Annex

IFCS Forum V
Plenary Information/Discussion Session on Tools and Approaches for Applying Precaution in the Context of Chemicals Safety

Information Request for Background Paper

Structured Questionnaire

Background Information

Country: **Slovak Republic**

Ministry/Agency/Institute/Organization: **The Public Health Authority**

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Please submit completed questionnaire by 20 July 2006 to:

IFCS Secretariat
Email: ifcs@who.int
Fax: +41 22 791 4875

Please note: Unless you indicate otherwise in your response, these submissions will be posted on the IFCS website.

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Background Information

Country: **Slovak Republic**

Ministry/Agency/Institute/Organization: **Ministry of Environment**

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Background Information

Country: **Slovak Republic**

Ministry/Agency/Institute/Organization: **Centre for Chemical Substances and preparations**

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Please note: Unless you indicate otherwise in your response, these submissions will be posted on the IFCS website.

Please provide any links or additional supporting materials that provide additional information on particular policies, tools, or activities.

National chemicals policy or management:

1. How is the concept of precaution explicitly or implicitly (in terms of decision-making under conditions of uncertainty) incorporated in national chemicals policy or management in your country/organization?

   Please check all that apply.

   In the country constitution ? ☐

   In legislation? ☒

   In agency/ministry/organization policy? ☒

   In specific guidance documents for risk assessment or risk management? ☒

   Applied in specific cases but no particular policy? ☒

   Not applied at all? ☐

The main national law focused on chemical management:

The Act No. 126/2006 Coll on public health as amended
The Governmental Regulation No. 355/2006 Coll. on the protection of employees from the risks related to exposure chemical factors at work
The Governmental Regulation No. 356/2006 Coll. on the protection of employees from the risks related to exposure to carcinogens and to mutagens at work
The Governmental Regulation No. 253/2006 Coll. on the protection of employees from risks related to exposure to asbestos at work

The Act No. 163/2001 Coll. on chemical substances and chemical preparations.
The Act No. 217/2003 Coll. concerning the placing of biocides on the market in SR.
The Act No. 193/2005 Coll. on plan protection preparations.

The agency/ministry/organization policy:
The government of SR adopted Pollution reduction programme in 16.june 2004.
This Programme has been done by Slovak hydrometeorological institute with cooperation with Ministry of Environment SR, Regional and District environmental offices, Slovak Inspectorate of Environment, Slovak River basin management, Water research institute, Central and Testing Institute in agriculture in Bratislava, Technical and Testing Institute Agriculture Rovinka, Ministry of Agriculture and Forestry, Centrum for chemical substances and preparations, Slovak Environmental Agency Waste Management Centre Bratislava.

Legislation of the Air protection department concerning chemicals management

- **Act No. 478/2002 of the Ministry of Environment of the Slovak Republic on air protection and on amendment of the Act No. 401/1998 Coll. on air pollution charges as amended (the Air Act) - this Act regulates the rights and duties of legal persons and natural persons concerning the air protection against the permeation of pollutants caused by human activity and in reduction of causes and mitigation of effects of air pollution, objectives in ambient air quality, competence of state administration authorities for air protection and municipalities and responsibility for breaching the duties in the field of air protection.**

- **Decree No. 706/2002 of the Ministry of Environment of the Slovak Republic on air pollution sources, on emission limits, on technical operating and general operating conditions, on list of pollutants, on categorisation of air pollution sources and on requirements for securing the dispersion of pollutant emissions – this Decree establishes emission limits, technical requirements for and general conditions of operation of air pollution stationary sources periods and terms of their validity, new sources and existing sources of air pollution and their facilities, list of pollutants, for which the emission limits, emission quotas and general operating conditions are established, categorisation of large and medium sources, requirements for securing the dispersion of pollutant emissions.**

- **Decree No. 53/2004 of the Ministry of Environment of the Slovak Republic establishes requirements to the quality of fuels and on record keeping of fuels on amended of the Decree No. 102/2005 of the Ministry of Environment of the Slovak Republic – currently, the second amendment of Decree is under preparation. The amended Decree will transpose of the Directive 2005/33/EC of the European Parliament and of the Council amending Directive 1999/32/EC as regards the sulphur content of marine fuelst and of the Directive 2003/30/EC of the European Parliament and of the Council on the promotion of the use of biofuels or other renewable fuels for transport.**

- **Decree No. 133/2006 of the Ministry of Environment of the Slovak Republic on the limitation of emissions of volatile organic compounds due to the use of organic solvents in decorative paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC – this Decree is transposition of the Directive 2004/42/EC of the European Parliament and of the Council.**

Statement of the Water Division (Ministry of Environment of the Slovak Republic) to the request of the IFCS Secretariat concerning Information Request for Background Paper (Plenary Information/Discussion Session on Tools and Approaches for Applying Precaution in the Context of Chemical Safety)

Legislation of the Slovak Republic focused on water protection is fully harmonized with legislation of the European Union. Protection against chemical substances is incorporated mainly into Law No 364/2004 Coll. (Water Law) and Governmental Regulation No 296/2005 Coll., which sets up requirements on quality and quality targets of surface waters and limit values of pollution of waste waters and special waters.

The specific documents on Risk Management and Risk Assessment in SR?

- **Technical Guidance Document No. 549/98-2 on Risk Assessment of polluted water sediments and water reservoir, Ministry of the Environment, 1998.**
- **Technical Guidance No. 623/98-2 on Risk Assessment Progress and Risk Management, Ministry of the Environment, 1998.**

- **National Profile on Chemical Management in SR, Interdepartmental Commission for Chemical Safety in SR, 2003.**
- **Technical Guidance Document on Risk Assessment of Chemicals, Slovak Environmental Agency, 2003.**

For the assessment of biocides, precautionary principle is amployed as applied in the respective EU TGDs which are also incorporated in the national legislation. For risk assessment of industrial chemicals, EU TGDs are routinely applied. Precautionary principle is also applied in desiding on specific cases on case-by-case basis, in the form of general philosophy of the "worst case" approach.

Tools and approaches for applying precaution:

2. What are some of the key tools and approaches used by your country/organization in applying precaution (or making decisions in circumstances of uncertainty) in the context of chemicals safety?

- **According the national law approach of precaution is applied through the power responsible state body.**
- **The key tools and approaches used in Slovak Republic are mainly: national legislation, decree of the government, the projects and programs. These the tools and approaches are in accordance with conclusions of the meetings and documents of the Conference on Environment and Development in Rio de Janeiro 1992, of the Third Ministerial Conference on the Environment and Health held in London in 1999 and of the Preparatory Committee for the Development of a Strategic Approach to International chemicals Management.**
- **Slovak authorities involved in hazard assessment and risk assessment have to apply procedures in line with the OECD and EU approaches using the tools developed and agreed by those organizations e. g. the TGDs where the precautionary principle is incorporated. The respective staff are regularly trained on EC and OECD level.**

a. Is there a defined approach to applying precaution or decision-making under uncertainty?

Yes ☐ No ☐

If yes, can you outline the elements of that approach or provide references to it?

The precautionary principle is embedded in the Stockholm convention on persistent organic pollutants (POPs).

The objective of this Convention is to protect human health and the environment from the POPs. POPs are substances that possess toxic characteristics and bioaccumulation, are prone to long-range transboundary atmospheric transport, are persistent and are likely to cause significant adverse human health or environmental effects near to and distand from their sources. This Convention is in the force from the 17 May 2004 and it is the part ot the Natioanl law collection with the No. 593/2004.

Pursuant this Convention it shall be ensured the reduction or the elimination of the production, use, import and export of stipulated chemical substances from the intentional production and use including their transport regarding the import, export and transit and it shall be also ensured the reduction ot the elimination of the releases from the unintentional production. The special attention is regarding the waste with POPs including the monitoring, reporting and the support of the research.

In order to ensure the implementation of this Convention has been prepared the National Implementation Plan which was approved by the Slovak Republic Government on 10 May 2006 in its resolution No. 415/2006.

In compliance with the Article 9 of this Convention was established the national focal point at the Slovak Environmental Agency (SEA) based on the decision of the Ministry of the Environment of the Slovak Republic No. 11/2006-4.4. from the 29 May 2006.

The next step will be the purchase needed money in the conjunction with the European support funds for the time period 2007 – 2013.

In order to ensure the co-operation with foreign experts in this area was prepared the participation of the Slovak delegation at the first and second meetings of the Conference of the Parties and also the involvement of the national experts in the several discussions regarding the documents prepared for the POPs management.

In the area of the PCB management is ongoing the PHARE Project UIBF 2003-004-995-01-04/7 „Capacity building in the PCB contaminated equipment management" with the target of the improvement in this area.

b. Is precaution integrated in other decision-making processes, tools and approaches such as;

Please check all that apply.

- o Data collection? ☒
- o Prioritization of substances for risk management actions ☒
- o Uncertainty characterization? ☐
- o Socio-economic analysis (e.g., social impact, proportionality/cost-benefit assessment, trade concern)? ☐
- o Risk assessment and risk management options? ☒
- o Screening, comparison of alternatives, informed substitution? ☐
- o Stakeholder and Public involvement? ☐
- o Other ☐

Data collection

***Centre for chemical substances and chemical preparation* (CCSP) under Ministry of Economy in SR as the National Competent Authority in accordance the Act No. 163/2001 Coll. make inventory of existing chemicals placed on the market in SR, collect data on HPVs and LPVs chemicals and receive notification of new chemicals.**

***The Central Controlling and Testing Institute in Agriculture* under Ministry of Agriculture in SR through the executive institution ensures the national registration of pesticides.**

A Registration Committee under the Ministry of Agriculture of SR, with membership of further state authorities such as the Ministries of Health and Environment, has the competence of permitting plant protection preparations, as well as preparations for disinfection, disinfestation and rodent control. According to the Act No. 217/2003 a biocides may be placed on the market only upon decision of the Centre for Chemical Substances and Preparations.

***The Slovak Hydrometeorological Institute* under Ministry of the Environment caries out regular monitoring of surface water quality.**

The Slovak Environmental Agency, Waste and Environment Management Center Bratislava **under Ministry of Environment as organizations authorized for management and actualization of inventory of equipments containing polychlorinated biphenyles.**
The Slovak Environmental Agency**,** ***Centre of Environmental Policy and Informatics Banska Bystrica*** **under Ministry of Environment as organizations authorized for operation Information system on IPPC.**

<u>Prioritization of substances for risk management actions</u>.
The Slovak Hydrometeorological Institute **under Ministry of the Environment within the Pollution Reduction Programme performed the prioritization of relevant substances and pesticides for SR based on the selected criteria and ensure actualization of the Pollution Reduction Programme.**

<u>Risk assessment and risk management options:</u>
In accordance with EU Process of Risk Assessment until now SR assessed two new chemicals for the 1st level (10t/y).

In accordance with the hazard *assessment within „OECD Existing Substances Programme" SR* participated as co-sponsor country in Collaboration with the Czech Republic as sponsor country on hazard assessment of SIDS documents of Sodium sulphate.

In accordance with the „*10 Year Programme of assessment of biocides and active substances*" SR until now has received Dossiers for two biocides for assessment of completeness and validity of submitted data.

See item 1 (Centre for Chemical Substances and Preparations)

c. How are gaps in knowledge addressed?

Please check all that apply.

- o Though conservative risk assessment assumptions ☒
- o Through safety factors ☒
- o Through modeling techniques ☐
- o Through an assumption that lack of information is indication of potential harm ☐
- o Through requesting additional research ☒
- o Gaps are not addressed ☐

In line with the EU approaches

3. Please provide details of a particular case (or example) where precaution was applied (or decisions made in the face of uncertainty) in the context of chemicals management?

a. What stimulated/initiated the precaution process/action?

Please check all that apply.

- o Government concern over hazards and/or exposures ☐
- o Stakeholder concerns over the particular threat ☐
- o International policy requirements/pressures ☒

- o Negative impacts/experience(s) from not acting on a previous chemical risk ☐
- o Other ☐

SR as member state of EU is obligated to fulfill requirements of EU law implemented into the national law after expiration of transition period.

The Ministry based on recommendation of relevant executive body under relevant Ministry shall proposes measure for elimination of risk way of restriction or banned production/use of chemicals.

Within the context of notification of new substance on the EU level

b. What process was used to make the decision? (please briefly describe the process or tools used to make the decision)

Until now any decision - making related to the restriction or banned of chemicals placed on the market in SR based on the result of the risk assessment according the Act No 163/2001 Coll. has not been applied yet.

In line with the corresponding TGD

c. Were there positive or negative impacts of this process/action?

Please check all that apply.

Positive		Negative	
Ecological or Health benefits	☐	Ecological or health impacts	☐
Economic benefit	☐	Economic impacts	☐
Improved government/industry image	☐	Substitutes/alternatives did not work	☐
Improved government/public morale	☐	Negative public reaction	☐
Improvements to scientific tools/decision processes	☐	Other?	☐
Other?	☐		

The process is not yet terminated.

d. Were there any unintended consequences from this process/action?

Positive ☐ – please describe

Negative ☐ - please describe

4. Are there any particular cases in your country/organization where precaution was not applied (decisions not made in the face of uncertain chemical risks) resulting in adverse impacts?

Yes ☐ No ☒

If yes, briefly describe if and how decision-making processes have been modified as a result.

5. Does your government have processes in place to re-examine decisions made based on precaution or made in the face of uncertainty as additional data are available?

Yes ☒ No ☐

If yes, briefly describe the process and how this process may be used to modify decisions, decision-making process, or tools.

As stipulated by the Act No. 163/2001 L. C. no chemical substances and preparation, available on: http://www.cchlp.sk/e_welcome.html

Lessons Learned from applying precaution in chemicals management

6. What are some of the biggest challenges to your country's (organization's) application of precaution in the context of chemicals management or in chemicals management decision-making in the face of uncertainty?

Please check all that apply.

- Scientific capacity ☐
- Lack of scientific information ☐
- Legal challenges ☐
- Technical challenges ☒
- Financial challenges ☒
- Trade Challenges ☐
- Other? ☒

Public awareness

There are inadequate personal resources in institutions/authorities involved.

Are these challenges also applicable to decision-making and actions regarding established risks?

Yes ☐ No ☒

Next steps

7. What are the most important needs of your country or organization for more effectively applying precaution (or making decisions in the face of uncertainty) and overcoming barriers in chemicals management decision-making?

Please check all that apply.

- o Data on chemical toxicity/risks ☐
- o Tools for prioritization ☒
- o Tools for risk assessment ☐
- o Decision-making tools/frameworks ☐
- o Technical assistance in risk assessment processes ☒
- o Technical assistance in risk management processes ☒
- o Financial support for implementation ☒
- o International dialogue ☐
- o Information sharing to facilitate understanding of the issues ☐
- o Other ☐

The prioritization process of chemicals relevant for SR in view their environmental risk has not been started yet in practice.

SR has the List of priority substances done within Pollution reduction programme by Slovak hydrometeorological. The selection criteria for development the List of priority substances relevant for SR has been focused on protection of water compartment.

Acquiring and adequate training of new personel an, stabilizing and motivation of skilled experts

8. Briefly describe your perceptions as to some of the concerns regarding application of precaution in the context of chemicals safety?

9. Do you have any additional information on tools and approaches for applying precaution that would be helpful to inform discussion?
   Please provide any additional materials or web links.

   http://www.uvzsr.sk/
   http://www.enviro.gov.sk/
   http://www.cchlp.sk/e_welcome.html

Additional Information

Updated

National Environmental and Health Action Plan for the Slovak Republic II

1. Introduction

The statement concerning the *right of human beings to a healthy and productive life* was not incorporated by chance into Principle no. 1 of Agenda 21 – the basic conceptual document for the 21st century, which was adopted at the Conference on the Environment and Development in Rio de Janeiro in 1992, the largest international conference at the highest level in the history of mankind. Based on this principle, health is to be understood as the main component of quality of life itself.

An environment supporting health is a necessary precondition for good health. Environmental health services deal with the relations between the environment and health. The notion of environmental health means a health condition affected by the environment. The reduction of health risks induced by a polluted and jeopardized environment is one of the main programme areas of Chapter 6 of Agenda 21. Inappropriate life conditions caused, *inter alia*, by the primary or secondary pollution of components of the environment, noise, various physical factors, and other negative natural or artificial phenomena, pose a health risk in the event that man is exposed to these phenomena either in the short or long term. On the other hand, positive living conditions created by good conditions for work and life, the feeling of unity, aesthetics, the possibility of enjoying recreation and acquiring cultural experiences, etc., help human health to cope with the requirements of everyday life. From a long-term perspective, the preservation of ecosystems and the sustainable utilization of natural resources predetermine the health of future generations. Hence, there is reason to believe that if we focus on health through relations and connections with the environment, the effort and work invested in environmental protection will be better understood and given higher priority.

The strategy and policy of the Slovak Republic for the improvement of the environmental health of the population are based on this approach to environmental issues, which have been formulated by the World Health Organization (WHO) in the strategic document entitled 'Health for All'. The first updated National Environmental and Health Action Plan for the SR (NEHAP) has the ambition of becoming the main programme instrument of the state health policy in the Slovak Republic to improve environmental health.

2. Development of NEHAP

The processes aimed at improving environmental health (EH) in European countries were triggered by the 2nd Conference of Ministers of the Environment and Health in Helsinki in 1994. Further development in a pan-European context confirmed the need to deepen activities and intensify effort in favour of EH activities and to look for the most efficient methods supporting the implementation of the individual National Action Plans. The participants of the London Conference held in 1999 acknowledged that the main goal – sustainable health – can be achieved only in a broad partnership within the country with the support of national authorities, application of the inter-sectoral approach and involvement of the public in the EH processes, and at the international level with the support of inter-governmental and international institutions capable of providing efficient forms of support (exchange of experiences and knowledge, assistance in building professional capacities, and funds).

The need to update the NEHAP for the Slovak Republic ensued from the evaluation of the current development and implementation of the National Action Plan in the SR, especially in the light

of the conclusions of the Third Ministerial Conference on the Environment and Health held in London in 1999. The undertaking to update NEHAP and develop a strategy for its implementation is laid down in Resolution No. 1062 of the Government of the Slovak Republic of 1st December 1999, which was approved for the London Conference Conclusions Implementation Programme. Principles upon which the environmental approach to tackling issues of health are based and the basic framework for national activities and measures targeted at the improvement of health and sustainable health of the Slovak population are presented in this document.

3. The current situation of NEHAP and starting points

The overview of implemented tasks and measures taken, which are contained in the NEHAP in Slovakia for the period from 1997 to 1999 is necessary with respect to the evaluation of the current development of processes in the area of environmental health.

3.1. NEHAP contents

NEHAP, which was approved by the Government of the Slovak Republic by Resolution No. 55/1997 of 17th January 1997, determined 6 top-priority areas that need to be given precedence:

- the health safety of food
- providing the population with drinking water
- clean air
- appropriate working conditions and the provision of occupational safety and health
- reduction of the radiation load on the population
- a health-supporting living environment in towns and in the countryside

There are 67 measures formulated in NEHAP. The Ministries of Health, the Environment, Soil Management, Transport, Post Offices and Telecommunications, Economy, Labour, Social Affairs, and Family, and Construction and Regional Development are mainly responsible for the implementation of the aforementioned measures. Some of the measures aimed at improving living conditions in residential areas in towns and in the countryside are, with respect to state bodies at the national level, recommended for implementation at the local level, and are targeted more at local governments and entities operating in towns and municipalities.

3.2. Evaluation of the fulfilment of NEHAP over the period of 1997 to 2000

In the first half of 2000, only 55% of the NEHAP measures were fully or satisfactorily implemented in Slovakia. Most of the already fulfilled tasks consisted in the drawing up and passing of laws and standards compatible with the EU legislation. Hence, NEHAP contributed and systemically continues to contribute to the creation of a legislative environment for the purpose of strengthening the EH of the population of Slovakia and at the same time supports the approximation of the Slovak law to the EU law.

Chapter on the health safety of food: Practically all tasks were fulfilled in the chapter on the health safety of food.

- The state health and food quality control system improved and principles of good production practice were implemented, including the food hygiene control assurance system – HACCP (Hazard Analysis and Critical Control Point). The Ministry of Soil Management ensures a working information system containing control and monitoring data on foreign substances in food and currently the software for the statistical processing of food quality data in a complex manner is being installed at the workplaces of the mentioned Ministry.

Chapter on air: the Ministries of the Environment and Economy, under the competencies of which the significant stationary air polluters are classified, and the Ministry of Transport, Post Offices and Telecommunications are in charge of most of the tasks in this area.

- The 1998 Report on the State of the Environment in the Slovak Republic, which was developed by the Ministry of the Environment, states a declining trend in the development of emissions of pollutants into the air – SO_2 (compared with the 1990 situation, a decrease of 67%), NO_x (a reduction of 43%), solid pollutants (a reduction of 80%), and CO (a reduction of 36%). The development of emissions of volatile organic compounds (VOC) also shows a positive, declining trend; the concentration of VOC declined by approximately 33% over the period from 1990 to 1998. Crude oil extraction, transportation and refining, the industrial organic chemistry, firing processes, food industry, wastes, agriculture, and transport contribute to this trend. On the other hand, the use of paints and adhesives, chemical clarification and degreasing, the distribution of fuels, and industrial metal production and treatment contribute considerably to the production of these emissions. It is apparent that future measures should be targeted at reducing the contribution of these industrial branches to air pollution and maintaining the favourable development of the aforementioned industrial branches.

The positive development of air quality is to be attributed primarily to the dramatic fall in the mineral ore extraction, a fall in the generation and distribution of power in the Slovak Republic, and partly to the decline of production in other branches of industry; however, targeted measures taken at the national as well as the regional level undoubtedly contribute to the constantly improving trend. Nevertheless, it is very difficult to ascertain the actual contribution of these measures to the overall improvement in air quality.

Examples of solutions of air pollution at the national level:

- The Government of the Slovak Republic adopted regulations which amend the existing Act No. 309/1991 Coll. on Air and the Act of the Slovak National Council No. 134/1992 Coll. on State Administration in Air Protection, which came into effect on 1st January 1999. The requirements to keep working records of pollution sources and requirements concerning the extent of further data that the operators must provide to the air protection authorities are specified by a separate Regulation of the Ministry of the Environment, No. 200/1999. The Regulation of the Ministry of the Environment No. 144/2000 Coll. specifies the demands on fuel quality. Fees and charges for air pollution are specified by a separate act (No. 401/1998 Coll.), which came into effect on 1st January 2000. The Regulation of the Ministry of the Environment No. 127/2000 on the Establishment of the Maximum Admissible Emissions of Pollutants into the Air came into effect on 1st May, 2000.
- By adopting the Act of the National Council of the Slovak Republic No. 76/1998 Coll. on the Protection of the Earth's Ozone Layer and Implementary Regulation No. 283/98, the necessary legal conditions for the discharge of tasks ensuing from the accession of Slovakia to the Montreal Protocol on Substances that Deplete the Ozone Layer and its London and Copenhagen Amendments were created in Slovakia. Pursuant to this Act, the Ministry of Economy will issue licences for the import and export of substances depleting the Earth's ozone layer under conditions specified in the official licence in compliance with the respective legislation.
- The Ministry of the Environment of the SR directs and coordinates the supporting contributing programme, entitled 'The Programme for the Support of the Gradual Elimination of Substances Depleting the Ozone Layer – OZONE', which is a programme aimed at supporting small and medium enterprises.

- The quality of fuels produced in Slovakia presently meets even the more stringent European standards for motor vehicle petrol (EN 228/1999) and diesel fuels (EN 590/1999). Unleaded petrol for use in vehicles is produced in Slovakia practically throughout the entire commodity range. Slovnaft, a.s. Bratislava contributed to the reduction in emissions from transport by its production of unleaded petrol. Lead emissions dropped by over 60%. The production of diesel fuels with a low sulphur content (0.05%) has also been solved.

- A significant reduction in the content of substances damaging the environment was achieved by implementing more efficient oil refining (the EFPA Project – Environmental Fuel Project Apollo). The tolerated sulphur content in motor vehicle petrol fuels decreased from 500 to 150 ppm, the content of alkene components is limited to 18% of the volume, the content of aromates to 42% of the volume, the content of benzene was reduced from 5 to 1% of the volume, the tolerated content of sulphur in diesel fuels was reduced from 500 to 350 ppm, polycyclic aromates are limited to max. 11% of the volume, the content of sulphur in gaseous oils (in light fuel oils) meets the requirement of max. 0.2% of the weight.

At the regional level:

- Regional authorities and institutions are in charge of introducing smog warning and regulating systems. Based on the documents submitted by the Ministry of Economy, the operators of large and medium-sized air pollution sources in the energy sector submitted a suggestion to solve the issue of regulating the energetics electrification system in compliance with the needs of regulation when declaring the smog warning and regulating systems. In spite of the efforts of regional authorities, this problem was not solved due to a lack of funds for the establishment of monitoring stations. Regional authorities in the Košice and Prešov Regions issued regulations concerning the affected areas and similar regulations are currently being developed for the Nováky Region. The Nováky Power Plant was requested to develop regulating measures and on the basis of this the 'Operational Instruction' was developed in this power plant as a proposal for the implementation of regulating measures.
- Slovnaft, a.s. has introduced the EFPA programme, the outcome of which is, *inter alia*, the production of fuel oils containing less than 1% sulphur.
- The ecologization of the source basis in Slovenské Elektrárne (Slovak Power Plants), a.s. is an extraordinarily difficult matter in terms of funds. The implementation of this process requires a certain transitional period, as the power supply to the consumers must not be jeopardized. Upon completion of this process, which is planned by the end of 2006, it is expected that the existing air pollution sources in this sector will meet the emission limits set out for new pollution sources.

Chapter on water: the Ministries of the Environment (ME) and Soil Management (MSM) are primarily in charge of the monitoring and evaluation of the quality of ground and surface waters in Slovakia.

- Concerning drinking water, the systematic monitoring of water quality in water-supply reservoirs (MSM SR) and the monitoring of territories which are significant in terms of water reserves (ME SR) was introduced; data on the abstraction of ground and surface waters from all sources that are managed by the Water and Sewage Companies are collected regularly on a quarterly basis. The VYDRA Programme (Ministry of Health of the Slovak Republic) was implemented for the purpose of monitoring drinking water quality in terms of health significance and it is used for the regular collection and evaluation of data ensuing from the performance of State Health Surveillance over state health institutes in the Slovak Republic, which is aimed at the assessment of health aspects relating to drinking water. Limited funds in all departments, however, enable only the minimum performance of water quality monitoring which is necessary for the assessment of the situation in the area of water protection and utilization in Slovakia.

The „Healthy Water" project (MH SR) is now underway with the aim of increasing public awareness of the significance of drinking water for people.

- The Ministry of Soil Management ensures educational and methodical/instructional activities aimed at increasing the professional skills of those providing services related to the handling of water in Slovakia. These activities are ensured through the *Coordinating Council for the Application and Implementation of Scientific and Technical Knowledge* in the Water and Sewage Companies, which are in charge of supplying the population with drinking water.

- Slovakia is now transposing the EU legislation into the Slovak legislation. At present, the central bodies (ME, MSM, and MH), which are in charge of matters relating to waters, give priority to the intensification of the approximation of the Slovak law to the EU law, to the regulations relating to this area. A large number of regulations relating to the protection and utilization of water sources, drinking water, and bathing waters (the Water Act, Public Water Mains and Sewerage Act, etc.) are in the final stages of development. The STN 75 7111 standard, which is in compliance with the requirements of the WHO, was implemented in the second half of 1998.

Chapter on a health-supporting working environment and conditions: a close connection with the social sphere and its transformation is characteristic for this area. Most of the regulations that have to be transposed or amended in compliance with the EU legislation concerning working conditions are almost complete, and should be approved by the Slovak Government in the very near future. This involves the drafting of the new Labour Code (the amendment of the Labour Code was approved in 1999) and a complete amendment to the Act of the National Council No. 272/1999 Coll. on Health Protection (MH SR), including implementary regulations. With respect to the legal environment, the adoption of Act No. 95/2000 Coll. on Work Inspection and on the Amendment of Certain Acts is significant.

- Based on the assessment of the discharge of tasks ensuing from NEHAP, it is necessary to admit the failure to perform activities in the field of introduction of working – health services (company health services) for employees. In this area, practically no progress to the benefit of care for the health of employees in relation to the working conditions was achieved. This means that the top-priority problem defined in this chapter of NEHAP remains and has become even more urgent. The solution of this problem requires the close cooperation of all sections of the department of health, and requires the re-evaluation of the perception of health care at workplaces based on the knowledge of the risks of being exposed to specific factors which are detrimental to health and which are related to the discharge of duties, working conditions, the working environment, and factors concerned with lifestyle.

The creation of conditions for the improvement of the situation in the provision of working – health services at workplaces is still one of the objectives of the updated NEHAP.

Chapter on the living environment in towns and in the countryside: the general objective in this area is to create a living environment that supports the health of people. It is an objective that requires a long and systematic process, in which all components of society participate. Regional and local state authorities and local government structures, the entrepreneurial sphere, and the citizen himself mostly affect the creation of the living environment.

The national bodies create rules for the functioning of society, especially the legal framework for activities which determine the creation of a healthy living environment, and they create economic instruments for the implementation of the aforementioned rules. The state administration bodies, from the national to the local level, contribute to the creation of the living environment by participating in the decision-making process relating to the planning and management of a broad range of activities in the field of construction, the use of land, production, and the operation of plants and facilities, etc., which affect the quality of the living environment, including housing. The construction of local infrastructure, the organization of transportation, and the development of tourism and services rendered to the local population all come under the competencies of local authorities, especially local government bodies.

With respect to the NEHAP objectives, the cooperation between state institutions in various fields (state health institutes, environmental agencies, research and specialized institutions – VÚVH (the Water Research Institute), SHMÚ (the Slovak Hydro-meteorological Institute)) and local government sections, and citizens' associations and foundations targeted at improving the environment with a health impact, may be best documented by the implemented local health plans, which were developed within the framework of national projects, such as *Healthy Towns, Local Agenda 21* and by many projects of a regional or district nature and significance. The Towns of Košice and Banská Bystrica have developed *Town Health Plans*; other towns which are a part of the national healthy town network are preparing these plans. These activities have a common objective and goals, namely

sustainable towns and sustainable development. These projects are becoming national movements, which have to be maintained and supported by all means.

- As a part of NEHAP activities, the Ministry of Construction and Regional Development, in cooperation with experts from the Faculty of Civil Engineering of the Technical University of Košice, the Institute of Preventive and Clinical Medicine in Bratislava, and the Building Construction Research and Development Institute published *Harmful Substances Negatively Affecting Health – Residential Buildings*, which summarizes knowledge gained through monitoring negative phenomena in apartments (mildew, moisture contained in structures, the radon threat, formaldehyde vapours, NOx, CO, and asbestos). The monitoring of the housing factors that negatively affect human health did not continue on the planned scale due to a lack of funds.
- As it was necessary to seriously deal with the issues of the impact of the quality of the interior environment on human health, National Reference Centres (NRCs) were established at State Health Institutes (SHI) for the evaluation of the impact of the quality of the interior environment on human health (the NRC for the evaluation of the impact of external air and air in closed rooms on human health at SHI Banská Bystrica, the NRC for microclimate under warm and moist conditions at the State Health Institute of the Slovak Republic, the NRC for the issue of fibrous dusts at SHI Nitra, the NRC for noise and vibrations at the State Health Institute of the capital of the Slovak Republic, Bratislava, the NRC for non-ionizing irradiation at the State Health Institute of the Slovak Republic). The main role of the National Reference Centres is to monitor, collect, and evaluate data on factors of the internal environment that are relevant for health. These NRCs constitute an information base for professionals and laymen, which provides knowledge on the consequences of exposure to the aforementioned interior factors for human health.

The Ministry of Health cannot completely assess most of the activities mentioned in this chapter, which are to be performed rather in towns and municipalities. The initial intent of this chapter was to draw attention to the scope of problems in the residential environment, which are significant with respect to health and comfort, and to suggest possible solutions to these problems. This chapter gives the greatest possibility to apply practically all the principles upon which the EH approach to health is based, especially the partnership principle, which involves all the participants who may benefit from the solution of these problems.

3.3. Health condition

Demographic data

The assessment of the development of the health of Slovakia's population over the period from 1990 to 1999 was based on selected health condition indicators, such as life expectancy at birth, the infant mortality rate, and the standardized mortality rate due to some diseases that are relevant to the environment. The quality of food, external and internal air, water, and working and housing conditions directly affect the development of these indicators. Transportation, which is not only a source of harmful chemical substances in the environment, recently became an ever more significant factor causing a deterioration of the situation in towns and municipalities in Slovakia by excessive noise. Noise affects the human body indirectly, thus insidiously, and causes many diseases. Several studies performed all over the world proved the significant impact of noise on increasing illness in people living in areas with higher noise levels. Noise in the environment exceeding 50 dBa depreciates the area and classifies it as an area unsuitable for habitation.

Life expectancy at birth has increased since 1990 from 66.6 to 69.0 years for men, and from 75.4 to 77.0 years for women (Table 1).

The infant mortality rate in the Slovak Republic dropped over the period from 1990 to 1999 from 12.0 to 8.3. It is a considerable decline (Table 2).

The development of *the standardized mortality rate due to cancer* has an upward trend for men and women in the Slovak Republic and *the mortality rate due to diseases of the cardiovascular system* has a downward trend (Table 3-1/2). Compared with the Slovak Republic, the trends in the Czech Republic, Germany, the United Kingdom, and France are favourable – they are falling. An upward trend in the mortality rate due to cancer was also recorded in Hungary.

The development of *the standardized mortality rate due to diseases of the cardiovascular system* shows a downward trend in Slovakia for men and women (Table 3-1/2); the aforementioned European countries also have a similarly favourable development trend. However, as regards the number of deaths per 100,000 people, Slovakia is, together with the Czech Republic and Hungary, at a much higher level than Germany, the UK, and France.

The development of *the standardized mortality rate due to respiratory diseases and diseases of the alimentary canal* for men and women in Slovakia shows a favourable, downward trend (Table 3-2/2). A similar trend was also recorded in the Czech Republic, France, and Germany; Hungary recorded an upward trend in the mortality rate due to diseases of the alimentary canal and an increasing number of deaths due to respiratory diseases was recorded in the UK.

The mortality rate of men is higher than that of women for all the mentioned diseases; the same applies to most of the well-developed countries in the world.

4. Updated NEHAP

Objective

The main objective is to minimize the risk ensuing from the living and working environment and to maintain the environment in such a condition so as to prevent the environment from damaging and jeopardizing human health, and to enable the positive development thereof.

4.1. Content

In addition to essential demographic data that are relevant to health and the environment, the analysis of the current state of implementation of NEHAP in the Slovak Republic, the setting of goals and principles, and assigning institutions in charge of the implementation of NEHAP, the updated NEHAP is mainly focussed on the elaboration of priority areas in the living and working environment, within which the measures aimed at improving the working and living conditions are updated. The platform for the involvement of local government bodies in towns and municipalities, of entrepreneurs and businesses, of non-governmental organizations, various community companies, and also of individuals in the solution of environmental problems that have an impact on human health and are of local origin, is constituted by the development and implementation of Local Environmental and Health Action Plans, especially in those towns and municipalities which have not had similar activities so far, or in which the expected improvement was not achieved. The chapter on the residential environment in towns and in the countryside deals especially with the possibilities to solve EH problems at a local level.

Special chapters of NEHAP deal with the development of human resources, the generation of potential (page 69), education and training in the field of EH, and with the participation of the public in activities aimed at improving EH.

4.2. Organization of work

The updated NEHAP was developed by a working group consisting of experts in the area of public health based on an analysis of the state of implementation of the current NEHAP, which was approved by the Government of the Slovak Republic in January 1997, whereby the *weaknesses* of this document were taken into consideration. The weaknesses consisted of deficiencies in some areas – education and training, involvement of the public, environmental and health services, and a link-up to LEHAP, whereby all these should be among the basic chapters of national programmes of this type. The strategy for the implementation of NEHAP relating to this document contains the basic principles and approaches and other aspects that are necessary for the achievement of the objectives of this document.

The measures mentioned in the individual chapters were proposed in cooperation with the government departments involved, especially with the Ministry of the Environment, but also with other, mainly economic, departments – the Ministries of the Economy, of Transport, Post Offices and Telecommunications, and of Soil Management – namely, those that hold a key position in planning and management in the Slovak Republic and hence also share a respective share of responsibility for economic growth and prosperity in the country. Further departmental partners at the national level in the updating of NEHAP were the Ministries of Labour, Social Affairs, and Family, of Construction and Regional Development, and of Education, without the support of which an efficient health protection policy based upon the principles of prevention, solidarity, and justice in health cannot be ensured.

4.3. Priority areas

- Food safety
- Soil
- Air pollution
- The provision of the population with drinking water
- A health promoting working environment and conditions – company health services
- Housing
- Environmental health services
- Public relations and relations with NGOs
- Education and training in environmental health

4.3.1. Food safety

Initial situation

We may speak about food safety only provided that the occurrence of a nutritional, microbiological, chemical, toxic, or radiological health risk from food is improbable. This condition may be achieved by elaborating a risk assessment system and the subsequent systematic check of produced and distributed foodstuffs, or by managing the foodstuff production and handling processes in such a way so as to exclude the advent of factors harmful to health. Food safety can be assured only by introducing a risk assessment system into the legislation and practice, as well as by launching systematic microbiological, sensoric, physical, chemical, and toxicological checks of the finished product.

The ‘from farm to table policy’ constitutes the main principle of the new EU approach to consumer protection pursuant to the White Paper on Food Safety (document DG23, Consumer and Health Protection). The ability to provide food safety is emphasized, as well as effective control at all levels of the food chain. The EU White Paper mentions a comprehensive range of activities

needed to complement and modernize existing EU food legislation, to make it more coherent, understandable, and flexible, to promote better enforcement of that legislation, and to provide greater transparency to consumers. The principle of the 'from farm to table policy' has been applied to the production of food in the Slovak Republic for a long time now. The Slovak Republic applies effective control and monitoring of the food chain components.

As a part of preparation for EU accession, the Slovak Republic is harmonizing its legislation with the acquis communautaire. The Community legislation relating to food safety and health protection is reflected in the Food Act and Food Code of the Slovak Republic, and hence a level of consumer protection equal to the level in the Member States is ensured. The activities adopted in NEHAP for food hygiene in the Slovak Republic are harmonized with EU procedures and reflect EU priorities established in the White Paper on Food Safety.

Foodstuffs as a transmission factor constantly contribute to the upward trend in the incidence of alimentary infections. The incidence of alimentary infections is accompanied by the occurrence of many small or medium epidemics.

With respect to the growing microbiological risk of foodstuffs, a check on the finished product itself does not suffice. Therefore, a new preventive quality assurance method for foodstuffs with respect to the microbiological risks thereof was developed – Hazard Analysis and Critical Control Point – HACCP. The HACCP system is a part of the good production practice, which is laid down in legislation (EU Council Directive 93/34/EEC on Food Hygiene).

The consistent application of good production practice obliges the management and staff in the production and distribution of foodstuffs to cooperate with health, veterinary, and other experts, especially when determining the hazard critical control points. The Council Directive 93/43/EEC is incorporated in Act No. 152/1995 Coll. on Food and in the Food Code of the Slovak Republic. Sections 256, 257, and 258 of Chapter 8 of the Food Code of the Slovak Republic, 'Principles of good production practice', came into effect on 1st January 2000, and pursuant to these sections, the manufacturer is required to introduce and apply the HACCP system. Food Inspection bodies are in charge of control aimed at the performance of tasks related to the application of principles of good production practice, and at the overall assessment of potential risk for the safety of foodstuffs with respect to production.

In order to minimize the microbiological, chemical, and toxicological risks of foodstuffs, health protection authorities contribute with their knowledge, which allows the ascertainment of the highest admissible quantities of microorganisms in food and the highest admissible quantities of foreign substances in food.

The tolerable daily and weekly intakes of contaminants into the human body are calculated in cooperation with the MoSM SR, based on the results of the information system on foreign substances.

As a part of the health protection bodies of state health control and food control under the Ministry of Health of the Slovak Republic and food inspection bodies under the Ministries of Health and of Soil Management of the Slovak Republic, there is a focus on risky foodstuff production, and measures are taken in cases where limits are exceeded.

As for the use of additives in foodstuffs, the health sector should specify requirements relating to the purity of additives and should monitor the overall intake of additives through food (Directive 89/107/EEC). The priority of drafting a regulation laying down requirements relating to the purity of additives in compliance with the EU criteria is reflected in NEHAP activities.

The control of additives and contaminants in foodstuffs is ensured by state health control and food control bodies under the Ministries of Health and Soil Management. Samples are analysed in the laboratories of food control bodies, which are certified or accredited, whereby they become involved in the reliability system of quality assurance and analysis results (AQA). Since 1986, the department of soil management has been constructing a partial information system covering the contamination of the food chain by foreign substances (the Partial Monitoring Project entitled 'Foreign Substances in Food and Animal Feed' is a part of the information system). Monitoring of the consumer basket in selected representative locations of Slovakia is ensured simultaneously. The Commission for the Monitoring of Foreign Substances at the MoSM SR and the

Commission's working groups coordinate activities in the field of foreign substances in the food chain. Monitoring the individual components of the food chain enables the observance of contaminant penetration, the indication and elimination of contamination sources, and the elimination of hazards at each food production level. The following contaminants are monitored – heavy metals, nitrates, nitrites, polychlorinated biphenyls, and further, residues of pesticides and veterinary medicines. Measures aimed at the minimization of the health risk are adopted and carried out on the basis of monitoring results and conclusions drawn by control bodies.

The legislation currently in force in Slovakia on additives and contaminants in foodstuffs is mostly harmonized with EU directives on these issues (the Food Code of the Slovak Republic).
Microbiological standards, as criteria for the highest admissible quantities of microorganisms in food, are also regulated by the Food Code of the Slovak Republic. These were followed by legislative measures adopted in 1998 for the application of principles of good production practice (the effect of Sections 256, 257, and 258 from 1st January 2000), which define a set of measures relating to production methods, with respect to the optimization of production and the minimization of health risks.
The gradual integration of the Slovak legislation with the international recommendations, especially from the WHO/FAO forum (the Codex Alimentarius) is ensured by the Slovak Food Code Committee.
In the same way as the recommendations of EU directives and the WHO/FAO recommendations, ISO methods have also been implemented into the Slovak legislation under the direction and coordination of the Ministry of the Economy of the Slovak Republic. As a part of the development of Slovak legislation on food health, the acquis relating to the aforementioned area is being gradually approximated to the Slovak legislation, and its effective implementation in practice is ensured.

Regulatory measures on food safety were adopted in the Act of the National Council of the Slovak Republic No. 152/1995 Coll. on Food and in the Food Code of the Slovak Republic concerning general hygienic requirements on food production, handling, and distribution, concerning requirements on the content of foreign substances in food, the microbiological requirements of food and subjects that get into contact with food, and concerning some special requirements (food for special nutritional purposes). The aforementioned requirements are in compliance with the acquis for this area and with some of the requirements of the Codex Alimentarius.

Objectives:

To minimize the probability of incidence of alimentary infections by applying the principles of risk assessment and by purposeful checks on foods, and by guiding the introduction of critical control points in the production and handling with foodstuffs.

To minimize the contamination of the food chain by applying the principles of risk assessment based upon the knowledge of the monitoring of foreign substances in the Slovak Republic.

To ensure the monitoring of dibenzo-p-dioxins, polychlorinated dibenzofurans and planary PCBs, and dioxins in the food chain.

To introduce the monitoring of the intake of potentially hazardous additives through meals taken throughout the day.

To specify the principles and support the development of primary production and the production of nutritionally beneficial and healthy foodstuffs.

To cooperate in the preparation of legislation targeted at food safety, including new foodstuffs, in compliance with the EU directives.

To cooperate in the implementation of the Slovak legislation in the area of additives and contaminants contained in food and in the area of microbiological food standards in compliance with the EU directives.

Basic predispositions

The upward trend in the incidence of alimentary diseases, especially of salmonella, requires consistent measures in order to ensure the required food quality and safety. Since 1995, when the rate of salmonella infection achieved 330.8 per 100,000 inhabitants (which was 60% more than the previous 5-year average), the incidence of alimentary diseases has been further accompanied by small and medium epidemics. The infection rate in the case of dysentery and other intestinal bacterial diseases is reasonably high, even in spite of the stagnating trend over the past few years.
By consistently introducing checks on products and especially checks of the established critical control points within the introduction of good production practice in the manufacture of food (HACCP), a further reduction of the epidemiological hazard related to food can be achieved.

In 1999, the results of the coordinated, targeted monitoring of foreign substances performed by the MoSM SR and a comparison of the individual average findings in the specific commodities showed that the level of soil contamination improved considerably, whereby a drop in the average content of all monitored chemical elements over five years was recorded. The most significant deterioration was seen in the case of raw materials of vegetable origin, as the highest admissible quantities of chromium, nickel, cadmium and arsenic were exceeded in particular. No samples exceeding the PCB limit values were found in the monitored agricultural entities.
As for the monitoring of the consumer basket, heavy metals and nitrates represent the heaviest burden for the human body from the parameters monitored so far. Concerning cadmium, the percentage share of cadmium in PTWI amounts to 15.8%. The share of nitrates in ADI amounts to 17.3%.
In 1999, the safety of some foodstuffs imported from other countries was threatened due to their contamination with dioxins. The Government of the Slovak Republic adopted Resolution No. 658/1999 to ensure the detection of polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans and planary polychlorinated biphenyls in food and other components of the environment.

The preliminary results of monitoring potentially hazardous additives point especially to the problem of food colourings in some food commodities. The continuing long-term trend in the incidence of so-called ‘civilization diseases’, especially cardiovascular diseases and some types of cancer, has a grave health and social impact. The intents of the approved Nutrition Improvement Programme for the population of the Slovak Republic are, *inter alia*, the provision of safe foodstuffs and of new types of food with respect to a sufficient selection of nutritional factors.

Activities:

1. The approximation and implementation of legislation for genetically modified foodstuffs.

Justification:
The task assumes the drafting and continuous amendment of the legislation in relation to the EU in the field of genetically modified foodstuffs – the so-called 'new foodstuffs' and 'new components'. It is necessary to solve issues of analytical specification, issues concerning sampling and the applied methods and issues concerning the establishment and accreditation of laboratories for the detection of genetically modified foodstuffs. Consumer protection and the effective implementation of the adopted legislation in practice are the goals of this task.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Soil Management of the Slovak Republic Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	2000 – 2002
Anticipated costs:	MoSM SR – SKK 150,000
Other sources:	PHARE, twinning projects

2. To continue performing the monitoring of 'Foreign Substances in Food and Animal Feed', and implementing the partial information system on foreign substances, including a system for securing the quality and reliability of analysis results – AQA – as a part of the Environmental Monitoring System and Integrated Information System on the Environment in Slovakia.

   Justification:
   Foreign substances have been monitored in the department of soil management since 1991. This task is also stipulated by Government Resolution No. 7/2000 on the Concept of the Completion of a Complex Environmental Monitoring and Information System. The monitoring of contaminants (heavy metals, polychlorinated biphenyls, nitrates, residuals, pesticides, etc.) and additives (chemical preserving agents, colourings, and flavourings) in food is an objective gauge of the contamination of food in the consumer network in selected locations of the Slovak Republic, and is an important instrument for the adoption of preventive measures aimed at protecting human and consumer health. The reliability system of quality assurance and analysis results – AQA – guarantees the accuracy of monitoring results.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	2000 and permanently
Anticipated costs:	MoSM SR – SKK 27 mil.
Other sources:	PHARE

3. To draft an amendment to the Act of the National Council No. 152/1995 on Food.

   Justification:
   The requirement to amend the aforementioned law by the end of 2002 ensues from the adoption of the acquis communautaire and the NPAA.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	2002
Anticipated costs:	SKK 300,000

4. To perform checks on dioxin in foodstuffs and their components, and in animal feed.

   Justification:

Funds for the acquisition of apparatuses and devices for the detection of dioxins in food were earmarked for the Institute of Preventive and Clinical Medicine (IPCM) at the Ministry of Health in compliance with Government Resolution No. 658/1999 on the motion to ensure the detection of polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, and planary PCBs in food and other components of the environment. We propose to control the amount of dioxins in food within the departments concerned, upon the accreditation of the laboratory at the IPCM and the establishment of dioxin limits, and to earmark funds for the analysis of dioxins in foodstuffs.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic
	Ministry of Soil Management of the Slovak Republic
	Ministry of the Environment of the Slovak Republic
Timeframe:	2001 and permanently
Anticipated costs:	MoSM SR – SKK 3 mil.

5. To complete the information system on the safety and quality of food and on food inspection.

Coordinator:	Ministry of Soil Management of the Slovak Republic
	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Soil Management of the Slovak Republic
	Ministry of Health of the Slovak Republic
Timeframe:	2000 - 2002
Anticipated costs:	MoSM SR – SKK 400,000
	MoH SR – SKK 800,000

6. To incorporate a risk assessment system also covering the area of food safety into the amendment to Act No. 272/1994 Coll. on the Protection of Human Health.

   Justification:
   The safety of food is determined by evaluating the nutritional value, the microbiological, chemical, and physical contamination of food, and by the usage of safe additives. The evaluation of the health risk is a methodical procedure, which is carried out on the basis of scientific knowledge, knowledge of exposure, and available information, and thus leads to the assessment of possible risks. The risk assessment principles and their application to food safety were adopted at the Joint FAO/WHO meeting in Geneva in 1995.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2000 – 2002

7. To enforce the principles and support the development of producing nutritionally beneficial and safe foodstuffs in the primary production of agricultural products and in the industrial production of processed food.

   Justification:
   The establishment and monitoring of nutritional criteria are one of the objectives to be accomplished in order to achieve food safety with respect to guiding the population of Slovakia towards correct nutrition. The Ministry of Health submitted to the Government the ‘Nutrition Improvement Programme for the Population of the Slovak Republic’, which was approved by the Slovak Government. The general objective of the Nutrition Improvement Programme is to improve the health condition of Slovakia’s population and to prevent several widespread so-called ‘civilization diseases’. One way to influence the population is to develop

the primary production of agricultural products and the industrial production of processed food, which will ensure an improvement in the quality and innovation of nutritionally beneficial and safe foodstuffs, also with respect to the quantity of nutritional factors.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic
	Ministry of Soil Management of the Slovak Republic
	Ministry of the Economy of the Slovak Republic
Timeframe:	2000 – 2002

8. To draft legislation concerning requirements on the purity of food additives.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic
	Ministry of Soil Management of the Slovak Republic
Timeframe:	2000 – 2002

9. To methodically adapt studies focussed on the intake of additives through food to the requirements of specialized studies in the EU Member States.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2005

4.3.2. Soil

Initial situation:

Soil, as a significant receptor of contaminants arising from industrial emissions and chemicals used for the protection of plants, contributes considerably to the contamination of the food chain. Poor agro-technical practice, especially with respect to the inflow of nitrogen after fertilization, also contributes to the contamination of the food chain.
Soils in Slovakia have been monitored since 1992 and in terms of methodology and organization, three monitoring subsystems are applied:

1. The monitoring of agricultural and forest soils in the network of basic monitoring locations.
2. A spatial survey of agricultural soil contamination.
3. The monitoring of soils in selected, typical, ‘key’ locations.

Contaminants in the food chain have been monitored in Slovakia for more than 14 years. In this period, the content of nitrates in vegetables and potatoes has gradually declined, and this was achieved by managing the quantities of fertilizer added to the soil and by controlling the content of nitrates in agricultural crops.

Objective:

To minimize soil contamination on the basis of representative monitoring data and to actively support the re-cultivation of contaminated soil. To analyse and assess the health risk ensuing from soil contamination.

Basic predispositions:

In 1998, a total of 4,000 soil samples were analysed for soil contamination monitoring and evaluation purposes, whereby 17.4% of these samples did not meet the requirements of regulations or standards in force.
Limits of abiogenic elements in the analysed soil samples were exceeded as follows: cadmium (Cd) 8.8%, mercury (Hg) 5.9%, lead (Pb) 6.1%, arsenic (As) 5.6%, copper (Cu) 29.4%, and zinc (Zn) 7.6%. Residues of pesticides exceeded the maximum limits, at 5.7%.

Activities:

1. To evaluate the results of soil contamination over the previous 10 years on the basis of monitoring in Slovakia.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	2000 – 2002
Anticipated costs:	MoSM SR – SKK 200,000

2. Based on the results, to evaluate the relation between soil contamination and:
   a) the application of sewage sludge
   b) emissions from industrial plants
   c) agricultural activities (especially the optimization of nitrogen content in soil) and to propose measures for the elimination of soil contamination and the prevention of contaminants entering the food chain.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	2002
Anticipated costs:	MoSM SR – SKK 500,000

3. In compliance with regional objectives, to monitor the relation between the health condition of the Slovak population and the degree of soil and water contamination.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of Soil Management of the Slovak Republic
Timeframe:	continuously
Anticipated costs:	MoSM SR – SKK 800,000

4.3.3. Air pollution

Initial situation

An average human being inhales 20 m^3 of air a day, that is, over 500 thousand m^3 in 70 years of life. In addition to components necessary for life (oxygen), man also inhales many pollutants together with the air, whereby some of them may be hazardous to health. With respect to the air volume and the fact that people cannot choose the air they breathe, the hazards may be significant and involuntary. Therefore it is very topical to determine air pollution by harmful substances significant for health and to strive to improve the quality of air.

The health service started to perform air pollution measurements in Slovakia in the 1960s. At present, the Ministry of the Environment directs and coordinates the measurement of air pollution. The Slovak Hydro-meteorological Institute (hereafter referred to as the SHMU) has a measuring network in Slovakia and the Institute currently operates 5 regional (background) stations and 22 local automatic measuring stations, of which, however, only 14 guarantee the necessary quantity and quality of data. State Health Institutes (Ministry of Health, hereafter referred to as SHI) ensure complementary measurements in approximately 350 more locations; the measurements are usually carried out manually. Further measurements are carried out by some polluters, such as Slovnaft Bratislava, Slovak Pulp and Paper Mills Ružomberok, the Jaslovské Bohunice Nuclear Power Plant, and Eastern Slovakian Steelworks Košice.

The range of monitored harmful substances is relatively narrow; concentrations of airborne dust, sulphur dioxide, and nitrogen oxides are monitored, the tropospheric ozone, carbon monoxide, lead, and cadmium contained in dust are monitored to a lesser extent. There are limits stipulated by law for these harmful substances. Some SHIs measure specific harmful substances which occur locally or harmful substances significant for health, such as chlorine, fluorides, ammonia, hydrogen sulphide, and other toxic metals contained in dust and dust fractions PM 10 and PM2.5. However, there are no valid limits in our country for the evaluation of these substances.

In 1997, the PHARE EU/93/AIR/22 Project was implemented in the Slovak Republic. The concentrations of a whole range of specific harmful substances (42 VOC, 12 PAH, 21 PCB and dioxin congeners, 8 heavy metals, airborne dust fractions) were specified as a part of this Project. The measurements were performed in 20 locations (5 in Bratislava, 5 in Košice, and 10 other polluted and background locations). The comparison of the Slovak situation with the situation in other European countries, risk assessment, and identification of 'hot spots' were also part of the Project.

We have observed a decline in air pollution in industrial locations since 1990. This is especially due to a drop in production, but specific measures taken at the national as well as the regional level undoubtedly also contribute to the ever-improving trend.

A marked increase in the number of motor vehicles on Slovak roads was recorded in the aforementioned period. This increase is only partially offset by an improvement in the technical quality of motor vehicles (putting old types of motor vehicles out of service, the use of catalytic converters, compulsory technical and emission inspections) and alteration of the fuel quality (a changeover to low-lead and unleaded petrol). The accumulation of motor vehicles (especially in large cities, but also of vehicles passing through villages and municipalities) results in a worsened passage of traffic on roads not adapted to the new situation, which leads to a significant local increase in air pollution.

The north-western part of Slovakia in particular is affected by the long-distance transmission of pollutants (mainly sulphur dioxide) from sources in the industrial zones of the Czech Republic and Poland.

The local concentration of industrial production in Slovakia creates predispositions for the appearance of polluted areas. Altogether, 12 such locations were identified and specified by a valid ordinance of the Ministry of the Environment of the Slovak Republic: Banská Bystrica, Bratislava, Hnúšťa-Tisovec, Horná Nitra, Jelšava-Lubeník, Košice, Prešov, Ružomberok, Strážske-Vranov-Humenné, Stredný Spiš, Žiarska kotlina, and Žilina.

Some of the polluted regions worsen the dispersion conditions due to the configuration of the terrain and create a predisposition for smog situations (e.g. Žiar nad Hronom, Žilina, and Banská Bystrica).

According to available scientific knowledge, air pollution may significantly affect not only human health in the country, but also the mortality rate. In addition to local increases in pollutant concentrations with specific health effects (e.g. the occurrence of carcinogens, etc.), an increased incidence of respiratory diseases in particular is anticipated in the polluted regions – an increase in the frequency and duration of symptoms of chronic diseases on an inflammatory and allergic basis. Furthermore, the latest knowledge leads to the conclusion that the mortality rate in regions polluted by respirable fractions of flying dust (i.e. microparticles with a diameter below 10 or below 2.5 μm) is significantly higher.

However, the aforementioned diseases are, in addition to the quality of the external air, also affected by a whole range of other factors (e.g. genetic transmission, interior air quality, the working environment, habits, etc.). The number of people living in the focal points of polluted regions in Slovakia is not as high as to enable the statistically precise evaluation of the possible effects of air pollution.

Another problem we encounter concerns the deterioration of the organoleptic properties of air in some locations due to the emission of substances which, while not presenting a significant health hazard, cause problems with their stench. This especially concerns the towns of Ružomberok (Slovak Pulp and Paper Mills – hydrogen sulphide), Žilina (Považské Chemical Plant – ammonia), Slovenská Ľupča (Biotika – sulphuric compounds).

Priority problems:

1. A relatively high total emission load in the Slovak Republic caused by basic pollutants from stationary sources, which exceed the valid emission limits.
2. Increasing pollution in residential areas caused by pollutants from the exhaust gases of road motor vehicles.
3. The deterioration of the organoleptic properties of air in the environs of some industrial companies.
4. High secondary dustiness and the presence of allergens in residential areas.
5. Insufficient possibilities of monitoring concentrations of pollutants significant for health in residential areas, a narrow overview of actual health hazards.

Objectives:

To increase the quality of human health and living conditions by reducing the overall air pollution and minimizing those pollutants which demonstrably affect the health of the population to a significant extent.

To ensure public awareness of real hazards related to air pollution and of possible comprehensive, local, and individual protection.

Activities:

1. To perform the international obligations of the Slovak Republic in the field of air protection, which are aimed at reducing undesirable emissions in the air that negatively affect the environment and the health of the population.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementers:	Ministry of the Environment of the Slovak Republic Ministry of Transport, Post Offices and Telecommunications of the Slovak Republic Ministry of Soil Management of the Slovak Republic Ministry of Defence of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	continuously and permanently
Anticipated costs:	SKK 5 mil.

2. To re-assess the polluted areas, to assess the real environmental and health hazards, and to solve the topical problems thereof.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementers:	Ministry of the Environment of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 1 mil.

3. To ensure the functional monitoring of emission pollution, which will, according to the requirements, also cover harmful substances significant for health (PM_{10}, $_{2,5}$, BTX etc.) upon announcement of their limits.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementers:	Ministry of the Environment of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	2005
Anticipated costs:	

4. To continue the installation of gas in municipalities with the aim of reducing the local dust, sulphur dioxide, and toxic pollutant load resulting from burning inappropriate fuels and waste.

Coordinator:	Local governments of towns and municipalities
Implementers:	Local governments of towns and municipalities Ministry of the Environment of the Slovak Republic
Timeframe:	permanently
Anticipated costs:	

5. To ensure consistent care for open spaces – the elimination of pollutant deposits, the early mowing of grass, the planting of non-allergenic woody species, and the gradual replacement of unsuitable woody species with allergenic effects.

Coordinators and implementers:	Local governments of towns and municipalities
Timeframe:	continuously
Anticipated costs:	within the town and municipal budgets

6. To develop guidelines for the behaviour of citizens at times of air pollution deterioration (smog situations, inversions).

Coordinator and implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 500,000

4.3.4. Provision of the population with drinking water

Initial situation

Water has social, economic, and ecological value and therefore should be used in a way that allows the achievement of the most acceptable and sustainable combination possible of the mentioned values.

The efficient utilization of water is supported by economic instruments and by increasing awareness.

Drinking water

The level of drinking water supply constitutes one of the most significant human health protection measures and it characterizes the standard of living in the given country.

From the overall groundwater potential in Slovakia, 74,126 l/s were documented in 1992, whereby 21,846.6 l/s are used, i.e. 29.5%. Of this volume, 79.6% is abstracted for the public water mains, 14.1% for industrial purposes and 4% for animal production in agriculture.

The total number of persons supplied with drinking water from public water mains increased in 1999 in Slovakia by 22,800 compared with the preceding year, to 4,014,000 persons, which is 82.4% of the country's population.

The development of public water mains in Slovakia is uneven in terms of regions. When comparing regions, the Bratislava Region records the highest share of population supplied from public water mains – almost 95%. In the Trenčín, Žilina, and Banská Bystrica regions, the shares of the population supplied from public water mains also exceed the national average. The worst situation is in the Prešov Region (73.5%) and in the Košice Region (77.6%).

Requirements on drinking water quality are defined in a Slovak Technical Standard. This standard defines drinking water as water that is harmless to health, and which does not induce diseases or illnesses when permanently consumed due to the presence of microorganisms and organisms, or the presence of substances affecting consumer health by acute chronic or delayed effects (mutagenic, carcinogenic, teratogenic, allergenic effects); its properties detectable by senses do not prevent people from consuming and using it.

Drinking water quality control

National Reference Laboratories for Waters in the Slovak Republic, and the hydroanalytical laboratories of water producers – the operators of water mains, are in charge of drinking water quality controls.

Pursuant to legislation in force, producers of water – operators of water-supply systems (at present, these are prevalently Water and Sewage Companies, state enterprises – VaK) check the quality of drinking water. As for the competencies of the aforementioned operators of water-supply

systems, they monitor the quality of raw water intended for the production of drinking water from groundwater and surface water sources, and the quality of water in the distribution network for supplying the population with drinking water. The results of analyses are collected in the Water Research Institute in Bratislava in the WATER (VODA) Centre, which administers the departmental information system on drinking water quality.

The state health surveillance over the provision of the population with drinking water is carried out in compliance with the instructions of health protection bodies by State Health Institutes (SHI), which check whether the obligations ensuing for natural persons and legal entities from the Act of the National Council No. 272/1994 Coll. on the Protection of Human Health and other generally binding laws and regulations which regulate the hygienic requirements on the quantity and safety of drinking water in the interest of health protection and promotion are observed in compliance with instructions of health protection bodies, and indicators and limits laid down in the standard STN 75 7111 – Drinking Water.

The sampling frequency and scope of analyses depend on the water contamination hazard (the quality of water sources and reliability of their protection), on the quality and complexity of the water treatment technology, the distribution network, on the stability of water quality, the epidemiological situation, etc.

Supplying the population with drinking water

There are about 1,200 public water mains in Slovakia. SHIs in Slovakia collect and analyse about 11,000 drinking water samples a year. The scope of tested indicators and evaluation of findings from the drinking water samples are based on the standard STN 75 7111 Water Quality. Drinking Water.

Operators of public water mains monitor the quality of drinking water from surface sources in about 900 samples per year (approx. 19,000 analyses), from groundwater sources in about 4,500 samples (approx. 128,000 analyses), and from the distribution network in about 16,000 samples (approx. 347,000 analyses).

The individual supply of drinking water

SHIs in Slovakia perform state health supervision especially over supplying the population with drinking water.

The state health surveillance over individual supplies of drinking water is carried out in compliance with special regulations in connection with anti-epidemic measures related to infections transmitted by drinking water (breakdowns, emergencies, natural disasters, etc.) and with the prevention of infant nitrate methemoglobinemia.

About 940 towns and municipalities of a total of 2,800 do not have public water mains.

80-85% of sources for individual water supplies do not meet the hygienic requirements and present a permanent health hazard. Most common are indicators of faecal pollution, nitrates, and iron.

Nitrate and iron limits are exceeded especially in the southern districts of Slovakia (Rimavská Sobota, Košice – suburbs, Trebišov, Vranov n/Topľou, and Michalovce).

Results of drinking water quality monitoring

Recently, above-limit values of the following indicators significant for health have been ascertained in drinking water used for supplying the population:

- coliform bacteria
- nitrates
- iron
- manganese
- selected toxic metals (As, Sb).

Based on drinking water monitoring with respect to indicators significant for health, the following shortcomings have been identified:

- shortcomings in the protection of water sources (this concerns especially above-limit concentrations of nitrates in drinking water in sources situated in areas where the land is cultivated and used for agriculture)
- shortcomings in drinking water disinfection (the most frequent shortcoming of water mains administered by municipal authorities)
- the negative impact of the distribution network on the drinking water quality; this concerns indicators that result in sensoric alterations of water, etc.

In order to improve the current situation in drinking water quality, the ministries involved, i.e. the Ministries of Health, of Soil Management, and of the Environment focus their activities, in compliance with the principles of the **HUMAN HEALTH PROTECTION STRATEGY**, on the following:

- supplying the population with drinking water in sufficient quantity and quality
- the protection of water quality in water sources
- drinking water quality control and evaluation of the health of the population
- the updating of laws and regulations in connection with the integration of the Slovak Republic into European structures
- educating the population in order that they understand the significance of drinking water for health

Priority problems:

1. A lack of drinking water in deficient regions of Slovakia – 15 districts in the Slovak Republic, especially the districts of Veľký Krtíš, Lučenec, Rimavská Sobota, Spišská Nová Ves, Rožňava, Košice-suburbs, and the town of Košice,
2. The failure to comply with the criteria of STN 757111 Drinking Water which relate to indicators significant for health – As, Sb in selected locations of Slovakia

Objectives

The objectives of the state environmental policy in the area of water are defined in the *State Environmental Policy Strategy, Principles and Priorities in the Slovak Republic (1993)*, a document which was approved by the Government of the Slovak Republic.

The general NEHAP objective in the area of water and health is based on the *Protocol on Water and Health* to the 1992 Convention on the Protection and Use of Trans-boundary Water Courses and International Lakes, which was signed in London in 1999. This objective is to "promote, as a part of sustainable development at all relevant levels in a national and international context, the protection of individual and overall human health and wealth, by improving the utilization of water, including the protection of aquatic ecosystems, and also by the prevention, control, and reduction of the incidence of diseases relating to water". The objective of NEHAP is to contribute to the achievement of this goal.

Long-term strategic objectives

1. To ensure the protection of the water potential in Slovakia with respect to sustainable development, i.e. for the future.
2. To positively affect the drinking water quality trend with respect to indicators significant for health, and thus minimize the health risks due to water consumption.

3. To increase the number of people supplied with drinking water from public water mains.

Mid-term objectives

1. To gradually resolve the issue of supplying the population with drinking water in regions with an urgent lack of water, especially in the following regions: Košice, Košice-suburbs, Veľký Krtíš, Lučenec, Rimavská Sobota, Spišská Nová Ves, and Rožňava.
2. To decrease the health hazard due to the use of water from all types of sources (groundwater, water reservoirs, and surface water courses), that are used for the supply of the population with drinking water in Slovakia – to make the use of drinking water in industry and for economic purposes more effective (except for the food processing and pharmaceutical industries).
3. To reduce drinking water losses in the water supply network – to introduce systematic measures of a legislative, technical, economic, and organizational nature, which provide incentives for drinking water economy.
4. To boost people's sense of responsibility for the preservation of drinking water quality and quantity as values that determine the life of the present and future population.

Activities:

1. To develop measures aimed at ensuring the objectives of the Protocol on Water and Health to the 1992 United Nations Convention on the Protection and Use of Trans-boundary Water Courses and International Lakes signed in London in 1999, including a schedule for the achievement of these objectives. To publish relevant information for the public upon approval of the measures.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic
	Ministry of Soil Management of the Slovak Republic
	Ministry of the Environment of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 300,000

2. To implement the 'Healthy Water' project, which is thematically targeted at increasing public awareness of the health aspects of drinking water, including the significance of table and mineral waters, and at the education of people towards respect for water.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic
	Ministry of Education of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 600,000

3. To implement monitoring systems:

3.1. The systematic monitoring of significant water sources considered as potential sources of

drinking water for supplying the population.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	permanently
Anticipated costs:	SKK 1,500,000 p.a.

3.2. The systematic monitoring of water quality in water reservoirs for drinking water.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	permanently
Anticipated costs:	SKK 2,500000 p.a.

3.3. The systematic monitoring of drinking water quality in utilized sources.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	permanently
Anticipated costs:	SKK 1,500,000 p.a.

3.4. Drinking water production and consumption balance.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	permanently
Anticipated costs:	SKK 600,000 p.a.

3.5. The completion of an information system for the quality control of drinking water from the health protection aspect.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic
Timeframe:	permanently
Anticipated costs:	SKK 500,000 p.a.

4. To exclude inappropriate water sources from the collective drinking water supply system and to construct water sources for areas with a shortage of drinking water.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic towns and municipalities in the Slovak Republic
Timeframe:	permanently
Anticipated costs:	approx. SKK 500,000 – 1,000,000 p.a.

5. To ensure a system of professional management:

5.1. of entities in charge of supplying the population with drinking water.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	permanently
Anticipated costs:	SKK 5,000,000 p.a.

5.2. of state health surveillance institutions supervising the supply of the population with drinking water (State Health Institutes – hereafter referred to as SHI in the Slovak Republic).

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic
Timeframe:	permanently
Anticipated costs:	SKK 300,000 p.a.

6. To supplement the existing system of legislation and technical standards and regulations:

6.1. Amendment to the Act of the National Council No. 272/1994 Coll. on the Protection of Human Health as amended.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	

6.2. Act on Waters.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementer:	Ministry of the Environment of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 500,000

6.3. Act on Public Water Mains and Public Sewers.

Coordinator:	Ministry of Soil Management of the Slovak Republic
Implementer:	Ministry of Soil Management of the Slovak Republic
Timeframe:	upon approval of the Act on Waters
Anticipated costs:	SKK 600,000

6.4. Slovak Technical Standards (STN).

6.4.1. Water intended for consumption by infants
6.4.2. Table water
6.4.3. The quality of untreated water intended for processing into drinking water (amended)
6.4.4. A set of standards on drinking water quality testing and control

Coordinator:	Office for Standardization, Metrology, and Testing of the Slovak Republic
Implementers:	Office for Standardization, Metrology, and Testing of the Slovak Republic Ministry of Health of the Slovak Republic Ministry of Soil Management of the Slovak Republic
Timeframe:	2004
Anticipated costs:	SKK 500,000

6.5. Other regulations:

6.5.1. Methods of monitoring and evaluating the health of the population in relation to drinking water.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 500,000

4.3.5. Health supporting working environment and working conditions – occupational health services

Work and the working environment significantly affect the health of the employed population. The effects of work and the working environment are demonstrated by an increased illness rate and an increased number of sick days, the premature retirement of persons from employment, disablement, and the incidence of occupational diseases and other diseases related to work. Later effects also appear among the retired population (especially respiratory and cardiovascular diseases, diseases of the locomotive organs, and cancer). Therefore, it is necessary to organize prevention in an appropriate and professional manner directly in companies with respect to work targeted at:

a) the creation of healthy working conditions and a health supporting working environment and
b) occupational health services aimed at prevention, which are to be performed by a team of health professionals consisting of: a general practitioner in the occupational health service, a physician – specialist in preventive occupational medicine, a physiologist and an occupational psychologist, a technician specialized in the objectification of working environment factors, a nurse specialized in occupational medicine, a preventive occupational medicine assistant, and a rehabilitation nurse. The establishment of this type of team and the professional work of this team in the company are one of the key predispositions of the improvement of the health condition and quality of life of the employed population and subsequently of people in higher age brackets.

The transformation of economic relations (the closing down and break-up of large companies), economic problems, the establishment of new, especially small and medium-sized enterprises, a change in the nature of work (an increase in services, the use of computers, and work with visual display units), part-time employment, but also working for over 8 hours a day without recuperation and other factors bring about new problems and consequences for health, which are becoming ever more serious. The network of company health facilities was practically dissolved in the past few years and preventive health examinations were also performed in these facilities in addition to medical treatment; therefore, preventive health care is not carried out to the necessary extent neither in new small and medium-sized enterprises, nor in many existing large companies.

State Health Institutes – Departments of Preventive Occupational Medicine focus their activities on prevention in the area of working conditions and working environment, whereby they carry out state health surveillance and expert and consultancy activities. They focus on setting guidelines for health protection at work, on the assessment of the impact of working conditions on health and on the proposal of remedial measures with the aim of reducing the degree of risk of work and to reduce the incidence of diseases related to work and occupational diseases.

The main objective in the area of protection of health at work is, in compliance with the EU directives (especially with Council Directive 89/391//EEC on the introduction of measures to encourage improvements in the safety and health of workers at work), further with the ILO Convention 161 and guidelines of the World Health Organization in the area of occupational health services, to develop an optimum system of preventive health care. The system is preferentially targeted at small and medium-sized enterprises and the self-employed, whereby the availability of all professional activities in this area is ensured, i.e. the objectification and evaluation of the impacts of working environment and working conditions on the health of the employees, risk management, the optimization of working conditions and the working environment with respect to positive impacts on health, education for healthy work, consultancy in creating optimum workplaces, preventive medical

examinations and the systematic assessment of the health condition in relation to work, and other activities targeted at the health of the public and the environment with regard to company activities.

Under the provisions of the Labour Code and in compliance with the Act of the National Council No. 330/1996 Coll. on Safety and Protection of Health at Work, with the Act of the National Council No. 95/2000 on Labour Inspection, and the Act of the National Council No. 272/1994 Coll. on the Protection of Human Health, the employers are responsible for the protection of workers' health at work. The active participation of employers' representatives, local state administration and local governments, health services, relevant ministries, and insurance companies is expected in the execution of the Action Plan.

In order to achieve healthy conditions and positive impacts on health it is essential that employers and employees respect the principles and obligations stipulated by legislation, that they take and utilize technical and organizational measures aimed at reducing the exposure of health to harmful factors, that they have access to preventive occupational health services, that they support and live a healthy life, and work in a healthy manner.

Priority problems:

The insufficient provision of preventive occupational health services to employees.

This is due to:

- the disintegration of the company health care system with respect to the working conditions,
- the failure to provide the employees of small and medium-sized enterprises and the self-employed with occupational health services,
- insufficient provision of health protection management at the company level,
- the permanent and, in some industrial branches, even increasing number of workers exposed to detrimental factors at work,
- the permanent incidence of occupational diseases, industrial injuries and the expected increase in diseases related to work, especially of some groups of diseases,
- insufficient research and professional background in the area of occupational medicine, insufficient international cooperation.

Objectives:

1st stage:
- to ensure for workers who are exposed to risk factors at work preventive services for the protection of health at work in the form of so-called occupational health services

2nd stage:
- to ensure for all workers preventive services for the protection of health at work in the form of so-called occupational health services

Activities:

New **laws and regulations** are a precondition for the solution of these issues; therefore, it is necessary to take the following steps:

1. To amend the Act of the National Council No. 272/1994 Coll. on the Protection of Human Health.

Coordinator and implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	within the budget

2. To draft an amendment to Act No. 330/1996 Coll. on Safety and the Protection of Health at Work.

Coordinator:	Ministry of Labour, Social Affairs, and Family of the Slovak Republic
Implementers:	Ministry of Labour, Social Affairs, and Family of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	2000
Anticipated costs:	within the budget

3. To develop accident insurance as a part of the social insurance bill.

Coordinator:	Ministry of Labour, Social Affairs, and Family of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of Labour, Social Affairs and Family of the Slovak Republic
Timeframe:	2001
Anticipated costs:	within the budget

4. To adopt a decree of the Ministry of Health on the extent, function, and conditions of occupational health services.

Coordinator and implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2002
Anticipated costs:	within the budget

5. To develop a system of postgraduate specialized education for the employees of occupational health services with regard to changed conditions and new tasks. To extend the qualification prerequisites for all members of occupational health service teams.

   To secure, through SPAM (the Slovak Postgraduate Academy of Medicine), courses of professional training for work in occupational health service teams.

Coordinator and implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2002 and continuously
Anticipated costs:	within the budget

6. To draft a decree of the Ministry of Health on the professional capacity of health service staff.

Coordinator and implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2000
Anticipated costs:	within the budget

7. To draft a decree of the Ministry of Health on the further education of health service staff.

Coordinator and implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2000
Anticipated costs:	within the budget

8. To amend the programme of ensuring preventive examinations for employees exposed to risk factors at work and for this purpose to draft the respective methodical directives of the Ministry of Health.

Coordinator and implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2002
Anticipated costs:	within the budget

9. To amend the decree on the assessment of fitness for work.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic Ministry of Labour, Social Affairs and Family of the Slovak Republic
Timeframe:	2001
Anticipated costs:	within the budget

10. The NPPA includes the task to build a work safety education, information, and publication centre.

Coordinator:	Ministry of Labour, Social Affairs and Family of the Slovak Republic
Implementers:	Ministry of Labour, Social Affairs and Family of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 5,300,000

11. To implement a system of education on health protection and promotion at work for employees and employers in consultancy centres at State Health Institutes and other accredited facilities.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	State Health Institutes in the Slovak Republic Work Safety Research and Training Institute Bratislava
Timeframe:	continuously
Anticipated costs:	within the budget

12. With regard to occupational disease and injury prevention, and in order to improve the working environment, to implement and apply new, and to reconsider existing, working methods in the area of preventive and clinical occupational medicine.

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Ministry of Health of the Slovak Republic
Timeframe:	continuously
Anticipated costs:	within the budget

4.3.6. Housing

Initial situation

Housing quality, which is determined especially by air quality, constitutes a significant component of the environment, which may significantly, either positively or negatively, affect human health, and people's development, susceptibility to illness, and performance.

Results of several studies carried out over the past 30 years pointed out the direct relation between the deteriorating health of people and the air quality in the internal environment in which people live. A relation was discovered in particular between the increased incidence of respiratory diseases, allergic diseases, and asthmatic attacks, and unsuitable concentrations of chemical or biological pollutants.

The concentrations of undesirable pollutants in the internal air of buildings are frequently higher and more diverse than in the external air.

This concerns especially the following pollutants:

1. Chemical substances – formaldehyde, volatile organic compounds, nitrogen oxides, dust particles, and tobacco smoke.
2. Biological substances – mildews, mites, pollen, and animal allergens.

Excessive noise, which is most commonly a consequence of badly organized traffic, but also of the location of noisy companies in residential areas, is also a significantly negative environmental factor.

Priority problems:

1. A marked increase in the use of chemical substances in new building materials, furniture, and other furnishings in interiors, and the absence of data on the possible concentrations of these substances in the interior of buildings.
2. An increase in the number of apartments with moisture and mildew due to technical and constructional shortcomings in the construction and maintenance of apartments.
3. The absence of legislation in the area of air quality assessment and guidelines for air in closed spaces of a non-manufacturing nature.
4. Insufficient public awareness of the significance and importance of healthy air in dwellings.
5. The negative impacts of noise from traffic and small, noisy companies in residential areas on the inhabitants of these areas are the most common reason for their complaints.

Objectives:

1. To protect the health of the population by eliminating or minimizing those components in residential buildings that are known to jeopardize people's health or well being.
2. To create 'healthy buildings', which reduce the possibility of the occurrence of diseases related to the inhabitation of the building, of allergic reactions, asthmatic attacks induced by chemical substances, pollen, mildew, dust, and other harmful substances.
3. To increase the awareness of the population of the significance and importance of creating healthy interiors of buildings of a non-manufacturing nature and to assist in the creation thereof.

4. To reduce the noise from traffic, small companies, and production plants, in order to achieve noise levels in compliance with the legislation currently in force.

Activities:

1. To establish and regulate by legislation:
   - emission limits for the assessment of air quality in closed spaces
   - a system of control and responsibilities for the quality of air in closed spaces of a non-manufacturing character.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of Construction and Regional Development of the Slovak Republic
Timeframe:	2003
Anticipated costs:	SKK 500,000

2. To extend the quality monitoring of the indoor environment of buildings with respect to its impact on the health and needs of individual population groups.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of Construction and Regional Development of the Slovak Republic
Timeframe:	2001 and continuously
Anticipated costs:	SKK 1,000,000 yearly

3. To ensure the monitoring of the household air pollution level and sources – formaldehyde, volatile organic compounds, nitrogen oxides, mildew, and bacteria.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of Construction and Regional Development of the Slovak Republic
Timeframe:	2001 and continuously
Anticipated costs:	SKK 2,000,000 yearly

4. To apply the results of monitoring as a part of the necessary renewal and improvement of the housing supply of the Slovak Republic, and as a part of new construction.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementers:	Ministry of Construction and Regional Development of the Slovak Republic Owners and administrators of the housing stock
Timeframe:	continuously
Anticipated costs:	

5. To develop a Charter on Traffic, the Environment, and Health.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementers:	Ministry of the Environment of the Slovak Republic Ministry of Transport, Post Offices and Telecommunications of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 300,000

6. To publish the Charter on Traffic, the Environment, and Health with the aim of distributing this document in the Slovak Republic.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementer:	Ministry of the Environment of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 300,000

7. To develop a comprehensive system of environmental indicators for traffic.

Coordinator:	Ministry of the Environment of the Slovak Republic
Implementers:	Ministry of the Environment of the Slovak Republic Ministry of Transport, Post Offices and Telecommunications of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 300,000

8. To develop a programme promoting active types of transport, with the aim of improving the health of the population (cycling, walking).

Coordinator:	Ministry of Transport, Post Offices and Telecommunications of the Slovak Republic
Implementers:	Ministry of Transport, Post Offices and Telecommunications of the Slovak Republic Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	2002
Anticipated costs:	SKK 500,000

9. To develop a concept of further monitoring of noise in the environment with regard to human health.

Coordinator and implementer:	Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 500,000

10. To elaborate methodology for the assessment of noise impact on the health of the population.

Coordinator and implementer:	Ministry of Health of the Slovak Republic

Timeframe:	2001
Anticipated costs:	SKK 500,000

11. To elaborate a strategy for reducing the adverse impacts of noise in the environment on the health of the population.

Coordinator and implementer:	Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	2002
Anticipated costs:	SKK 500,000

12. To develop guidelines for the development of Local Environmental and Health Action Plans (LEHAP).

Coordinator:	Ministry of Health of the Slovak Republic
Implementer:	Local governments of towns and municipalities in the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 300,000

13. To prepare environmental and health action plans at the local level for the individual towns and municipalities, based on analyses acquired in the first stage of NEHAP implementation, with the assistance of the Healthy Towns network.

Coordinators:	Local governments of towns and municipalities Ministry of Health of the Slovak Republic
Implementers:	Towns and municipalities Healthy Towns Association SHI and other professional institutions at the local level
Timeframe:	continuously
Anticipated costs:	

14. To implement the 'Housing and Health' project, focused on the identification of problems connected with living in panel buildings.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of Construction and Regional Development of the Slovak Republic Towns and municipalities
Timeframe:	2001
Anticipated costs:	SKK 500,000

4.3.7. Environmental health services

Initial situation:

At present, there are no constructed and developed environmental health services in Slovakia. Certain tasks in this area are performed by several institutions that are mainly concentrated in the departments of the Ministry of Health and the Ministry of the Environment, but also in other departments. As for the Ministry of Health these are performed especially by the network of State Health Institutes and other institutions – the Institute of Preventive and Clinical Medicine (IPCM), the National Health Support Centre in Bratislava (NHSC), and the Slovak Environmental Agency (SEA) under the Ministry of the Environment of the Slovak Republic. Universities with the relevant specialization are supporting institutions. There are no non-state environmental health services.

Priority problems:

The lack of legislative, financial, and technical provisions, and staff for the environmental health services.

Objective:

To create and develop appropriate environmental health services with the necessary supporting mechanisms at the national, regional, and local level.

Activities:

1. To develop a concept for the establishment of appropriate state and non-state environmental health services under Slovak conditions.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 300,000

4.3.8. Public relations and relations with non-governmental organizations

Initial situation:

- Any activities aimed at improving the environment would be meaningless without a positive impact on the health of the population of Slovakia.
- NEHAP could not be adequately implemented without the active participation of the population, whereby well-functioning information and communication channels and mutual trust between the partners are a necessary prerequisite for the participation of the public.
- The principles of sustainable development have to be kept in mind when implementing NEHAP.

Legislative and contractual framework:

The given part of NEHAP is based on the conclusions of the Third Ministerial Conference on the Environment and Health (London, June 1999), especially on the Aarhus Convention on Access to Information, Public Participation, and Access to Justice in Environmental Issues (1998).

This chapter of NEHAP is based on the Constitution of the Slovak Republic, the Charter of Fundamental Rights and Freedoms, Act No. 17/1992 Coll. on the Environment as amended, and Act No. 211/2000 Coll. on Free Access to Information and on the Amendment of Some Acts (Freedom of Information Act).

Objective:

To continuously enhance public awareness in order to build active public attitudes, with the aim of reducing the negative impacts of environmental pollution on human health.

Activities:

1. To fully utilize the activities of the Secretariat for the Implementation of NEHAP at the Ministry of Health and the Public Relations Department at the Ministry of the Environment, especially the Public Relations Office, in order to provide those who are interested with information on NEHAP, its implementation, and on the quality of the environment and health.

Coordinators and implementers:	Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	continuously
Anticipated costs:	within the budget of the MoH SR and MoE SR

2. To publish a revised NEHAP II, in quality print, in the Slovak and English languages, possibly also in CD-ROM format, which could also be used for representation purposes, and place it on the websites of the MoH SR and MoE SR.

Coordinators and implementers:	Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	2001
Anticipated costs[1]:	one-off costs of SKK 1,400,000

3. To publish guidelines for the planning and management of activities related to the implementation of NEHAP at a local level.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 350,000

4. To inform the Slovak public about NEHAP issues and their implementation in the following ways:

   4.1. by regularly presenting information to press agencies;
   by publishing popular articles in dailies and periodicals,
   and by using radio and TV programmes, the internet, or other computer networks.

[1] Some of the mentioned items can be included in the common financial plans for the promotional and editorial activities of the ministries or organizations under them.

Coordinators and implementers:	Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	continuously
Anticipated costs:	within the budget of the MoE SR and MoH SR

4.2. By publishing articles in professional environmental and health magazines (Enviromagazín, XXI. storočie, etc.).

Coordinators and implementers:	Ministry of the Environment of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	continuously
Anticipated costs:	within the budget of the MoE SR and MoH SR

4.3. By organizing press conferences of the Ministers of Health and the Environment (together or individually), possibly together with the issues of NEHAP.

Coordinators and implementers:	Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic
Timeframe:	once a year
Anticipated costs:	within the budget of the MoE SR and MoH SR

4.4. By developing a thematic film library within the Slovak Environmental Agency and using existing short films illustrating the issues of NEHAP in professional seminars. In the Public Relations Department of the MoE SR, by organizing a special screening of these films with short presentations for interested groups, NGOs, and schools.

Coordinator and implementer:	Ministry of the Environment of the Slovak Republic
Timeframe:	film library 2001, other activities - continually
Anticipated costs:	SKK 50,000 p.a.

5. In cooperation with the MoH SR, to regularly organize meetings with the management of involved NGOs with the intention of mutually exchanging information and the evaluation of NEHAP issues, including the usage of the ideas and suggestions of NGOs for the further revision and improvement of NEHAP.

Coordinators and implementers:	Ministry of the Environment of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	once a year
Anticipated costs:	within the budget of the MoE SR

6. To develop an effective mechanism for the collection of ideas and suggestions from the public and NGOs on regional and local levels, and to use them for the permanent improvement of the environment and the health of the population, and for permanently sustainable development.

Coordinator and implementer:	Ministry of the Environment of the Slovak Republic
Timeframe:	2001
Anticipated costs:	within the budget of the MoE SR

7. To immediately inform the public through the mass media of the declaration of an exceptional emergency situation or at a time of the impact of natural catastrophes or accidents endangering life, health, or property.

Coordinators and implementers:	Relevant civil service bodies Local governments of towns and municipalities
Timeframe:	in emergency cases
Anticipated costs:	within the budget of the MoE SR, MoH SR, and MoI SR

8. To elaborate a plan for the realization of an information campaign focused on increasing public awareness concerning activities related to NEHAP and local action plans.

Coordinators and implementers:	Ministry of Health of the Slovak Republic Ministry of the Environment of the Slovak Republic The mass media
Timeframe:	2001
Anticipated costs:	within the budget of the MoE SR and MoH SR

9. To participate in international cooperative programmes and activities focused on the exchange of information and transfer of knowledge into the Slovak Republic in questions related to the involvement of the public and NGO's in environmental and health issues, and to participate in related international activities.

Coordinators and implementers:	Ministry of the Environment of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	continuously
Anticipated costs:	within the budget of the MoE SR and MoH SR

4.3.8. Environmental health education

Initial situation

Education within the school system

Education constitutes a significant part of health prevention. Education is a target-oriented lifelong process, which does not end by acquiring a university diploma or A-level certificate. One must be informed about other areas of work, production and technologies, and one must be interested in other specializations, not just the one he/she has graduated in. To know the relations between the environment and health, and to understand the principles upon which the approaches to environmental health are based, is the basic prerequisite for a sustainable, high standard of health of the current and future population of the country. The high level of environmental and health awareness is a result of systematic and continual education, which starts at an early age, continues at primary and secondary schools and at universities, and also develops throughout the life of a person in various forms.

The Concept of Environmental Education and Training at primary and secondary schools and at universities, which was adopted by the Ministry of Education on 28th August, 1997, is based on the Environmental Education Concept, developed by the Ministry of the Environment and approved by Government Resolution No. 846 of 25th November 1997. With respect to the fact that this concept is considered to be an open system, NEHAP may become a means for the extension of environmental

education with health aspects that are relevant for the environment and also for the implementation of this system at all three types of schools in Slovakia.

Extracurricular education

Further education of the population in environmental health should be focused on:
1. the education of professionals,
2. the education of the public.

The 1st group will include those experts who come in contact with the given issues. Their further in-depth education in this area is necessary with respect to the frequently amended laws, regulations, and standards which they encounter and which are extended also in connection with the preparation of Slovakia for accession to the European Union. This will concern medical staff, experts working in the environmental departments of district authorities, representatives of municipalities, and pedagogues. Several of the ministries involved, especially the Ministry of the Environment, the Ministry of Health, the Ministry of Education, the Ministry of the Interior, and the Ministry of the Economy will actively participate in the provision and delivery of education for professionals.

The members of the 2nd group involving the education of the public may be divided according to age or social group into several subgroups:
a) the population in productive age,
b) the population in post-productive age, or
c) the education of the unemployed, socially weaker groups,
d) the education of entrepreneurs.

Implementers of environmental health education

It is evident that several institutions that have the possibility of carrying out such activities established in their statutes, or that have the possibility to issue certificates of completion of such education, must participate in the education of such a large portion of the population.

Educational institutions of the ministries, the Slovak Postgraduate Academy of Medicine, the Academy of Education, centres for further education, the National Health Support Centre (NHSC), workplaces of companies, authorities, and other organizations, employment agencies, and universities (Universities for Senior Citizens) would participate in the education of members of the first group.

The Academy of Education, centres for further education, NHSC, children and youth clubs, and SHIs would participate in the education of members of the second group.

Forms of education

The most common forms of EH education are short-term and long-term courses at the Slovak Postgraduate Academy of Medicine, professional seminars, workshops, lectures, courses at the Academy of Education and at centres for further education and other organizations, education through the mass media (TV, magazines), popular scientific quizzes in magazines, articles in the mass media, the publication of a specialized methodical handbook, posters, leaflets, and colouring books for children.

Objectives:

1. To extend the environmental education system by adding environmental health aspects at all levels of curricular and extracurricular education.

2. To strengthen the basis of environmental health professionals based on the multidisciplinary nature of this area.

Activities:

1. To expand the Concept of Environmental Education and Training in primary and secondary schools and in universities by adding aspects of environmental health.

Coordinator:	Ministry of Education of the Slovak Republic
Implementers:	Ministry of Education of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 200,000

2. To elaborate a curriculum for education in environmental health for different population groups.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of Education of the Slovak Republic
Timeframe:	2001
Anticipated costs:	

3. Based on the educational curriculum, to develop and publish methodical and professional material – a brochure for environmental experts and the public.

Coordinator:	Ministry of Health of the Slovak Republic
Implementers:	Ministry of Health of the Slovak Republic Ministry of Education of the Slovak Republic
Timeframe:	2001
Anticipated costs:	SKK 1,000,000

4. To incorporate NEHAP into the 'National Programme of Health Promotion, Health Promoting Schools' project.

Coordinator:	Ministry of Education of the Slovak Republic
Implementers:	Ministry of Education of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	2000
Anticipated costs:	-

5. To publish professional and methodical guidelines for primary and secondary school teachers, entitled 'The Environment and Health' (5000 copies).

Coordinator:	Ministry of Education of the Slovak Republic
Implementers:	Ministry of Education of the Slovak Republic Ministry of Health of the Slovak Republic
Timeframe:	2001 and continuously

Anticipated costs:	SKK 4,000,000