by the Danish Environmental Protection Agency.

Installation of hazardous waste landfill (1999 – 2003): In 1999, an environmental impact assessment (EIA) was begun regarding a terminal waste disposal site for hazardous waste. The assessment should be completed in September 2000, and construction is planned to finish in 2003. Financing will be secured from EU Prestructural (ISPA) Funds.

Solid Wastes:

North Vidzeme regional waste management project (1998 – 2003): The North Vidzeme Municipal Waste Management Project covers four districts: Cesis, Limbazi, Valka and Valmiera. Within the project, feasibility study is being conducted for whole region, also amounts and composition of waste are being assessed, and the inventory of existing waste dumps is executed and some of them are upgraded. In 1998 also EIA procedure was executed. Eight small dumpsites in the Northern Vidzeme region have been closed and recultivated (transformed, landscaped). The recultivated areas are prepared for forest planting and greening. Four modern waste collection trucks were purchased in 1999 in the North Vidzeme region, and construction of a new waste landfill will be started in 2001.

Talsi district solid municipal waste landfill "Janvari" (1994 – 1996): The modern municipal waste landfill in Talsi is in operation since autumn 1996. The site, with a total area of 14 ha, is planned to receive only solid waste and some industrial wastes. The infrastructure is well developed. The chosen location has a thick clay layer to prevent groundwater contamination, and a drainage system has been installed under the waste in the clay layer to collect and discharge contaminated leachate. The slopes of the landfill are lined with a polyethylene sheet. The site is designed for scrap metal collection, for composting area, and for recyclable paper collection, when separate waste collection in region will be started. The possible underground spread of pollutants is monitored by wells.

Liepaja municipal waste management project (2000 – 2006): The project goal is to install a regional municipal waste landfill, at which the produced greenhouse gases will be utilized for heat production. Reusable waste will be sorted. In 1998, the Feasibility study and EIA was completed. The project was prepared by the World Bank, and the total costs are projected at 9,7 million lats (www.liepaja.lv/index3.html).

Radioactive Wastes:

Project to Combat Illicit Trafficking (1998 – 2000): The goal of the research-oriented project is to develop recommendations regarding instruments and means to effectively hinder and prevent unauthorized activities, as a way to prevent distribution of nuclear materials. Improvements are required both on national and international levels.

Devices for Mesurement of Radiation on the Border of Latvia (1989 – today): The project to combat unauthorized transport of radioactive materials began already in 1989, when the Customs of Latvia received the first portable devices for measurement of radiation. In 1994, the Customs Department secured additional devices, and personnel were trained in their operation. The border guards of Latvia presently are equipped with a considerable number (totally 61) of portable measurement devices. On the eastern border and on the Via Baltica border crossings (Ainazi and Grenstale) a total of 10 stationary radiation-monitoring gates have been installed to control automobile transport. In 1999, measurement devices have been installed also in the Riga Airport and in 2000 the control system is upgraded in the Riga Airport and in the International Post Office.

European Union Project for Long-term Assessment of Safety at the Baldone Radioactive Waste Storage Facility (2000 – 2002): The project goal is to assess the present condition of the Baldone Radioactive Waste Storage Facility. Recommendations will be prepared for admission criteria of radioactive waste. If required,

recommendations will also be made for improvement of safety at the Baldone Radioactive Waste Storage Facility. Total costs of the project are more than 140,000 lats.
Plan for Decommissioning and Dismantling of the Salaspils Nuclear Reactor (1999): The plan describes the procedure for dismantling and liquidation of Salaspils Nuclear Reactor in the period up to 2009. The planned costs are about 10,000,000 Lats. The reactor will be dismantled and liquidated by the Non-Profit State Company "BOVU Vides Projekti", and storage of the radioactive waste will be provided by the State Company "Radons".
Transfer Chamber for high radiation sources (1998 – 1999): In 1998, the Company "Radons" secured a hot cell for use at the radioactive waste storage facility in Kalnini, Baldone Pagasts. The hot cell is used for transfer of radioactive sources from temporary work containers and further transfer to other containers for burial or long-term storage. The transfer process allows reading of radioactive source codes, measurements of their radioactivity, and sorting by type, composition and other parameters. This allows to efficiently utilize the storage container volumes, and to conduct inventory and control. The cell includes remote-control arms and other instruments for work with high radiation sources. The work process can be viewed through a lead window.

Status:
Hazardous Wastes: Hazardous waste includes any by-products, which can have a harmful effect on the environment and human health, such as explosive, ignitable, flammable, toxic, and cancerogenic substances and products. A part of the hazardous waste in Latvia is remnant of the Soviet economy. Special attention now has to be paid to storage facilities for hazardous industrial waste, which do not meet environmental protection standards, and to unattended storage locations for agricultural chemicals. Industry crates yearly about 30,000 tons of hazardous waste, mostly oil, organic and inorganic substances. Hazardous waste is also generated in the domestic environment, for example, by used electrical and electronic devices, batteries, and mercury thermometers. The Hazardous Waste Management Strategy was developed in 1995, and accepted in 1999, to promote the development of a unified hazardous waste management system in Latvia, thereby reducing the harmful impact on the environment and human health. The first action implemented under the management system was the establishment of the Gardene Hazardous Waste Storage Facility in 1997, which has already received approximately 1,600 tons of unattended agricultural chemicals. There are several companies in Latvia engaged in collection and processing of specific types of domestic hazardous waste: accumulators, luminescent bulbs and used mineral oils. A current priority of hazardous waste management is destruction of the collected pesticides. Hence, the Ministry of Environmental Protection and Regional Development internationally invited bids in 1999 on supply of equipment for hazardous waste incineration. It was decided to procure an incinerator utilizing rotary kiln technology from the Danish Stock Company Chemcontrol. The incinerator is planned to begin operation at the end of 2001, when destruction of the collected pesticides will begin. Later, other waste generated throughout Latvia will be incinerated. The final location of the incinerator will be chosen after an environmental impact assessment. Hazardous waste management cannot be implemented without a secure landfill for hazardous waste, which cannot be incinerated or reprocessed. An additional long-term landfill for hazardous waste disposal with an initial operation period of 20 years needs to be established in Latvia. In 2000, an environmental impact assessment was begun to determine the optimal location for the landfill, and construction is planned to finish by 2003. To ensure collection of hazardous waste with its separation from municipal waste, and to decrease transport costs, a network of waste transfer stations is required in Latvia. Where necessary, specialized waste transfer stations need to be established at locations for collection and preliminary processing of ship ballast waters and other specific waste types. Management of specific hazardous waste types needs to be improved, by technical-economic assessment followed by implementation of individual waste management programmes. Specific hazardous wastes include infectious wastes, oil products, veterinary wastes from slaughterhouses and meat processing plants, asbestos waste, and hazardous domestic waste, all which require individual collection, processing and storage.

Solid Wastes: Municipal waste includes all items and residues of substances of domestic, trade or industrial origin, which meet the criteria of the municipal waste category: non-hazardous industrial, inert (construction), organic, biologically degradable, and trade and commercial waste (packaging, food produce debris, etc.) waste. The total annual amount of produced municipal waste could be about 600,000 – 700,000 tons. About 60% of wastes are disposed annually. Precise data on waste composition is unavailable, as inventory is conducted only in waste landfills of larger cities. However, it is estimated that the organic component is more than 50% by volume of the total amount in larger cities, but less than 10% in towns and pagasts (rural municipalities). There are almost 600

waste dumpsites in Latvia that are operational, and at least 160 being no longer in use. The total surface area of the landfills is approximately 853,5 ha. While 77% of the sites are smaller than 2 ha, the large facilities receiving waste from large cities reach a size of 35 ha (Riga Storage Facility "Getlini"). Latvia still lacks a unified municipal waste management system. Centralized waste collection services are offered to about 80% of urban residents and to only 20% of rural residents. One of the key problems in waste management is the large number of storage facilities. Management of small waste dumpsites is costly and human-resource demanding, and these locations do not meet environmental protection standards. Environmental impact assessment (EIA) has been conducted only at 14 of the largest 28 waste landfills. It is planned that, in the future, there will be 10 to 12 regional waste landfills that will meet sanitary and environmental protection norms.

Radioactive Wastes: While Latvia lacks a nuclear power plant, there are many near its borders. Radiation safety is important in the environment protection policies of Latvia , as the facilities in neighbouring countries pose a risk to environmental quality and human health. In 1999, the mean air radiation level in Latvia was 0.09 ìSv (microsieverts), a background level that does not affect human health and the environment. Radiation levels are not elevated around the Salaspils Nuclear research reactor and the Baldone Radioactive Waste Disposal Facility, which are the two main radiation sources in Latvia. The Salaspils research nuclear reactor stopped operation in 1998. The Cabinet of Ministers accepted a plan for decommission and dismantling it in late 1999. According to the concept, it is expected that decommissioning will be finished by 2009. For this to happen, there is a need to build an additional vault for radioactive waste at the Baldone Radioactive Waste Disposal Facility, but an assessment of long-term safety at this facility is required before the modernization. The radioactive contamination in Latvia is mainly a result of transboundary effects. A total of seventeen nuclear power plants (NPP) are located within a 300 km radius of Latvia. The closest is the Ignalinas NPP (Lithuania), situated within 30 km of the city of Daugavpils. Since 1997, the number of companies (not including dentists) licensed to work with radioactive substances has fallen by almost 10%, from 140 in 1997 to 125 in 1999. Radiation safety is a priority of environmental protection policy. The Radiation Safety Centre will be established at the end of this year (2000) to oversee and control radiations safety for users of radioactive materials. The main role of the Centre is to inspect facilities where radioactive materials are used, and to develop a database on the amounts of radioactive substances and sources, in cooperation with international organizations. There are 16 early warning stations in Latvia that continuously monitor the concentrations of radioactive substance in the atmosphere. Soil, plant and water samples are analysed for radioactivity annually in locations that are most threatened by radioactive pollution. The radiation levels in Latvia have not changed during the past 5 years.

Capacity-Building, Education, Training and Awareness-Raising:
Hazardous Wastes: No information available.
Solid Wastes: No information available.
Radioactive Wastes: See under **Programmes and Projects**.

Information:
Hazardous Wastes: No information available.
Solid Wastes: No information available.
Radioactive Wastes: No information available.

Research and Technologies:
Hazardous Wastes: See under **Status**.
Solid Wastes: No information available.
Radioactive Wastes: No information available.

Financing:
Hazardous Wastes: In 1999 the Latvian Environmental Protection Fund has granted 1,47 million lats as subsidies for recycling of hazardous waste (mercury containing luminescence bulbs – 1,34; used mineral oils – 0,08; lead based accumulators – 0,05). Also see under **Programmes and Projects**.

Solid Wastes: The Latvian Environmental Protection Fund has granted 0,21 million lats as subsidies for recycling of municipal waste (old tires – 0,09; glass debris – 0,09; plastic packaging – 0,03). Investments for arranging of waste management in recent years in Latvia were as following (in million of lats): 1995 – 0,2; 1996 – 0,7; 1997 – 1,0; 1998 – 2,5; 1999 – 1,7.
Radioactive Wastes: See under **Programmes and Projects**.

Cooperation:
Hazardous Wastes: Convention On the Transboundary Movements of Hazardous Wastes and Their Disposal, Basel (1989, ratified in 1992).
Solid Wastes: No information available.
Radioactive Wastes: Latvia has joined several international conventions: Convention concerning the Protection of Workers Against Ionizing Radiation (1960, Latvia ratified in 1994), Vienna Convention on Civil Liability for Nuclear Damage (1963, Latvia ratified in 1995), Vienna Convention on Early Notification of a Nuclear Accident (1986, Latvia ratified in 1992), Vienna Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1986, Latvia ratified in 1992), Convention on Nuclear Safety (1994, Latvia ratified in 1996), European Convention on the Suppression of Terrorism (1977, Latvia ratified in 1999), Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997, Latvia ratified in 2000), and Joint Protocol relating to the Application on the Vienna Convention and the Paris Convention (1988, Latvia ratified in 1995).

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CHAPTER 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS

Women: No information available.

Children and Youth: No information available.

Indigenous People: No information available.

Non-governmental Organizations: See Chapter 36 under **Decision-Making**.

Local Authorities: See Chapter - Sustainable Tourism under **Decision-Making**.

Workers and trade unions: No information available.

Business and Industry: No information available.

Scientific and Technical Community: No information available.

Farmers: No information available.

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CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

This issue has been covered under **Financing** in various chapters of this Profile.

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CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

Decision-Making: National Environmental Policy Plan for Latvia was established in 1995. It is a strategic document developed for a long-term period (25-30 years), with a goal to improve environmental quality, integrating environmental protection policy into all spheres of life, to create the foundation of national sustainable development. The plan describes the need for sustainable development of the community and the nation. The need for environmental education and communication is stressed, identifying the main goals. The Environmental Protection Action Programme (1995) outlines the actions required to reach a goal of environmental protection. The actions are of a short-term nature, aimed to ensure immediate results, and if required to be exchanged with more effective measures. The Strategy for Environmental Communication and Education is currently in development. It identifies the roles of the main interest groups (State institutions, non-governmental organizations, mass-media, enterprises, and others) in communication and education, along with their goals and objectives, with respect to development of environmental communication and education. Required actions, their timetable and available resources are given in the Environmental Communication and Action Programme.

The following legislation exists to promote environmental protection through promoting education, public awareness and training: Convention on Access to Environmental Information, Public Participation in Environmental Decision Making and Access to Justice on Environmental Matters (1998); laws - Republic of Latvia Constitution (Satversme) (29.10.1998), on Environmental Protection (06.08.1991), on Environmental Impact Assessment (31.08.1998), on Municipal Governmental Institution (19.05.1994), on Territorial Development Planning (13.11.1998), on Public Information (29.10.1998), on Procedure for Consideration of Applications, Grievances and Proposals by State and Municipal Governmental Institutions (05.11.1994), on State Statistics (09.12.1997), on Civil Protection (15.12.1992), on State Secrets (17.10.1996), on the Press and Other Forms of Mass Media (20.12.1990), on Public Organizations and Their Associations (15.12.1992); and, Cabinet of Ministers regulations - on procedure for public access to information from State and Municipal Governmental Institutions (03.08.1999), on National Environmental Monitoring (16.12.1997), on Procedure for Environmental Impact Assessment (19.06.1999), on Spatial Plans (24.02.1998), and on Public Deliberation of Construction Plans (06.09.1997). The responsible institutions include government institutions, non-governmental organisations, environmental media, and environmental education institutions and organisations. Among governmental institutions are: The Ministry of Environmental Protection and Regional Development, The Environmental State Inspectorate, Latvian Environmental Data Centre, Environmental Consulting and Monitoring Centre, Latvian Hydro-meteorological Agency, State Geological Survey, The Environmental Impact Assessment State Bureau, Latvian Tourism Development Agency, Regional Environmental Boards, Marine Environment Board, Slitere National Park, Teici Nature Reserve, North Vidzeme Biosphere Reserve, Kemeri National Park, Gauja National Park, Latvian Environmental Protection Fund, Latvian Environmental Investment Fund, State enterprises “Radons”, “Reaktors” and “Vides Projekti” (environmental projects), and A/S “BAO”. Non-governmental organisations include: Non-governmental Organisations Friends of the Earth Latvia, Latvian Fund for Nature, Society for Nature and Monument Protection of Latvia, the Regional Environmental Centre for Central and Eastern Europe, WWF, Children Environmental School, Green Library, Latvian Ornithological Society, Ecological Centre of the University of Latvia, and Coalition Clean Baltic. Environmental Media is represented by: Analytical radio show “Zalais Vilnis” (Latvian radio station 1), TV show Vides Filmu Studija (Environmental Film Studio), which presents Vides Fakti” (Environmental Facts) and other shows on green tourism and cultural history (Latvian Television Station 1), Magazine “Vides Vestis” (Environmental Times) – magazine of the organization Friends of the Earth Latvia, and Magazine “Latvijas Daba” (Latvia’s Nature). There are several environmental education institutions and organisations that offer different degrees in environmental education: Institute of Environmental Science and Management, University of Latvia (study programmes: Environmental Science and Environmental Management); Environmental Study Centre, Faculty of Chemistry, University of Latvia (study programmes: Environmental Chemistry and Environmental and Assessment); Faculty of Geography and Earth Science, University of Latvia (study programme: Natural Science Specialist - Bachelor of Environmental Science); Faculty of Chemical Technology, Riga Technical University (study programme: Environmental Engineering); Faculty of Engineering Economics, Riga Technical University (study programme: Environmental Economics); Faculty of Pre-school and Primary Education, Daugavpils University of Pedagogy (study programme: Environmental Education in

Primary Schools); Faculty of Field Engineering, Latvian University of Agriculture (the Department of Environment and Water Management prepares environmental engineers and Bachelors of Environmental Science); Faculty of Engineering, Rezekne University (study programmes: Natural Science Specialist - Bachelor of Environmental Science, and Environmental Protection Engineering Technologist; Priekuli State Agricultural College (study programme: Environmental Management); Olaine College of Mechanics and Technology (study programme: Environmental Protection Technologist); and, Kazdanga College (study programme: Specialist in Environmental Management).

Programmes and Projects: No information available.

Status: In a sociological survey conducted in 1998, residents were asked to respond to the question "Is sufficient information offered to the public on environmental problems?". Almost half (46,7%) of those responding considered that public was not adequately informed on environmental issues, slightly more than one-third (34,1%) thought that information was partly available, and only 11,8% viewed the public to be well informed. In comparison, a sociological survey in 1996 found that 70% of residents considered that they were poorly or very poorly informed on environmental issues. Residents considered major environmental problems to be: pollution of water bodies, poor drinking water quality, forest harvest in Latvia, emissions from automobiles, impact of all types of waste on the environment, industrial pollution, non-sustainable use of natural resources, pollution from agriculture, decline in biological diversity, and landscape degradation.

The underdeveloped economy, the relatively low levels of pollution, and also achievements in solving environmental problems, are all issues, which act to lower community interest in environmental protection. In 1996, 64% of survey respondents said that they were not interested in environmental protection and that they wished to obtain more information. In 1998 and 1999, residents considered their main problems to be unemployment, education, and their finances; environmental problems were not included in the 20 most important issues. At the beginning of the year 2000, environmental and ecological problems were the 25th most important issue of the community. While the community currently has little interest in environmental issues, development of the economy and construction of new facilities for environmental improvement (waste landfill sites, hazardous waste incinerators) increase public interest (protests) and the role of the community in environmental decision-making.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR CAPACITY-BUILDING IN DEVELOPING COUNTRIES

This issue has been covered under **Cooperation** in various chapters of this Profile.

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CHAPTER 38: INTERNATIONAL INSTITUTTIONAL ARRANGEMENTS

This issue deals mainly with activities undertaken by the UN System.

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CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

This issue has been covered under **Cooperation** in various chapters of this profile.

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CHAPTER 40: INFORMATION FOR DECISION-MAKING

This issue has been covered under **Decision-Making** in various chapters of this Profile.

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CHAPTER: INDUSTRY

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER: SUSTAINABLE TOURISM

Decision-Making: Ministry of Environmental Protection and Regional Development develops policy regarding tourism development, as well as prepares and implements international agreements on co-operation in the tourism sector. The ministry co-ordinates regional and international tourism projects (www.varam.gov.lv/). Latvian Tourism Development Agency popularizes local and international tourism possibilities in Latvia, contributes to the organization of the participation of tourism enterprises in international tourism exhibitions, and conducts tourism market surveys in Latvia and abroad. The agency also develops and maintains a database on tourism information in Latvia, and creates tourism information centres in Latvia and other countries. Tourism enterprises – companies, hotels, guesthouses, restaurants, etc. - offer tourism services. Several professional and regional tourism organizations have been established, such as the Latvian Association of Tourism Agents, Association of Hotels and Restaurants, and the Latvian Rural Tourism Association "Lauku Celotajs". In accordance with the Law on Tourism, municipalities develop development plans and special territorial plans, which describe the respective perspectives for tourism development. Municipalities ensure the required resources and actions for tourism development, maintenance of tourism sites, and popularize tourism possibilities in their territories. They participate also in the development and financing of tourism information centres.
Legislation in respect to tourism include: laws - on Tourism (17.09.1998), on Environmental Protection (06.08.1991), on Municipal Governmental Institutions (19.05.1994), on Spatial Development Planning (30.10.1998); and, Cabinet of Ministers Regulations - on the Tourism Development Agency of Latvia (16.02.1999), on Complex Tourism Services (02.05.2000), on Assessment of Hotels and Guest Houses (10.02.1998), on Territorial Spatial Planning (24.02.1998), on the Latvian Tourism Consultation Council (10.08.1999), and on Development of a Database on Tourism Enterprises / Entrepreneurs (23.02.1999).

Programmes and Projects:
Programme for National Development of Tourism in Latvia (second edition, not yet accepted by the Cabinet of Ministers): The programme's goal is to define the strategic directions for creation and development of a competitive tourism sector in Latvia, to promote economic development and well being of the nation by attracting and gaining income from tourist flow. The programme consists of six sub-programmes that cover the most important fields affecting tourism development: legal basis for tourism, international co-operation, information and statistics, products and infrastructure, marketing, and education and research.

Development Concept for Tourism Development in Latvia (1997): The concept defines the general long-term goals of policy and the basic principles of tourism development. The main goal of national tourism policy is create conditions to make Latvia attractive for residents and tourists as a land with diverse tourism possibilities. The tourism sector should be well organized, economically and socially efficient, environmentally friendly, and should raise the prestige of Latvia. Also, a goal of the concept is to promote the co-ordinated action in tourism development of state and municipal governmental institutions, non-governmental organizations, and enterprises.

Rural Development Programme for Latvia (1998): The programme defines the main problems, goals, and required actions in the field of rural tourism. The programme's goal is to develop rural tourism, thereby creating new jobs and possibilities for farm development. Required actions are: state support for farms involved in rural tourism, education of those working in this field, and popularisation of rural tourism in the mass media.

Special Programme for Development of Rural Tourism (1999): The programme goal is to develop tourism as an important component of the rural economy, to create new jobs, decrease resident flows from rural areas, conserve the rural environment, and to promote the formation and work of small and medium-sized enterprises. Rural tourism promotes the demand for self-grown agricultural production, and promotes the development of rural sectors not directly associated with rural tourism (craft-making, biological agriculture, trade, construction, and various services). Growing tourist flows to rural areas will ensure income to tourism enterprises, local residents and municipal governmental institutions from rural tourism and will promote economic development of Latvia as a whole. The programme will serve as a basis for state and municipal financing, as well as financing from European Union programmes, and will ensure maximally efficient and rational use of financial resources.

Sustainable Tourism Development in the North Vidzeme "Ziemelvidzeme" biosphere reserve (1999): This European Council (EC) pilot project on sustainable tourism development in protected territories was planned for consultation of municipal governmental institutions on conservation of biological diversity and cultural heritage, as well as on questions related to the promotion of international recognition of specific territories. The EC consultant group conducted an assessment of the economic activity and the diversity of natural resources in the reserve.

Ecotourism Development Plan for the Western Coast of Kurzeme and the North Kurzeme "Ziemelkurzeme" National Park Nature Protection and Management Plan (1999): The objective of the project is to define the required improvements in infrastructure along the Western Kurzeme Coast and to determine means to develop a profitable ecotourism business. The Plan includes the development of the regional ecotourism plan, training of enterprise representatives, tourist guides, and workers in tourism organizations and the nature reserves, and also determination of priorities for investment. The management plan for the North Kurzeme "Ziemelkurzeme" National Park, prepared for the first 10 years of its operation, provides general information on actions required in nature conservation of the territory, and introduces the directions of possible economic use and development. The plan also includes an overview of the relevant legislation regarding protection and management of territories in the national park and Latvia.

Status: Tourists are not only attracted to urban environments, but also to scenic natural landscapes with high biological diversity. The resources of Latvia - the Baltic seacoast, nature parks, nature reserves, and other natural areas - provide the basis for development of nature tourism. Presently another type of tourism - rural tourism, promoting the economic development of rural region - has become more and more popular in Latvia. Rural tourism involves leisure stays at country Bed & Breakfasts set up in farms, while becoming acquainted with the local culture and traditions. The association "Lauku Celotajs" (Rural Traveler), formed in 1993 to promote this type of tourism, now includes 108 rural farms. Compared whit the beginning of the 1990s, the number of rural farms providing services in the tourist industry has grown 3 times. The association offers a wide selection of recreation and leisure types, ranging from one-day trips outside of cities to active recreation in the country. Tourists also can stay for a number of days in local farms, learning the characteristic traditions of the region and participating in the everyday life at the farms. Interest in rural tourism is growing yearly and last year more than 8,000 used these services. Tourist flow has increased 20 times since 1995. Latvian farms have been visited also by tourists from abroad, mostly from Germany, USA and Finland.

Another type of tourism, common in Latvia, is nature tourism. It involves trips to nature areas to observe and learn about the plant and animal kingdoms, cultural-historical sites and local traditions. Several unique nature and cultural-historic sites have long been popular for tourist visits, such as the Gutmana Cave, the 20-metre-high Jurkalne Bluff, the 30 variously sized sulphur springs in Kemeri, and the 12-metre-high Skanais Cliff with its echo effect etc.. One can best learn about Latvia's nature by visiting the protected territories. In these areas, tourists are offered various types of recreation, such as boating, angling and horseback riding. Special nature paths for the tourists have been established in several protected territories. The protected territories also include unique cultural-historical sites, for example, the Old Faith Village in the Teici Nature Reserve, The Mersraga Lighthouse (built in 1875) in the Lake Engure Nature Park, and the Pedvale Open-Air Museum in the Abavas Senleja (Abavas Ancient Valley) Nature Park. As lakes, wetlands and their surroundings are important areas for nesting birds, special observation towers or other sites for bird watching have been established in several nature territories. As both nature and rural tourism are closely associated with valuable nature territories, poor tourism planning can cause damage to natural resources and the unique nature and cultural-historical sites. Visitor flows have impact on ecosystems, particularly on the natural structure of rivers, lakes, dunes, and dry pine forests. In several caves and on bedrock exposures that re popular, visitors carve their names in the rock and trample the nearby rare and decorative plants. Intensive visitor flows also significantly disturb animal species, particularly during mating and nursing periods. Recreation with motorboats, water motorcycles and water skis can destroy fish spawning areas, fish roe and fry, and also rare aquatic plants.

Capacity-Building, Education, Training and Awareness-Raising: There are 34 Tourism Information Centres (TIC) operating in Latvia that provide information and promote awareness-raising in respect to tourism. See also under **Decision-Making**.

Information: See under **Decision-Making** and **Programmes and Projects**.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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